INTERNATIONAL NURSERY REPORT No. 9

FOOD LEGUME NURSERIES

1984-85

INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS

Box 5466 Aleppo, Syria

April 1987

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FOOD LEGUME IMPROVEMENT PROGRAM
THE INTERNATIONAL CENTER FOR AGRICULTURAL RESEARCH IN THE DRY AREAS
(ICARDA), P.O. BOX 5466
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PREFACE

A number of trials and nurseries were supplied by the Food Legume Improvement Program (FLIP) of ICARDA to cooperating scientists within and outside the ICARDA region for 1984/85 growing season. Many of these trials and nurseries were also grown at ICARDA sites in Syria and Lebanon. This report summarises the data returned by the cooperating scientists and those obtained at ICARDA sites from these trials and nurseries. The results received from cooperators till December, 1986 have been included.

The report has been prepared by Dr R.S. Malhotra, International Trials Scientist of the Food Legume Improvement Program. The assistance of Mr Fawzi Merjaneh and Ms Suhaila Arslan in computerisation of data and the assistance of Ms Nawal Saroukhan in the word processing of the text portion is sincerely acknowledged.

It is hoped that the results and discussion contained in this report will be of interest and use to the cooperating scientists. Any comments on the report and suggestions for improvement in future would be most welcomed.

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1. INTRODUCTION

The international cooperative testing program on food legume improvement is co-ordinated by the International Center for Agricultural Research in the Dry Areas (ICARDA). The main objective of the program is to provide a mechanism for the multi-location testing of genetic material of kabuli chickpeas, faba beans and lentils originating from national and international programs.

The testing aims at evaluating genotypic performance for both seed yield and reaction to biotypes of locally occurring pests and diseases. It is hoped that through such testing, firstly, it will prove possible to identify both superior genotypes which are adapted to specific environments, and genotypes which have a wide adaptation. Secondly, that the performance data from a number of widely differing environments will help the breeder to reduce the number of seasons required for evaluation prior to cultivar release. In addition the program will permit the dissemination of elite germplasm and segregating populations to interested scientists, who can exercise their own selection to develop superior cultivars well adapted to their conditions.

Through the distribution of agronomic trials it is hoped that agronomic research on these legumes will be encouraged and the information on optimum agronomic practices for different agro-ecological conditions would become available.

2. ICARDA INTERNATIONAL TRIALS AND NURSERIES FOR THE 1984/85 SEASON

2.1. DESCRIPTION

2.1.1. International Yield Trials (IYT)

In order to identify heavy yielding genotypes, with either specific or wide adaptation, it is essential to test genetic material emerging from ICARDA and other national breeding programs in a wide range of environments, encompassing the major production zones in the different countries.

The IYTs are replicated trials which test advanced materials that have previously shown above average performance. These trials permit an assessment of yield performance (G) across a range of environments (E) and provide an estimate of the relative size of G x E interactions in that growing season. They also allow national programs to identify genotypes best adapted to their local coditions, and provide ICARDA with information that will rationalise crossing programs for different countries.

As in the past there are separate large-seeded and small-seeded trials on lentils and faba beans. In lentils the large seeded yield

trials comprise entries with a minimum seed size 4.5 g/100 seeds, whereas in faba beans the large seeded trials are composed of Vicia faba major types. A trial of large-seeded kabuli types is also available for those countries having a requirement of large seed size (greater than 40 g/100 seeds). The winter-planted chickpea yield trial of cold tolerant, ascochyta blight resistant types is available for the Mediterranean as well as Sub-Tropical Regions.

Breeders desiring to enter lines into an IYT are requested to send to ICARDA, by early October approximately 4 kg of chickpeas, 2 kg of lentils and/or 5 kg of faba beans. This will be increased by ICARDA and included in next years trials. Since ICARDA aims to supply only Ascochyta resistant material of chickpeas, please furnish seed of resistant lines only. ICARDA can pay the cost of shipping the seed to Aleppo to the cooperators.

2.1.2. International Screening Nurseries (ISN)

The ISNs form an adjunct to the IYTs by providing an initial evaluation of a large number or advanced lines (F_5/F_6) and elite germplasm, encompassing a wide range of genetic diversity, in non-replicated trials in the environments utilized for the IYTs. The results thus provide a basis on which genotypes can be advanced to the IYTs and provide national programs with the opportunity to practice selection in a greater range of material than provided in the IYTs.

As with the IYT's, the faba bean ISN and lentil ISN are divided into large and small seeded types. These nurseries are non-replicated and contain 50-100 entries.

There is also a screening nursery of early lentil lines available particularly for those countries of a more southern latitude in South Asia and Africa and a nursery of lentils with tall and erect growth habit which can be harvested with a cutter-bar.

Cooperators desiring to enter material into an ISN are requested to send approximately 1000 seeds for each entry of lentils and chickpeas and 1500 seeds per entry of faba beans for increase and inclusion in next year's nursery.

2.1.3. International F_3 Trials/Nurseries (IF_3T/N)

Genotypes tested in the IYTs and in the ISNs tend to be relatively advanced breeding material that is approaching homozygosity, so nullifying any chances for re-selection in superior performing genotypes. In contrast the F_3 bulk trials/nurseries comprise early generation segregating material, thus permitting breeders in the national programs the chance to practice their own selection in the populations best adapted to the local environment. In addition the trials/nurseries allow estimates to be made of cross performance and interactions across a range of environments, which will additionally

assist in identifying parents to be used in hybridization programs for the different countries.

The F_3T/Ns for lentils and kabuli chickpeas are developed separately for different major environmental conditions.

2.1.4. International Disease and Pest Nurseries (I-N)

The development of cultivars resistant to pathogens and pests prevalent in the main legume growing areas is essential if stable seed yields are to be achieved. However, there is presently little information available on the incidence and severity of legume diseases and pests in the different areas. The International Disease and Pest Nurseries have been formulated to rectify this situation. The aim of these nurseries is to test a relatively large number of genotypes, in replicated or unreplicated design, in a range of locations covering a number of countries. The nursery results thus furnish information on the incidence and severity of the disease/pest in differing geographic areas, and provide a means for the identification of resistant genotypes. These together should greatly assist the plant breeder in developing genotype that combines a heavy seed yield with a stable parasite resistance.

Realizing the importance of different diseases and pests in the region, four nurseries in faba beans and two in chickpeas have been developed. The entries in these nurseries are initially selected on the basis of their resistance/tolerance at restricted experimental sites of ICARDA. The cooperators desirous to enter lines in disease and pest nurseries are requested to send to ICARDA, by early October approximately 1000 seeds for each entry of lentils and chickpeas and 1500 seeds per entry of faba beans for increase and inclusion in the next years nursery.

2.1.5. International Agronomy Trials

In many countries the legume crops tend to be neglected in favour of other crops, resulting in poorer management and fewer agronomic inputs. To combat this trend it is essential to develop suitable agronomic management practices for legumes that, if adopted, would increase both yields, and a farmer's income, and hence improve economic well-being in a country. Also the use of such practices should permit the full benefit to be gained from the cultivation of the potentially heavy yielding cultivars that emerge from plant breeding programs.

Realising the need for developing information on suitable agronomic management of the food legumes in the region a program of international agronomic trials has been in operation. These trials include, Weed Control Trials, Fertility-cum-Inoculation Trials and Date of Plant-cum-Plant Population Trials. In this program the cooperators are provided with information on design and conduct of the trial. In addition, the necessary experimental material such as fertilizers,

pesticides, and Rhizobium culture are supplied. No seed is, however, sent as these trials are to be conducted with the best locally-adapted genotypes. A trial for the chemical control of Orobanche in faba bean is also available.

2.2. DISTRIBUTION AND LIST OF COOPERATORS

In Table 2.2.1. is given a list of the trials and nurseries distributed from ICARDA to the different countries; in Table 2.2.2. a list of the cooperators, and in Table 2.2.3. details on some of the locations at which the trials were conducted. Weather conditions during the cropping season for the locations reporting data are given in Figures as Appendix 1. In total, 1207 sets of trials were distributed to the cooperators. Data were returned on 696 of the trials and nurseries, representing 57.7% of the number distributed.

2.3. DESIGN, ANALYSIS AND MANAGEMENT

2.3.1. Design and Analysis

The designs used for the individual trials and nurseries are given in the crop reports. For the International Screening Nurseries (ISNs) which included both test and check entries, an augmented design, as proposed by Federer (1956)[1] was used. This design permits some adjustment of seed yields for block differences, and the calculation of standard errors for the comparison of entry means.

The data on seed yield, time to flowering, time to maturity and plant height have been analysed statistically, and the term 'significant' has been used to denote a probability level (P) equal or less than 0.05. The co-efficients of variation (CV) given in the different tables were calculated using an error mean square (EMS) from the relevant analysis of variance. The EMS was also used to calculate the appropriate least significant difference (LSD), which was used to test whether a genotype's performance differed significantly from that of the control/local check. The LSD is not appropriate for testing differences between any pair of genotypes in a trial.

2.3.2. Management

For all except the agronomic trials it was emphasised that the material should be planted at the farmer's normal planting date, and that the locally recommended practices should be used with respect to fertilizer, pesticides, herbicides and irrigation.

For each trial or nursery, observations were requested on plant

(1) Federer, W.T. (1956). Augmented designs. Hawaiin Planters Record, 55, 191-208, 1956.

Table 2.2.1 Distribution of International Nurseries and Trials to the cooperators in different countries during 1984/85.

COUNTRY	CITYSP	CITYWNR	CITY-WSR	CIYTL	CISW	CISNSP	CIFT3	CIFT4	CIABNA	CIABNB	CILMH	FBIYTL	FBIYTS	FBISTL	FBISTS	FBIFSH	FBIFH3E	FBIABH	FBICSH	FBIRH	FBIOH	LIYTL	LIYTS	LISTL	LISTS	LISNSE	LISNT	LIFT3E	CDPPT	FBPPT	LPPT	CFIT	FBFIT	LFIT	CWCT	FBWCT	LWCT	FBOCT	TOTAL
ALGERIA	4	4	-	1	1	-	2	-	2	-	-	1	-	1	1	1	1	-	-	-	-	2	1	3	1	-	2	2	-	1	1	1	2	2	2	3	2	3	-	47
ARGENTINA	1	-	4	4	1	-	1	2	1	-	-	3	1	3	-	2	-	1	1	1	-	7	2	5	2	3	4	4	1	-	-	5	3	3	2	1	1	4	-	73
AUSTRALIA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
BANGLADESH	-	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	13
BELIZE	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
BRAZIL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	7
BULGARIA	1	1	-	-	-	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	13
CANADA	2	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2	-	2	-	-	-	-	-	9
CHILE	1	2	-	4	-	3	1	1	-	-	1	2	-	1	-	1	1	-	-	-	-	3	-	4	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	27
CHINA	2	1	1	-	-	-	-	-	-	-	-	3	2	2	2	3	3	-	1	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	23
COLOMBIA	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
COSTA RICA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1	-	3
CYPRUS	-	1	-	1	1	-	1	-	-	-	-	-	-	1	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
CZECHOSLOVAKIA	1	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	1	1	1	1	-	1	1	-	-	-	1	-	-	1	-	-	1	-	14
EGYPT	-	2	-	1	2	-	2	-	1	-	-	1	2	1	2	2	2	-	1	1	1	1	2	2	2	2	1	1	1	-	-	-	1	-	-	1	2	1	1	39
ETHIOPIA	1	-	-	-	1	1	-	-	-	-	-	1	1	1	1	1	1	-	1	1	-	1	2	1	1	2	1	-	1	-	-	-	-	-	-	-	1	-	-	21
FRANCE	1	1	-	-	2	2	1	1	2	-	-	-	3	-	4	3	2	2	2	1	-	-	-	1	1	-	1	-	-	-	-	-	1	1	-	-	-	-	-	32
GREECE	-	-	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	5
HONDURAS	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	5
INDIA	-	1	4	3	1	1	3	1	-	3	-	-	-	1	3	-	-	-	-	-	-	5	-	2	1	2	2	-	4	-	-	-	-	1	-	-	-	-	-	39
IRAN	2	-	-	-	1	2	2	-	-	2	1	3	1	1	1	1	1	-	-	-	-	2	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	23
IRAQ	2	-	-	1	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	2	2	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	12
ITALY	1	6	1	5	3	-	2	-	2	-	-	2	2	1	-	2	1	-	-	-	-	4	4	1	-	-	3	-	-	-	-	-	1	1	1	-	-	-	-	43
JORDAN	1	1	-	1	1	1	1	1	1	-	-	2	-	-	-	-	-	-	-	-	-	1	1	2	2	1	2	1	1	-	-	-	-	-	-	1	-	1	-	23
LEBANON	1	1	-	1	1	1	-	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13
LIBYA	1	1	-	-	1	1	-	-	-	-	1	2	1	2	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	1	-	-	-	1	-	-	14
MALAWI	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	4
MALI	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
MAURITIUS	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
MEXICO	1	-	2	2	3	1	1	1	-	-	-	-	1	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
MOROCCO	-	2	-	-	1	-	-	-	3	-	-	1	-	1	1	-	-	1	1	1	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	19
NEPAL	2	-	2	-	2	1	-	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	2	2	1	-	1	-	-	-	1	-	-	1	-	1	-	19
NETHERLAND	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	6	-	1	19
PAKISTAN	4	7	6	3	4	2	4	-	-	7	-	1	2	3	2	-	-	-	-	-	-	1	8	2	5	14	5	-	3	4	3	3	5	3	6	10	3	7	-	127
PDR.YEMEN	-	-	1	-	1	2	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	8
PERU	2	-	2	5	2	2	3	1	-	-	2	3	-	6	-	-	7	-	-	-	-	3	-	2	-	3	1	-	2	-	-	-	-	-	-	-	-	-	-	46
POLAND	-	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	1	-	1	1	-	-	1	-	-	-	9
PORTUGAL	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
QATAR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
SAUDI ARABIA	3	2	1	1	1	2	1	-	-	-	-	1	3	2	2	1	1	-	-	-	-	1	3	1	1	2	-	1	-	1	3	3	1	1	1	-	-	-	-	40
SPAIN	-	5	-	2	3	1	-	-	1	-	-	-	2	1	2	2	2	1	-	1	3	2	1	1	1	-	1	-	-	-	-	-	-	-	-	-	-	-	32
SUDAN	1	-	1	2	1	1	1	-	-	-	-	-	2	-	1	-	1	-	-	-	-	1	1	1	-	2	1	-	1	1	1	1	-	-	-	1	1	1	-	24
SYRIA	4	7	-	5	2	2	1	1	2	-	2	-	-	2	-	-	1	-	-	-	1	-	-	1	3	1	1	1	-	2	1	2	-	-	-	3	1	2	2	80
SULTANATE OF OMAN	-	-	-	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	5
TUNISIA	2	3	2	2	7	6	2	2	8	-	2	3	2	6	8	2	2	1	1	1	2	2	2	4	4	1	4	2	2	-	-	-	-	-	-	-	6	-	91
TURKEY	3	2	-	7	2	4	4	3	4	-	4	2	1	2	1	2	3	1	-	1	2	4	1	4	1	2	5	3	1	-	1	-	-	-	1	4	2	3	1	81
U.A.E.	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
U.K.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
U.S.A.	-	4	-	2	-	2	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14
VENZUELA	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
WEST GERMANY	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
WEST INDIES	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
SUB TOTAL	46	57	34	59	48	38	34	18	31	14	14	37	32	46	38	26	35	9	10	9	10	51	37	48	37	46	46	18	19	15	12	17	20	12	18	34	20	31	5	1131
ICARDA LEBANON	1	1	-	1	1	1	1	1	-	1	1	1	1	1	1	-	-	-	-	-	-	1	1	1	1	-	1	-	-	1	1	1	-	-	1	1	1	1	-	25
ICARDA SYRIA	3	3	1	2	2	2	1	1	-	3	1	2	2	2	2	2	2	-	-	-	1	1	1	1	1	2	1	1	2	2	1	2	-	-	1	1	1	1	-	51
TOTAL	50	61	35	62	51	41	36	20	31	18	16	40	35	49	41	28	37	9	10	9	11	53	39	50	39	48	48	19	21	18	14	20	20	12	20	36	22	33	5	1207

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4. Dr. Cesar Cardona (Left in November 1985)
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5. Dr. William Erskine
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6. Dr. Howard Gridley (Left in November 1985)
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Table 2.2.3 Latitude, longitude, altitude and rainfall for some of the international nursery locations for 1984/85 season.

COUNTRY	LOCATION	LATITUDE	LONGITUDE	ALTITUDE (m)	RAINFALL (mm)
ALGERIA	Guelma	36.29 N	07.29 E	NA	NA
ALGERIA	Khroub	36.25 N	06.67 E	640	848
ALGERIA	Setif	36.09 N	05.21 E	1023	451
ALGERIA	Sidi Bel Abbes	35.11 N	00.38 W	486	377
ARGENTINA	Mendoza	33.44 S	69.07 W	940	321
ARGENTINA	Perico	24.23 S	64.05 W	900	225
ARGENTINA	Salta	24.54 S	65.29 W	1250	112
BRAZIL	Chapeco, Santa Catarina	27.24 S	51.12 W	950	427
BRAZIL	Santa Maria	29.41 S	03.34 W	95	1378
BULGARIA	Toshevo	43.40 N	28.02 E	236	395
CANADA	Ridgetown	42.25 N	81.55 W	217	502
CANADA	Saskatoon	52.09 N	106.36 W	497	215
CHILE	Carahue	38.42 S	73.10 W	30-50	128
CHILE	Chillan	36.37 S	72.10 W	217	1014
CHILE	Graneros	34.00 S	73.00 W	400	NA
CHILE	Temuco	38.41 S	72.25 W	250	540
CHILE	Valdivia	39.45 S	73.14 W	12	588
CHINA	Hubei	30.37 N	114.08 E	23	706
CHINA	Shanxi	36.41 N	110.55 E	925	366
CHINA	Taiyuan	37.44 N	112.33 E	775	242
CHINA	Wuhan	32.18 N	112.15 E	107	517
CHINA	Zhangye	38.56 N	103.35 E	1559	78
CHINA	Zhejiang	31.18 N	120.10 E	5	723
COSTA RICA	Heredia	10.16 N	84.71 W	1250	1160
CYPRUS	Athalassa	35.08 N	33.24 E	150	263
CYPRUS	Laxia	35.06 N	33.20 E	150	273
CYPRUS	Nicosia	35.08 N	33.24 E	150	263
CYPRUS	Orounda	35.06 N	33.04 E	300	280
CZECHOSLOVAKIA	Borovce	49.38 N	15.38 E	NA	602
CZECHOSLOVAKIA	Trebisov	48.36 N	21.43 E	106	501
CZECHOSLOVAKIA	Horna Streda, Piestang	48.52 N	17.50 E	170	583
EGYPT	Bahtim	30.09 N	31.16 E	NA	NA
EGYPT	Gemmiza,Gemsa	27.39 N	33.35 E	NA	NA
EGYPT	Giza	30.45 N	31 E	25	NA
EGYPT	Mallawi	27.44 N	30.50 E	NA	NA
EGYPT	Nubaria	29 N	30 E	18	NA
EGYPT	Sakha	30.45 N	31 E	6	51
EGYPT	Shandaweel, Sohag	26.33 N	31.42 E	NA	NA
EGYPT	Sids	31 N	23.30 E	30	NA
EGYPT	Tahrier	NA	NA	30	NA

Cont'd. ...

Table 2.2.3 Cont'd. ...

ENGLAND	Cambridgeshire	52.10	N	00.05	E	15	256
ETHIOPIA	Denbi	08.46	N	38.59	E	1900	445
FRANCE	Dijon	52.05	N	05.65	E	210	382
FRANCE	INRA	45.47	N	03.10	E	329	479
FRANCE	La Batie Rollan	44.30	N	05	E	136	442
FRANCE	Le Rheu	NA		NA		10	170
FRANCE	Montpellier	43.37	N	01.33	E	49	497
FRANCE	Coulommiers	48.08	N	03.20	E	125	710
GREECE	Larissa	39.07	N	22.05	E	70	283
IRAN	Ahvaz	31.20	N	48.40	E	18	283
IRAN	Gorgan	36.55	N	54.20	E	120	347
IRAN	Karaj	38.45	N	51.02	E	1321	353
IRAN	Oroumieh	37.53	N	45.01	E	1325	307
IRAQ	Dohuk	33.19	N	47.18	E	480	120
IRAQ	Sulaimaniya	36.05	N	46.05	E	700	765
IRAQ	Baghdad, Abu Ghraib	33.20	N	44.25	E	35	138
IRAQ	Mosul	36.43	N	43.09	E	226	423
ITALY	Basilicata	40.24	N	16.48	E	18	221
ITALY	Capalbio	42.27	N	11.25	E	NA	NA
ITALY	Catania	37.28	N	14.14	E	700	327
ITALY	Leonessa	42.34	N	12.58	E	925	160
ITALY	Metaponto	40.24	N	16.48	E	18	551
ITALY	Perugia	42.59	N	12.35	E	250	440
ITALY	Rome	41.53	N	12.30	E	NA	241
ITALY	Salerno	40.37	N	14.25	E	35	720
ITALY	Viterbo	42.24	N	12.08	E	300	623
JORDAN	Jubeiha	32.01	N	35.52	E	980	141
JORDAN	Marow	32.33	N	35.51	E	580	308
JORDAN	Mushaqqar	31.48	N	35.47	E	NA	185
JORDAN	Ramtha	32.34	N	36.01	E	520	216
JORDAN	Ramtha	32.34	N	36.01	E	520	243
LEBANON	Beqa'a	33.55	N	36.55	E	995	471
LEBANON	Terbol	33.49	N	35.59	E	890	489
LIBYA	El Marg	32.18	N	20.11	E	310	334
LIBYA	Tripoli	32.53	N	13.17	E	11	311
MAURITIUS	Reduit	19.41	S	57.30	E	375	640
MEXICO	Carretera	24.57	N	111.42	W	48	98
MEXICO	Culiacan	24.48	N	107.24	W	40	NA
MEXICO	Eltablero	24.03	N	97.48	W	153	226
MEXICO	Sonora	28.05	N	108.34	W	40	77

Cont'd. ...

Table 2.2.3 Cont'd. ...

MOROCCO	Douyet	34.02	N	05.00	W	416	NA
MOROCCO	Jma'at	NA		NA		NA	NA
MOROCCO	Marchouch	33.33	N	06.42	W	450	333
NEPAL	Bhairahawa	27.06	N	83.04	E	105	127
NEPAL	Birgunj	27.04	N	84.58	E	115	31
NEPAL	Dhanusha	26.49	N	85.58	E	93	378
NEPAL	Khajura (Nepal Ganj Agri. Station)	26.06	N	81.37	E	181	40
NEPAL	Khumaltar	27.40	N	85.20	E	1360	169
NEPAL	Lalitpur	27.40	N	85.20	E	1360	196
NEPAL	Parwanipur	27.04	N	84.58	E	115	31
NEPAL	Bhairahawa	27.06	N	83.04	E	105	127
PAKISTAN	Bannu	33	N	70.72	E	390	177
PAKISTAN	Chakwal	33	N	74	E	475	419
PAKISTAN	Dasht	29.52	N	66.15	E	1726	80
PAKISTAN	Faisalabad 1	31.25	N	73.60	E	181	61
PAKISTAN	Faisalabad 2	31.26	N	73.06	E	184	274
PAKISTAN	Islamabad	33.29	N	72.49	E	600	1090
PAKISTAN	Karak	33	N	71	E	NA	356
PAKISTAN	Kuchlak	29.52	N	66.15	E	1656	73
PAKISTAN	Lahore	31.19	N	74.05	E	225	68
PAKISTAN	Mastung	29.32	N	66.15	E	1690	30
PAKISTAN	Peshawar	34	N	70.72	E	NA	NA
PAKISTAN	Quetta	29.52	N	66.15	E	1676	74
PERU	Ancash	10.09	S	77.09	W	3350	472
PERU	Cusco	13.27	S	72.16	W	3391	153
PERU	Lamolina	10.09	S	77.09	W	3350	472
PERU	Lamolina,Libres	12.05	S	76.57	W	243	6
PERU	Lima,Huarochiri	11.50	S	75.12	W	3300	NA
PERU	San Lorenzo, Yanamuclo	12.02	S	75.19	W	3313	729
PERU	Paijan	07.45	S	79.18	W	95	7
POLAND	Polawy	51.25	N	21.58	E	142	395
POLAND	Strzelce	52.19	N	19.24	E	130	391
POLAND	Uhrusk	51.18	N	23.37	E	180	388
POLAND	Wroclaw	51.10	N	17	E	142	NA
PORTUGAL	Alcantarilha	37.07	N	08.21	W	NA	NA
PORTUGAL	Quinta	38.41	N	09.19	W	50	720
QATAR	Rawdat Harma	25.48	N	51.18	E	50	NA

Cont'd. ...

Table 2.2.3 Cont'd. ...

SAUDI ARABIA	Al Hassa, Al Hufuf	25.20	N	49.34	E	NA	0
SAUDI ARABIA	Riyad	24.42	N	46.44	E	600	59
SPAIN	Alcala de Henares	40.30	N	03.17	W	599	421
SPAIN	Cormona, Sevilla	37.28	N	05.28	W	72	553
SPAIN	La Rinconada, Sevilla	37.25	N	06	W	10	500
SPAIN	Toledo	39.52	N	04.02	W	NA	NA
SUDAN	Hudeiba	17.34	N	33.56	E	351	NA
SUDAN	Shambat	15.40	N	32.32	E	376	167
SUDAN	Wad Medani	14.24	N	33.29	E	400	0
SYRIA	Al Ghab	35.30	N	36.20	E	NA	736
SYRIA	Gelline	32.80	N	35.60	E	NA	557
SYRIA	Hama	35.08	N	36.45	E	316	410
SYRIA	Heimo	37.03	N	41.09	E	451	NA
SYRIA	Homs	34.45	N	36.43	E	485	365
SYRIA	Izra'a	32.50	N	36.15	E	575	NA
SYRIA	Lattakia	35.40	N	35.40	E	7	896
SYRIA	Jindiress	36.24	N	36.44	E	210	409
SYRIA	Kamishely	37.03	N	41.15	E	NA	395
SYRIA	Tel Hadya	36.01	N	36.56	E	284	373
TUNISIA	Beja	36.52	N	09.13	E	NA	NA
TUNISIA	El Kef	36.10	N	08.40	E	NA	NA
TUNISIA	Bouficha	NA		NA		NA	NA
TUNISIA	Jendouba	NA		NA		NA	NA
TUNISIA	Mateur	37.03	N	09.40	E	NA	626
TUNISIA	Sejnane	NA		NA		NA	NA
TUNISIA	Menzel Temime	36.45	N	11	E	NA	472
TUNISIA	Zaghouan	36.24	N	10.08	E	NA	512
TURKEY	Hymana	39.36	N	32.36	E	1055	241
TURKEY	Ankara	39.55	N	32.40	E	860	290
TURKEY	Diyarbakir	37.55	N	40.14	E	NA	NA
TURKEY	Erzurum	39.40	N	41.42	E	1950	103
TURKEY	Eskisehir	39.46	N	30.30	E	780	32
TURKEY	Izmir	38.35	N	27.04	E	10	333
U.A.EMIRATES	Dhaid	25.35	N	55.56	E	135	18
U.S.A	Wall-SD	43.58	N	101.52	W	745	212
U.S.A.	Highmore	44.51	N	99.28	W	562	396
YEMEN A. R.	Dhmar	14.32	N	44.24	E	2360	159
P.D.R.YEMEN	Aden	12.12	N	42.53	E	11	4.5

stand (1-5; rating 1 = perfect), time to 50% flowering (days), plant height (cm) and yield (kg/ha). Other characters were optional e.g. plant width (cm), plant type (erect, semi-erect or prostrate), height of lowest pods (cm), disease damage rating (1-5; 1 = free from disease), insect damage rating (1-5; 1 = free from insect damage), lodging (1-5; 1 = no lodging), vigour rating a visual estimate of yield potential (1-5; 1 = very vigorous), shattering (1-5; 1 = no shattering), time to maturity (days), branching (1-5; 1 = very few branches) and virus (1-5; 1 = free of virus).

In addition, cooperators were requested to send information on the altitude, latitude, longitude, temperature, rainfall, number and dates of irrigations, dates of planting and harvest, herbicides, pesticides and fertilizers applied (indicating type, rate and date of application), names and titles of people conducting the nursery and any other relevant information which could be of value in interpreting the data.

3. CHICKPEA INTERNATIONAL TRIALS AND NURSERIES

Fourteen chickpea international trials and nurseries were available to the cooperators in the 1984/85 season. These included yield trials, screening nurseries, segregating populations, disease nursery and agronomic trials. Except the agronomy trials all other nurseries and trials are discussed in this section. Cooperators were free to use these materials directly or indirectly for the improvement of chickpeas in their own national programs.

3.1. CHICKPEA INTERNATIONAL YIELD TRIAL - SPRING (CIYT-SP)

Material

The Chickpea International Yield Trial (CIYT-Sp) comprised 23 test entries and one local check to be supplied by the cooperator. Twenty one entries from these were the advanced breeding lines developed at ICARDA. All these lines were tested for their superior performance at least once either in local, regional or international trials.

Methods and Management

The trial design was a randomised complete block with four replications. The suggested plot size was 4 rows, each 4 m long with an inter- and intra row spacing of 30- and 10 cm respectively. Fifty sets of trials were distributed to cooperators in 26 countries. Results were returned from 38 sets covering 19 countries. The agronomic practices employed at different locations are shown in Table 3.1.1. Results from Iran (Karaj location) were received very late and thus could not be included.

Results and Discussion

The location means for time to flowering, time to maturity, plant height and 100-seed weight are given in Tables 3.1.2, 3.1.3, 3.1.4 and 3.1.5, respectively. Flowering was earliest at Sulaimaniya in Iraq (44 days) and was followd by Ankara in Turkey (55 days), Toshevo in Bulgaria (56 days), Oroumieh in Iran (57 days) and Shanxi in China (59 days). Dhasht (128 days) and Quetta (123 days) in Pakistan, and La-Molina (111 days) in Peru were the locations where the entries took maximum time to flower. The entry means across locations ranged from 73 days for ILC 482 to 81 days for FLIP 82-16C and FLIP 82-195C.

Sulaimaniyeh (77 days) in Iraq, Oroumieh (87 days) in Iran and Ankara (91 days) in Turkey were among the early maturing locations, and La-Molina 1 (205 days) in Peru, and Dasht (182 days) and Quetta (180 days) in Pakistan were the late maturing locations. The entry ILC 482 which was earliest in flowering also matured at the earliest.

The plant height varied from 38 cm for ILC 482 to 50 cm for FLIP 82-73C and FLIP 82-79C. The entries were tallest at El-tablero (100 cm) and shortest at Dasht (7 cm) and Quetta (7 cm) in Pakistan. The plant heights at Dasht and Quetta in Pakistan indicated that the materials were not adaptable to these locations.

Table 3.1.1. Agronomic data for different locations in the CIYT-SP during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRIGATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Guelma	NA	NA	NA			NA	NA	NA
ALGERIA	Khroub	18.02.1985	NA	NA			NA	NA	NA
ALGERIA	Setif	02.02.1985	16.07.1985		100		-	Treflan	Rugur 9
ALGERIA	Sidi Bel Abbes								Sebdou-A.T.161/14
BULGARIA	Toshevo	11.04.1985	05.08.1985	30	60		-	Afalon	Stepway 1
CHINA	Shanxi	18.03.1985	19.07.1985	418	254		2	-	-
CHINA	Taiyuan	11.03.1985	24.07.1985	152	18		3	Logorand DDVP1,BHC	Desi
CHINA	Wuhan	12.04.1985	28.07.1985	225	180		NA	NA	-
CHINA	Zhangye	13.04.1985	30.07.1985	158	421		2	Tamaron	Zhangye
ETHIOPIA	Debre Zeit	27.08.1985	NA	NA			NA	NA	DZ-10-11
FRANCE	Montpellier	22.02.1985	20.07.1985		100		-	Nitrofene,Neburon	INRA 199
IRAN	Oroumieh	09.05.1985	15.08.1985	27	69		5	Metasystox,Basudin Andosulfan	Jame
IRAQ	Duhok	13.03.1985	-	100	100		-	-	Duhok
IRAQ	Sulaimaniya	16.04.1985	27.07.1985	80	80		-	-	Sulaimaniya Local
JORDAN	Marow	NA	NA	20	40		NA	NA	NA
LEBANON	Terbol	28.03.1985	07.1985		50		Many	Kerb,Bladex	NA
MAURITIUS	Reduit	20.11.1984	NA	NA			NA	NA	NA
MEXICO	El Tablero	05.11.1985	10.04.1986	-			5	Lannate	NA
NEPAL	Bhairahawa	29.11.1984	23.04.1985	20	20	20	-	-	Dhanush
NEPAL	Nepal Ganj	03.11.1984	08.04.1985	20	40	20	-	-	Dhanush
PAKISTAN	Dasht	29.10.1984	20.05.1988	28	72		-	-	Kabulee
PAKISTAN	Faisalabad	10.11.1984	25.04.1985	25	50		2	B.H.C.,Dimecron	PB.1.
PAKISTAN	Mastung	10.02.1985	25.05.1985	28	72		-	-	Kabulee
PAKISTAN	Quetta	02.11.1984	13.05.1985	28	72		-	-	Kabulee
PERU	Lamolina-1	07.05.1985	05.12.0985		60		4	Pomarsol,Tamaun	ACV-007
PERU	Lamolina-2	22.07.1985	15.12.1985	-			3	Afalon,Tamaun	ACV-007
SAUDI ARABIA	Al Hassa	11.1984	04.1985	80	80		15	-	NA
SUDAN	Shambat	14.11.1984	25.03.1985	43			12	-	Baladi
SYRIA	Al Ghab	09.03.1985	NA	-			-	-	NA
SYRIA	Gelline	12.03.1985	14.07.1985	NA			NA	NA	NA
SYRIA	Izra'a	07.03.1985	NA	40	80		NA	NA	NA
SYRIA	Jindiress	03.03.1985	03.07.1985	NA			NA	NA	NA
SYRIA	Kamishely	16.03.1985	NA	NA			NA	NA	NA
SYRIA	Tel Hadya	26.02.1985	23.06.1985	30	50		1	Bravo,Bladex+Kerb	ILC 263
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Ankara	07.04.1985	16.07.1985	23	60		-	Basudine	65 C 830
TURKEY	Eskisehir	16.04.1985	18.08.1985	30	75		1	NA	19/1-5

NA = not available.

Table 3.1.2. Time to flowering (days) of entries at different locations in CIYT-SP during 1984/85.

ENTRY NAME	PEDIGREE	ORIGIN	ALGERIA			BULGARIA	CHINA	
			Khroub	Sidi Bel-Abbes	Setif	Toshevo	Shanxi	Zhangye
FLIP 81-29W	X79 TH 25/ ILC 262XILC194	ICARDA/ICRISAT	101	77	113	54	60	64
FLIP 81-40W	X79 TH 50/ ILC 591XILC200	ICARDA/ICRISAT	98	74	112	57	57	63
FLIP 81-68	X79 TH123/ ILC 1929XILC200	ICARDA/ICRISAT	98	71	113	53	58	62
FLIP 81-71C	X79 TH151/ ILC 72XILC897	ICARDA/ICRISAT	99	80	113	57	59	64
FLIP 81-75C	X79 TH158/ ILC 202XILC893	ICARDA/ICRISAT	96	77	114	54	58	63
FLIP 82-1C	X79 TH216/ ILC 202XILC577	ICARDA/ICRISAT	94	77	113	53	58	62
FLIP 82-2C	X79 TH216/ ILC 202XILC577	ICARDA/ICRISAT	94	80	112	55	58	64
FLIP 82-9C	X79 TH168/ ILC 72XILC573	ICARDA/ICRISAT	95	71	113	54	58	62
FLIP 82-16C	X79 TH168/ ILC 72XILC573	ICARDA/ICRISAT	100	80	114	57	60	64
FLIP 82-39C	X79 TH158/ ILC 202XILC893	ICARDA/ICRISAT	99	74	114	54	61	64
FLIP 82-73C	X80 TH167/ ILC 1919XILC202	ICARDA/ICRISAT	95	80	113	58	57	63
FLIP 82-79C	X79 TH220/ ILC 72XILC480	ICARDA/ICRISAT	99	77	114	57	58	63
FLIP 82-87C	X79 TH101/ ILC 523XILC183	ICARDA/ICRISAT	97	82	114	54	57	62
FLIP 82-96C	X79 TH221/ ILC 72XILC1922	ICARDA/ICRISAT	99	82	114	58	58	63
FLIP 82-112C	X79 TH151/ ILC 72XILC897	ICARDA/ICRISAT	99	82	-	58	61	64
FLIP 82-133C	X79 TH24/ ILC 262XILC191	ICARDA/ICRISAT	101	77	114	57	68	59
FLIP 82-180C	X79 TH220/ ILC 72XILC480	ICARDA/ICRISAT	100	82	-	61	66	66
FLIP 82-189C	X79 TH220/ ILC 72XILC480	ICARDA/ICRISAT	99	77	114	56	58	63
FLIP 82-195C	X79 TH151/ ILC 72XILC897	ICARDA/ICRISAT	98	82	115	60	60	64
FLIP 82-197C	X79 TH123/ ILC 1929XILC200	ICARDA/ICRISAT	99	71	114	53	61	62
FLIP 82-236C	X79 TH151/ ILC 72XILC897	ICARDA/ICRISAT	99	77	114	55	61	64
ILC 482	-	TURKEY	91	71	111	53	55	62
ILC 1929	-	SYRIA	98	71	114	53	59	64
LOCAL CHECK			100	71	114	59	-	76
LOCATION MEAN			98	76	113	56	59	64
S.E.			One Rep.	0.20	One Rep.	0.40	One Rep.	One Rep.
L.S.D AT 5%				0.58		1.20		
C.V. %				0.53		1.50		
ERROR DF				69		69		
SIGNIFICANCE				*		*		

Cont'd. ...

Table 3.1.2.Cont'd. ...

ENTRY NAME	CHINA		ETHIOPIA	FRANCE	IRAN	IRAQ	LEBANON	MEXICO	NEPAL
	Taiyuan	Wuhan	Debre Zeit	Mont-pellier	Oroumieh	Sulaimaniya	Terbol	Eltablero	Bhaira-hawa
FLIP 81-29W	85	75	77	95	60	44	62	83	96
FLIP 81-40W	80	67	70	95	57	45	65	88	93
FLIP 81-68	79	67	62	95	54	42	62	89	90
FLIP 81-71C	79	63	65	98	59	45	64	90	95
FLIP 81-75C	79	63	71	94	59	45	61	89	89
FLIP 82-1C	78	72	64	101	55	43	62	86	89
FLIP 82-2C	79	73	74	95	59	47	63	78	92
FLIP 82-9C	82	64	68	97	60	44	63	72	89
FLIP 82-16C	85	75	76	102	55	43	67	84	97
FLIP 82-39C	84	61	69	98	57	42	63	89	95
FLIP 82-73C	78	69	73	96	60	47	63	86	88
FLIP 82-79C	78	66	70	92	55	45	63	83	94
FLIP 82-87C	78	71	69	93	55	45	64	76	90
FLIP 82-96C	78	72	69	92	54	42	62	88	92
FLIP 82-112C	85	66	66	98	58	46	63	84	93
FLIP 82-133C	80	69	81	92	60	47	67	87	94
FLIP 82-180C	86	71	85	97	57	41	73	76	94
FLIP 82-189C	77	67	68	98	58	45	62	86	89
FLIP 82-195C	85	68	68	96	58	47	69	76	95
FLIP 82-197C	84	69	65	96	60	44	64	76	93
FLIP 82-236C	79	63	69	97	57	44	62	86	94
ILC 482	75	60	56	90	55	39	61	83	89
ILC 1929	79	61	60	93	54	41	61	89	91
LOCAL CHECK	81	-	45	93	57	39	61	-	95
LOCATION MEAN	81	67	68	95	57	44	63	84	92
S.E.	One Rep.	One Rep.	2.07	1.10	0.30	1.20	1.20	One Rep.	2.10
L.S.D AT 5%			5.80	3.20	0.90	3.40	3.40		-
C.V.%			6.00	2.40	1.10	5.50	3.80		4.60
ERROR DF			69	69	69	69	69		69
SIGNIFICANCE			*	*	*	*	*		NS

Cont'd. ...

Table 3.1.2. Cont'd. ...

ENTRY NAME	NEPAL	PAKISTAN			PERU		SUDAN	SYRIA
	Nepal Ganj	Dasht	Quetta	Faisalabad	Lamolina-1	Lamolina-2	Shambat	Al Ghab
FLIP 81-29W	113	126	122	108	115	86	65	66
FLIP 81-40W	101	128	122	102	106	89	65	67
FLIP 81-68	103	127	124	104	105	91	66	66
FLIP 81-71C	106	128	125	104	111	87	62	67
FLIP 81-75C	99	127	124	104	103	84	64	65
FLIP 82-1C	97	127	125	103	108	86	59	65
FLIP 82-2C	107	129	124	113	119	84	68	67
FLIP 82-9C	101	128	121	103	109	94	60	64
FLIP 82-16C	111	129	122	106	127	90	67	67
FLIP 82-39C	99	128	122	106	119	85	69	65
FLIP 82-73C	104	129	123	104	105	89	65	67
FLIP 82-79C	105	127	130	103	122	87	66	67
FLIP 82-87C	100	128	122	106	107	88	60	66
FLIP 82-96C	108	128	124	106	106	87	59	68
FLIP 82-112C	99	128	122	109	125	90	70	67
FLIP 82-133C	109	127	123	113	117	93	64	69
FLIP 82-180C	110	127	124	98	129	92	63	70
FLIP 82-189C	99	128	124	106	106	87	68	67
FLIP 82-195C	100	128	122	111	122	87	64	69
FLIP 82-197C	109	128	121	101	128	91	68	66
FLIP 82-236C	105	127	124	102	103	85	59	66
ILC 482	89	128	122	93	89	81	55	58
ILC 1929	96	128	123	97	107	83	57	60
LOCAL CHECK	93	127	121	101	86	80	51	60
LOCATION MEAN	**102**	**128**	**123**	**104**	**111**	**87**	**63**	**66**
S.E.	2.30	0.90	1.40	3.50	3.80	2.40	0.20	0.70
L.S.D AT 5%	6.70	-	-	-	10.80	6.70	0.60	2.10
C.V. %	4.60	1.40	2.00	6.80	6.80	5.40	0.70	2.20
ERROR DF	69	69	46	69	69	69	69	69
SIGNIFICANCE	*	NS	NS	NS	*	*	*	*

Cont'd. ...

Table 3.1.2.Cont'd. ...

ENTRY NAME	SYRIA					TUNISIA	TURKEY	Overall Mean (1)
	Kamishely	Gelline	Izra'a	Tel Hadya	Jindiress	Beja	Ankara	
FLIP 81-29W	62	70	75	71	76	30	54	78
FLIP 81-40W	64	68	77	70	76	90	55	78
FLIP 81-68	62	68	77	67	72	90	54	77
FLIP 81-71C	65	67	77	71	76	80	58	79
FLIP 81-75C	63	67	75	70	72	80	53	77
FLIP 82-1C	62	67	75	67	71	90	54	77
FLIP 82-2C	65	68	78	70	74	80	54	79
FLIP 82-9C	63	69	76	69	72	80	55	77
FLIP 82-16C	66	68	79	72	77	90	58	81
FLIP 82-39C	63	70	75	69	76	80	54	78
FLIP 82-73C	65	69	76	69	76	90	55	79
FLIP 82-79C	64	70	79	71	77	90	56	79
FLIP 82-87C	62	69	77	68	76	90	55	78
FLIP 82-96C	65	71	78	69	73	60	55	78
FLIP 82-112C	63	67	78	73	78	60	59	79
FLIP 82-133C	66	72	79	75	77	40	57	80
FLIP 82-180C	68	70	81	77	81	10	59	79
FLIP 82-189C	64	67	77	68	78	100	57	79
FLIP 82-195C	65	71	79	72	78	100	59	81
FLIP 82-197C	63	69	79	70	73	90	55	79
FLIP 82-236C	61	67	76	67	73	90	54	78
ILC 482	60	63	71	63	64	100	52	73
ILC 1929	60	63	74	64	64	100	57	76
LOCAL CHECK	60	65	72	67	70	30	50	
LOCATION MEAN	63	68	76	69	74	77	55	
S.E.	1.00	0.80	0.90	0.70	0.80	One Rep.	0.40	
L.S.D AT 5%	2.90	2.40	2.70	2.20	2.50		1.20	
C.V. %	3.20	2.50	2.50	2.20	2.30		1.50	
ERROR DF	69	69	69	69	69		69	
SIGNIFICANCE	*	*	*	*	*		*	

(1) Setif was excluded from the overall mean
* = significant at $P \leq 0.05$, NS = not significant.

Table 3.1.3. Time to maturity (days) of entries at different locations in CIYT-SP during 1984/85.

ENTRY NAME	ALGERIA		BULGARIA	CHINA				ETHIOPIA	IRAN	IRAQ
	Sidi Bel Abbes	Setif	Toshevo	Shanxi	Zhangye	Taiyuan	Wuhan	Debre Zeit	Oroumieh	Sulaimaniya
FLIP 81-29W	124	151	100	115	127	142	122	148	86	78
FLIP 81-40W	124	152	104	114	108	146	112	149	87	79
FLIP 81-68	124	153	103	114	110	135	107	135	87	77
FLIP 81-71C	124	154	102	116	127	134	107	140	89	78
FLIP 81-75C	124	151	101	114	109	133	106	148	85	78
FLIP 82-1C	124	151	101	115	111	146	119	147	88	77
FLIP 82-2C	124	151	103	117	127	136	119	150	90	79
FLIP 82-9C	124	150	103	114	111	137	107	144	87	76
FLIP 82-16C	124	153	105	117	118	147	123	148	89	76
FLIP 82-39C	124	151	101	114	117	147	104	140	80	76
FLIP 82-73C	124	155	104	117	109	129	107	142	95	80
FLIP 82-79C	124	152	104	115	124	129	106	147	87	80
FLIP 82-87C	124	152	103	116	110	137	115	145	85	78
FLIP 82-96C	124	153	104	117	109	133	117	149	89	76
FLIP 82-112C	124	154	103	117	109	137	107	131	87	77
FLIP 82-133C	124	151	103	117	124	133	107	144	85	81
FLIP 82-180C	124	157	107	119	109	134	117	149	95	75
FLIP 82-189C	124	152	103	115	108	134	110	143	87	79
FLIP 82-195C	124	155	104	117	117	134	106	139	91	77
FLIP 82-197C	124	151	102	118	109	141	117	147	87	76
FLIP 82-236C	124	153	101	116	124	142	95	146	88	77
ILC 482	124	147	98	112	109	133	100	125	86	72
ILC 1929	124	152	101	117	127	141	94	122	85	74
LOCAL CHECK	124	155	105	-	131	142	-	97	87	73
LOCATION MEAN	124	152	103	115	112	138	110	141	87	77
S.E.	0.00	0.80	0.80	One Rep.	One Rep.	One Rep.	One Rep.	1.96	0.50	1.10
L.S.D AT 5%	-	2.27	2.40					5.50	1.54	3.20
C.V. %	0.00	1.05	1.70					2.78	1.20	2.90
ERROR DF	69	69	69					69	69	69
SIGNIFICANCE	NS	*	*					*	*	*

Cont'd. ...

Table 3.1.3. Cont'd. ...

ENTRY NAME	LEBANON	MEXICO	NEPAL		PAKISTAN			PERU	SUDAN	SYRIA
	Terbol	Eltablero	Bhairahawa	Nepal-Ganj	Dasht	Quetta	Faisalabad	Lamolina-1	Shambat	Al Ghab
FLIP 81-29W	105	148	161	155	170	185	151	202	117	97
FLIP 81-40W	109	148	153	150	190	174	152	204	118	98
FLIP 81-68	104	152	156	151	183	185	152	199	118	97
FLIP 81-71C	105	152	156	149	180	190	152	203	117	99
FLIP 81-75C	103	153	156	150	184	196	151	202	115	95
FLIP 82-1C	107	146	153	151	180	214	152	207	117	94
FLIP 82-2C	107	152	157	150	182	144	150	207	119	97
FLIP 82-9C	103	147	155	149	182	186	151	206	114	96
FLIP 82-16C	107	146	152	154	191	158	151	207	118	100
FLIP 82-39C	103	148	154	150	181	174	151	201	114	92
FLIP 82-73C	108	153	158	151	183	180	152	203	114	99
FLIP 82-79C	105	151	159	152	181	163	152	211	120	98
FLIP 82-87C	106	148	155	150	180	175	152	204	118	98
FLIP 82-96C	107	152	135	152	181	191	151	207	119	101
FLIP 82-112C	106	151	161	151	190	177	151	211	118	97
FLIP 82-133C	108	152	157	152	186	180	153	208	119	100
FLIP 82-180C	111	147	156	153	172	196	153	218	120	115
FLIP 82-189C	106	151	155	146	182	183	153	207	119	98
FLIP 82-195C	106	146	156	150	186	157	151	211	119	101
FLIP 82-197C	105	148	160	154	181	179	152	208	117	97
FLIP 82-236C	103	151	168	152	177	187	151	205	115	94
ILC 482	104	146	156	141	186	181	151	196	113	89
ILC 1929	107	148	153	148	180	189	151	201	112	88
LOCAL CHECK	109	-	154	147	176	186	151	195	112	90
LOCATION MEAN	**106**	**149**	**156**	**150**	**182**	**180**	**151**	**205**	**117**	**97**
S.E.	1.60	One Rep.	2.40	1.30	8.10	5.90	0.60	2.10	0.70	1.30
L.S.D AT 5%	4.70		6.90	3.70	23.00	16.90	1.80	5.90	2.10	3.70
C.V. %	3.10		3.10	1.70	8.90	5.70	0.80	2.00	1.30	2.70
ERROR DF	69		69	69	69	46	69	69	69	69
SIGNIFICANCE	NS		*	*	NS	*	NS	*	*	*

Cont'd. ...

Table 3.1.3. Cont'd. ...

ENTRY NAME	SYRIA				TURKEY		Overall Mean
	Kamishely	Gelline	Izra'a	Tel Hadya	Eskisehir	Ankara	
FLIP 81-29W	94	105	116	105	117	89	**127**
FLIP 81-40W	101	109	118	108	117	92	**127**
FLIP 81-68	100	107	116	105	117	90	**126**
FLIP 81-71C	100	107	117	108	117	93	**127**
FLIP 81-75C	99	108	114	106	116	87	**126**
FLIP 82-1C	99	106	112	105	117	89	**128**
FLIP 82-2C	101	109	117	109	116	93	**127**
FLIP 82-9C	99	110	117	105	117	89	**126**
FLIP 82-16C	100	112	118	108	118	91	**128**
FLIP 82-39C	98	106	115	105	117	87	**125**
FLIP 82-73C	100	110	117	109	117	94	**127**
FLIP 82-79C	101	108	118	109	115	93	**127**
FLIP 82-87C	100	109	117	105	118	92	**126**
FLIP 82-96C	102	110	118	110	118	95	**127**
FLIP 82-112C	100	109	117	109	116	93	**127**
FLIP 82-133C	101	111	118	109	115	89	**127**
FLIP 82-180C	102	115	123	114	121	100	**130**
FLIP 82-189C	101	107	117	108	116	91	**126**
FLIP 82-195C	102	113	119	109	118	94	**127**
FLIP 82-197C	99	110	117	107	118	86	**127**
FLIP 82-236C	100	106	116	106	117	92	**127**
ILC 482	95	102	109	103	118	87	**122**
ILC 1929	94	103	108	101	117	92	**124**
LOCAL CHECK	95	102	112	102	115	89	
LOCATION MEAN	**99**	**108**	**116**	**107**	**117**	**91**	
S.E.	0.70	1.20	0.60	0.60	0.80	0.30	
L.S.D AT 5%	2.10	3.50	1.90	1.70	2.50	1.10	
C.V. %	1.50	2.30	1.10	1.10	1.50	0.80	
ERROR DF	69	69	69	69	69	69	
SIGNIFICANCE	*	*	*	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.1.4. Plant height (cm) of entries at different locations in CIYT-SP during 1984/85.

ENTRY NAME	ALGERIA			BULGARIA	CHINA				IRAN	IRAQ
	Khroub	Sidi Bel-Abbes	Setif	Toshevo	Shanxi	Zhangye	Taiyuan	Wuhan	Oroumieh	Sulaimaniya
FLIP 81-29W	27	40	45	33	36	94	66	51	27	23
FLIP 81-40W	35	40	44	36	38	64	66	58	32	25
FLIP 81-68	37	30	48	38	38	72	55	68	33	25
FLIP 81-71C	37	35	50	37	37	84	65	59	35	26
FLIP 81-75C	35	40	44	32	34	58	43	59	28	24
FLIP 82-1C	35	40	38	33	36	61	68	48	28	21
FLIP 82-2C	40	45	48	39	38	80	34	64	31	23
FLIP 82-9C	35	40	40	34	35	63	44	50	30	26
FLIP 82-16C	32	30	45	32	36	67	68	59	29	26
FLIP 82-39C	27	30	44	32	37	64	61	61	29	25
FLIP 82-73C	50	35	54	41	44	71	73	63	31	28
FLIP 82-79C	50	35	53	40	41	80	46	70	37	29
FLIP 82-87C	32	30	46	35	32	66	58	57	30	26
FLIP 82-96C	50	30	55	38	39	69	55	64	35	25
FLIP 82-112C	37	45	47	37	38	65	61	63	34	25
FLIP 82-133C	35	35	53	35	36	83	52	68	39	30
FLIP 82-180C	42	35	47	45	42	73	58	76	43	30
FLIP 82-189C	45	35	50	40	37	66	54	67	35	32
FLIP 82-195C	40	30	56	39	40	70	52	57	35	25
FLIP 82-197C	27	35	46	35	35	66	50	50	31	26
FLIP 82-236C	35	30	42	31	34	69	65	68	29	26
ILC 482	35	30	42	31	31	62	46	61	27	19
ILC 1929	25	40	34	34	29	65	51	56	27	19
LOCAL CHECK	35	40	52	39	-	80	45	-	31	25
LOCATION MEAN	37	39	47	36	37	71	56	61	32	25
S.E.	One Rep.	One Rep.	2.31	1.60	One Rep.	One Rep.	One Rep.	One Rep.	1.30	1.60
L.S.D AT 5%			6.53	4.50					3.70	4.50
C.V. %			9.81	8.90					8.10	12.50
ERROR DF			69	69					69	69
SIGNIFICANCE			*	*					*	*

Cont'd. ...

Table 3.1.4. Cont'd. ...

ENTRY NAME	LEBANON	MEXICO	NEPAL		PAKISTAN			PERU	
	Terbol	Eltablero	Bhairahawa	Nepal Ganj	Dasht	Quetta	Faisalabad	Lamolina-1	Lamolina-2
FLIP 81-29W	48	99	45	58	7	8	71	44	31
FLIP 81-40W	49	110	45	65	7	7	65	48	42
FLIP 81-68	48	99	48	67	7	7	62	50	41
FLIP 81-71C	51	111	62	59	7	7	71	65	47
FLIP 81-75C	44	103	50	62	7	7	73	53	44
FLIP 82-1C	43	108	36	66	7	7	66	56	45
FLIP 82-2C	46	104	71	72	7	7	64	77	42
FLIP 82-9C	43	83	46	65	7	8	60	45	34
FLIP 82-16C	53	98	50	57	7	8	64	59	43
FLIP 82-39C	44	106	41	59	7	7	54	45	33
FLIP 82-73C	57	104	54	68	7	8	75	89	56
FLIP 82-79C	54	89	55	84	7	7	75	73	61
FLIP 82-87C	50	109	47	65	7	8	58	55	44
FLIP 82-96C	53	97	60	71	7	7	93	75	60
FLIP 82-112C	49	111	65	67	7	8	69	57	51
FLIP 82-133C	51	108	64	55	7	8	76	57	42
FLIP 82-180C	58	87	47	78	7	7	79	73	55
FLIP 82-189C	54	97	61	82	7	7	79	80	61
FLIP 82-195C	47	99	61	61	7	8	59	53	46
FLIP 82-197C	47	82	48	57	7	8	72	38	31
FLIP 82-236C	48	108	56	67	7	7	70	57	42
ILC 482	48	95	53	45	7	8	62	49	31
ILC 1929	46	102	52	66	7	8	61	39	32
LOCAL CHECK	44	0	37	57	7	8	62	46	36
LOCATION MEAN	49	100	52	64	7	7	68	58	44
S.E.	2.40	2.40	6.10	6.40	0.20	0.20	5.60	3.30	3.20
L.S.D AT 5%	6.80	7.00	17.30	18.10	-	-	15.80	9.30	9.00
C.V. %	9.80	4.90	23.30	19.80	6.90	6.00	16.30	11.30	14.50
ERROR DF	69	69	69	69	69	46	69	69	69
SIGNIFICANCE	*	*	*	*	NS	NS	*	*	*

Cont'd. ...

Table 3.1.4. Cont'd. ...

ENTRY NAME	SYRIA						TURKEY		(1) Overall Mean
	Al Ghab	Kamishely	Gelline	Izra'a	Tel Hadya	Jindiress	Eskisehir	Ankara	
FLIP 81-29W	31	36	24	26	25	25	30	30	42
FLIP 81-40W	32	37	24	25	26	22	34	33	43
FLIP 81-68	32	42	24	27	27	24	33	33	44
FLIP 81-71C	35	39	26	26	27	25	33	32	46
FLIP 81-75C	30	36	19	28	24	23	30	32	41
FLIP 82-1C	28	40	21	25	22	22	30	31	41
FLIP 82-2C	35	39	24	25	27	26	32	32	46
FLIP 82-9C	30	37	22	24	26	25	30	31	39
FLIP 82-16C	36	39	22	26	25	26	29	30	43
FLIP 82-39C	28	36	18	24	24	23	26	27	39
FLIP 82-73C	37	44	23	28	31	28	38	36	50
FLIP 82-79C	41	42	30	29	34	31	37	38	50
FLIP 82-87C	32	37	24	25	26	23	31	31	42
FLIP 82-96C	42	38	32	30	29	30	36	37	49
FLIP 82-112C	33	38	23	27	27	23	31	32	46
FLIP 82-133C	36	43	29	30	31	29	34	31	47
FLIP 82-180C	41	48	27	28	31	29	36	37	49
FLIP 82-189C	38	40	28	29	32	27	34	33	49
FLIP 82-195C	32	39	27	27	27	25	33	31	44
FLIP 82-197C	31	44	25	25	25	24	29	28	40
FLIP 82-236C	32	35	23	27	27	26	32	32	44
ILC 482	27	38	22	23	23	21	27	26	38
ILC 1929	26	41	21	24	22	22	28	26	39
LOCAL CHECK	28	35	21	24	25	22	32	30	
LOCATION MEAN	33	39	24	26	27	25	32	32	
S.E.	1.50	2.90	1.60	0.90	1.10	1.00	1.70	0.60	
L.S.D AT 5%	4.40	-	4.70	2.50	3.20	2.90	4.80	1.80	
C.V. %	9.50	14.60	13.70	6.80	8.30	8.00	10.60	4.00	
ERROR DF	69	69	69	69	69	69	69	69	
SIGNIFICANCE	*	NS	*	*	*	*	*	*	

(1) Dasht and Quetta were excluded from the overall mean.

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.1.5. 100-seed weight (g) of entries at different locations in CIYT-SP during 1984/85.

ENTRY NAME	BULGARIA	CHINA		ETHIOPIA	IRAN	IRAQ	LEBANON
	Toshevo	Shanxi	Taiyuan	Debre Zeit	Oroumieh	Sulaimaniya	Terbol
FLIP 81-29W	36	36	29	36	29	28	32
FLIP 81-40W	30	31	26	36	27	28	29
FLIP 81-68	38	33	30	36	30	28	35
FLIP 81-71C	33	32	30	35	29	28	31
FLIP 81-75C	31	31	35	35	30	28	32
FLIP 82-1C	31	31	29	33	26	28	29
FLIP 82-2C	35	34	29	34	28	28	31
FLIP 82-9C	30	29	27	30	27	28	26
FLIP 82-16C	30	30	24	35	27	28	28
FLIP 82-39C	32	32	29	31	30	28	30
FLIP 82-73C	36	36	31	33	30	28	34
FLIP 82-79C	31	30	26	31	28	28	29
FLIP 82-87C	31	28	25	29	28	28	25
FLIP 82-96C	30	33	29	23	28	28	29
FLIP 82-112C	30	30	25	33	30	28	29
FLIP 82-133C	27	27	24	33	22	28	26
FLIP 82-180C	31	33	28	33	25	28	30
FLIP 82-189C	32	31	27	33	30	28	30
FLIP 82-195C	31	31	27	32	28	28	30
FLIP 82-197C	33	33	32	36	30	28	31
FLIP 82-236C	33	31	31	30	30	28	30
ILC 482	29	28	31	34	28	28	30
ILC 1929	36	37	32	35	32	28	34
LOCAL CHECK	26	-	13	14	28	28	36
LOCATION MEAN	32	32	28	32	28	28	30
S.E.	0.65	One Rep.	One Rep.	1.77	0.93	0.00	0.80
L.S.D AT 5%	1.84			5.00	2.62	-	2.20
C.V. %	4.04			10.91	6.43	0.00	5.20
ERROR DF	69			69	69	69	69
SIGNIFICANCE	*			*	*	NS	*

Cont'd. ...

Table 3.1.5. Cont'd. ...

ENTRY NAME	NEPAL	PERU	SYRIA			TURKEY	Overall	
	Bhairahawa	Lamolina-1	Jindiress	Tel Hadya	Al Ghab	Ankara	Mean	Rank
FLIP 81-29W	28	33	27	30	31	31	31	6
FLIP 81-40W	27	43	26	30	32	33	30	11
FLIP 81-68	36	30	30	34	32	34	32	2
FLIP 81-71C	29	51	28	32	31	33	32	2
FLIP 81-75C	32	38	27	33	33	33	32	2
FLIP 82-1C	28	38	24	29	30	32	29	16
FLIP 82-2C	27	40	27	32	32	32	31	6
FLIP 82-9C	28	29	24	29	31	32	28	20
FLIP 82-16C	36	36	27	30	30	33	30	11
FLIP 82-39C	28	48	26	32	33	35	31	6
FLIP 82-73C	30	28	30	36	37	34	32	2
FLIP 82-79C	25	24	25	28	30	31	28	20
FLIP 82-87C	26	28	23	25	28	30	27	22
FLIP 82-96C	23	38	26	32	30	32	29	16
FLIP 82-112C	27	37	24	30	30	31	29	16
FLIP 82-133C	28	37	24	26	28	30	27	22
FLIP 82-180C	29	32	30	31	30	33	30	11
FLIP 82-189C	29	33	26	30	30	32	30	11
FLIP 82-195C	29	39	27	31	30	33	30	11
FLIP 82-197C	32	29	29	31	33	35	31	6
FLIP 82-236C	32	43	27	30	31	32	31	6
ILC 482	29	29	23	28	30	32	29	16
ILC 1929	35	31	33	37	38	36	34	1
LOCAL CHECK	31	54	28	34	37	29		
LOCATION MEAN	29	36	27	31	31	32		
S.E.	1.59	0.80	0.40	0.60	1.14	0.33		
L.S.D AT 5%	4.47	2.40	1.10	1.70	3.22	0.94		
C.V. %	10.65	4.80	2.90	3.85	7.17	2.03		
ERROR DF	69	69	69	69	69	69		
SIGNIFICANCE	*	*	*	*	*	*		

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.1.6. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in CIYT-SP during 1984/85.

ENTRY NAME	ALGERIA								BULGARIA		CHINA	
	Khroub		Sidi Bel Abbes		Setif		Guelma		Toshevo		Shanxi	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-29W	1186	9	416	4	1656	3	1330	20	2107	21	2176	18
FLIP 81-40W	1300	5	286	16	1466	13	1478	10	2095	23	2252	17
FLIP 81-68	1279	6	312	12	1395	17	1418	14	2500	12	2104	21
FLIP 81-71C	921	21	286	16	1520	8	1408	15	2321	19	2523	7
FLIP 81-75C	1109	14	135	24	1471	12	1217	22	2238	20	2666	3
FLIP 82-1C	1198	8	654	1	1312	23	1522	8	2630	8	2161	20
FLIP 82-2C	1314	3	338	10	1416	16	1233	21	2452	13	2556	4
FLIP 82-9C	1073	15	307	14	1302	24	1477	11	3011	1	2428	10
FLIP 82-16C	1534	1	442	3	1687	2	1632	2	2690	4	2377	12
FLIP 82-39C	946	20	375	7	1484	11	1360	19	2357	17	2328	14
FLIP 82-73C	899	23	356	8	1424	15	1401	16	2607	9	2176	18
FLIP 82-79C	1476	2	320	11	1359	20	1530	7	2345	18	2009	23
FLIP 82-87C	1167	11	286	16	1596	4	1560	4	2654	7	2335	13
FLIP 82-96C	993	16	268	20	1489	10	1167	23	2535	11	2049	22
FLIP 82-112C	1124	13	250	21	1385	19	1552	5	2440	15	2798	1
FLIP 82-133C	964	18	250	21	1455	14	1362	18	2809	3	2423	11
FLIP 82-180C	1144	12	286	16	1494	9	1450	12	2083	24	2442	9
FLIP 82-189C	1306	4	400	6	1575	5	1550	6	2416	16	2457	8
FLIP 82-195C	1243	7	510	2	1539	7	1603	3	2678	5	2529	5
FLIP 82-197C	900	22	302	15	1549	6	1392	17	2452	13	2528	6
FLIP 82-236C	966	17	208	23	1388	18	1440	13	2107	21	2285	15
ILC 482	958	19	411	5	1877	1	1506	9	2559	10	2714	2
ILC 1929	1181	10	348	9	1338	21	1656	1	2904	2	2257	16
LOCAL CHECK	343	24	312	12	1338	21	1136	24	2666	6	-	
LOCATION MEAN	1105		336		1480		1432		2486		2373	
S.E.	130.10		106.80		105.10		107.50		233.30		One Rep.	
L.S.D. AT 5%	366.93		-		-		-		-			
C.V. %	23.54		63.50		14.20		15.00		18.70			
ERROR DF	69		69		69		69		69			
SIGNIFICANCE	*		NS		NS		NS		NS			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	23		-		-		-		-			

Cont'd. ...

Table 3.1.6. Cont'd. ...

ENTRY NAME	CHINA						ETHIOPIA		FRANCE		IRAN	
	Zhangye		Taiyuan		Wuhan		Debre Zeit		Montpellier		Oroumieh	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-29W	3510	14	1533	19	76	23	817	11	1805	22	1071	20
FLIP 81-40W	3791	8	2076	13	284	14	900	7	1875	18	1179	14
FLIP 81-68	2770	23	1304	22	291	13	865	9	1827	21	929	23
FLIP 81-71C	4322	2	3442	2	513	7	1000	5	1873	19	1579	2
FLIP 81-75C	3635	9	1933	14	423	10	657	17	2243	3	1321	9
FLIP 82-1C	3083	20	1495	21	138	20	1384	2	1876	17	1107	17
FLIP 82-2C	4187	3	1909	15	256	15	738	13	2055	9	1178	15
FLIP 82-9C	3447	15	2380	9	541	5	890	8	2089	8	1553	3
FLIP 82-16C	3218	18	1204	23	187	18	696	15	2144	5	1153	16
FLIP 82-39C	3593	11	2204	12	524	6	681	16	1968	13	1071	20
FLIP 82-73C	4041	6	2642	6	416	11	200	23	2170	4	1246	11
FLIP 82-79C	3625	10	3004	3	472	9	717	14	1921	16	1253	10
FLIP 82-87C	3864	7	2638	7	625	3	1169	4	1938	15	1392	7
FLIP 82-96C	3552	13	1771	17	222	17	164	24	2107	7	1089	18
FLIP 82-112C	4083	5	2266	10	555	4	490	21	1953	14	1339	8
FLIP 82-133C	3281	16	1885	16	229	16	978	6	1785	23	1057	22
FLIP 82-180C	2895	21	2261	11	90	22	240	22	1668	24	660	24
FLIP 82-189C	4843	1	2842	4	500	8	509	20	2290	2	1196	13
FLIP 82-195C	3583	12	2838	5	145	19	545	19	1982	12	1089	18
FLIP 82-197C	3156	19	1533	19	138	20	1207	3	2011	11	1446	5
FLIP 82-236C	2791	22	2561	8	687	1	616	18	2035	10	1410	6
ILC 482	4156	4	3666	1	652	2	858	10	1846	20	1246	11
ILC 1929	3229	17	1071	24	395	12	797	12	2116	6	1482	4
LOCAL CHECK	2416	24	1628	18	-	24	2373	1	2495	1	1860	1
LOCATION MEAN	3545		2170		364		812		2003		1246	
S.E.							170.32		211.20		141.60	
L.S.D AT 5%							480.37		-		399.60	
C.V. %	One Rep.		One Rep.		One Rep.		41.91		21.00		22.70	
ERROR DF							69.00		69.00		69.00	
SIGNIFICANCE							*		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK							0		-		0	

Cont'd. ...

Table 3.1.6.Cont'd. ...

ENTRY NAME	IRAQ		LEBANON		MEXICO		NEPAL			
	Sulaimaniya		Terbol		El Tablero		Bhairahawa		Nepal Ganj	
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-29W	125	13	2777	21	54	22	204	20	1968	12
FLIP 81-40W	83	19	3768	2	87	15	270	17	2216	4
FLIP 81-68	114	14	3038	14	63	19	295	14	2029	10
FLIP 81-71C	135	12	3219	7	108	13	603	5	1522	19
FLIP 81-75C	177	8	4007	1	300	5	294	15	1678	15
FLIP 82-1C	181	7	3173	9	172	10	158	22	2163	5
FLIP 82-2C	166	10	2751	22	162	11	374	11	1511	20
FLIP 82-9C	166	10	2971	17	533	1	629	4	2050	8
FLIP 82-16C	70	21	2708	23	242	9	121	23	1218	22
FLIP 82-39C	218	6	3060	13	126	12	292	16	2378	2
FLIP 82-73C	84	17	3099	12	63	19	421	9	2075	7
FLIP 82-79C	56	23	3310	5	90	14	170	21	1858	13
FLIP 82-87C	104	16	3278	6	254	7	346	13	2049	9
FLIP 82-96C	84	17	2525	24	65	18	457	6	1620	17
FLIP 82-112C	112	15	2934	18	312	4	370	12	1645	16
FLIP 82-133C	70	21	3143	11	347	3	423	8	933	24
FLIP 82-180C	279	3	3378	4	250	8	89	24	2232	3
FLIP 82-189C	83	19	3216	8	67	17	241	19	2120	6
FLIP 82-195C	41	24	3034	15	51	23	248	18	1800	14
FLIP 82-197C	177	8	2984	16	443	2	430	7	1116	23
FLIP 82-236C	254	4	2856	20	258	6	379	10	1225	21
ILC 482	250	5	2881	19	69	16	1071	2	1569	18
ILC 1929	291	2	3155	10	58	21	735	3	1969	11
LOCAL CHECK	437	1	3556	3	-	24	1269	1	2689	1
LOCATION MEAN	157		3118		182		412		1818	
S.E.	38.40		294.80		46.12		176.60		455.60	
L.S.D. AT 5%	108.40		-		130.20		498.30		-	
C.V. %	48.90		18.90		50.71		85.60		50.10	
ERROR DF	69		69		66		69		69	
SIGNIFICANCE	*		NS		*		*		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		-		0		-	

Cont'd. ...

Table 3.1.6. Cont'd. ...

ENTRY NAME	PAKISTAN						S. ARABIA		SUDAN	
	Dasht		Quetta		Faisalabad		Al Hassa		Shambat	
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-29W	114	8	160	14	521	17	17	20	273	24
FLIP 81-40W	68	22	205	10	608	13	44	2	343	22
FLIP 81-68	103	12	115	19	576	14	22	15	544	14
FLIP 81-71C	92	17	66	22	736	9	31	7	815	7
FLIP 81-75C	106	10	84	21	813	6	26	11	440	18
FLIP 82-1C	78	21	176	13	673	12	36	4	861	6
FLIP 82-2C	130	3	135	16	273	24	20	17	473	17
FLIP 82-9C	100	13	355	1	428	21	40	3	632	12
FLIP 82-16C	56	24	234	7	357	23	26	11	406	20
FLIP 82-39C	122	4	194	11	557	16	20	17	661	10
FLIP 82-73C	90	18	129	17	808	7	27	10	1236	2
FLIP 82-79C	100	13	103	20	1289	2	22	15	489	16
FLIP 82-87C	106	10	260	4	732	10	71	1	638	11
FLIP 82-96C	121	6	222	8	568	15	25	13	1075	4
FLIP 82-112C	88	20	258	5	433	20	19	19	713	9
FLIP 82-133C	60	23	138	15	753	8	2	23	317	23
FLIP 82-180C	144	1	65	23	891	4	34	6	382	21
FLIP 82-189C	114	8	58	24	821	5	29	9	494	15
FLIP 82-195C	99	16	239	6	508	18	11	22	596	13
FLIP 82-197C	122	4	293	2	409	22	14	21	424	19
FLIP 82-236C	117	7	128	18	1265	3	36	4	744	8
ILC 482	90	18	191	12	715	11	23	14	1148	3
ILC 1929	100	13	274	3	468	19	31	7	1052	5
LOCAL CHECK	133	2	220	9	1373	1	-		1627	1
LOCATION MEAN	102		179		693		27		683	
S.E.	18.10		61.00		126.30		11.87		123.70	
L.S.D AT 5%	-		-		356.40		-		348.90	
C.V. %	35.30		58.80		36.40		74.28		36.20	
ERROR DF	69		46		69		44		69	
SIGNIFICANCE	NS		NS		*		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		0		-		0	

Cont'd. ...

Table 3.1.6. Cont'd. ...

ENTRY NAME	SYRIA									
	Al Ghab		Kamishely		Gelline		Izra'a		Tel Hadya	
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-29W	1083	7	519	11	644	1	470	14	1327	14
FLIP 81-40W	976	15	430	22	465	16	291	22	1261	18
FLIP 81-68	1000	13	523	10	590	6	434	16	1339	12
FLIP 81-71C	1279	1	548	8	537	10	434	16	1380	7
FLIP 81-75C	821	22	479	16	309	22	648	3	1291	15
FLIP 82-1C	928	16	564	6	609	2	613	4	1273	16
FLIP 82-2C	821	22	504	14	462	17	375	21	1214	21
FLIP 82-9C	1136	6	537	9	380	18	517	11	1345	10
FLIP 82-16C	1011	11	513	12	368	19	607	5	1500	4
FLIP 82-39C	916	17	507	13	326	21	583	7	1357	9
FLIP 82-73C	1053	8	464	18	274	23	529	10	1375	8
FLIP 82-79C	1000	13	464	18	562	7	446	15	1267	17
FLIP 82-87C	1166	4	567	5	534	11	541	9	1428	5
FLIP 82-96C	863	20	405	23	333	20	398	20	1065	24
FLIP 82-112C	1005	12	489	15	598	4	494	12	1250	19
FLIP 82-133C	1023	10	442	21	486	15	404	19	1226	20
FLIP 82-180C	619	24	225	24	-		160	24	1113	23
FLIP 82-189C	863	20	474	17	543	11	494	12	1333	13
FLIP 82-195C	898	18	450	20	534	8	273	23	1398	6
FLIP 82-197C	1267	2	622	3	556	14	434	16	1214	21
FLIP 82-236C	898	18	552	7	487	13	595	6	1345	10
ILC 482	1047	9	628	2	530	3	565	8	1517	2
ILC 1929	1160	5	622	3	604	5	651	2	1511	3
LOCAL CHECK	1232	3	691	1	595	9	755	1	1791	1
LOCATION MEAN	1003		509		493		488		1338	
S.E.	112.80		23.50		72.18		59.60		105.20	
L.S.D AT 5%	318.20		66.40		203.75		168.20		296.70	
C.V. %	22.50		9.20		29.29		24.40		15.70	
ERROR DF	69		69		66		69		69	
SIGNIFICANCE	*		*		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		0	

Cont'd. ...

Table 3.1.6. Cont'd. ...

ENTRY NAME	SYRIA		TUNISIA				TURKEY				(1) Overall Mean	Rank
	Jindiress		Beja		El Kef		Eskisehir		Ankara			
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-29W	916	4	1675	13	2006	1	1317	19	333	20	1328	18
FLIP 81-40W	750	17	1500	18	1487	9	1810	1	516	6	1403	12
FLIP 81-68	910	5	2000	4	1443	13	1356	17	373	16	1313	20
FLIP 81-71C	738	19	1500	18	1481	10	1376	16	585	2	1506	4
FLIP 81-75C	875	8	1700	11	1571	8	1764	2	384	15	1422	9
FLIP 82-1C	773	12	1975	5	1337	17	1303	20	417	12	1383	13
FLIP 82-2C	827	9	1350	21	1443	13	1550	8	496	7	1338	15
FLIP 82-9C	773	12	1800	9	1300	18	1407	14	403	13	1437	6
FLIP 82-16C	803	10	1250	24	1450	11	1242	22	466	9	1293	21
FLIP 82-39C	696	21	1345	22	1425	15	1020	24	360	18	1338	15
FLIP 82-73C	773	12	1875	8	1181	21	1606	5	371	17	1437	6
FLIP 82-79C	785	11	1966	6	1293	19	1554	7	552	3	1449	5
FLIP 82-87C	761	16	2033	2	1400	16	1418	12	605	1	1511	3
FLIP 82-96C	773	12	1683	12	1712	5	1114	23	526	4	1280	22
FLIP 82-112C	720	20	1708	10	1756	4	1259	21	395	14	1407	10
FLIP 82-133C	886	7	1608	14	1593	7	1675	4	425	11	1333	17
FLIP 82-180C	333	24	1950	7	1075	24	1470	11	295	22	1221	23
FLIP 82-189C	750	17	2016	3	1287	20	1734	3	521	5	1515	2
FLIP 82-195C	678	22	1583	15	1806	2	1348	18	350	19	1405	11
FLIP 82-197C	934	3	1516	17	1150	23	1412	13	309	21	1317	19
FLIP 82-236C	898	6	1575	16	1700	6	1507	9	482	8	1363	14
ILC 482	654	23	2066	1	1793	3	1600	6	255	24	1576	1
ILC 1929	1148	1	1458	20	1450	11	1379	15	258	23	1425	8
LOCAL CHECK	1017	2	1325	23	1168	22	1490	10	448	10		
LOCATION MEAN	799		1685		1471		1446		422			
S.E.	86.10		272.80		208.90		181.30		11.00			
L.S.D AT 5%	243.00		-		-		-		31.20			
C.V. %	21.50		28.00		28.40		25.00		5.20			
ERROR DF	69		46		69		69		69			
SIGNIFICANCE	*		NS		NS		NS		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		-		-		8			

(1) Sidi Bel Abbes, Wuhan, Sulaimaniya, El Tablero, Dasht, Quetta and Al Hassa were excluded from the overall mean.

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.1.7. The five heaviest seed yielding entries at the individual locations in the CIYT-Sp during 1984/85.

RANK	ALGERIA				BULGARIA	CHINA		
	Khroub	Sidi Bel Abbes	Setif	Guelma	Toshevo	Shanxi	Zhangye	Taiyuan
1	FLIP 82-15C	FLIP 82-1C	ILC 482	ILC 1929	FLIP 82-9C	FLIP 82-112C	FLIP 82-189C	ILC 482
2	FLIP 82-79C	FLIP 82-195C	FLIP 82-16C	FLIP 82-16C	ILC 1929	ILC 482	FLIP 81-71C	FLIP 81-71C
3	FLIP 82-2C	FLIP 82-16C	FLIP 81-29W	FLIP 82-195C	FLIP 82-133C	FLIP 81-75C	FLIP 82-2C	FLIP 82-79C
4	FLIP 82-189C	FLIP 81-29W	FLIP 82-87C	FLIP 82-87C	FLIP 82-16C	FLIP 82-2C	ILC 482	FLIP 82-189C
5	FLIP 81-40W	ILC 482	FLIP 82-139C	FLIP 82-112C	FLIP 82-195C	FLIP 82-195C	FLIP 82-112C	FLIP 82-195C

Cont'd. ...

RANK	CHINA	ETHIOPIA	FRANCE	IRAN	IRAQ	LEBANON	MEXICO	NEPAL
	Wuhan	Debre Zeit	Montpellier	Oroumieh	Sulaimaniya	Terbol	Eltablero	Rupandehi
1	FLIP 82-236C	Local check	Local check	Local check	Local check	FLIP 81-75C	FLIP 82-9C	Local check
2	ILC 482	FLIP 82-1C	FLIP 82-189C	FLIP 81-71C	ILC 1929	FLIP 81-40W	FLIP 82-197C	ILC 482
3	FLIP 82-87C	FLIP 82-197C	FLIP 81-75C	FLIP 82-9C	FLIP 82-180C	Local check	FLIP 82-133C	ILC 1929
4	FLIP 82-112C	FLIP 82-87C	FLIP 82-73C	ILC 1929	FLIP 82-236C	FLIP 82-180C	FLIP 82-112C	FLIP 82-9C
5	FLIP 82-9C	FLIP 81-71C	FLIP 82-16C	FLIP 82-197C	ILC 482	FLIP 82-79C	FLIP 81-75C	FLIP 81-71C

Cont'd. ...

RANK	NEPAL	PAKISTAN			SUDAN	SYRIA		
	Bheri	Dasht	Quetta	Faisalabad	Shambat	Al-Ghab	Kamishly	Gelline
1	Local check	FLIP 82-180C	FLIP 82-9C	Local check	Local check	FLIP 81-71C	Local check	FLIP 81-29W
2	FLIP 82-39C	Local check	FLIP 82-197C	FLIP 82-79C	FLIP 82-73C	FLIP 82-197C	ILC 482	FLIP 82-1C
3	FLIP 82-180C	FLIP 82-2C	ILC 1929	FLIP 82-236C	ILC 482	Local check	ILC 1929]	ILC 482
4	FLIP 81-40W	FLIP 82-39C]	FLIP 82-87C	FLIP 82-180C	FLIP 82-96C	FLIP 82-87C	FLIP 82-197C]	FLIP 82-112C
5	FLIP 82-1C	FLIP 82-197C]	FLIP 82-112C	FLIP 82-189C	ILC 1929	ILC 1929	FLIP 82-87C	ILC 1929

Cont'd. ...

RANK	SYRIA			TUNISIA		TURKEY	
	Izra'a	Tel Hadya	Jindiress	Beja	El-Kef	Eskisehir	Ankara
1	Local check	Local check	ILC 1929	ILC 482	FLIP 81-29W	FLIP 81-40W	FLIP 82-87C
2	ILC 1929	ILC 482	Local check	FLIP 82-87C	FLIP 82-195C	FLIP 81-75C	FLIP 81-71C
3	FLIP 81-75C	ILC 1929	FLIP 82-197C	FLIP 82-189C	ILC 482	FLIP 82-189C	FLIP 82-79C
4	FLIP 82-1C	FLIP 82-16C	FLIP 81-29W	FLIP 81-68	FLIP 82-112C	FLIP 82-133C	FLIP 82-96C
5	FLIP 82-16C	FLIP 82-87C	FLIP 81-68	FLIP 82-1C	FLIP 82-96C	FLIP 82-73C	FLIP 82-189C

The brackets indicate entries having the same rank.

Table 3.1.8. Correlation (df=21) among different locations for the seed yield of entries in the CIYT-SP during 1984/85.

COUNTRY	LOCATION	ALGERIA				BULGARIA	CHINA			
		Khroub	Sidi Bel-Abbes	Setif	Guelma	Toshevo	Shanxi	Zhangye	Taiyuan	Wuhan
ALGERIA	Sidi Bel Abbes	0.296								
ALGERIA	Setif	-0.035	0.154							
ALGERIA	Guelma	0.406	0.427	0.055						
BULGARIA	Toshevo	-0.013	0.288	-0.149	0.345					
CHINA	Shanxi	-0.221	-0.193	0.328	0.053	0.018				
CHINA	Zhangye	-0.009	0.010	0.306	-0.016	-0.022	0.385			
CHINA	Taiyuan	-0.249	-0.075	0.295	0.123	-0.151	0.312	0.587		
CHINA	Wuhan	-0.260	-0.361	-0.003	0.181	0.057	0.232	0.393	0.601	
ETHIOPIA	Debre Zeit	0.020	0.258	0.005	0.201	0.215	0.031	-0.148	-0.146	-0.006
FRANCE	Montpellier	0.079	-0.097	-0.101	-0.032	0.264	0.081	0.342	-0.073	0.263
IRAN	Oroumieh	-0.258	-0.241	-0.129	0.168	0.292	0.239	0.299	0.235	0.587
IRAQ	Sulaimaniya	-0.365	-0.094	-0.046	-0.020	-0.132	0.208	-0.316	-0.075	0.195
LEBANON	Terbol	0.090	-0.293	-0.185	0.044	-0.294	0.115	0.079	0.127	0.094
MEXICO	El Tablero	-0.231	-0.361	-0.218	-0.051	0.233	0.399	-0.282	-0.152	0.072
NEPAL	Rupandehi	-0.526	-0.143	0.231	0.015	0.398	0.326	0.253	0.338	0.494
NEPAL	Bheri	0.188	0.290	-0.208	0.169	-0.121	-0.329	0.124	0.056	0.044
PAKISTAN	Dasht	-0.202	-0.226	-0.057	-0.403	-0.384	0.003	-0.037	0.060	-0.007
PAKISTAN	Quetta	-0.068	0.142	-0.037	0.307	0.585	0.089	-0.173	-0.271	0.016
PAKISTAN	Faisalabad	-0.070	-0.259	-0.116	0.031	-0.409	-0.287	-0.076	0.486	0.382
S. ARABIA	Al Hassa	0.105	-0.081	-0.063	0.268	-0.021	-0.175	0.059	0.144	0.390
SUDAN	Shambat	-0.453	0.161	-0.035	0.077	0.351	-0.094	0.180	0.271	0.406
SYRIA	Al Ghab	-0.257	0.006	0.097	0.254	0.388	-0.008	0.108	0.044	0.233
SYRIA	Kameshly	-0.164	0.198	0.132	0.230	0.367	0.111	0.070	-0.036	0.384
SYRIA	Gelline	0.237	0.296	0.023	0.436	-0.073	0.008	-0.075	-0.032	-0.119
SYRIA	Izra'a	-0.100	0.077	-0.014	0.144	0.303	-0.004	0.013	-0.142	0.490
SYRIA	Tel Hadya	0.114	0.301	0.351	0.609	0.369	0.131	0.145	0.182	0.427
SYRIA	Jindiress	0.016	-0.105	-0.242	-0.035	0.298	-0.239	-0.172	-0.504	0.034
TUNISIA	Beja	-0.002	0.100	0.044	0.148	0.018	-0.142	0.100	0.371	0.218
TUNISIA	El Kef	-0.060	0.002	0.339	-0.133	-0.113	0.160	0.076	0.052	0.055
TURKEY	Eskisehir	0.092	-0.305	0.039	-0.023	-0.191	0.198	0.294	0.290	0.144
TURKEY	Ankara	0.267	-0.190	-0.130	-0.084	-0.129	-0.240	0.352	0.259	0.258

Cont'd. ...

Table 3.1.8. Cont'd. ...

COUNTRY	LOCATION	ETHIOPIA Debre-Zeit	FRANCE Mont-Pellier	IRAN Oroumieh	IRAQ Sulai-maniya	LEBANON Terbol	MEXICO El-Tablero	NEPAL Bhairahawa	NEPAL Nepal-Ganj	PAKISTAN Dasht
FRANCE	Montpellier	-0.290								
IRAN	Oroumieh	0.348	0.449							
IRAQ	Sulaimaniya	0.075	-0.134	0.070						
LEBANON	Terbol	0.151	-0.016	0.027	0.032					
MEXICO	El Tablero	0.280	0.044	0.309	0.153	0.054				
NEPAL	Rupandehi	0.134	0.060	0.528	0.380	-0.202	0.013			
NEPAL	Bheri	-0.132	-0.067	-0.269	0.099	0.336	-0.377	-0.224		
PAKISTAN	Dasht	-0.330	0.028	-0.166	0.443	-0.119	-0.021	-0.078	0.243	
PAKISTAN	Quetta	0.262	0.129	0.389	0.015	-0.329	0.403	0.304	-0.055	-0.179
PAKISTAN	Faisalabad	-0.162	-0.110	-0.029	0.063	0.352	-0.130	-0.139	0.031	0.096
S. ARABIA	Al Hassa	0.203	0.060	0.270	0.152	0.292	0.076	-0.005	0.439	0.049
SUDAN	Shambat	-0.213	0.237	0.304	0.251	-0.277	-0.325	0.619	0.113	-0.029
SYRIA	Al Ghab	0.570	-0.003	0.710	-0.117	-0.135	0.160	0.476	-0.232	-0.351
SYRIA	Kamishely	0.641	0.223	0.693	0.206	-0.228	0.069	0.548	-0.241	-0.209
SYRIA	Gelline	0.469	-0.487	0.012	0.081	-0.071	-0.158	0.007	0.002	-0.001
SYRIA	Izra'a	0.266	0.500	0.520	0.251	-0.051	0.090	0.285	-0.075	-0.247
SYRIA	Tel Hadya	0.260	0.205	0.405	0.109	-0.035	-0.207	0.395	0.041	-0.389
SYRIA	Jindiress	0.358	0.369	0.492	-0.010	-0.110	0.002	0.219	-0.322	-0.205
TUNISIA	Beja	-0.002	-0.199	-0.183	-0.031	0.193	-0.098	0.051	0.387	0.111
TUNISIA	El Kef	-0.059	-0.119	0.021	-0.122	-0.306	-0.268	0.215	-0.268	-0.165
TURKEY	Eskisehir	0.038	0.113	0.090	-0.084	0.608	0.036	0.079	-0.088	-0.178
TURKEY	Ankara	0.086	0.162	0.233	-0.533	0.072	-0.047	-0.274	-0.074	-0.140

Cont'd. ...

Table 3.1.8. Cont'd. ...

COUNTRY	LOCATION	PAKISTAN		S. ARABIA	SUDAN	SYRIA				
		Quetta	Faisalabad	Al Hassa	Shambat	Al Ghab	Kamishely	Gelline	Izra'a	Tel Hadya
PAKISTAN	Faisalabad	-0.586								
S.ARABIA	Al Hassa	0.152	0.181							
SUDAN	Shambat	0.155	0.059	0.150						
SYRIA	Al Ghab	0.457	-0.225	0.105	0.193					
SYRIA	Kamishely	0.415	-0.224	0.087	0.318	0.719				
SYRIA	Gelline	-0.001	0.016	-0.032	-0.175	0.266	0.290			
SYRIA	Izra'a	0.184	0.032	0.168	0.383	0.329	0.697	-0.127		
SYRIA	Tel Hadya	0.216	-0.080	0.195	0.290	0.467	0.628	0.100	0.575	
SYRIA	Jindiress	0.245	-0.177	-0.144	0.053	0.509	0.650	0.175	0.543	0.288
TUNISIA	Beja	-0.238	0.457	0.304	0.209	-0.110	-0.101	0.264	-0.033	-0.052
TUNISIA	El Kef	0.104	-0.126	-0.285	0.047	0.019	0.179	0.197	0.101	0.167
TURKEY	Eskisehir	-0.408	0.392	0.085	-0.222	-0.119	-0.121	-0.021	-0.130	-0.010
TURKEY	Ankara	-0.213	0.274	0.426	-0.142	0.052	-0.093	-0.102	-0.060	-0.166

Cont'd. ...

Table 3.1.8 Cont'd. ...

COUNTRU	LOCATION	SYRIA	TUNISIA		TURKEY
		Jindiress	Beja	El Kef	Eskisehir
TUNISIA	Beja	-0.319			
TUNISIA	El Kef	0.206	-0.177		
TURKEY	Eskisehir	0.026	0.267	-0.167	
TURKEY	Ankara	-0.035	-0.012	-0.075	0.113

The underline values indicate significant correlation values at $P \leq 0.05$

The location means for 100-seed weight varied from 27 g (for Jinderis in Syria) to 32 g (for Toshevo in Bulgaria, Shanxi in China, Debre Zeit in Ethiopia, and Ankara in Turkey). The range in entry means was from 27 g (for FLIP 82-87C and FLIP 82-133C) to 34 g (for ILC 1929).

The seed yield and the rank of entries at each location are given in Table 3.1.6. The Chinese locations reported the data on one replication and were thus not analysed. Out of the remaining 28 locations. The ANOVA was significant for 15 locations. The co-efficient of variation ranged from 5.20 to 85.60%. The mean seed yields at locations varied from 27 kg/ha for Al-Hassa (Saudi Arabia) to 3545 kg/ha for Zhangye in China. The LSD for different locations revealed that 23 entries at Kharoub in Algeria and 8 entries at Ankara in Turkey exceeded the respective local checks by significant margins. Across locations, the highest yield was recorded for ILC 482 (1576 kg/ha) which was closely followed by FLIP 82-189C, FLIP 82-87C, FLIP 81-71C, and FLIP 82-79C with seed yields of 1515, 1511, 1506 and 1449 kg/ha, respectively. The top five yielding lines at each location are given in Table 3.1.7. Among these lines the local check occurred most frequently among the top 5 (15 times) and was closely followed by ILC 482 (14 times). Thus ILC 482 was the most adaptable line and a few other lines which closely followed were ILC 1929, FLIP 82-87C, and FLIP 82-189C.

The correlations between seed yields at different locations are given in Table 3.1.8. The seed yields at Al-Ghab, Kamishely and Gelline in Syria were significantly associated with seed yields at Debre Zeit in Ethiopia. Also the seed yields at Oroumieh in Iran were associated with those at Wuhan in China, Montpellier in France, Rupandehi in Nepal, Al-Ghab, Kamishely, Izra'a and Jinderis in Syria, similarly the seed yields at Rupandeni in Nepal were significantly associated with Al-Ghab and Kamishely in Syria in addition to Oroumieh in Iran.

On the basis of average over two years for the common entries ILC 482 ranked 1 and was closely followed by FLIP 82-87C, and FLIP 82-9C etc. (Table 3.1.9).

Table 3.1.9. The mean yield (Y= kg/ha) and rank (R) of the common entries in CIYT-Sp during 1983/84 and 1984/85.

Entry Name	1983/84		1984/85		Mean	
	Y	R	Y	R	Y	R
FLIP 82-1C	977	5	1383	5	1180	4
FLIP 82-2C	934	7	1338	6	1136	7
FLIP 82-9C	1058	2	1437	3	1248	3
FLIP 82-16C	1003	4	1293	8	1148	6
FLIP 82-39C	976	6	1338	6	1157	5
FLIP 82-87C	1021	3	1511	2	1266	2
ILC 482	1180	1	1576	1	1378	1
ILC 1929	817	8	1425	4	1121	8

3.2. CHICKPEA INTERNATIONAL YIELD TRIAL-WINTER-MEDITERRANEAN REGION (CIYT-W-MR)

Material

The material for the Chickpea International Yield Trial-Winter comprised of 23 test entries, and one local check to be supplied by the cooperator. The test entries were resistant to ascochyta blight and were selected from the local and regional yield trials based on their superior yield performance. Out of these 23 test entries, 21 were developed through hybridization at ICARDA.

Methods and Management

The trial design was a randomized complete block with four replications. The suggested plot size was four rows 4 m long with an inter- and intra row spacing of 30- and 10 cm respectively.

Sixty onee sets of trials were distributed to cooperators in 22 countries and the results were returned from 39 sets covering 17 countries. The crop at Breda (Syria) failed due to severe drought. The agronomic practices employed at different locations are shown in Table 3.2.1.

Results and Discussion

Mean for time to flowering, time to maturity, plant height, and 100-seed weight are compiled in Tables 3.2.2, 3.2.3, 3.2.4 and 3.2.5 respectively. Time to flowering ranged from 129 days for ILC 482 to 133 days for FLIP 82-93C, FLIP 82-21C, FLIP 82-38C, FLIP 82-69C, FLIP 82-99C, and ILC 3279. The location means for time to flowering varied from 69 days at Tel Hadya spring to 202 days at Perugia in Italy. The locations which flowered earlier were also earlier in maturity. The time to maturity ranged from 173 days for FLIP 82-64C to 177 days for

Table 3.2.1. Agronomic data for different locations in the CIYT-W-MR during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRIGATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Setif	02.02.1985	16.07.1985		100		-	Treflan	Rabat 9
ALGERIA	Sidi Bel Abbes	06.01.1985	29.06.1985	15	90		-	-	NA
CHILE	Chillan	23.04.1985	NA	42	90		-	Linuron	Selection-8
CYPRUS	Laxia	26.11.1984	04.06.1985	24	54		NA	-	Local
FRANCE	Montpellier	27.11.1984	20.07.1985		100		-	Nitrofene,Neburon	E 36
ITALY	Basilicata	05.02.1985	13.07.1985	20	60		NA	Tribunil	Materano
ITALY	Capalbio	16.01.1985	06.08.1985	20	60		-	Tribunil	-
ITALY	Catania	07.02.1985	14.07.1985	45	90		-	-	11 EN
ITALY	Perugia	29.10.1984	19.07.1985	40	100		-	Linuron 50	Locme
JORDAN	Marow	11.11.1984	17.05.1985	20	40		NA	NA	-
LEBANON	Beqa'a	21.12.1984	21.06.1985		50		-	-	NA
LEBANON	Terbol	21.11.1984	06.1985		50		NA	Kerb,Bladex	NA
LIBYA	Tripoli	13.11.1984	29.06.1985	30	60			-	ILC 550
MOROCCO	Jma'at	11.1984	NA	30	50		-	-	NA
MOROCCO	Douyet	26.11.1984	05.06.1985	30	50		-	-	NA
PAKISTAN	Dasht	31.10.1984	30.05.1985	28	72		-	-	Kabulee
PAKISTAN	Faisalabad	11.11.1984	25.04.1985	25	50		2	B.H.C.,Dimecron	PB 1
PAKISTAN	Mastung	20.11.1984	NA	28	72		NA	NA	Kabulee
PAKISTAN	Quetta-1	31.10.1984	18.05.1985	28	72		-	-	Kabulee
PAKISTAN	Quetta-2	20.11.1984	28.06.1985	20	50		4	-	NA
POLAND	Polawy	18.04.1985	-		110	180	-	Tribunil,Dithane,Cyntotox	Field NEE
PORTUGAL	Quinta	11.12.1984	31.07.1985	21	63	63	-	-	Regional Variety
PORTUGAL	Algarve	-	-	17	55		-	NA	NA
SAUDI ARABIA	Al-Hassa	11.1984	04.1985	80	80		15	-	NA
SPAIN	Alcala - de Henares	26.12.1984	12.07.1985	24	72		-	-	1472
SPAIN	Cordoba-1	15.01.1985	11.07.1985				1	NA	Fardon
SPAIN	Cordoba-2	18.12.1984	26.06.1985				2	NA	Fardon
SPAIN	Sevilla	17.12.1984	08.07.1985	-			-	-	Trompo
SYRIA	Gelline	29.11.1984	05.06.1985	NA			NA	NA	FLIP82-225
SYRIA	Tel Hadya	02.12.1984	08.06.1985	30	50		-	Bravo,Bladex,Kerb	ILC 1929
SYRIA	Jindiress	21.11.1985	12.06.1985	NA			NA	NA	NA
SYRIA	Hama	06.12.1984	03.06.1985	33	20		-	Phosdrin	ILC 3279
SYRIA	Izra'a	02.12.1984	NA	40	80		NA	NA	FLIP82-225
SYRIA	Jableh	NA	15.06.1985	NA			NA	NA	FLIP82-225
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TUNISIA	Sejnane	NA	NA	NA			NA	NA	NA
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
TURKEY	Izmir	18.12.1984	07.1985	20	40		-	Fusilade	Ispanyol population

NA = not available.

Table 3.2.2. Time to flowering (days) of entries at different locations in the CIYT-W-MR during 1984/85.

ENTRY NAME	PEDIGREE	ORIGIN	ALGERIA	CHILE	CYPRUS	FRANCE	ITALY	
			Sidi Bel Abbes	Chillan	Laxia	Mont-Pellier	Basi-licata	Perugia
FLIP 81-59	X79 TH158/ ILC202 XILC893	ICARDA/ICRISAT	103	176	130	159	100	-
FLIP 81-293C	X79 TH 8/ ILC191 XILC496	ICARDA/ICRISAT	103	173	130	158	100	204
FLIP 82-5C	X79 TH220/ ILC72 XILC480	ICARDA/ICRISAT	103	177	134	152	114	-
FLIP 82-64C	X80 TH264/ (ILC480XILC72)XILC263	ICARDA/ICRISAT	103	177	134	166	114	201
FLIP 82-91C	X79 TH158/ ILC202 XILC893	ICARDA/ICRISAT	103	182	133	159	114	-
FLIP 82-93C	X79 TH158/ ILC202 XILC893	ICARDA/ICRISAT	107	182	137	165	114	-
FLIP 82-101C	X79 TH151/ ILC73 XILC897	ICARDA/ICRISAT	101	175	132	162	114	-
FLIP 82-115C	X80 TH199/ ILC3279 XICC78184	ICARDA/ICRISAT	103	182	133	157	100	201
FLIP 82-121C	X79 TH220/ ILC72 XILC480	ICARDA/ICRISAT	107	176	133	164	114	-
FLIP 82-127C	X79 TH 8/ ILC191 XILC496	ICARDA/ICRISAT	103	174	132	166	114	201
FLIP 82-128C	X79 TH 8/ ILC191 XILC496	ICARDA/ICRISAT	103	179	133	169	114	-
FLIP 82-138C	X79 TH151/ ILC73 XILC897	ICARDA/ICRISAT	101	180	133	161	114	-
FLIP 82-150C	X79 TH101/ ILC523 XILC83	ICARDA/ICRISAT	107	175	129	162	114	-
FLIP 82-152C	X79 TH101/ ILC523 XILC83	ICARDA/ICRISAT	101	179	132	156	114	-
FLIP 82-154C	X79 TH158/ ILC202 XILC293	ICARDA/ICRISAT	98	180	135	155	114	-
FLIP 82-161C	X79 TH216/ ILC202 XILC577	ICARDA/ICRISAT	107	172	137	157	114	-
FLIP 82-169C	X79 TH221/ ILC72 XILC1922	ICARDA/ICRISAT	103	175	131	158	114	-
FLIP 82-186C	X79 TH215/ ILC391 XILC72	ICARDA/ICRISAT	107	173	132	158	100	-
FLIP 82-199C	X79 TH151/ ILC73 XILC897	ICARDA/ICRISAT	103	178	137	165	114	-
FLIP 82-232C	X79 TH151/ ILC73 XILC897	ICARDA/ICRISAT	103	182	134	156	114	-
FLIP 82-234C	X79TH151/ ILC73 XILC897	ICARDA/ICRISAT	95	178	128	159	100	-
ILC 482	-	TURKEY	93	173	120	151	100	-
ILC 3279	-	USSR	-	179	139	170	114	-
LOCAL CHECK			103	172	135	162	100	-
LOCATION MEAN			102	177	133	160	109	202
S.E. OF MEAN			0.00	1.10	1.10	1.70	0.00	0.21
LSD AT 5%			-	3.20	3.20	4.90	-	0.67
C.V.%			0.00	1.30	1.70	2.20	0.00	0.21
ERROR DF			66	69	69	69	69	9
SIGNIFICANCE			NS	*	*	*	NS	*

Cont'd. ...

Table 3.2.2. Cont'd. ...

	ITALY	JORDAN	LEBANON	LEBANON	LIBYA	PAKISTAN				POLAND
ENTRY NAME	Catania	Marow	Beqa'a	Terbol	Tripoli	Dasht	Quetta-1	Quetta-2	Faisalabad	Polawy
FLIP 81-59W	106	146	122	146	119	125	126	142	91	75
FLIP 81-293C	106	147	124	147	120	126	127	142	103	77
FLIP 82-5C	106	148	125	150	121	125	124	142	107	74
FLIP 82-64C	106	148	127	151	123	126	125	142	104	76
FLIP 82-91C	106	147	126	148	122	123	124	142	104	76
FLIP 82-93C	106	147	127	149	123	125	126	142	108	77
FLIP 82-101C	106	147	128	148	123	124	127	147	101	76
FLIP 82-115C	106	146	124	145	121	124	124	147	99	72
FLIP 82-121C	106	148	127	153	123	125	125	144	102	74
FLIP 82-127C	106	148	125	150	119	125	127	147	104	77
FLIP 82-128C	106	147	126	148	120	123	127	147	105	77
FLIP 82-138C	106	148	128	150	122	125	127	144	103	76
FLIP 82-150C	106	143	125	146	121	125	126	142	109	76
FLIP 82-152C	106	148	125	147	123	126	126	142	105	77
FLIP 82-154C	106	148	126	150	124	125	126	142	104	76
FLIP 82-161C	106	145	125	150	124	126	126	142	102	77
FLIP 82-169C	106	148	128	154	120	125	126	142	104	76
FLIP 82-186C	106	148	126	149	122	125	125	142	104	75
FLIP 82-199C	106	148	128	151	123	126	126	142	111	77
FLIP 82-232C	106	146	126	150	123	125	126	144	101	77
FLIP 82-234C	106	147	124	146	122	125	127	142	100	75
ILC 482	106	142	119	144	111	126	126	142	90	68
ILC 3279	106	146	128	154	124	126	126	142	102	77
LOCAL CHECK	106	146	123	146	113	126	128	142	98	64
LOCATION MEAN	106	146	125	149	121	125	126	143	102	75
S.E. OF MEAN	0.00	1.10	0.30	0.60	1.10	0.90	0.90	1.30	2.60	0.40
LSD AT 5%	-	3.10	1.00	1.70	3.10	-	-	3.70	7.50	1.10
C.V.%	0.00	1.50	0.60	0.80	1.80	1.50	1.50	1.80	5.10	1.00
ERROR DF	69	69	69	69	69	69	69	69	69	69
SIGNIFICANCE	NS	*	*	*	*	NS	NS	*	*	*

Cont'd. ...

Table 3.2.2. Cont'd. ...

ENTRY NAME	PORTUGAL	SPAIN		SYRIA						TURKEY	(1) Overall Mean
	Quinta	Alcala de Henares	Sevilla	Hama	Gelline	Izra'a	Jindiress	Tel-Hadya Spring	Tel-Hadya Winter	Izmir	
FLIP 81-59W	106	136	117	135	136	141	147	65	140	-	132
FLIP 81-293C	106	146	117	131	129	132	147	68	135	119	130
FLIP 82-5C	106	134	121	136	137	140	148	68	138	121	132
FLIP 82-64C	107	149	121	132	133	145	149	73	137	121	132
FLIP 82-91C	106	139	120	137	130	144	148	70	139	121	132
FLIP 82-93C	106	143	121	136	135	145	150	71	139	123	133
FLIP 82- 01C	107	144	119	134	134	145	148	71	138	121	132
FLIP 82- 15C	106	141	117	129	136	145	148	66	135	119	130
FLIP 82- 21C	106	141	120	-	131	138	156	68	141	119	133
FLIP 82- 27C	106	144	119	131	132	138	147	71	136	122	131
FLIP 82- 28C	106	142	121	131	133	146	148	71	137	123	132
FLIP 82- 38C	107	141	118	135	137	145	149	72	139	119	133
FLIP 82- 50C	106	136	119	134	131	143	147	70	136	120	131
FLIP 82- 52C	106	135	119	135	133	144	146	71	136	121	131
FLIP 82- 54C	106	142	122	138	133	143	149	68	138	123	132
FLIP 82- 61C	107	141	121	138	135	139	149	69	138	122	132
FLIP 82- 69C	107	137	121	140	134	144	152	71	140	121	133
FLIP 82- 86C	107	135	120	131	131	144	148	72	137	121	131
FLIP 82- 99C	106	147	122	134	136	148	149	73	138	124	133
FLIP 82-232C	107	146	119	135	135	144	149	70	138	123	132
FLIP 82-234C	105	138	116	130	134	143	147	66	137	119	130
ILC 482	104	134	113	-	130	142	147	62	140	112	129
ILC 3279	106	140	124	136	130	143	151	73	139	125	133
LOCAL CHECK	107	142	-	139	136	138	151	63	-	--	
LOCATION MEAN	106	140	119	134	133	142	149	69	138	121	
S.E. OF MEAN	0.20	0.70	0.73	0.66	0.50	2.80	0.50	0.60	0.50	0.93	
LSD AT 5%	0.50	2.00	2.07	1.86	1.40	-	1.40	1.70	1.43	2.62	
C.V.%	0.30	1	1.22	0.98	0.70	3.90	0.60	1.80	0.73	1.53	
ERROR DF	69	69	66	63	69	69	69	69	66	63	
SIGNIFICANCE	*	*	*	*	*	NS	*	*	*	*	

(1) Perugia was excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.2.3. Time to maturity (days) of entries at different locations in CIYT-W-MR during 1984/85.

ENTRY NAME	ALGERIA	ITALY		JORDAN	LEBANON	LIBYA	PAKISTAN			
	Sidi Bel Abbes	Perugia	Catania	Marow	Terbol	Tripoli	Dasht	Quetta-1	Quetta-2	Faisalabad
FLIP 81-59W	170	-	159	191	195	187	170	175	193	151
FLIP 81-293C	170	255	159	192	195	182	177	183	195	153
FLIP 82-5C	170	-	159	191	199	186	163	165	197	152
FLIP 82-64C	170	255	159	192	202	181	171	162	195	151
FLIP 82-91C	170	-	159	193	197	187	156	158	193	152
FLIP 82-93C	170	-	159	193	198	188	168	180	195	152
FLIP 82- 01C	170	-	159	192	198	187	164	186	192	152
FLIP 82- 15C	170	253	159	191	198	184	164	150	198	152
FLIP 82- 21C	170	-	159	192	201	184	171	162	199	151
FLIP 82- 27C	170	254	159	192	197	183	171	183	197	151
FLIP 82- 28C	170	-	159	191	197	185	154	185	196	152
FLIP 82- 38C	170	-	159	191	198	184	170	178	197	152
FLIP 82- 50C	170	-	159	191	197	188	172	172	197	151
FLIP 82- 52C	170	-	159	191	197	186	174	178	198	151
FLIP 82- 54C	170	-	159	191	198	184	169	172	193	152
FLIP 82- 61C	170	-	159	191	200	187	179	172	193	152
FLIP 82- 69C	170	-	159	191	199	187	169	169	193	151
FLIP 82- 86C	170	-	159	194	197	186	166	166	196	152
FLIP 82- 99C	170	-	159	191	199	187	177	181	198	151
FLIP 82-232C	170	-	159	190	197	185	166	177	194	152
FLIP 82-234C	170	-	159	192	193	185	166	179	196	151
ILC 482	170	-	159	191	198	182	171	175	197	149
ILC 3279	-	-	159	191	199	186	176	180	198	152
LOCAL CHECK	170	-	159	191	200	181	174	178	198	151
LOCATION MEAN	170	254	159	191	198	185	169	173	196	151
S.E. OF MEAN	0.00	0.44	0.00	0.50	0.80	0.93	7.70	7.80	1.50	0.80
LSD AT 5%	-	-	-	1.60	2.20	-	-	-	4.20	-
C.V.%	0.00	0.35	0.00	0.60	0.80	1.00	9.10	9.00	1.50	1.00
ERROR DF	66	9	69	69	69	69	69	69	69	69.00
SIGNIFICANCE	NS	NS	NS	*	*	NS	NS	NS	*	NS

Cont'd. ...

Table 3.2.3. Cont'd. ...

ENTRY NAME	PORTUGAL	SPAIN	SYRIA						TURKEY	(1)
	Quinta	Alcala de Henares	Hama	Gelline	Izra'a	Jindiress	Tel Hadya Spring	Tel Hadya Winter	Izmir	Overall Mean
FLIP 81-59W	214	185	170	176	183	192	102	183	-	175
FLIP 81-293C	214	193	170	175	180	186	104	176	165	176
FLIP 82-5C	214	184	178	178	182	188	108	180	165	175
FLIP 82-64C	215	149	172	180	186	190	109	177	167	173
FLIP 82-91C	214	188	176	178	184	190	108	183	166	174
FLIP 82-93C	214	189	174	178	188	195	108	182	167	177
FLIP 82- 01C	215	189	171	179	186	188	108	181	168	176
FLIP 82- 15C	214	189	171	178	184	187	106	177	166	174
FLIP 82- 21C	214	190	-	179	186	196	108	183	154	175
FLIP 82- 27C	214	189	170	177	184	187	108	177	167	176
FLIP 82- 28C	214	191	170	177	185	189	108	176	167	175
FLIP 82- 38C	215	190	176	179	187	188	108	182	166	176
FLIP 82- 50C	215	181	174	178	186	186	107	179	167	175
FLIP 82- 52C	215	186	176	178	183	187	108	177	167	176
FLIP 82- 54C	214	189	178	181	184	191	108	181	167	176
FLIP 82- 61C	215	189	176	172	185	192	106	182	167	176
FLIP 82- 69C	215	184	179	180	184	196	110	183	167	176
FLIP 82- 86C	215	179	172	179	186	190	109	179	167	175
FLIP 82- 99C	214	191	175	174	187	191	110	182	167	177
FLIP 82-232C	217	191	173	178	185	189	108	178	168	176
FLIP 82-234C	214	184	170	176	182	187	104	178	167	175
ILC 482	212	180	-	173	183	188	103	-	162	174
ILC 3279	214	186	176	178	187	194	113	181	167	177
LOCAL CHECK	214	186	178	178	186	193	102	-	-	
LOCATION MEAN	214	187	174	177	185	190	107	180	166	
S.E. OF MEAN	0.40	0.90	0.78	2.20	1.70	1.20	0.50	0.93	2.83	
LSD AT 5%	1.20	2.70	2.20	-	-	3.50	1.40	2.64	-	
C.V.%	0.40	1.00	0.89	2.50	1.80	1.30	0.90	1.04	3.40	
ERROR DF	69	69	63	69	69	69	69	63	63	
SIGNIFICANCE	*	*	*	NS	NS	*	*	*	NS	

(1) Perugia and Tel Hadya-winter were excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.2.4. Plant height (cm) of entries at different locations in CIYT-W-MR during 1984/85.

ENTRY NAME	ALGERIA		CHILE	CYPRUS	ITALY				JORDAN
	Sidi Bel-Abbes	Setif	Chillan	Laxia	Basilicata	Perugia	Catania	Capalbio	Marow
FLIP 81-59W	31	40	56	42	54	-	34	32	34
FLIP 81-293C	30	49	68	50	64	65	36	43	42
FLIP 82-5C	30	46	62	45	61	-	37	43	37
FLIP 82-64C	40	46	65	55	66	80	45	49	45
FLIP 82-91C	40	51	70	55	66	-	37	42	42
FLIP 82-93C	45	49	71	52	69	-	42	48	46
FLIP 82- 01C	35	43	65	49	64	-	44	45	41
FLIP 82- 15C	40	50	67	51	68	66	38	43	45
FLIP 82- 21C	35	46	62	54	65	-	45	44	45
FLIP 82- 27C	35	45	55	48	63	65	40	41	39
FLIP 82- 28C	35	47	68	45	64	-	37	46	44
FLIP 82- 38C	35	48	66	52	64	-	37	40	43
FLIP 82- 50C	35	42	74	55	59	-	36	42	45
FLIP 82- 52C	35	46	70	51	60	-	38	42	45
FLIP 82- 54C	35	54	77	57	68	-	41	48	47
FLIP 82- 61C	40	44	68	49	61	-	37	40	43
FLIP 82- 69C	35	52	66	51	65	-	39	48	38
FLIP 82- 86C	35	38	55	47	59	-	34	38	41
FLIP 82- 99C	35	49	63	52	64	-	40	48	45
FLIP 82-232C	40	45	67	48	58	-	35	41	40
FLIP 82-234C	30	43	55	43	61	-	33	39	39
ILC 482	30	40	33	44	58	-	32	34	37
ILC 3279	-	54	81	62	75	-	41	55	49
LOCAL CHECK	30	47	67	30	63	-	39	42	39
LOCATION MEAN	35	46	65	49	63	69	38	43	42
S.E. OF MEAN	0.25	1.80	4.10	2.90	2.00	3.18	2.00	2.30	2.50
LSD AT 5%	0.69	5.20	11.60	8.50	5.60	10.17	5.80	6.60	7.20
C.V.%	1.39	7.90	12.70	8.30	6.20	9.21	10.70	10.80	12.00
ERROR DF	66	69	69	23	69	9	69	69	69
SIGNIFICANCE	*	*	*	*	*	*	*	*	*

Cont'd. ...

Table 3.2.4. Cont'd. ...

ENTRY NAME	LEBANON		LIBYA	PAKISTAN				POLAND	PORTUGAL
	Beqa'a	Terbol	Tripoli	Dasht	Quetta-1	Quetta-2	Faisalabad	Polawy	Quinta
FLIP 81-59W	27	39	48	6	6	33	78	75	88
FLIP 81-293C	31	42	58	6	6	41	78	96	96
FLIP 82-5C	32	46	51	7	7	44	77	81	95
FLIP 82-64C	33	52	67	6	7	54	83	95	107
FLIP 82-91C	35	55	56	7	7	46	76	90	106
FLIP 82-93C	37	48	62	7	6	44	79	91	111
FLIP 82-101C	29	53	54	7	6	42	77	85	96
FLIP 82-115C	33	47	55	7	7	49	71	97	110
FLIP 82-121C	32	54	62	6	7	45	77	97	102
FLIP 82-127C	32	45	57	6	6	40	67	86	87
FLIP 82-128C	32	44	62	7	6	37	72	92	101
FLIP 82-138C	31	48	53	7	6	45	81	91	102
FLIP 82-150C	32	45	58	6	6	29	74	90	102
FLIP 82-152C	31	46	60	6	6	46	86	86	110
FLIP 82-154C	32	49	66	7	6	36	88	95	115
FLIP 82-161C	29	45	57	6	6	34	82	86	103
FLIP 82-169C	31	53	56	6	6	52	76	92	116
FLIP 82-186C	32	43	60	7	7	41	71	86	105
FLIP 82-199C	32	46	66	6	6	34	75	88	114
FLIP 82-232C	35	43	52	7	6	42	82	87	117
FLIP 82-234C	28	43	53	7	6	37	69	80	110
ILC 482	28	43	53	6	6	43	71	77	106
ILC 3279	37	58	67	6	6	42	79	102	98
LOCAL CHECK	30	43	51	6	6	31	87	58	103
LOCATION MEAN	32	47	58	7	6	41	77	87	104
S.E. OF MEAN	1.00	2.10	3.80	0.40	0.40	3.30	6.50	2.70	3.20
LSD AT 5%	2.80	6.10	10.80	1.20	-	9.40	-	7.80	9.20
C.V.%	6.30	9.10	13.20	13.00	12.60	16.20	16.70	6.30	6.20
ERROR DF	69	69	69	69	69	69	69	69	69
SIGNIFICANCE	*	*	*	*	NS	*	NS	*	*

Cont'd. ...

Table 3.2.4. Cont'd. ...

ENTRY NAME	SPAIN	SYRIA						TURKEY	Overall Mean (1)
	Sevilla	Hama	Gelline	Izra'a	Jindiress	Tel Hadya Spring	Tel Hadya Winter	Izmir	
FLIP 81-59W	36	43	26	32	26	23	21	28	41
FLIP 81-293C	66	33	35	37	33	29	34	36	49
FLIP 82-5C	65	28	33	38	30	31	31	35	47
FLIP 82-64C	81	46	42	46	37	32	42	47	55
FLIP 82-91C	75	33	38	42	34	30	35	42	52
FLIP 82-93C	76	35	37	41	32	33	33	38	53
FLIP 82-101C	65	32	31	38	31	28	31	40	49
FLIP 82-115C	75	38	37	38	34	31	38	36	52
FLIP 82-121C	68	-	34	38	29	31	34	38	53
FLIP 82-127C	66	31	35	38	32	31	37	35	47
FLIP 82-128C	70	32	39	36	34	29	37	33	50
FLIP 82-138C	70	31	35	36	32	29	33	37	50
FLIP 82-150C	63	30	33	38	33	29	32	41	49
FLIP 82-152C	68	31	34	36	35	26	32	40	51
FLIP 82-154C	76	32	35	43	33	32	35	38	54
FLIP 82-161C	66	28	33	35	27	27	26	37	48
FLIP 82-169C	75	35	37	41	34	30	35	44	55
FLIP 82-186C	58	32	31	36	30	27	29	35	46
FLIP 82-199C	68	36	35	36	36	29	38	37	51
FLIP 82-232C	66	28	31	36	30	26	31	36	49
FLIP 82-234C	61	31	25	33	29	25	27	33	45
ILC 482	56	-	29	30	24	24	18	32	42
ILC 3279	81	38	42	51	41	37	43	43	58
LOCAL CHECK	-	25	30	39	23	22	17	31	
LOCATION MEAN	67	33	34	38	32	29	32	37	
S.E. OF MEAN	4.85	1.47	1.30	1.70	1.40	0.70	1.59	2.20	
LSD AT 5%	13.82	4.16	3.60	5.00	4.00	2.10	4.48	6.30	
C.V.%	12.39	8.77	7.50	9.30	8.80	5.30	9.80	12.00	
ERROR DF	44	63	69	69	69	69	69	69	
SIGNIFICANCE	*	*	*	*	*	*	*	*	

(1) Perugia, Dasht and Quetta-1 were excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.2.5. 100-Seed weight (g) of entries at differnt locations in CIYT-W-MR during 1984/85.

	ITALY				LEBANON		LIBYA	PAKISTAN
ENTRY NAME	Perugia	Basilicata	Catania	Capalbio	Beqa'a	Terbol	Tripoli	Quetta-2
FLIP 81-59W	-	23	23	24	25	24	25	25
FLIP 81-293C	26	27	27	31	32	28	30	32
FLIP 82-5C	-	29	26	31	32	29	29	30
FLIP 82-64C	39	40	31	41	37	40	32	31
FLIP 82-91C	-	31	30	30	32	31	30	28
FLIP 82-93C	-	28	30	30	30	29	29	28
FLIP 82-101C	-	31	29	32	33	31	35	32
FLIP 82-115C	28	30	29	31	30	29	27	29
FLIP 82-121C	-	29	27	32	32	30	24	28
FLIP 82-127C	28	28	29	32	33	29	29	30
FLIP 82-128C	-	28	30	32	34	28	31	26
FLIP 82-138C	-	27	26	27	30	28	31	22
FLIP 82-150C	-	28	27	29	30	29	29	25
FLIP 82-152C	-	26	22	28	27	26	22	24
FLIP 82-154C	-	29	29	29	31	27	26	28
FLIP 82-161C	-	33	31	33	34	33	30	30
FLIP 82-169C	-	30	29	31	33	32	30	29
FLIP 82-186C	-	28	27	29	29	29	27	27
FLIP 82-199C	-	28	26	30	30	28	31	25
FLIP 82-232C	-	26	25	29	30	29	27	29
FLIP 82-234C	-	26	29	28	28	25	28	31
ILC 482	-	29	27	27	29	29	32	29
ILC 3279	-	28	28	29	32	30	27	27
LOCAL CHECK	-	40	47	38	38	34	33	14
LOCATION MEAN	30	29	28	30	31	30	29	27
S.E. OF MEAN	0.53	0.40	1.20	0.70	0.40	0.90	1.60	2.40
LSD AT 5%	1.70	1.20	3.60	2.10	1.10	2.50	4.60	6.80
C.V.%	3.47	2.90	8.80	4.90	2.50	6.00	11.30	17.50
ERROR DF	9	69	69	69	69	69	69	69
SIGNIFICANCE	*	*	*	*	*	*	*	*

Cont'd. ...

Table 3.2.5. Cont'd. ...

ENTRY NAME	PORTUGAL	SYRIA				TURKEY	(1) Overall	
	Quinta	Hama	Jindiress	Tel Hadya Spring	Tel Hadya Winter	Izmir	Mean	Rank
FLIP 81-59W	30	23	22	22	23	26	24	23
FLIP 81-293C	33	28	27	29	29	32	29	9
FLIP 82-5C	34	28	26	29	30	29	30	6
FLIP 82-64C	42	36	30	35	39	34	37	1
FLIP 82-91C	35	30	28	31	32	32	31	3
FLIP 82-93C	35	30	28	29	30	30	30	6
FLIP 82-101C	37	28	29	31	33	32	32	2
FLIP 82-115C	36	29	27	27	30	30	30	6
FLIP 82-121C	33	29	27	29	29	31	29	9
FLIP 82-127C	31	27	27	30	29	29	29	9
FLIP 82-128C	32	28	26	31	29	30	29	9
FLIP 82-138C	32	26	24	27	28	31	28	16
FLIP 82-150C	34	25	25	26	27	29	28	16
FLIP 82-152C	30	23	21	23	25	25	25	22
FLIP 82-154C	33	28	24	28	30	29	29	9
FLIP 82-161C	37	30	28	32	30	32	31	3
FLIP 82-169C	36	28	27	31	31	32	31	3
FLIP 82-186C	33	26	23	27	28	29	28	16
FLIP 82-199C	33	26	26	26	28	28	28	16
FLIP 82-232C	32	26	25	26	28	27	28	16
FLIP 82-234C	34	24	24	26	30	29	29	9
ILC 482	34	26	24	27	28	32	28	16
ILC 3279	31	29	26	28	30	28	29	9
LOCAL CHECK	38	30	34	39	39	30		
LOCATION MEAN	34	28	26	29	30	30		
S.E. OF MEAN	0.70	0.76	0.60	0.60	0.77	1.10		
LSD AT 5%	2.00	2.15	1.70	1.70	2.18	3.30		
C.V.%	4.20	5.42	4.60	4.10	5.09	7.80		
ERROR DF	69	69	69	69	69	69		
SIGNIFICANCE	*	*	*	*	*	*		

(1) Perugia was excluded from the overall mean

* = Significant at $P \leq 0.05$

Table 3.2.6. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in the CIYT-W-MR during 1984/85.

ENTRY NAME	ALGERIA				CHILE		CYPRUS		FRANCE		ITALY	
	Sidi Bel Abbes		Setif		Chillan		Laxia		Montpellier		Basilicata	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-59W	1036	12	1546	6	234	14	1207	23	2269	15	2906	9
FLIP 81-293C	1057	11	1726	2	93	20	1733	13	3148	1	3244	1
FLIP 82-5C	911	19	1442	14	300	10	1726	14	2194	16	2807	12
FLIP 82-64C	953	17	1229	22	222	15	1650	18	1897	21	2291	23
FLIP 82-91C	1333	6	1518	8	257	13	1921	7	2506	12	3062	5
FLIP 82-93C	1421	3	1401	19	273	11	1959	6	2722	7	3213	2
FLIP 82-101C	1114	8	1447	13	406	7	1611	19	2644	9	2937	8
FLIP 82-115C	1354	4	1442	14	550	4	1511	22	2501	13	2791	13
FLIP 82-121C	1000	14	1085	24	164	17	1540	21	1800	22	3036	6
FLIP 82-127C	979	16	1416	16	167	16	1898	9	2983	2	2651	19
FLIP 82-128C	984	15	1403	18	335	8	1985	5	2860	4	2901	10
FLIP 82-138C	1109	9	1552	5	468	5	2060	4	2782	5	3088	4
FLIP 82-150C	912	18	1812	1	74	21	2269	2	2728	6	2781	15
FLIP 82-152C	509	22	1536	7	457	6	1825	10	2544	10	2536	21
FLIP 82-154C	1083	10	1312	20	644	3	1652	17	2184	17	3036	6
FLIP 82-161C	676	21	1458	12	320	9	1697	15	1902	20	2606	20
FLIP 82-169C	1467	2	1567	4	101	19	1761	12	2526	11	3098	3
FLIP 82-186C	1156	7	1414	17	660	2	1913	8	2171	18	2494	22
FLIP 82-199C	875	20	1296	21	19	22	1659	16	2434	14	2686	17
FLIP 82-232C	1010	13	1476	10	269	12	1774	11	2110	19	2718	16
FLIP 82-234C	1343	5	1500	9	144	18	2146	3	2712	8	2783	14
ILC 482	1562	1	1656	3	0	23	2345	1	2959	3	2817	11
ILC 3279	-		1216	23	750	1	1565	20	1778	23	2671	18
LOCAL CHECK	409	23	1476	10	0	23	181	24	1409	24	1552	24
LOCATION MEAN	1054		1455		288		1733		2407		2779	
S.E. OF MEAN	141.37		103.20		178.60		110.40		239.60		147.00	
LSD AT 5%	399.06		291.20		-		311.50		675.80		414.80	
C.V.%	26.80		14.10		123.90		12.70		19.90		10.50	
ERROR DF	66		69		69		69		69		69	
SIGNIFICANCE	*		*		NS		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	20		1		-		23		19		23	

Cont'd. ...

Table 3.2.6. Cont'd. ...

ENTRY NAME	ITALY						JORDAN		LEBANON				LIBYA	
	Perugia		Catania		Capalbio		Marow		Beqa'a		Terbol		Tripoli	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-59W	-		1078	4	1495	14	861	22	942	10	1607	20	723	2
FLIP 81-293C	4311	1	932	8	1825	1	806	23	906	13	1916	6	416	10
FLIP 82-5C	-		489	23	1333	17	1138	16	868	16	1874	11	453	7
FLIP 82-64C	4080	3	671	18	1539	8	1103	18	844	18	1672	18	328	15
FLIP 82-91C	-		697	17	1357	16	1325	12	1134	3	1884	9	328	15
FLIP 82-93C	-		1010	5	1523	12	1428	10	1038	4	1526	23	317	17
FLIP 82-101C	-		1125	3	1823	2	1190	14	684	24	1972	4	432	9
FLIP 82-115C	4064	4	531	22	1189	21	1553	7	1038	4	1567	22	286	19
FLIP 82-121C	-		750	13	1518	13	1058	19	814	21	2141	1	359	12
FLIP 82-127C	4094	2	968	7	1694	4	998	20	1147	2	1746	15	791	1
FLIP 82-128C	-		895	9	1656	5	1738	4	928	12	2034	2	656	3
FLIP 82-138C	-		869	10	1178	23	870	21	1027	6	1898	7	234	21
FLIP 82-150C	-		1218	2	1527	11	1651	5	1320	1	1917	5	557	4
FLIP 82-152C	-		723	16	1274	18	1845	2	765	22	1674	16	317	17
FLIP 82-154C	-		541	21	1154	24	696	24	696	23	1574	21	223	23
FLIP 82-161C	-		1000	6	1529	10	1825	3	841	20	1673	17	276	20
FLIP 82-169C	-		661	19	1539	8	1203	13	859	17	1881	10	453	7
FLIP 82-186C	-		734	14	1189	21	1475	8	955	9	1751	14	395	11
FLIP 82-199C	-		802	12	1622	7	1593	6	844	18	1860	12	234	21
FLIP 82-232C	-		822	11	1260	19	1105	17	903	14	1652	19	359	12
FLIP 82-234C	-		1281	1	1623	6	1391	11	976	8	1896	8	552	5
ILC 482	-		729	15	1470	15	1853	1	983	7	1833	13	546	6
ILC 3279	-		640	20	1252	20	1163	15	936	11	1429	24	125	24
LOCAL CHECK	-		307	24	1769	3	1446	9	869	15	1979	3	348	14
LOCATION MEAN	4137		811		1472		1305		930		1790		404	
S.E. OF MEAN	303.44		172.50		154.80		327.90		68.90		195.00		138.90	
LSD AT 5%	-		486.70		436.80		-		194.40		-		-	
C.V.%	14.67		42.50		21.00		50.20		14.80		21.80		68.60	
ERROR DF	9		69		69		69		69		69		69	
SIGNIFICANCE	NS		*		*		NS		*		NS		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		12		0		-		3		-		-	

Cont'd. ...

Table 3.2.6. Cont'd. ...

ENTRY NAME	MOROCCO				PAKISATAN							
	Douyet		Jma'at		Dasht		Quetta-1		Quetta-2		Faisalabad	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-59W	1327	9	2046	6	50	5	42	8	738	12	1089	14
FLIP 81-293C	847	23	1988	8	33	21	22	20	966	4	1319	5
FLIP 82-5C	1177	14	2120	4	47	8	56	2	773	9	1002	16
FLIP 82-64C	1017	21	1598	18	39	17	45	6	603	21	1150	10
FLIP 82-91C	1582	1	1816	13	53	4	49	4	794	7	1109	13
FLIP 82-93C	1457	3	2028	7	57	2	30	14	704	15	1165	9
FLIP 82-101C	1244	11	1698	16	49	6	13	24	851	5	1216	7
FLIP 82-115C	1389	4	1520	21	48	7	56	2	702	16	1121	12
FLIP 82-121C	830	24	1528	20	40	15	64	1	695	18	1077	15
FLIP 82-127C	1072	19	2142	1	41	13	21	21	1063	1	1669	2
FLIP 82-128C	911	22	2127	3	56	3	17	22	773	9	1206	8
FLIP 82-138C	1082	18	1582	19	43	11	25	16	1062	2	1255	6
FLIP 82-150C	1549	2	1729	15	40	15	37	10	514	24	553	24
FLIP 82-152C	1347	8	1888	11	33	21	24	19	686	19	743	21
FLIP 82-154C	1027	20	1470	23	42	12	47	5	603	21	873	18
FLIP 82-161C	1204	12	1694	17	34	20	38	9	625	20	750	20
FLIP 82-169C	1302	10	1957	9	45	9	35	11	773	9	1143	11
FLIP 82-186C	1388	5	1506	22	44	10	45	6	698	17	666	23
FLIP 82-199C	1348	7	1926	10	27	24	31	13	716	13	960	17
FLIP 82-232C	1176	15	1765	14	38	18	32	12	714	14	803	19
FLIP 82-234C	1377	6	2131	2	58	1	25	16	815	6	1352	4
ILC 482	1197	13	2100	5	41	13	28	15	794	7	1411	3
ILC 3279	1132	17	1430	24	30	23	25	16	594	23	717	22
LOCAL CHECK	1137	16	1888	11	36	19	15	23	970	3	2091	1
LOCATION MEAN	1213		1820		43		34		759		1102	
S.E. OF MEAN	116.80		157.60		10.60		13.50		110.40		153.50	
LSD AT 5%	329.50		444.50		-		-		-		433.00	
C.V.%	19.20		17.30		49.10		78.10		29.00		27.80	
RROR DF	69		69		69		69		69		69	
SIGNIFICANCE	*		*		NS		NS		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	2		0		-		-		-		0	

Cont'd. ...

Table 3.2.6. Cont'd. ...

ENTRY NAME	PORTUGAL		SAUDI ARABIA		SPAIN							
	Quinta		Al Hassa		Cordoba-1		Cordoba-2		Alcala de - Henares		Sevilla	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-59W	2779	1	54	5	2009	23	421	23	1046	11	628	23
FLIP 81-293C	2607	2	67	1	4515	5	2843	11	939	14	3347	15
FLIP 82-5C	1791	16	12	23	5087	1	2909	8	768	22	3253	17
FLIP 82-64C	1255	22	16	21	2709	22	2134	22	816	20	3252	18
FLIP 82-91C	1898	12	31	11	4912	2	2825	12	927	16	3534	9
FLIP 82-93C	2000	10	22	18	3565	20	2918	7	1124	8	3413	12
FLIP 82-101C	2196	8	46	8	3631	19	2696	13	997	13	3760	4
FLIP 82-115C	1875	13	39	9	3737	16	2462	19	760	23	2982	20
FLIP 82-121C	1559	19	25	15	4350	7	3156	2	837	19	3572	7
FLIP 82-127C	1821	14	55	2	4315	9	2975	6	1125	7	3378	13
FLIP 82-128C	1351	20	22	18	3675	18	2312	21	932	15	3368	14
FLIP 82-138C	2226	7	55	2	4434	6	2903	9	1135	6	3704	5
FLIP 82-150C	2083	9	33	10	4328	8	3134	3	1044	12	4086	1
FLIP 82-152C	2446	4	55	2	4309	10	2993	5	1286	4	3642	6
FLIP 82-154C	1934	11	31	11	3378	21	2393	20	1642	2	2809	21
FLIP 82-161C	1708	18	49	7	3690	17	2878	10	885	17	3531	10
FLIP 82-169C	1720	17	16	21	4053	12	2515	17	1617	3	3545	8
FLIP 82-186C	1273	21	19	20	4806	3	3012	4	1052	10	3246	19
FLIP 82-199C	2511	3	50	6	3740	15	2625	15	1123	9	3319	16
FLIP 82-232C	2255	6	29	13	4096	11	2581	16	792	21	3440	11
FLIP 82-234C	2339	5	26	14	3903	13	2662	14	1230	5	4003	3
ILC 482	970	23	25	15	4650	4	3181	1	1704	1	4059	2
ILC 3279	1809	15	25	15	3896	14	2475	18	868	18	2694	22
LOCAL CHECK	767	24	-		634	24	-		738	24	-	
LOCATION MEAN	1882		35		3851		2652		1258		3328	
S.E. OF MEAN	225.80		17.80		543.20		261.01		202.00		135.41	
LSD AT 5%	636.80		-		1532.00		736.80		575.10		382.25	
C.V.%	23.90		86.20		28.20		19.68		33		8.14	
ERROR DF	69		44		69		66		46		66	
SIGNIFICANCE	*		NS		*		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	19		-		22		-		3		-	

Cont'd. ...

Table 3.2.6. Cont'd. ...

ENTRY NAME	SYRIA													
	Hama		Gelline		Izra'a		Jableh		Jindiress		Tel Hadya Spring		Tel Hadya Winter	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-59W	386	21	1351	13	853	9	1546	15	833	21	1321	8	886	22
FLIP 81-293C	1815	3	1548	3	977	5	1315	21	1238	5	1244	10	2273	2
FLIP 82-5C	994	15	1493	5	952	6	1718	12	1029	15	1166	16	1767	14
FLIP 82-64C	1898	1	1454	6	476	22	1263	22	1208	7	1386	6	2148	6
FLIP 82-91C	988	16	1398	10	545	20	2083	4	1083	14	1446	2	1636	16
FLIP 82-93C	880	18	1170	19	803	12	2380	2	1000	16	1333	7	1386	20
FLIP 82-101C	1672	4	1168	20	839	10	1761	10	1184	8	1398	5	1946	8
FLIP 82-115C	1857	2	1037	24	870	8	2213	3	1184	8	1172	15	1851	10
FLIP 82-121C	262	23	1133	22	465	23	1809	9	559	24	1434	4	1273	21
FLIP 82-127C	1577	7	1556	1	545	20	1414	17	1363	4	1214	12	2196	4
FLIP 82-128C	1642	5	1305	17	434	24	1348	20	1125	12	1029	24	2208	3
FLIP 82-138C	1208	12	1315	16	680	16	1848	7	1130	10	1089	22	1648	15
FLIP 82-150C	1047	14	1381	11	1044	2	2588	1	1476	1	1440	3	2190	5
FLIP 82-152C	1315	11	1445	8	1102	1	1598	14	1476	1	1178	14	2285	1
FLIP 82-154C	892	17	1365	12	797	13	872	24	797	22	1095	21	1529	17
FLIP 82-161C	726	20	1038	23	810	11	1408	18	648	23	1154	17	1410	19
FLIP 82-169C	863	19	1540	4	1026	4	1151	23	964	17	1154	17	1827	12
FLIP 82-186C	1089	13	1551	2	642	19	1848	7	1113	13	1148	19	1791	13
FLIP 82-199C	1482	8	1333	15	775	15	1901	6	1130	10	1119	20	2130	7
FLIP 82-232C	1630	6	1406	9	1044	2	2083	4	1476	1	1220	11	1839	11
FLIP 82-234C	1422	9	1245	18	894	7	1445	16	1220	6	1202	13	1880	9
ILC 482	315	24	1451	7	651	18	1403	19	958	18	1267	9	702	23
ILC 3279	1369	22	1340	14	654	17	1682	13	910	19	1065	23	1511	18
LOCAL CHECK	1214	10	1137	21	795	14	1731	11	869	20	1488	1	452	24
LOCATION MEAN	1189		1340		778		1684		1982		1240		1699	
S.E. OF MEAN	192.70		147.10		134.40		317.70		150.40		100.10		167.85	
LSD AT 5%	543.50		-		379.30		-		424.40		282.30		473.40	
C.V.%	32.40		21.90		34.50		37.70		27.80		16.10		19.76	
ERROR DF	69		69		69		69		69		69		69	
SIGNIFICANCE	*		NS		*		NS		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	3		-		0		-		4		0		21	

Cont'd. ...

Table 3.2.6. Cont'd. ...

ENTRY NAME	TUNISIA						TURKEY		Overall Mean	(1) Rank
	Beja		El Kef		Sejnane		Izmir			
	Y	R	Y	R	Y	R	Y	R		
FLIP 81-59W	1441	16	1943	6	4656	6	319	23	1370	23
FLIP 81-293C	1691	10	1681	18	5875	2	1272	1	1839	1
FLIP 82-5C	1150	21	1587	19	2945	19	747	21	1582	17
FLIP 82-64C	1383	18	1443	22	4531	8	861	18	1485	21
FLIP 82-91C	2016	4	1818	15	2812	22	1138	6	1687	9
FLIP 82-93C	1341	19	1950	5	2843	21	927	15	1638	13
FLIP 82-101C	1608	14	2412	1	3937	10	1055	8	1727	6
FLIP 82-115C	2016	4	1868	12	5954	1	655	22	1683	10
FLIP 82-121C	2041	2	1868	12	2593	24	922	16	1491	20
FLIP 82-127C	2008	6	1462	21	3475	12	1208	3	1742	4
FLIP 82-128C	2216	1	1775	17	4875	5	1105	7	1712	8
FLIP 82-138C	1866	8	1556	20	3600	11	850	19	1683	10
FLIP 82-150C	1616	12	1925	7	3250	15	1213	2	1807	2
FLIP 82-152C	1433	17	1975	3	4587	7	1005	10	1749	3
FLIP 82-154C	908	22	1981	2	2637	23	1047	9	1411	22
FLIP 82-161C	1866	8	1843	14	2937	20	894	17	1509	19
FLIP 82-169C	1316	20	1975	3	4920	4	1172	5	1682	12
FLIP 82-186C	1983	7	1812	16	3300	14	994	11	1614	16
FLIP 82-199C	783	24	1906	8	3387	13	1177	4	1626	15
FLIP 82-232C	1633	11	1893	9	3250	15	977	12	1628	14
FLIP 82-234C	1616	12	1879	11	3250	15	844	20	1732	5
ILC 482	1516	15	1231	24	5624	3	947	14	1719	7
ILC 3279	2022	3	1893	9	4312	9	977	12	1511	18
LOCAL CHECK	825	23	1406	23	3125	18	75	24		
LOCATION MEAN	1596		1795		3861		932			
S.E. OF MEAN	393.30		261.50		1000.30		211.00			
LSD AT 5%	-		-		-		-			
C.V.%	42.60		29.10		51.80		45.20			
ERROR DF	46		69		69		69			
SIGNIFICANCE	NS		NS		NS		NS			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		-		-			

(1)Sidi Bel Abbes, Perugia, Al Hassa, Dasht and Quetta-1 were excluded from the overall mean.
* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.2.7. The five heaviest seed yielding entries at the individual locations in the CIYT-W-MR during 1984/85.

RANK	ALGERIA		CHILE	CYPRUS	FRANCE	ITALY		
	Sidi Bel Abbes	Setif	Chillan	Laxia	Montpellier	Basilicata	Catania	Capalbio
1	ILC 482	FLIP 82-150C	ILC 3279	ILC 482	FLIP 81-293C	FLIP 81-293C	FLIP 82-234C	FLIP 81-293C
2	FLIP 82-169C	FLIP 81-293C	FLIP 82-186C	FLIP 82-150C	FLIP 82-127C	FLIP 82-93C	FLIP 82-150C	FLIP 82-101C
3	FLIP 82-93C	ILC 482	FLIP 82-154C	FLIP 82-234C	ILC 482	FLIP 82-169C	FLIP 82-101C	Local check
4	FLIP 82-115C	FLIP 82-169C	FLIP 82-115C	FLIP 82-138C	FLIP 82-128C	FLIP 82-138C	FLIP 81-59W	FLIP 82-127C
5	FLIP 82-234C	FLIP 82-138C	FLIP 82-138C	FLIP 82-128C	FLIP 82-138C	FLIP 82-91C	FLIP 82-93C	FLIP 82-128C

Cont'd. ...

RANK	ITALY	JORDAN	LEBANON		LIBYA	MOROCCO		PAKISTAN
	Perugia	Marow	Beqa'a	Terbol	Tripoli	Douyet	Jmaat	Quetta-2
1	FLIP 81-293C	ILC 482	FLIP 82-150C	FLIP 82-121C	FLIP 82-127C	FLIP 82-91C	FLIP 82-127C	FLIP 82-127C
2	FLIP 82-127C	FLIP 82-152C	FLIP 82-127C	FLIP 82-128C	FLIP 81-59W	FLIP 82-150C	FLIP 82-234C	FLIP 82-138C
3	FLIP 82-64C	FLIP 82-161C	FLIP 82-91C	Local check	FLIP 82-128C	FLIP 82-93C	FLIP 82-128C	Local check
4	FLIP 82-115C	FLIP 82-128C	FLIP 82-115C]	FLIP 82-101C	FLIP 82-150C	FLIP 82-115C	FLIP 82-5C	FLIP 81-293C
5	-	FLIP 82-150C	FLIP 82-93C]	FLIP 82-150C	FLIP 82-234C	FLIP 82-186C	ILC 482	FLIP 82-101C

Cont'd. ...

RANK	PAKISTAN	PORTUGAL	SPAIN				SYRIA	
	Faisalabad	Quinta	Cordoba-1	Cordoba-2	Alcala-de-Henares	Sevilla	Hama	Gelline
1	Local check	FLIP 81-59W	FLIP 82-5C	ILC 482	ILC 482	FLIP 82-150C	FLIP 82-64C	FLIP 82-127C
2	FLIP 82-127C	FLIP 81-293W	FLIP 82-91C	FLIP 82-121C	FLIP 82-154C	ILC 482	FLIP 82-115C	FLIP 82-186C
3	ILC 482	FLIP 82-199C	FLIP 82-186C	FLIP 82-150C	FLIP 82-169C	FLIP 82-234C	FLIP 81-293C	FLIP 81-293C
4	FLIP 82-234C	FLIP 82-152C	ILC 482	FLIP 82-186C	FLIP 82-152C	FLIP 82-101C	FLIP 82-101C	FLIP 82-169C
5	FLIP 81-293C	FLIP 82-234C	FLIP 81-293C	FLIP 82-152	FLIP 82-234C	FLIP 82-138C	FLIP 82-128C	FLIP 82-5C

Cont'd. ...

RANK	SYRIA				TUNISIA			TURKEY
	Izra'a	Jableh	Jindiress	Tel Hadya	Beja	El-Kef	Sejnane	Izmir
1	FLIP 82-152C	FLIP 82-150C	FLIP 82-150C]	Local check	FLIP 82-128C	FLIP 82-101C	FLIP 82-115C	FLIP 81-293C
2	FLIP 82-150C]	FLIP 82-93C	FLIP 82-152C]	FLIP 82-91C	FLIP 82-121C	FLIP 82-154C	FLIP 81-293C	FLIP 82-150C
3	FLIP 82-232C]	FLIP 82-115C	FLIP 82-232C]	FLIP 82-150C	ILC 3279	FLIP 82-152C]	ILC 482	FLIP 82-127C
4	FLIP 82-169C	FLIP 82-232C]	FLIP 82-127C	FLIP 82-121C	FLIP 82-91C]	FLIP 82-169C]	FLIP 82-169C	FLIP 82-199C
5	FLIP 81-293C	FLIP 82-91C]	FLIP 81-293C	FLIP 82-101C	FLIP 82-115C]	FLIP 82-93C	FLIP 82-128C	FLIP 82-169C

The brackets indicate entries having the same rank.

Table 3.2.8. Correlation (df=21) among different locations for the seed yield of entries in the CIYT-W-MR during 1984/85.

COUNTRY	LOCATION	ALGERIA		CHILE	CYPRUS	FRANCE	ITALY			JORDAN
		Sidi Bel Abbes	Setif	Chillan	Laxia	Mont-pellier	Basili-cata	Catania	Capalbio	Marow
ALGERIA	Setif	0.151								
CHILE	Chillan	-0.012	-0.291							
CYPRUS	Laxia	0.276	0.494	-0.174						
FRANCE	Montpellier	0.320	0.672	-0.337	0.566					
ITALY	Basilicata	0.470	0.249	-0.182	0.037	0.419				
ITALY	Catania	-0.049	0.392	-0.440	0.279	0.395	0.111			
ITALY	Capalbio	-0.009	0.152	-0.690	0.047	0.430	0.173	0.607		
JORDAN	Marow	-0.088	0.191	-0.038	0.439	0.122	-0.373	0.105	0.033	
LEBANON	Beqa'a	0.272	0.461	-0.237	0.516	0.397	0.058	0.307	-0.024	0.172
LEBANON	Terbol	0.019	0.154	-0.519	0.316	0.330	0.299	0.246	0.485	0.054
LIBYA	Tripoli	0.097	0.382	-0.455	0.211	0.488	0.013	0.480	0.505	0.019
MOROCCO	Douyet	0.230	0.370	-0.030	0.225	0.093	-0.098	0.198	-0.206	0.440
MOROCCO	Jmaat	0.125	0.409	-0.605	0.309	0.608	0.184	0.347	0.539	0.185
PAKISTAN	Dasht	0.549	0.108	-0.022	0.199	0.295	0.371	0.257	0.082	-0.010
PAKISTAN	Quetta-1	0.046	-0.325	0.059	-0.347	-0.584	-0.047	-0.519	-0.460	-0.137
PAKISTAN	Quetta-2	0.211	0.247	-0.198	0.179	0.635	0.372	0.181	0.303	-0.347
PAKISTAN	Faisalabad	0.459	0.052	-0.351	0.146	0.590	0.329	0.161	0.498	-0.257
PORTUGAL	Quinta	-0.273	0.288	-0.233	-0.309	0.199	0.284	0.402	0.140	-0.309
S. ARABIA	Al Hassa	-0.391	0.325	-0.125	-0.198	0.374	0.126	0.352	0.249	-0.141
SPAIN	Cordoba-1	0.092	0.255	0.011	0.551	0.254	0.129	-0.233	-0.170	0.193
SPAIN	Cordoba-2	0.015	0.081	-0.021	0.628	0.214	0.024	-0.080	-0.016	0.344
SPAIN	Alcala de Henares	0.363	0.277	-0.012	0.378	0.361	0.222	-0.023	-0.036	0.063
SPAIN	Sevilla	0.094	0.188	-0.207	0.742	0.322	-0.006	0.110	0.166	0.422
SYRIA	Hama	-0.171	-0.023	0.059	-0.039	0.219	-0.275	0.018	0.173	-0.057
SYRIA	Gelline	-0.008	0.300	-0.138	0.230	0.237	-0.131	-0.221	-0.011	-0.249
SYRIA	Izra'a	-0.133	0.569	-0.136	-0.020	0.150	0.114	0.153	-0.067	0.054
SYRIA	Jableh	0.065	0.157	-0.063	0.177	0.033	0.055	0.200	-0.177	0.280
SYRIA	Jindiress	-0.152	0.458	-0.160	0.387	0.483	-0.278	0.225	0.072	0.149
SYRIA	Tel Hadya spring	0.136	0.121	-0.440	0.013	-0.001	0.120	0.319	0.333	-0.066
SYRIA	Tel Hadya winter	-0.208	0.124	-0.367	0.233	0.202	0.053	0.067	0.251	-0.060
TUNISIA	Beja	0.063	-0.020	0.240	0.119	0.047	-0.024	0.134	-0.014	0.126
TUNISIA	El Kef	-0.121	-0.092	0.140	-0.390	-0.185	0.214	0.263	0.076	-0.011
TUNISIA	Sejnane	0.214	0.340	0.026	-0.084	0.381	-0.005	-0.140	0.167	0.135
TURKEY	Izmir	-0.049	0.148	-0.238	0.445	0.362	0.127	0.050	0.337	0.118

Cont'd. ...

Table 3.2.8. Cont'd. ...

COUNTRY	LOCATION	LEBANON		LIBYA	MOROCCO		PAKISTAN			
		Beqa'a	Terbol	Tripoli	Douyet	Jmaat	Dasht	Quetta-1	Quetta-2	Faisal-abad
LEBANON	Terbol	0.012								
LIBYA	Tripoli	0.349	0.336							
MOROCCO	Douyet	0.437	-0.241	-0.019						
MOROCCO	Jmaat	0.187	0.261	0.693	0.082					
PAKISTAN	Dasht	0.232	0.170	0.421	0.273	0.341				
PAKISTAN	Quetta-1	0.004	-0.047	-0.225	0.080	-0.377	0.048			
PAKISTAN	Quetta-2	0.122	0.364	0.349	-0.272	0.419	0.182	-0.424		
PAKISTAN	Faisalabad	0.097	0.293	0.477	-0.309	0.535	0.382	-0.293	0.775	
PORTUGAL	Quinta	-0.041	-0.092	-0.025	0.205	0.166	-0.103	-0.249	0.202	-0.058
S.ARABIA	Al Hassa	-0.001	-0.012	0.059	-0.089	0.073	-0.368	-0.388	0.455	0.171
SPAIN	Cordoba-1	0.266	0.409	-0.086	0.061	0.063	-0.103	0.045	0.298	-0.017
SPAIN	Cordoba-2	0.160	0.336	-0.247	0.003	-0.083	-0.196	-0.068	0.123	-0.029
SPAIN	Alcala de Henares	-0.125	-0.010	0.119	0.108	0.223	0.029	-0.246	0.086	0.187
SPAIN	Sevilla	0.136	0.476	-0.131	0.042	0.038	-0.040	-0.236	0.127	0.085
SYRIA	Hama	-0.012	-0.085	-0.099	-0.120	-0.057	-0.097	-0.397	0.200	0.131
SYRIA	Gelline	0.116	0.060	0.301	-0.084	0.298	-0.211	-0.149	0.248	0.083
SYRIA	Izra'a	-0.076	-0.178	-0.056	0.376	0.160	-0.145	-0.113	-0.130	-0.341
SYRIA	Jableh	0.568	-0.017	-0.144	0.582	-0.147	0.120	0.162	-0.176	-0.319
SYRIA	Jindiress	0.353	0.011	0.217	0.271	0.221	-0.039	-0.439	0.199	0.021
SYRIA	Tel Hadya spring	0.247	0.252	0.199	0.246	-0.003	0.198	0.263	-0.124	0.086
SYRIA	Tel Hadya winter	0.093	0.430	0.072	-0.246	-0.034	-0.199	0.034	0.231	0.065
TUNISIA	Beja	0.389	0.169	0.168	-0.156	-0.193	0.186	-0.066	0.228	0.118
TUNISIA	El Kef	-0.335	-0.041	-0.213	0.318	-0.254	0.131	-0.087	-0.310	-0.412
TUNISIA	Sejnane	-0.022	-0.074	0.179	-0.172	0.169	-0.097	-0.278	0.175	0.300
TURKEY	Izmir	0.099	0.352	-0.061	-0.099	0.046	-0.302	-0.392	0.132	0.010

Cont'd. ...

Table 3.2.8. Cont'd. ...

COUNTRY	LOCATION	PORTUGAL Quinta	S. ARABIA Al-Hassa	SPAIN Cordoba-1	Cordoba-2	Alcala-de Henares	Sevilla	SYRIA Hama	Gelline	Izra'a
S.ARABIA	Al Hassa	0.665								
SPAIN	Cordoba-1	-0.233	-0.118							
SPAIN	Cordoba-2	-0.333	-0.116	0.819						
SPAIN	Alcala de Henares	-0.087	-0.026	0.023	0.081					
SPAIN	Sevilla	-0.313	-0.175	0.646	0.886	0.151				
SYRIA	Hama	0.186	0.190	-0.050	0.034	-0.387	0.171			
SYRIA	Gelline	-0.067	-0.071	0.320	0.033	0.302	-0.012	0.089		
SYRIA	Izra'a	0.598	0.227	0.053	-0.009	0.161	0.026	0.063	0.082	
SYRIA	Jableh	0.180	-0.033	0.236	0.247	-0.444	0.166	0.027	-0.305	0.164
SYRIA	Jindiress	0.284	0.201	0.207	0.186	-0.097	0.324	0.679	0.393	0.367
SYRIA	Tel Hadya spring	0.028	-0.040	-0.055	0.032	-0.190	0.095	-0.219	-0.097	-0.057
SYRIA	Tel Hadya winter	-0.167	0.118	0.304	0.469	-0.108	0.423	0.091	0.210	-0.068
TUNISIA	Beja	-0.305	0.041	0.250	0.165	-0.441	0.110	0.117	-0.205	-0.447
TUNISIA	El Kef	0.475	0.101	-0.274	-0.185	-0.071	-0.137	0.062	-0.416	0.400
TUNISIA	Sejnane	-0.039	0.214	-0.162	-0.260	0.109	-0.155	0.301	0.161	0.113
TURKEY	Izmir	-0.106	0.056	0.488	0.621	0.219	0.630	0.290	0.357	-0.025

Cont'd. ...

Table 3.2.8 Cont'd. ...

COUNTRY	LOCATION	SYRIA Jableh	Jindiress	Tel Hadya spring	Tel Hadya winter	TUNISIA Beja	El Kef	Sejnane
SYRIA	Jindiress	0.314						
SYRIA	Tel Hadya	0.393	0.044					
SYRIA	Tel Hadya	0.160	0.211	0.263				
TUNISIA	Beja	0.188	0.007	0.035	-0.004			
TUNISIA	El Kef	0.222	-0.033	0.106	-0.211	-0.119		
TUNISIA	Sejnane	-0.246	0.203	-0.169	-0.164	0.136	-0.222	
TURKEY	Izmir	-0.045	0.331	-0.019	0.443	0.025	0.032	-0.089

The undeline values indicate significant correlation value at $P \leq 0.05$

FLIP 82-93C, FLIP 82-199C and ILC 3279. The plant height data revealed that the entry ILC 3279 was the tallest and was followed by FLIP 82-169C and FLIP 82-64C. Among the locations, the entries were tallest at Quinta in Portugal and were followed by Polawy in Poland and Faisalabad in Pakistan. The 100-seed weight for entries varied from 24 g for FLIP 81-59W to 37 g for FLIP 82-64C and for locations from 26 g for Jinderis in Syria to 34 g for Quinta in Portugal.

The mean seed yields at different locations (Table 3.2.6) revealed that highest seed yield per hectare was obtained at Perugia (4137) in Italy and was closely followed by Sejnane (3861) in Tunisia, and Cordoba-1 (3851) and Sevilla (3328) in Spain. Dasht and Quetta-1 in Pakistan, Al Hassa in Saudi Arabia and Chillan in Chile were, however, very poor yielding locations. At Sejnane in Tunisia as high as 5.95 tons/ha yield was obtained for FLIP 82-115C which was closely followed by FLIP 82-293C (5.88 tons/ha), and ILC 482 (5.62 tons/ha) . Similarly at Cordoba-1 in Spain, a few entries namely FLIP 82-5C, FLIP 82-91C, FLIP 82-186C, ILC 482 and FLIP 81-293C gave more than 4.5 ton/ha. On an average over locations the five best entries included, FLIP 81-293C, FLIP 82-150C, FLIP 82-152C, FLIP 82-127C, and FLIP 82-234C. The ANOVA for seed yield further revealed that the local check was excelled by a significant margin ($P \leq 0.05$) by some entries at 14 locations namely, Sidi Bel Abbes and Setif (Algeria), Laxia (Cyprus), Montpellier (France), Basilicata and Catania (Italy), Beqa'a (Lebanon), Douyet (Morocco), Quinta (Portugal), Cordoba-1 and Alcala de Henares (Spain), and Hama, Jinderis and Tel Hadya-winter (Syria).

The five best entries in each of the locations are given in Table 3.2.7. Some of the lines namely FLIP 81-293C, FLIP 82-150C, FLIP 82-127C, FLIP 82-128C, ILC 482 etc. occurred most frequently (at least 12 times) among the top five heavy yielders and were thus more adaptable than others.

The correlations between seed yields of different locations are given in Table 3.2.8. The Tel Hadya site in Syria had positive correlation with only Cardoba-2 and Sevilla in Spain and Izmir in Turkey.

On the basis of average over two years for the common entries (Table 3.2.9), FLIP 81-293W (1940 kg/ha) ranked number 1 and was closely followed by ILC 482 (1927 kg/ha).

Table 3.2.9. The mean yield (Y= kg/ha) and rank (R) of the common entries in the CIYT-W-MR during 1983-1985.

Entry Name	1983/84		1984/85		Overall Mean	
	Y	R	Y	R	Y	R
FLIP 81-59W	1562	6	1370	6	1466	6
FLIP 81-293W	2040	2	1839	1	1940	1
FLIP 82-5C	1662	5	1582	5	1622	5
FLIP 82-91C	1682	4	1687	3	1684	4
FLIP 82-93C	1774	3	1638	4	1706	3
ILC 482	2134	1	1719	2	1927	2

3.3. CHICKPEA INTERNATIONAL YIELD TRIAL-WINTER-SUB TROPICAL REGION (CIYT-W-STR)

Material

The material for the Chickpea International Yield Trial-Winter sub tropical region comprised of 23 test entries, and one local check to be supplied by the cooperator. The test entries were tolerant/resistant to ascochyta blight and were selected from the local and regional yield trials based on their superior yield performance. Out of 23 entries, 21 were developed at ICARDA through hybridization.

Methods and Management

The trial design was a randomised complete block with four replications. The suggested plot size was four rows each 4 m long with an inter- and intra row spacing of 30- and 10 cm respectively. Thirty five sets of trials were distributed to cooperators in 17 countries. Indian cooperators could not get the materials cleared because of some local quarantine regulations. The results were received for 15 trials out of which thirteen were worth analysing and are reported. The agronomic practices employed at different locations are given in Table 3.3.1.

Results and Discussion

The data on time to flowering, time to maturity, plant height and 100-seed weight are given in Tables 3.3.2, 3.3.3, 3.3.4 and 3.3.5, respectively. At Culiacan (63 days) in Mexico the entries flowered at the earliest and some other early flowering locations included Paijan (74 days) in Peru, Hudeiba (78 days) in Sudan and Eltablero (82 days) in Mexico. The late flowering locations, however, included Zhejiang in China (167 days). The location means for days to flowering, days to maturity and plant height ranged from 63 days (for Culiacan, Mexico) to 167 days (for Zhejiang in China), 109 days (for Hudeiba in Sudan) to 179 days (for Perico in Argentina), and 6 cm (for Dasht in Pakistan) to

Table 3.3.1. Agronomic data for different locations in the CIYT-W-STR during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ARGENTINA	Perico	24.05.1985	28.11.1985	-			3	Gesagard,Cypermetrims	Sauco
CHINA	Zhejiang	04.11.1984		26	57		-	-	-
MAURITIUS	Reduit	25.06.1985	02.12.0985	30	60		1	-	Gram Locale
MEXICO	El Tablero	05.11.1985	10.04.1986	-			5	Lannate	NA
PAKISTAN	Faisalabad	11.11.1984	25.04.1985	25	50		2	B.H.C.,Dimecron	PB 1
PERU	Paijan	09.06.1985	30.10.1985	-			2	Enduthion,Citowett, Ripcord,Tecto,Malathion	Criollo
CHINA	Zhejiang	04.11.1984		26	57		-	-	-
MEXICO	Culiacan	06.12.1984	21.04.1985	40	40		2	PCNB,Ambush	Santo-Domingo-82
NEPAL	Dhanusha	22.11.1984	17.04.1985		20		-	Lannate	Dhanush
PAKISTAN	Dasht	20.11.1984	26.05.1985	28	72		-	-	Kabuli Chana
PAKISTAN	Karak	16.10.1984	14.04.1985	NA			-	-	CM72
PAKISTAN	Quetta	01.11.1984	14.05.1985	28	72		-	-	Kabuli Chana
SUDAN	Hudeiba	22.11.1984	03.1985	43			7	NA	Beladi
SYRIA	Tel Hadya	02.12.1984	08.06.1985	30	50		-	Bravo,Bladex,Kerb	ILC 1929 (Syrian Local)
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA

NA = not available.

Table 3.3.2.Time to flowering (days) of entries at different locations in CIYT-W-STR during 1984/85.

ENTRYN NAME	PEDIGREE	ORIGIN	ARGENTINA	CHINA	MEXICO		NEPAL	PAKISTAN
			Perico	Zhejiang	Culiacan	El Tablero	Dhanush	Dasht
FLIP 81-10C	X79 TH 50/ ILC591 XILC200	ICARDA/ICRISAT	99	165	66	75	96	108
FLIP 81-26W	X79 TH 23/ ILC262 XILC183	ICARDA/ICRISAT	96	165	63	82	99	108
FLIP 81-312C	X79 TH 16/ILC630 XILC200	ICARDA/ICRISAT	96	165	64	88	102	107
FLIP 81-335C	X79 TH23/ ILC262 XILC183	ICARDA/ICRISAT	95	168	64	88	96	108
FLIP 82-3C	X79 TH216/ ILC202 XILC577	ICARDA/ICRISAT	98	171	63	76	100	107
FLIP 82-8C	X79 TH221/ ILC72 XILC1922	ICARDA/ICRISAT	97	164	65	88	101	106
FLIP 82-28C	X79 TH 16/ ILC630 XILC200	ICARDA/ICRISAT	96	165	65	83	100	109
FLIP 82-38C	X79 TH158/ ILC202 XILC893	ICARDA/ICRISAT	96	165	63	85	98	106
FLIP 82-59C	X79 TH151/ ILC72 XILC897	ICARDA/ICRISAT	97	164	64	80	99	107
FLIP 82-61C	X79 TH216/ ILC202 XILC577	ICARDA/ICRISAT	98	165	67	85	95	107
FLIP 82-63C	X79 TH 23/ ILC262 XILC183	ICARDA/ICRISAT	98	165	67	78	96	105
FLIP 82-104C	X79 TH101/ ILC523 XILC183	ICARDA/ICRISAT	97	169	63	76	97	107
FLIP 82-117C	X79 TH220/ ILC72 XILC480	ICARDA/ICRISAT	100	168	66	95	95	107
FLIP 82-130C	X79 TH 23/ ILC262 XILC183	ICARDA/ICRISAT	89	164	69	88	92	106
FLIP 82-144C	X79 TH101/ ILC523 XILC183	ICARDA/ICRISAT	100	165	68	82	92	107
FLIP 82-219C	X79 TH151/ ILC72 XILC897	ICARDA/ICRISAT	98	165	62	77	96	108
FLIP 82-228C	X79 TH 49/ ILC591 XILC195	ICARDA/ICRISAT	98	176	63	73	96	107
FLIP 82-239C	X79 TH101/ ILC523 XILC183	ICARDA/ICRISAT	97	168	65	82	93	105
FLIP 82-255C	X79 TH151/ ILC72 XILC897	ICARDA/ICRISAT	101	164	66	77	97	107
FLIP 82-258C	X79 TH151/ ILC72 XILC897	ICARDA/ICRISAT	99	167	94	83	92	106
FLIP 82-261C	X79 TH151/ ILC72 X ILC897	ICARDA/ICRISAT	97	164	63	88	95	106
ILC 482	-	TURKEY	82	171	60	82	103	108
ILC 3279	-	USSR	101	171	65	85	94	109
LOCAL CHECK			80	-	37	-	105	107
LOCATION MEAN			96	167	63	82	97	107
S.E. OF MEAN			2.20	1.88	0.50	0.74	4.30	1.20
LSD AT 5%			6.40	5.31	1.60	2.08	-	-
C.V.%			4.10	2.25	1.80	1.78	8.90	2.20
ERROR DF			46	66	69	66	69	69
SIGNIFICANCE			*	*	*	*	NS	NS

Cont'd. ...

Table 3.3.2.Cont'd. ...

ENTRY NAME	PAKISTAN			PERU	SUDAN	SYRIA	(1)
	Karak	Faisalabad	Quetta	Paijan	Hudeiba	Tel-Hadya	Overall Mean
FLIP 81-10C	116	106	126	80	81	135	106
FLIP 81-26W	113	97	126	75	81	135	105
FLIP 81-312C	112	101	126	74	79	136	106
FLIP 81-335C	116	102	126	68	79	136	106
FLIP 82-3C	113	107	124	67	75	139	105
FLIP 82-8C	107	107	126	69	79	137	106
FLIP 82-28C	112	101	125	74	77	136	106
FLIP 82-38C	111	100	124	70	83	136	104
FLIP 82-59C	115	100	125	74	79	136	105
FLIP 82-61C	121	101	126	70	86	139	106
FLIP 82-63C	122	95	125	78	-	137	106
FLIP 82- 04C	116	101	125	73	80	136	105
FLIP 82- 17C	121	105	125	79	-	138	109
FLIP 82- 30C	122	111	125	81	-	136	107
FLIP 82- 44C	116	110	124	80	-	136	107
FLIP 82-219C	116	98	125	73	84	136	104
FLIP 82-228C	113	103	126	73	85	140	106
FLIP 82-239C	120	106	125	75	81	136	106
FLIP 82-255C	122	105	125	78	-	140	107
FLIP 82-258C	117	104	124	77	83	137	109
FLIP 82-261C	117	102	125	78	80	137	106
ILC 482	82	90	126	55	67	140	99
ILC 3279	105	114	126	77	-	138	107
LOCAL CHECK	92	101	126	73	51	140	
LOCATION MEAN	113	103	125	74	78	137	
S.E. OF MEAN	1.90	3.20	1.10	2.50	0.53	0.40	
LSD AT 5%	5.40	9.10	-	7.10	1.57	1.30	
C.V.%	3.30	6.20	1.80	6.80	0.94	0.60	
ERROR DF	69	69	69	69	17	69	
SIGNIFICANCE	*	*	NS	*	*	*	

(1) Hudeiba was excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.3.3. Time to maturity (days) of entries at different Locations in CIYT-W-STR during 1984/85.

ENTRY NAME	ARGENTINA	MEXICO		NEPAL	PAKISTAN		
	Perico	Culiacan	El Tablero	Dhanush	Dasht	Karak	Faisalabad
FLIP 81-10C	179	129	150	144	158	180	151
FLIP 81-26W	180	127	149	143	159	180	150
FLIP 81-312C	179	129	152	145	159	180	151
FLIP 81-335C	182	127	152	146	162	180	151
FLIP 82-3C	179	130	147	144	159	180	151
FLIP 82-8C	180	128	150	146	159	180	152
FLIP 82-28C	179	129	152	145	157	180	151
FLIP 82-38C	180	127	148	143	158	180	151
FLIP 82-59C	182	128	150	146	156	180	153
FLIP 82-61C	179	131	147	144	157	180	150
FLIP 82-63C	179	130	151	145	158	180	152
FLIP 82-104C	179	129	149	145	159	180	151
FLIP 82-117C	180	129	150	143	160	180	150
FLIP 82-130C	180	129	151	146	157	180	153
FLIP 82-144C	179	130	153	144	159	180	151
FLIP 82-219C	180	128	159	143	159	180	151
FLIP 82-228C	179	129	147	144	159	180	151
FLIP 82-239C	179	129	149	145	160	180	153
FLIP 82-255C	180	130	150	143	160	180	152
FLIP 82-258C	179	129	147	144	157	180	150
FLIP 82-261C	180	128	153	143	158	180	152
ILC 482	179	126	150	143	158	170	149
ILC 3279	180	131	152	146	157	180	151
LOCAL CHECK	180	121	-	144	158	165	151
LOCATION MEAN	179	128	150	144	158	178	151
S.E. OF MEAN	0.60	0.50	1.70	0.10	1.30	0.00	0.70
LSD AT 5%	-	1.60	4.79	0.20	-	-	-
C.V.	0.60	0.90	2.25	0.10	1.60	0.00	1.00
ERROR DF	46	69	66	69	69	69	69
SIGNIFICANCE	NS	*	*	*	NS	NS	NS

Cont'd. ...

Table 3.3.3. cont'd. ...

ENTRY NAME	PAKISTAN Quetta	PERU Paijan	SUDAN Hudeiba	SYRIA Tel-Hadya	Overall Mean (1)
FLIP 81- 0C	180	170	106	176	161
FLIP 81-26W	178	160	108	176	160
FLIP 81-312C	181	167	107	179	162
FLIP 81-335C	178	148	119	180	160
FLIP 82-3C	179	158	108	183	161
FLIP 82-8C	178	157	110	182	161
FLIP 82-28C	177	157	110	178	160
FLIP 82-38C	175	155	107	178	159
FLIP 82-59C	177	153	109	177	160
FLIP 82-61C	178	158	110	183	160
FLIP 82-63C	178	165	-	177	161
FLIP 82- 04C	179	163	106	180	161
FLIP 82- 17C	177	172	-	180	162
FLIP 82- 30C	175	168	-	179	161
FLIP 82- 44C	179	167	-	181	162
FLIP 82-219C	179	165	109	178	162
FLIP 82-228C	180	165	111	182	161
FLIP 82-239C	178	162	109	181	161
FLIP 82-255C	178	177	-	183	163
FLIP 82-258C	177	153	110	180	159
FLIP 82-261C	178	161	109	181	161
ILC 482	177	146	104	177	157
ILC 3279	175	178	-	182	163
LOCAL CHECK	175	156	103	-	
LOCATION MEAN	178	162	109	180	
S.E. OF MEAN	1.60	4.70	0.30	0.92	
LSD AT 5%	-	13.20	0.89	2.58	
C.V.	1.80	5.80	0.39	1.02	
ERROR DF	69	69	17	66	
SIGNIFICANCE	NS	*	*	*	

(1)Hudeiba was excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.3.4. Plant height (cm) of entries at different locations in CIYT-W-STR during 1984/85.

ENTRY NAME	MEXICO		NEPAL	PAKISTAN				PERU	SYRIA	(1) Overall Mean
	Culiacan	El Tablero	Dhanush	Dasht	Karak	Faisalabad	Quetta	Paijan	Tel Hadya	
FLIP 81-10C	86	102	66	6	75	73	8	63	31	70
FLIP 81-26W	85	106	66	6	70	70	8	51	29	67
FLIP 81-312C	92	100	63	7	60	75	8	56	25	67
FLIP 81-335C	95	108	62	7	70	75	8	61	29	71
FLIP 82-3C	96	97	74	7	95	85	8	71	24	76
FLIP 82-8C	98	97	84	6	75	81	8	83	42	76
FLIP 82-28C	92	106	51	7	62	80	8	59	26	67
FLIP 82-38C	86	96	63	6	65	73	8	58	27	66
FLIP 82-59C	94	89	69	7	75	77	8	73	33	72
FLIP 82-61C	96	109	67	6	75	83	8	63	31	73
FLIP 82-63C	95	87	57	6	70	77	8	65	33	68
FLIP 82-104C	85	99	63	6	75	79	8	75	26	71
FLIP 82-117C	109	101	78	6	84	66	8	73	32	76
FLIP 82-130C	104	109	69	7	75	84	8	62	33	76
FLIP 82-144C	86	108	69	6	75	77	8	67	32	72
FLIP 82-219C	101	105	65	6	80	73	8	69	32	72
FLIP 82-228C	111	101	66	6	93	78	8	62	28	76
FLIP 82-239C	97	97	68	6	60	86	8	67	30	71
FLIP 82-255C	103	106	72	7	80	86	8	75	40	80
FLIP 82-258C	98	93	76	6	80	72	8	61	29	72
FLIP 82-261C	91	109	59	7	65	66	8	60	30	68
ILC 482	84	105	62	6	55	71	8	61	22	64
ILC 3279	113	105	93	6	95	90	8	77	41	86
LOCAL CHECK	75	-	44	6	45	73	8	67	17	
LOCATION MEAN	94	101	67	6	73	77	8	66	30	
S.E. OF MEAN	4.20	3.16	5.60	0.20	0.00	4.80	0.10	3.70	1.60	
LSD AT 5%	12.00	8.92	15.80	-	-	13.60	-	10.50	4.60	
C.V.	8.90	6.20	16.70	5.80	0.00	12.40	3.50	11.30	10.70	
ERROR DF	69	66	69	69	69	69	69	69	69	
SIGNIFICANCE	*	*	*	NS	NS	*	NS	*	*	

(1) Dasht and Quetta were excluded from the overall mean
* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.3.5. 100-Seed weight (g) of entries at different locations in CIYT-W-STR during 1984/85.

ENTRY NAME	ARGENTINA	MEXICO	NEPAL	PAKISTAN	PERU	SYRIA	Overall Mean	Rank
	Perico	Culiacan	Dhanush	Karak	Paijan	Tel Hadya		
FLIP 81-10C	22	18	26	20	22	21	21	22
FLIP 81-26W	22	20	26	19	19	21	21	22
FLIP 81-312C	21	21	27	24	24	23	23	20
FLIP 81-335C	27	30	33	25	30	30	29	7
FLIP 82-3C	26	32	32	30	30	30	30	5
FLIP 82-8C	33	36	34	32	31	36	33	2
FLIP 82-28C	23	23	28	22	25	24	24	18
FLIP 82-38C	27	30	32	27	26	31	28	10
FLIP 82-59C	27	28	33	31	28	31	29	7
FLIP 82-61C	28	31	38	32	33	35	32	3
FLIP 82-63C	21	22	24	20	25	25	22	21
FLIP 82-104C	27	21	27	23	25	26	24	18
FLIP 82-117C	25	27	27	27	28	29	27	14
FLIP 82-130C	28	21	27	23	26	25	25	16
FLIP 82-144C	26	20	28	25	27	26	25	16
FLIP 82-219C	27	30	32	30	26	31	29	7
FLIP 82-228C	35	34	29	38	34	34	34	1
FLIP 82-239C	27	26	26	29	32	31	28	10
FLIP 82-255C	30	35	29	28	26	34	30	5
FLIP 82-258C	28	31	36	31	29	35	31	4
FLIP 82-261C	25	27	32	29	26	31	28	10
ILC 482	26	27	29	27	25	29	27	14
ILC 3279	28	29	29	29	25	30	28	10
LOCAL CHECK	31	56	13	19	29	37		
LOCATION MEAN	27	28	29	27	27	29		
S.E. OF MEAN	2.20	0.90	3.10	0.20	0.80	0.50		
LSD AT 5%	6.30	2.60	9.10	0.70	2.20	1.50		
C.V.%	16.60	6.60	15.00	2.00	5.70	3.70		
ERROR DF	69	69	23	69	69	69		
SIGNIFICANCE	*	*	*	*	*	*		

* = Significant at $P \leq 0.05$

Table 3.3.6. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in CIYT-W-STR during 1984/85.

ENTRY NAME	ARGENTINA		MEXICO				NEPAL		PAKISTAN			
	Perico		Culiacan		El Tablero		Dhanush		Dasht		Karak	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 81-10C	708	12	2026	15	108	10	565	6	34	9	812	12
FLIP 81-26W	743	9	2136	11	96	11	255	17	42	1	802	14
FLIP 81-312C	819	5	2470	5	51	22	395	13	38	4	791	16
FLIP 81-335C	527	21	2547	3	65	15	88	24	18	22	895	7
FLIP 82-3C	673	14	1757	18	60	17	931	2	27	17	1135	3
FLIP 82-8C	875	4	2246	10	218	3	488	9	13	23	864	10
FLIP 82-28C	743	9	2033	13	53	20	385	14	41	2	692	21
FLIP 82-38C	631	17	2311	7	52	21	541	7	25	20	921	6
FLIP 82-59C	902	2	2309	8	141	6	453	11	31	14	812	12
FLIP 82-61C	722	11	1769	17	55	19	438	12	12	24	864	10
FLIP 82-63C	645	16	1392	20	197	5	105	23	31	14	598	22
FLIP 82-104C	652	15	1224	22	154	8	511	8	26	19	869	9
FLIP 82-117C	750	8	2514	4	48	23	475	10	36	6	698	20
FLIP 82-130C	486	24	1382	21	133	9	263	16	22	21	708	19
FLIP 82-144C	500	23	957	23	71	13	278	15	36	6	718	18
FLIP 82-219C	680	13	2111	12	210	4	598	4	38	5	734	17
FLIP 82-228C	791	7	2378	6	415	2	158	20	33	10	1036	4
FLIP 82-239C	625	18	1718	19	95	12	116	21	32	12	802	14
FLIP 82-255C	798	6	1843	16	67	14	160	19	27	17	526	23
FLIP 82-258C	902	2	2027	14	582	1	566	5	35	8	880	8
FLIP 82-261C	930	1	2251	9	64	16	216	18	32	12	973	5
ILC 482	520	22	2569	2	58	18	878	3	33	10	1177	2
ILC 3279	611	19	682	24	160	7	108	22	29	16	500	24
LOCAL CHECK	562	20	2805	1	-		1166	1	39	3	1354	1
LOCATION MEAN	700		1977		137		422		30		851	
S.E. OF MEAN	120.50		175.00		34.59		131.60		9.90		141.10	
LSD AT 5%	-		495.80		97.64		385.00		-		397.90	
C.V.%	34.40		17.70		50.28		44		64.50		33.10	
ERROR DF	69		69		66		23		69		69	
SIGNIFICANCE	NS		*		*		*		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		-		0		-		0	

Cont'd. ...

Table 3.3.6. Cont'd. ...

ENTRY NAME	PAKISTAN				PERU		SUDAN	
	Faisalabad		Quetta		Paijan		Hudeiba	
	Y	R	Y	R	Y	R	Y	R
FLIP 81- 0C	909	13	16	20	1709	8	20	10
FLIP 81-26W	827	16	23	11	1041	22	24	8
FLIP 81-312C	1019	7	14	23	1676	9	104	2
FLIP 81-335C	752	17	27	8	1249	18	20	10
FLIP 82-3C	706	18	32	4	1192	19	55	5
FLIP 82-8C	1009	8	29	7	1054	20	34	7
FLIP 82-28C	1106	4	31	6	1651	10	111	1
FLIP 82-38C	585	24	22	15	1845	6	17	12
FLIP 82-59C	1356	2	18	17	1750	7	76	3
FLIP 82-61C	619	22	24	10	1389	15	13	14
FLIP 82-63C	672	19	14	23	1631	11	-	
FLIP 82- 04C	894	14	41	3	1996	5	6	17
FLIP 82- 17C	1034	6	1571	1	1997	4	-	
FLIP 82- 30C	598	23	18	17	893	23	-	
FLIP 82- 44C	662	20	23	11	1456	14	-	
FLIP 82-219C	951	10	23	11	2037	2	13	14
FLIP 82-228C	939	11	45	2	1271	17	24	8
FLIP 82-239C	873	15	16	21	2006	3	13	14
FLIP 82-255C	926	12	26	9	1042	21	-	
FLIP 82-258C	1073	5	17	19	1478	13	6	17
FLIP 82-261C	1172	3	21	16	1571	12	76	3
ILC 482	1007	9	16	21	2112	1	17	12
ILC 3279	658	21	32	4	767	24	-	
LOCAL CHECK	1610	1	23	11	1311	16	41	6
LOCATION MEAN	915		88		1505		37	
S.E. OF MEAN	133.30		314.90		215.20		9.80	
LSD AT 5%	376.00		-		606.90		29.30	
C.V.%	29.10		708.80		28.50		36.73	
ERROR DF	69		69		69		17	
SIGNIFICANCE	*		NS		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		5		4	

Cont'd. ...

Table 3.3.6.Cont'd. ...

ENTRY NAME	SYRIA Tel Hadya Y	SYRIA Tel Hadya R	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El Kef Y	TUNISIA El Kef R	(1) Overall Mean	(1) Overall Rank
FLIP 81-10C	2005	7	2108	4	2098	2	1437	3
FLIP 81-26W	1910	12	2050	5	1431	22	1243	16
FLIP 81-312C	1690	17	2291	2	1718	11	1429	5
FLIP 81-335C	2053	3	1391	22	1825	9	1258	15
FLIP 82-3C	1273	21	1591	19	1718	11	1219	18
FLIP 82-8C	2095	2	1808	15	1623	15	1340	9
FLIP 82-28C	1601	19	1625	18	1887	7	1302	12
FLIP 82-38C	2011	5	1925	8	1456	21	1358	7
FLIP 82-59C	2154	1	1875	11	1643	13	1472	1
FLIP 82-61C	2035	4	1875	11	1643	13	1261	13
FLIP 82-63C	1994	8	1833	14	1343	23	1134	20
FLIP 82-104C	1678	18	1266	24	2250	1	1260	14
FLIP 82-117C	1857	14	2291	2	1331	24	1438	2
FLIP 82-130C	1815	15	1716	17	2050	3	1101	22
FLIP 82-144C	2011	5	2400	1	1937	5	1213	19
FLIP 82-219C	1886	13	1416	21	1515	18	1325	11
FLIP 82-228C	880	23	1883	10	1837	8	1241	17
FLIP 82-239C	1982	9	2008	6	1818	10	1327	10
FLIP 82-255C	1767	16	1391	22	1487	19	1104	21
FLIP 82-258C	1916	11	1783	16	1550	16	1352	8
FLIP 82-261C	1958	10	1858	13	1950	4	1431	4
ILC 482	937	22	1908	9	1531	17	1404	6
ILC 3279	1583	20	1516	20	1462	20	876	23
LOCAL CHECK	666	24	1950	7	1930	6		
LOCATION MEAN	1740		1823		1710			
S.E. OF MEAN	138.00		244.40		229.10			
LSD AT 5%	391.70		-		-			
C.V.%	15.90		23.20		26.80			
ERROR DF	69		46		69			
SIGNIFICANCE	*		NS		NS			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	2		-		-			

(1) El Tablero, Dasht, Quetta and Hudeiba were excluded from the overall mean.
* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.3.7. The five heaviest seed yielding entries at the individual locations in the CIYT-W-STR during 1984/85.

RANK	ARGENTINA	MEXICO		NEPAL	PAKISTAN		
	Perico	Culiacan	Eltablero	Dhanush	Dasht	Karak	Faisalabad
1	FLIP 82-261C	Local check	FLIP 82-258C	Local check	FLIP 81-26W	Local check	Local check
2	FLIP 82-258C]	ILC 482	FLIP 82-228C	FLIP 82-3C	FLIP 82-28C	ILC 482	FLIP 82-59C
3	FLIP 82-59C]	FLIP 81-335C	FLIP 82-8C	ILC 482	Local check	FLIP 82-3C	FLIP 82-261C
4	FLIP 82-8C	FLIP 82-117C	FLIP 82-219C	FLIP 82-219C	FLIP 81-312C	FLIP 82-228C	FLIP 82-28C
5	FLIP 81-312C	FLIP 82-312C	FLIP 82-63C	FLIP 82-258C	FLIP 82-219C	FLIP 82-261C	FLIP 82-258C

Cont'd. ...

RANK	PAKISTAN	PERU	SUDAN	SYRIA	TUNISIA	
	Quetta	Paijan	Hudeiba	Tel Hadya	Beja	El-Kef
1	FLIP 82-117C	ILC 482	FLIP 82-28C	FLIP 82-59C	FLIP 82-144C	FLIP 82-104C
2	FLIP 82-228C	FLIP 82-219C	FLIP 81-312C	FLIP 82-8C	FLIP 81-312C]	FLIP 81-10C
3	FLIP 82-104C	FLIP 82-239C	FLIP 82-59C]	FLIP 81-335C	FLIP 82-117C]	FLIP 82-130C
4	FLIP 82-3C]	FLIP 82-117C	FLIP 82-261C]	FLIP 82-61C	FLIP 81-10C	FLIP 82-261C
5	ILC 3279]	FLIP 82-104C	FLIP 82-3C	FLIP 82-144C]	FLIP 81-26W	FLIP 82-144C
				FLIP 82-38C]		

The brackets indicate entries having the same rank.

Table 3.3.8. Correlation (df=21) among different locations for the seed yields of entries in the CIYT-W-STR during 1984/85.

COUNTRY	LOCATION	ARGENTINA	MEXICO		NEPAL	PAKISTAN				PERU	SYRIA	TUNISIA
		Perico	Culiacan	El-Tablero	Dhanush	Dasht	Karak	Faisalabad	Quetta	Paijan	Tel Hadya	Beja
MEXICO	Culiacan	0.413										
MEXICO	El Tablero	0.348	-0.018									
NEPAL	Dhanush	0.035	0.280	-0.028								
PAKISTAN	Dasht	0.128	0.095	0.082	0.032							
PAKISTAN	Karak	0.047	0.504	0.077	0.585	-0.130						
PAKISTAN	Faisalabad	0.714	0.541	0.190	0.168	0.388	0.148					
PAKISTAN	Quetta	0.074	0.237	-0.147	0.078	0.157	-0.152	0.158				
PERU	Paijan	-0.008	0.339	-0.129	0.389	0.354	0.255	0.369	0.259			
SYRIA	Tel-Hadya	0.158	-0.094	-0.139	-0.292	-0.219	-0.448	-0.029	0.033	0.009		
TUNISIA	Beja	0.080	0.197	-0.139	0.020	0.348	0.072	0.069	0.329	0.218	0.131	
TUNISIA	El Kef	-0.155	-0.211	-0.068	-0.036	-0.098	0.217	0.032	-0.315	0.037	-0.036	-0.106

The underlined values indicate significant correlation value at $P < 0.05$

101 cm (for Eltablero in Mexico), respectively. There was very little difference among locations for 100-seed weight. The entry ILC 482 flowered in 99 days and matured in 157 days and was the earliest, and ILC 3279 with plant height of 86 cm was the tallest.

The seed yield and rank of entries at different locations is given in Table 3.3.6. The ANOVA revealed that the differences among entries were significant for 8 out of 13 locations reporting data. The seed yields varied from 30 kg/ha at Dasht in Pakistan to 1977 kg/ha at Culiacan in Mexico. The seed yields were extremely poor at Dasht and Quetta in Pakistan, Hudeiba in Sudan, and Eltablero in Mexico and were thus not considered for overall mean. Among other locations, only 5 entries at Paijan in Peru and 2 entries at Tel Hadya in Syria exceeded the local check by a significant margin. On the basis of average over locations the top five entries included FLIP 82-59C, FLIP 82-117C, FLIP 81-10C, FLIP 82-261C and FLIP 81-312C with seed yields of 1472, 1438, 1437, 1431 and 1429 kg/ha, respectively.

The five best entries in all the locations are given in Table 3.3.7. Some of the lines namely, FLIP 81-312C, FLIP 82-251C, FLIP 82-3C, FLIP 82-59C, FLIP 82-117C, FLIP 82-219C, FLIP 82-258C, and ILC 482 occurred most frequently among the top five than others and were thus comparatively widely adapted.

The correlations among different locations for seed yield (Table 3.3.8) showed that seed yields at Culiacan in Mexico were associated with those of at Karak and Faisalabad in Pakistan and Perico in Argentina with Faisalabad. Tel Hadya in Syria did not show any correlation with other locations except with Karak in Pakistan where the correlation was negative.

On the basis of average over two years for the common entries (Table 3.3.9), FLIP 82-28C ranked number 1 (1229 kg/ha) and was closely followed by FLIP 82-59C (1211 kg/ha) and ILC 482 (1183 kg/ha). The entry ILC 3279 was the poorest among the common entries.

Table 3.3.9. The mean yield (Y= kg/ha) and rank (R) of the common entries in the CIYT-W-STR during 1983-1985.

Entry Name	1983/84		1984/85		Overall Mean	
	Y	R	Y	R	Y	R
FLIP 82-3C	1081	2	1219	7	1150	5
FLIP 82-8C	990	4	1340	4	1165	4
FLIP 82-28C	1155	1	1302	5	1229	1
FLIP 82-38C	913	7	1358	3	1136	6
FLIP 82-59C	950	6	1472	1	1211	2
FLIP 82-61C	782	8	1261	6	1022	8
FLIP 82-63C	1025	3	1134	8	1080	7
ILC 482	961	5	1404	2	1183	3
ILC 3279	771	9	876	9	824	9

3.4. CHICKPEA INTERNATIONAL YIELD TRIAL-LARGE SEED (CIYT-L)

Material

The Chickpea International Yield Trial-Large Seed comprised of 23 test entries and one local check to be supplied by the cooperator. The test entries originated from six countries and were selected on the basis of their superior performance either in international, regional, or local trials.

Methods and Management

The trial design was a randomised complete block with four replications. The suggested plot size was 4 rows, each 4 meter long with inter- and intra row spacings of 30- and 10 cm respectively.

Sixty two sets were sent to cooperators in 25 countries. The results were, however, received for 36 trials from 20 countries, out of which 34 were worth analysis and are reported. The agronomic information received from the cooperators is given in Table 3.4.1.

Results and Discussion

The location means for time to flowering (Table 3.4.2), time to maturity (Table 3.4.3), and plant height (Table 3.4.4) ranged from 52 days (for Erzurum, Turkey) to 147 days (for Alcala de Henares in Spain), 93 days (for Erezmum and Ankara-2 in Turkey) to 211 days (for Sevilla, Spain), and 24 cm (for Gelline and Jinderis in Syria) to 96 cm (for Pulawy in Poland). On an average over locations, the entry means ranged from 70 to 78 days for time to flowering, 120 to 130 days for time to maturity, and 38 to 46 cm for plant height. The overall mean for 100-seed weight for the entries varied from 29 to 49 g, the largest being for ILC 3396 (Table 3.4.5). Also wide variation in location means were observed for 100-seed weight, Sevilla in Spain exhibiting 38 g and Carahue in Chile exhibiting 49 g.

The highest seed yields (Table 3.4.6) were obtained at Alcala de Henares in Spain (4060 kg/ha) and were followed by Erzurum in Turkey (3819 kg/ha), Perugia in Italy (3386 kg/ha), and Terbol in Lebanon (2809 kg/ha). The seed yields at Hudeiba in Sudan were extremely poor and were followed by Faisalabad-2 in Pakistan. One of the entries, ILC 451 at Alcala de Henares (spain) gave as high as 4987 kg/ha. On average over locations, the five best entries included ILC 451, -482, -83, -136 and -134, with respective seed yields of 1785, 1773, 1706, 1703 and 1668 kg/ha. The ANOVA for seed yield revealed that the local check was excelled by a significant margin ($P \leq 0.05$) by some entries at 7 locations: Chillan (Chile), Malawi (Egypt), Terbol (Lebanon), Paijan (Peru), Alcala de Henares (Spain), Ankara-2 (Turkey), and Wall-SD (USA).

Table 3.4.1. Agronomic data for different locations in the CIYT-L during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Sidi Bel Abbes	23.02.1985	30.06.1985	15	90		-	-	NA
ARGENTINA	Perico	24.05.1985	28.11.1985	-			4	Notcoor,Cypermetrins	Sauco
CANADA	Ridgetown	04.06.1985	16.09.1985	58	48		-	Dual,Amiben	Pakistan
CHILE	Carahue	14.09.1985	20.02.1986		100	30	-	-	Zeta INIA
CHILE	Chillan	21.08.1985	NA	42	90		-	Linuron	California-INIA
CYPRUS	Laxia	26.11.1984	04.06.1985	24	54		-	-	Locale
EGYPT	Mallawi	14.11.1984	01.05.1985	47	71		3	Igran 80 WP	Giza 1
ITALY	Capalbio	16.01.1985	06.08.1985	20	60		-	Methabenzthiazuron	NA
ITALY	Metaponto	05.02.1985	16.07.1985	20	60		-	Methabenzthiazuron	Materano
ITALY	Perugia	09.3.1985	19.07.1985	40	100		-	Gesagard,Metobromuron	Locale
JORDAN	Jubeiha	12.02.1985	04.07.1985	20	40		-	NA	UJC 107
LEBANON	Terbol	28.03.1985	07.1985		50		MANY	Kerb+Bladex	NA
MEXICO	Culiacan	07.12.1984	19.04.1985	40	40		2	PCNB,Ambush	Santo Domingo-82
MEXICO	Sonora	03.12.1984	10.06.1985	60			3	-	Surutato 77
PAKISTAN	Faisalabad 1	11.11.1984	25.04.1985	25	50		2	B.H.C.,Dimecron	PB.1.
PAKISTAN	Faisalabad 2	04.11.1984	15.04.1985	-			1	-	-
PERU	Paijan	09.05.1985	29.10.1985	-			2	Endrithion,Citowett, Ripcord,Tecto,Malathion	Criollo
POLAND	Pulawy	17.04.1985	NA		110	180	-	Dithane,Cyntotox	P.sativum L.Poland
SPAIN	Alcala de-Henares	15.06.1985	14.08.1985	24	72		-	-	1472
SPAIN	Sevilla	26.11.1984	02.07.1985		60		NA	Lazo,Afalon,Decis	Paterna
SUDAN	Hudeiba	22.11.1984	03.1985	43			7	NA	Baladi
SUDAN	Shambat	05.11.0984	20.03.0985	43			13	-	Baladi
SYRIA	Alghab	09.03.1985	NA	-			-	-	NA
SYRIA	Gelline	12.03.1985	14.07.1985	NA			NA	NA	NA
SYRIA	Hama	10.03.1985	27.06.1985		70		-	Phosdrin	Local Check
SYRIA	Izra'a	07.03.1985	NA	40	80		NA	NA	NA
SYRIA	Kamishely	NA	NA	NA			NA	NA	NA
SYRIA	Jindiress	03.03.1985	04.07.1985	NA			NA	NA	ILC 464
SYRIA	Tel Hadya	26.02.1985	23.06.1985	30	50		-	Bravo,Bladex,Kerb	ILC 464
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TURKEY	Ankara	07.04.1985	14.07.1985	23	60		-	Basudine	65 C 830
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
TURKEY	Erzurum	01.05.1985	08.08.1985	04	07		-	-	1931
TURKEY	Eskisehir	16.04.1985	18.08.1985	30	75		-	NA	19/1-5
TURKEY	Ankara-1	12.04.1985	20.08.1985	-			-	Gusathion	NA
U.S.A	Wall-SD	13.04.1985	31.07.1985	-			-	Treflan	SD4I-6

NA = not available.

Table 3.4.2.Time to flowering (days) of entries at different locations in CIYT-L during 1984/85.

ENTRY NAME	ORIGIN	ALGERIA	ARGENTINA	CHILE		CYPRUS	EGYPT	ITALY	JORDAN	LEBANON	MEXICO	
		Sidi-Bel Abbes	Perico	Carahue	Chillan	Laxia	Mallawi	Perugia	Jubeiha	Terbol	Culiacan	Sonora
ILC 35	SYRIA	69	87	74	84	121	74	76	77	60	64	69
ILC 76	IRAQ	69	89	75	86	126	75	76	82	62	65	81
ILC 83	IRAQ	72	88	74	87	126	74	77	80	61	62	78
ILC 116	IRAQ	69	85	76	84	129	76	77	77	60	64	78
ILC 132	IRAQ	72	89	74	86	131	77	77	80	61	65	78
ILC 134	IRAQ	69	90	76	85	133	75	76	80	61	65	79
ILC 135	IRAQ	75	88	77	89	130	77	76	81	62	66	80
ILC 136	IRAQ	69	90	75	85	119	77	75	80	61	64	79
ILC 165	TUNISIA	69	88	72	84	120	78	77	80	61	63	74
ILC 171	TUNISIA	69	96	77	88	127	79	76	81	62	66	87
ILC 254	TURKEY	72	97	77	87	133	77	76	82	62	68	84
ILC 263	TURKEY	71	91	74	87	133	75	76	82	61	70	86
ILC 451	TURKEY	69	96	72	84	132	78	76	76	61	66	83
ILC 496	TURKEY	75	96	76	89	125	78	76	82	61	61	86
ILC 613	TUNISIA	69	94	74	89	129	80	77	79	61	66	86
ILC 620	TUNISIA	75	89	77	87	134	80	77	84	62	67	84
ILC 629	TUNISIA	72	97	75	89	135	80	75	81	63	68	85
ILC 2587	TURKEY	69	87	73	84	127	74	76	78	61	66	77
ILC 3395	MEXICO	69	76	71	84	122	74	72	76	57	44	64
ILC 3396	MEXICO	69	74	75	84	121	74	72	76	57	46	64
ILC 3749	FRANCE	72	98	77	88	135	82	75	84	65	69	81
ILC 482	TURKEY	69	83	70	84	117	75	76	77	59	63	74
ILC 1929	SYRIA	69	88	71	84	127	77	76	81	61	66	83
LOCAL CHECK		69	74	75	87	135	82	76	80	61	40	61
LOCATION MEAN		70	89	74	86	128	77	76	80	61	62	78
S.E.OF MEAN		0.00	1.10	One Rep.	0.50	2.00	0.60	0.50	0.90	0.40	1.20	2.10
LSD. AT 5%		0.00	3.10		1.60	5.90	1.90	1.40	2.50	1.30	3.50	6.20
C.V.%		0.00	2.50		1.30	3.20	1.70	1.30	2.20	1.50	3.90	3.80
ERROR DF		69	69		69	69	69	69	69	69	69	23
SIGNIFICANCE		*	*		*	*	*	*	*	*	*	*

Cont'd. ...

Tale 3.4.2. Cont'd. ...

ENTRY NAME	PAKISTAN		PERU	POLAND	SPAIN		SUDAN		SYRIA	
	Faisal abad-1	Faisal abad-2	Paijan	Pulawy	Alcala-de Henares	Sevilla	Shambat	Hudeiba	Alghab	Izra'a
ILC 35	94	119	64	75	62	145	51	71	60	71
ILC 76	97	116	71	75	67	140	66	82	67	77
ILC 83	95	116	62	74	65	148	65	81	62	76
ILC 116	94	117	63	75	60	141	66	72	60	75
ILC 132	94	110	66	77	60	142	62	81	65	76
ILC 134	94	108	60	75	65	145	62	82	63	77
ILC 135	101	114	72	75	60	148	63	89	64	78
ILC 136	94	112	61	75	71	148	56	75	61	74
ILC 165	94	114	68	74	61	146	63	71	62	74
ILC 171	105	115	72	76	66	154	57	80	67	78
ILC 254	113	112	72	76	70	150	56	78	63	78
ILC 263	98	114	74	78	61	147	65	82	64	74
ILC 451	98	113	66	77	70	147	61	70	59	75
ILC 496	111	110	73	77	71	151	61	88	63	80
ILC 613	100	113	66	76	60	151	62	81	61	75
ILC 620	104	113	73	75	70	154	63	83	64	79
ILC 629	112	118	75	77	66	153	64	83	65	77
ILC 2587	96	114	62	78	62	145	51	67	60	75
ILC 3395	79	124	36	77	60	145	55	66	55	71
ILC 3396	93	110	36	76	67	144	44	89	55	68
ILC 3749	107	115	72	76	62	151	37	94	66	77
ILC 482	92	121	54	69	62	137	51	66	59	74
ILC 1929	95	114	70	77	59	148	57	67	59	73
LOCAL CHECK	101	107	77	64	65	143	46	51	61	71
LOCATION MEAN	98	114	65	75	64	147	57	77	62	75
S.E.OF MEAN	2.50	5.20	2.20	0.70	1.10	2.20	1.40	0.50	0.80	1.10
LSD. AT 5%	7.20	-	6.30	2.00	3.10	6.40	3.90	1.60	2.30	3.30
C.V.%	5.10	7.90	6.80	1.90	3.40	3.00	4.80	1.00	2.60	3.10
ERROR DF	69	46	69	69	69	69	69	23	69	69
SIGNIFICANCE	*	NS	*	*	*	*	*	*	*	*

Cont'd. ...

Table 3.4.2.Cont'd. ...

ENTRY NAME	SYRIA					TURKEY		Overall Mean
	Gelline	Kamishely	Hama	Tel Hadya	Jindiress	Erzurum	Ankara-2	
ILC 35	64	60	54	63	64	50	51	74
ILC 76	65	67	60	65	70	55	53	76
ILC 83	67	67	61	63	67	54	53	76
ILC 116	67	66	59	63	66	53	52	75
ILC 132	69	67	59	65	67	54	55	76
ILC 134	68	67	59	64	67	52	52	76
ILC 135	68	69	60	65	68	54	55	77
ILC 136	64	63	57	64	65	53	54	75
ILC 165	65	63	57	63	66	53	54	73
ILC 171	68	65	63	65	69	54	54	78
ILC 254	69	67	64	66	71	54	53	78
ILC 263	70	62	58	64	71	54	53	76
ILC 451	64	60	55	63	68	47	50	74
ILC 496	71	65	64	66	71	52	55	77
ILC 613	64	63	58	65	67	51	52	75
ILC 620	67	67	64	65	69	54	55	78
ILC 629	66	66	60	66	78	55	54	77
ILC 2587	62	60	56	64	65	50	52	73
ILC 3395	59	57	55	59	58	52	50	70
ILC 3396	58	56	53	58	57	48	51	72
ILC 3749	71	66	62	67	77	55	58	78
ILC 482	62	60	56	63	64	49	50	71
ILC 1929	64	60	55	63	64	52	51	73
LOCAL CHECK	64	60	54	63	67	52	51	
LOCATION MEAN	65	63	58	64	67	52	53	
S.E.OF MEAN	1.40	0.70	1.30	0.40	0.50	1.10	0.40	
LSD. AT 5%	4.00	2.10	3.70	1.20	1.60	3.10	1.30	
C.V.%	4.30	2.40	4.50	1.30	1.60	4.10	1.70	
ERROR DF	69	69	69	69	69	69	69	
SIGNIFICANCE	*	*	*	*	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.3. Time to maturity (days) of entries at different locations in CIYT-L during 1984/85.

ENTRY NAME	ALGERIA	ARGENTINA	CHILE		EGYPT	ITALY	JORDAN	LEBANON	MEXICO	
	Sidi Bel-Abbes	Perico	Chillan	Carahue	Mallawi	Perugia	Jubeiha	Terbol	Culiacan	Sonora
ILC 35	123	176	145	140	154	127	115	105	133	138
ILC 76	123	176	145	150	155	127	115	107	136	133
ILC 83	123	176	145	147	154	127	115	104	135	138
ILC 116	123	176	145	153	154	126	114	106	136	137
ILC 132	123	176	145	147	156	127	115	107	135	138
ILC 134	123	176	145	147	155	127	115	109	136	138
ILC 135	123	176	145	147	153	127	115	108	136	138
ILC 136	123	176	145	150	159	126	115	110	136	136
ILC 165	123	176	145	146	158	127	113	109	134	138
ILC 171	123	176	145	148	157	125	114	112	135	142
ILC 254	123	176	145	148	157	127	115	110	136	143
ILC 263	123	176	145	142	157	122	115	102	136	143
ILC 451	123	176	145	139	157	126	116	109	135	142
ILC 496	123	176	149	151	160	127	116	109	137	143
ILC 613	123	176	145	152	161	127	114	109	136	134
ILC 620	123	176	145	153	163	127	115	109	136	140
ILC 629	123	176	145	151	164	126	115	110	136	143
ILC 2587	123	176	145	146	154	127	115	109	136	138
ILC 3395	123	176	145	142	154	126	114	111	134	-
ILC 3396	123	176	145	140	156	126	115	111	132	131
ILC 3749	123	176	145	150	169	125	116	111	136	143
ILC 482	123	176	145	146	157	122	116	100	134	138
ILC 1929	123	176	145	144	155	126	115	104	133	143
LOCAL CHECK	123	176	145	152	162	127	115	101	127	128
LOCATION MEAN	123	176	145	147	157	126	115	107	135	138
S.E.OF MEAN	0.00	0.00	0.00	2.10	0.40	0.40	0.70	1.00	0.50	3.51
LSD. AT 5%	-	-	-	6.00	1.10	1.10	-	2.80	1.50	-
C.V.%	0.00	0.00	0.00	2.90	0.50	0.60	1.30	1.80	0.70	3.59
ERROR DF	69	69	69	69	69	69	69	69	69	22
SIGNIFICANCE	NS	NS	NS	*	*	*	NS	*	*	NS

Cont'd. ..

Table 3.4.3. Cont'd. ...

ENTRY NAME	PAKISTAN	PERU	SPAIN		SUDAN		SYRIA		
	Faisalabad-1	Paijan	Alcala - de Henares	Sevilla	Shambat	Hudeiba	Al Ghab	Izra'a	Gelline
ILC 35	154	138	102	213	120	111	93	138	104
ILC 76	154	165	114	207	119	110	97	150	109
ILC 83	154	163	108	206	120	106	97	149	109
ILC 116	154	156	99	207	122	114	94	149	109
ILC 132	154	153	108	208	119	109	97	149	109
ILC 134	153	165	111	208	120	105	95	148	108
ILC 135	154	165	111	206	121	106	97	151	108
ILC 136	155	156	115	211	122	108	95	149	110
ILC 165	153	155	108	214	119	108	96	148	109
ILC 171	154	158	108	220	121	109	96	149	110
ILC 254	156	165	119	215	123	108	100	151	110
ILC 263	154	152	111	208	121	134	90	140	103
ILC 451	154	148	117	210	119	107	92	146	106
ILC 496	155	165	118	217	120	108	102	152	110
ILC 613	154	161	107	212	120	107	97	149	109
ILC 620	153	167	122	216	121	109	97	150	109
ILC 629	154	165	117	216	120	113	97	149	109
ILC 2587	154	148	104	208	119	111	92	144	107
ILC 3395	154	157	104	215	119	107	89	141	104
ILC 3396	154	127	112	210	119	106	91	141	104
ILC 3749	154	166	109	211	121	112	114	152	109
ILC 482	154	143	107	200	119	108	91	141	105
ILC 1929	153	157	109	215	119	110	88	140	104
LOCAL CHECK	153	155	116	215	119	104	88	140	103
LOCATION MEAN	154	156	111	211	120	110	95	146	107
S.E.OF MEAN	0.70	3.90	1.10	2.20	0.40	0.90	1.10	1.00	1.20
LSD. AT 5%	-	11.00	3.30	6.30	1.20	2.60	3.30	2.80	3.60
C.V.%	1.00	5.00	2.10	2.10	0.70	1.10	2.40	1.30	2.30
ERROR DF	69	69	69	69	69	23	69	69	69
SIGNIFICANCE	NS	*	*	*	*	*	*	*	*

Cont'd. ...

Table 3.4.3. Cont'd. ...

ENTRY NAME	SYRIA			TURKEY		U.S.A.	
	Kamishely	Hama	Tel Hadya	Erzurum	Ankara-2	Wall-SD	Overall Mean
ILC 35	96	86	101	92	90	101	123
ILC 76	104	104	109	94	94	105	128
ILC 83	103	101	107	94	94	106	127
ILC 116	103	103	107	94	94	105	127
ILC 132	104	100	108	94	92	105	127
ILC 134	103	99	108	93	93	105	127
ILC 135	104	103	108	93	94	105	127
ILC 136	103	104	109	94	97	107	128
ILC 165	103	100	107	94	95	105	127
ILC 171	102	102	109	93	94	106	128
ILC 254	104	105	109	94	94	107	129
ILC 263	95	95	103	93	89	102	126
ILC 451	99	95	102	92	90	100	125
ILC 496	104	106	110	91	95	108	130
ILC 613	104	102	109	92	95	110	128
ILC 620	104	105	109	94	95	111	129
ILC 629	103	101	109	94	95	103	129
ILC 2587	100	100	103	90	90	105	125
ILC 3395	101	96	102	94	90	106	120
ILC 3396	100	96	102	90	90	105	124
ILC 3749	104	107	110	94	96	107	130
ILC 482	98	94	101	91	90	100	123
ILC 1929	94	93	101	92	91	105	125
LOCAL CHECK	95	92	107	93	91	100	
LOCATION MEAN	101	99	106	93	93	105	
S.E.OF MEAN	0.60	2.00	0.70	1.10	0.40	1.10	
LSD. AT 5%	1.80	5.70	2.20	-	1.10	3.20	
C.V.%	1.30	4.10	1.40	2.40	0.80	2.10	
ERROR DF	69	69	69	69	69	69	
SIGNIFICANCE	*	*	*	NS	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.4. Cont'd. ...

ENTRY NAME	SYRIA				TURKEY		U.S.A.	Overall Mean
	Kamishely	Hama	Tel Hadya	Jindiress	Erzurum	Ankara-2	Wall-SD	
ILC 35	37	20	23	23	30	24	23	38
ILC 76	41	25	28	26	36	28	31	46
ILC 83	39	26	27	24	36	27	30	44
ILC 116	35	23	27	24	36	27	29	44
ILC 132	40	25	27	25	37	32	30	44
ILC 134	40	28	28	24	36	30	30	44
ILC 135	37	27	27	25	36	29	31	45
ILC 136	41	28	27	25	35	27	29	46
ILC 165	40	25	25	22	32	26	28	42
ILC 171	42	25	28	24	36	29	29	46
ILC 254	44	28	27	25	35	27	31	46
ILC 263	38	21	26	24	30	25	29	42
ILC 451	37	26	26	25	32	28	27	44
ILC 496	40	25	27	24	36	29	30	46
ILC 613	40	27	25	25	34	29	30	45
ILC 620	42	27	27	24	35	30	28	46
ILC 629	42	26	27	25	37	28	32	45
ILC 2587	38	25	25	22	33	26	29	43
ILC 3395	40	22	22	22	32	28	26	41
ILC 3396	36	25	28	23	38	28	28	42
ILC 3749	40	27	26	27	36	29	30	45
ILC 482	35	22	25	22	29	26	25	41
ILC 1929	40	21	22	21	29	23	22	39
LOCAL CHECK	37	21	26	25	40	29	27	
LOCATION MEAN	39	25	26	24	34	28	28	
S.E.OF MEAN	3.00	1.30	0.70	0.70	1.10	0.30	1.00	
LSD. AT 5%	-	3.80	2.10	2.00	3.10	1.00	3.00	
S.E.%	15.20	10.80	5.80	6.00	6.50	2.50	7.40	
ERROR DF	69	69	69	69	69	69	69	
SIGNIFICANCE	NS	*	*	*	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.3. Cont'd. ...

ENTRY NAME	SYRIA			TURKEY		U.S.A.	
	Kamishely	Hama	Tel Hadya	Erzurum	Ankara-2	Wall-SD	Overall Mean
ILC 35	96	86	101	92	90	101	123
ILC 76	104	104	109	94	94	105	128
ILC 83	103	101	107	94	94	106	127
ILC 116	103	103	107	94	94	105	127
ILC 132	104	100	108	94	92	105	127
ILC 134	103	99	108	93	93	105	127
ILC 135	104	103	108	93	94	105	127
ILC 136	103	104	109	94	97	107	128
ILC 165	103	100	107	94	95	105	127
ILC 171	102	102	109	93	94	106	128
ILC 254	104	105	109	94	94	107	129
ILC 263	95	95	103	93	89	102	126
ILC 451	99	95	102	92	90	100	125
ILC 496	104	106	110	91	95	108	130
ILC 613	104	102	109	92	95	110	128
ILC 620	104	105	109	94	95	111	129
ILC 629	103	101	109	94	95	103	129
ILC 2587	100	100	103	90	90	105	125
ILC 3395	101	96	102	94	90	106	120
ILC 3396	100	96	102	90	90	105	124
ILC 3749	104	107	110	94	96	107	130
ILC 482	98	94	101	91	90	100	123
ILC 1929	94	93	101	92	91	105	125
LOCAL CHECK	95	92	107	93	91	100	
LOCATION MEAN	101	99	106	93	93	105	
S.E.OF MEAN	0.60	2.00	0.70	1.10	0.40	1.10	
LSD. AT 5%	1.80	5.70	2.20	-	1.10	3.20	
C.V.%	1.30	4.10	1.40	2.40	0.80	2.10	
ERROR DF	69	69	69	69	69	69	
SIGNIFICANCE	*	*	*	NS	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.4. Plant height (cm). of entries at different locations in CIYT-L during 1984/85.

ENTRY NAME	ALGERIA	ARGENTINA	CANADA	CHILE	CYPRUS	EGYPT	ITALY		JORDAN	LEBANON
	Sidi Bel-Abbes	Perico	Ridgetown	Carahue	Laxia	Mallawi	Perugia	Capalbio	Jubeiha	Terbol
ILC 35	35	43	32	30	37	42	48	28	30	38
ILC 76	40	50	40	47	59	47	52	38	37	50
ILC 83	30	49	41	43	55	49	52	36	38	42
ILC 116	30	52	36	44	50	49	48	39	34	43
ILC 132	30	50	35	47	52	43	56	41	38	45
ILC 134	30	52	42	40	49	48	57	45	34	45
ILC 135	30	51	36	44	52	53	57	38	36	50
ILC 136	35	49	40	43	57	47	55	42	36	48
ILC 165	30	40	33	39	52	43	48	31	36	44
ILC 171	30	50	37	44	57	55	60	39	39	49
ILC 254	30	52	36	46	53	46	60	42	33	51
ILC 263	30	53	30	30	47	49	48	33	39	48
ILC 451	35	51	35	41	40	50	55	34	35	48
ILC 496	35	55	38	44	46	43	60	43	38	47
ILC 613	35	48	38	43	56	42	57	39	34	47
ILC 620	35	51	42	44	49	41	60	40	35	51
ILC 629	30	51	39	46	55	44	61	41	35	46
ILC 2587	30	51	33	37	40	48	55	37	34	52
ILC 3395	35	47	30	36	49	50	53	36	36	46
ILC 3396	30	46	37	35	46	37	56	35	34	44
ILC 3749	35	50	37	43	47	42	56	43	40	50
ILC 482	28	42	31	41	46	51	46	34	28	44
ILC 1929	30	46	26	31	39	46	48	33	31	45
LOCAL CHECK	32	42	38	47	32	46	56	39	34	46
LOCATION MEAN	32	49	36	41	48	46	54	38	35	47
S.E.OF MEAN	0.00	1.90	2.80	1.40	3.90	1.60	1.90	2.40	2.20	2.40
LSD. AT 5%	0.00	5.50	7.90	4.20	11.40	4.50	5.30	6.90	-	-
C.V.%	0.00	8.00	13.30	7.10	11.30	6.90	6.90	12.90	12.50	10.30
ERROR DF	69	69	46	69	23	69	69	69	69	69
SIGNIFICANCE	*	*	*	*	*	*	*	*	NS	NS

Cont'd. ...

Table 3.4.4. Cont'd. ...

ENTRY NAME	MEXICO		PAKISTAN	PERU	POLAND	SPAIN		SYRIA		
	Culiacan	Sonora	Faisal-abad-1	Paijan	Pulawy	Alcala de-Henares	Sevilla	Al Ghab	Izra'a	Gelline
ILC 35	82	57	69	50	98	43	27	26	24	22
ILC 76	90	67	73	68	92	37	55	33	27	25
ILC 83	94	62	72	66	93	40	52	32	27	24
ILC 116	96	57	79	63	95	33	58	35	28	21
ILC 132	82	70	71	68	91	41	55	32	29	22
ILC 134	98	55	75	68	79	41	51	31	27	28
ILC 135	102	50	66	67	102	39	57	32	29	25
ILC 136	97	70	65	74	93	38	56	35	29	25
ILC 165	88	72	63	64	96	38	46	30	25	26
ILC 171	110	62	81	67	95	36	51	33	29	24
ILC 254	97	60	76	70	103	39	60	33	28	26
ILC 263	99	62	66	59	98	38	36	31	26	23
ILC 451	97	57	71	66	105	43	53	31	26	24
ILC 496	99	52	78	67	102	42	57	32	27	27
ILC 613	103	54	77	65	102	38	53	35	26	24
ILC 620	107	65	82	62	101	37	55	36	27	25
ILC 629	93	57	74	60	102	43	53	32	26	24
ILC 2587	102	62	74	58	105	38	51	30	25	23
ILC 3395	95	-	76	59	95	36	40	31	25	21
ILC 3396	91	60	75	51	96	41	41	31	24	22
ILC 3749	95	62	82	63	93	41	58	35	29	24
ILC 482	93	65	68	54	97	40	58	28	22	17
ILC 1929	87	60	70	56	95	38	31	27	23	26
LOCAL CHECK	85	57	71	62	56	34	30	30	24	20
LOCATION MEAN	95	61	73	63	96	39	49	32	26	24
S.E.OF MEAN	4.60	5.14	4.10	3.60	2.60	1.20	3.60	1.20	1.00	2.00
LSD. AT 5%	13.00	-	-	10.30	7.50	3.30	10.20	3.30	2.80	-
C.V.%	9.70	11.92	11.30	11.50	5.50	6.10	14.50	7.40	7.50	16.70
ERROR DF	69	22	69	69	69	69	69	69	69	69
SIGNIFICANCE	*	NS	NS	*	*	*	*	*	*	NS

Cont'd. ...

Table 3.4.4. Cont'd. ...

ENTRY NAME	SYRIA				TURKEY		U.S.A.	Overall Mean
	Kamishely	Hama	Tel Hadya	Jindiress	Erzurum	Ankara-2	Wall-SD	
ILC 35	37	20	23	23	30	24	23	38
ILC 76	41	25	28	26	36	28	31	46
ILC 83	39	26	27	24	36	27	30	44
ILC 116	35	23	27	24	36	27	29	44
ILC 132	40	25	27	25	37	32	30	44
ILC 134	40	28	28	24	36	30	30	44
ILC 135	37	27	27	25	36	29	31	45
ILC 136	41	28	27	25	35	27	29	46
ILC 165	40	25	25	22	32	26	28	42
ILC 171	42	25	28	24	36	29	29	46
ILC 254	44	28	27	25	35	27	31	46
ILC 263	38	21	26	24	30	25	29	42
ILC 451	37	26	26	25	32	28	27	44
ILC 496	40	25	27	24	36	29	30	46
ILC 613	40	27	25	25	34	29	30	45
ILC 620	42	27	27	24	35	30	28	46
ILC 629	42	26	27	25	37	28	32	45
ILC 2587	38	25	25	22	33	26	29	43
ILC 3395	40	22	22	22	32	28	26	41
ILC 3396	36	25	28	23	38	28	28	42
ILC 3749	40	27	26	27	36	29	30	45
ILC 482	35	22	25	22	29	26	25	41
ILC 1929	40	21	22	21	29	23	22	39
LOCAL CHECK	37	21	26	25	40	29	27	
LOCATION MEAN	39	25	26	24	34	28	28	
S.E.OF MEAN	3.00	1.30	0.70	0.70	1.10	0.30	1.00	
LSD. AT 5%	-	3.80	2.10	2.00	3.10	1.00	3.00	
S.E.%	15.20	10.80	5.80	6.00	6.50	2.50	7.40	
ERROR DF	69	69	69	69	69	69	69	
SIGNIFICANCE	NS	*	*	*	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.5. 100-Seed weight (g) of entries at different locations in CIYT-L during 1984/85.

ENTRY NAME	ARGENTINA	CHILE		ITALY			LEBANON	MEXICO	PERU
	Perico	Chillan	Carahue	Perugia	Metaponto	Capalbio	Terbol	Culiacan	Paijan
ILC 35	37	42	46	37	45	41	44	44	36
ILC 76	48	42	52	41	46	45	44	44	44
ILC 83	47	44	51	41	45	46	45	47	42
ILC 116	45	44	53	42	45	44	46	48	43
ILC 132	47	43	54	43	48	48	48	44	44
ILC 134	47	42	53	41	46	45	46	42	45
ILC 135	45	42	52	42	47	46	46	45	47
ILC 136	53	39	50	40	45	49	45	49	49
ILC 165	42	42	49	43	47	46	47	49	40
ILC 171	40	40	47	41	45	45	45	41	42
ILC 254	45	43	50	45	46	47	48	43	48
ILC 263	35	35	37	34	35	35	36	30	33
ILC 451	38	38	44	37	39	43	42	40	37
ILC 496	46	44	53	44	46	49	45	42	50
ILC 613	40	41	52	41	47	46	46	43	43
ILC 620	43	43	52	42	45	49	47	42	41
ILC 629	41	44	52	45	48	50	47	45	41
ILC 2587	36	38	44	40	46	41	46	39	37
ILC 3395	37	36	45	34	38	43	43	40	39
ILC 3396	46	47	57	47	53	49	57	54	47
ILC 3749	38	42	50	42	45	47	45	46	46
ILC 482	27	27	32	49	30	26	31	30	22
ILC 1929	33	33	38	32	36	37	39	37	31
LOCAL CHECK	45	44	54	38	45	38	38	54	30
LOCATION MEAN	42	41	49	41	44	44	44	43	41
S.E.OF MEAN	3.00	1.00	0.80	3.40	0.90	1.00	1.20	2.20	1.40
LSD. AT 5%	8.50	2.80	2.40	-	2.70	2.90	3.50	6.30	4.00
C.V.%	14.40	4.90	3.40	16.70	4.40	4.60	5.50	10.30	7.01
ERROR DF	69	69	69	69	69	69	69	69	69
SIGNIFICANCE	*	*	*	NS	*	*	*	*	*

Cont'd. ...

Table 3.4.5. Cont'd. ...

ENTRY NAME	SPAIN	SYRIA				TURKEY	Overall Mean	Rank
	Sevilla	Al Ghab	Hama	Tel Hadya	Jindiress	Erzurum		
ILC 35	29	46	41	43	38	39	40	17
ILC 76	44	45	41	44	39	44	44	8
ILC 83	45	45	42	46	39	45	44	8
ILC 116	45	45	40	43	37	41	44	8
ILC 132	44	45	41	46	39	46	45	4
ILC 134	44	46	43	46	40	45	44	8
ILC 135	44	45	43	47	41	44	45	4
ILC 136	38	48	48	51	47	41	46	2
ILC 165	35	46	44	46	42	47	44	8
ILC 171	39	47	40	45	41	42	42	16
ILC 254	44	46	42	46	41	43	45	4
ILC 263	30	36	32	34	29	37	33	22
ILC 451	34	42	39	42	36	40	39	19
ILC 496	43	47	44	49	43	46	46	2
ILC 613	44	45	42	44	40	43	43	15
ILC 620	41	46	41	46	39	46	44	8
ILC 629	41	47	44	47	42	44	45	4
ILC 2587	32	42	42	44	38	41	40	17
ILC 3395	32	43	43	44	41	40	39	19
ILC 3396	28	52	50	54	51	49	49	1
ILC 3749	43	47	41	46	42	43	44	8
ILC 482	27	33	27	28	25	27	29	23
ILC 1929	32	38	36	37	34	35	35	21
LOCAL CHECK	-	41	40	46	42	49		
LOCATION MEAN	38	44	41	44	39	42		
S.E.OF MEAN	1.83	1.20	0.80	0.70	0.70	1.50		
LSD. AT 5%	5.16	3.30	2.30	2.10	2.10	4.30		
C.V.%	9.46	5.30	4.00	3.30	3.70	7.10		
ERROR DF	66	69	69	69	69	69		
SIGNIFICANCE	*	*	*	*	*	*		

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.6. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in CIYT-L during 1984/85.

ENTRY NAME	ALGERIA		ARGENTINA		CANADA		CHILE				CYPRUS	
	Sidi Bel Abbes		Perico		Ridgetown		Chillan		Carahue		Laxia	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILC 35	492	6	659	21	585	8	2187	1	2166	20	694	10
ILC 76	377	15	1250	2	424	14	1804	10	2975	9	798	6
ILC 83	411	12	1097	5	593	7	1960	4	2985	8	802	5
ILC 116	442	9	1090	6	342	20	1894	8	3194	2	726	9
ILC 132	411	12	1236	3	482	11	1570	17	2849	13	494	14
ILC 134	278	22	819	17	393	15	1953	6	3014	7	665	11
ILC 135	437	11	1034	8	354	18	1632	14	2843	14	648	12
ILC 136	440	10	1256	1	644	6	2070	2	2761	16	857	3
ILC 165	466	7	1159	4	720	4	1742	11	2085	23	409	17
ILC 171	682	1	687	19	953	1	1828	9	2887	11	460	15
ILC 254	575	4	909	14	371	17	1632	14	2907	10	428	16
ILC 263	286	21	618	22	244	23	1335	24	2138	22	791	7
ILC 451	296	20	972	11	480	12	1941	7	3373	1	844	4
ILC 496	518	5	1090	6	337	21	1539	20	3093	4	755	8
ILC 613	328	18	895	16	742	3	1386	22	2851	12	371	19
ILC 620	455	8	937	13	385	16	1566	18	3089	5	309	20
ILC 629	361	17	687	19	343	19	1648	13	2809	15	550	13
ILC 2587	600	2	541	24	507	10	1960	4	2411	19	-	
ILC 3395	273	24	1013	10	561	9	2066	3	2152	21	1010	2
ILC 3396	591	3	715	18	685	5	1558	19	1810	24	304	21
ILC 3749	276	23	962	12	243	24	1632	14	3062	6	373	18
ILC 482	317	19	611	23	857	2	1402	21	2636	18	1881	1
ILC 1929	364	16	909	14	326	22	1367	23	2732	17	-	
LOCAL CHECK	408	14	1020	9	471	13	1675	12	3172	3	-	
LOCATION MEAN	420		924		502		1723		2750		675	
S.E.OF MEAN	91.20		103.80		158.20		123.20		158.90		123.99	
LSD. AT 5%	-		292.90		-		347.50		448.30		350.65	
C.V.%	43.30		22.40		54.50		14.30		11.50		36.72	
ERROR DF	69		69		46		69		69		60	
SIGNIFICANCE	NS		*		NS		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		-		3		0		-	

cont'd. ...

Table 3.4.6. Cont'd. ...

ENTRY NAME	EGYPT		ITALY						JORDAN		LEBANON	
	Mallawi		Perugia		Metaponto		Capalbio		Jubeiha		Terbol	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILC 35	690	24	2604	22	995	22	1001	23	1478	19	3831	1
ILC 76	1440	11	3586	10	1208	9	1263	13	1956	8	2826	10
ILC 83	1785	2	3316	14	1285	5	1398	4	1863	10	2933	7
ILC 116	1142	17	3497	12	1067	20	1167	19	1908	9	2976	5
ILC 132	1154	16	3025	19	1017	21	1161	20	1325	24	2691	18
ILC 134	1273	14	3488	13	1105	16	1336	8	1841	12	2503	21
ILC 135	1452	10	3659	8	1235	7	1217	15	2045	6	2694	17
ILC 136	1404	12	3525	11	1160	12	1316	10	1861	11	2725	15
ILC 165	1142	17	2328	24	1372	1	1235	14	2103	5	3147	4
ILC 171	1738	4	3141	17	1158	13	1183	17	1703	15	2790	12
ILC 254	1476	7	4001	2	1345	2	1376	6	1506	18	2678	19
ILC 263	1464	9	2869	21	1235	7	1204	16	2298	1	3162	3
ILC 451	1916	1	4129	1	1298	4	1328	9	1970	7	2954	6
ILC 496	1136	19	2555	23	1198	10	1479	2	2118	4	2797	11
ILC 613	1047	21	3900	5	1100	17	1275	12	2198	3	2671	20
ILC 620	1059	20	3889	6	1192	11	1356	7	1661	17	2724	16
ILC 629	1321	13	3970	3	1260	6	1281	11	2293	2	2166	24
ILC 2587	1619	5	3141	17	912	23	1103	21	1663	16	2770	13
ILC 3395	1595	6	3184	16	1081	19	1394	5	1448	20	2732	14
ILC 3396	750	23	3289	15	717	24	1043	22	1365	23	2315	22
ILC 3749	1000	22	3638	9	1127	15	1403	3	1785	14	2305	23
ILC 482	1761	3	2922	20	1145	14	1179	18	1440	21	3313	2
ILC 1929	1476	7	3689	7	1345	2	886	24	1403	22	2864	8
LOCAL CHECK	1214	15	3932	4	1098	18	1728	1	1803	13	2860	9
LOCATION MEAN	1336		3386		1152		1263		1814		2809	
S.E.OF MEAN	145.60		213.20		105.10		142.60		254.30		212.80	
LSD. AT 5%	410.90		601.40		296.60		-		-		600.30	
C.V.%	21.80		12.50		18.20		22.50		28.00		15.10	
ERROR DF	69		69		69		69		69		69	
SIGNIFICANCE	*		*		*		NS		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	4		0		0		-		-		1	

Cont'd. ...

Table 3.4.6. Cont'd. ...

ENTRY NAME	MEXICO				PAKISTAN				PERU		SPAIN	
	Culiacan		Sonora		Faisalabad-1		Faisalabad-2		Paijan		Alcala de - Henares	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILC 35	2033	10	1261	10	1076	23	215	18	1740	9	3412	22
ILC 76	1882	16	837	23	1154	19	238	17	1689	12	4286	10
ILC 83	2125	8	1084	15	1391	4	279	10	1479	19	4667	3
ILC 116	1750	22	1413	8	1295	10	152	24	2209	1	4156	13
ILC 132	1982	11	1174	13	1341	7	276	11	1689	12	3929	15
ILC 134	1789	20	1012	19	1169	18	247	14	2065	4	4473	5
ILC 135	1886	15	900	21	1259	14	258	13	1926	6	4979	2
ILC 136	2252	7	1723	4	1364	5	360	2	2068	3	3639	19
ILC 165	2630	2	1675	5	1304	8	211	19	1761	8	4265	11
ILC 171	2040	9	1042	17	1293	11	342	3	1646	15	3782	17
ILC 254	1936	13	852	22	1277	13	180	21	1938	5	4450	8
ILC 263	1863	17	1057	16	1050	24	301	7	1578	18	4007	14
ILC 451	1825	18	1294	9	1359	6	174	22	1690	11	4987	1
ILC 496	1819	19	1786	3	1236	15	317	5	2073	2	4184	12
ILC 613	2254	6	1578	6	1103	21	385	1	1652	14	3424	21
ILC 620	1754	21	983	20	1183	16	295	9	1582	17	4440	9
ILC 629	1934	14	1192	12	1302	9	307	6	1278	23	4592	4
ILC 2587	1702	23	1165	14	1288	12	263	12	1724	10	3731	18
ILC 3395	2385	5	1823	2	1437	3	298	8	1584	16	3525	20
ILC 3396	1964	12	1248	11	1094	22	242	15	1271	24	3149	23
ILC 3749	1448	24	1479	7	1171	17	195	20	1394	21	4468	6
ILC 482	2631	1	1036	18	1629	1	241	16	1404	20	4462	7
ILC 1929	2422	4	1979	1	1131	20	174	22	1867	7	3880	16
LOCAL CHECK	2579	3	-		1612	2	339	4	1282	22	2557	24
LOCATION MEAN	2037		1287		1272		262		1691		4060	
S.E.OF MEAN	175.90		213.16		134.80		64.20		190.20		425.50	
LSD. AT 5%	496.10		625.13		-		-		536.60		1200.10	
C.V.%	17.20		23.42		21.20		42.40		22.50		20.90	
ERROR DF	69		22		69		46		69		69	
SIGNIFICANCE	*		*		NS		NS		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		-		-		7		17	

Cont'd. ...

Table 3.4.6. Cont'd. ...

ENTRY NAME	SPAIN		SUDAN				SYRIA					
	Sevilla		Shambat		Hudeiba		Alghab		Izra'a		Gelline	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILC 35	242	21	929	8	76	4	1172	7	630	3	556	8
ILC 76	2530	2	536	16	6	19	833	21	309	23	422	20
ILC 83	2063	6	692	11	31	12	1041	14	500	12	437	18
ILC 116	2072	5	505	18	68	7	1077	12	375	19	497	13
ILC 132	2043	7	604	15	13	16	1005	15	440	14	513	11
ILC 134	2198	3	638	13	38	11	970	16	505	10	418	21
ILC 135	2196	4	492	19	-		626	24	345	21	425	19
ILC 136	1923	9	747	10	65	8	1059	13	470	13	495	14
ILC 165	1160	15	1109	6	22	13	1136	8	511	9	590	7
ILC 171	1193	14	651	12	20	14	916	20	505	10	631	3
ILC 254	1525	12	424	21	-		934	18	428	15	541	9
ILC 263	137	23	476	20	75	5	1434	1	589	5	609	5
ILC 451	905	17	937	7	40	10	1380	2	348	20	636	2
ILC 496	1792	11	289	24	6	19	660	23	327	22	377	22
ILC 613	1005	16	531	17	13	16	1130	9	398	17	483	15
ILC 620	1793	10	406	22	6	19	934	18	416	16	611	4
ILC 629	1492	13	622	14	17	15	1255	5	553	8	641	1
ILC 2587	719	18	1669	2	69	6	1285	4	654	2	511	12
ILC 3395	669	19	1210	4	100	3	1190	6	571	6	483	15
ILC 3396	190	22	1138	5	142	2	964	17	398	17	334	23
ILC 3749	1956	8	320	23	10	18	773	22	309	23	306	24
ILC 482	4656	1	763	9	-		1130	9	559	7	479	17
ILC 1929	365	20	1388	3	48	9	1321	3	607	4	602	6
LOCAL CHECK	-		2408	1	288	1	1125	11	726	1	520	10
LOCATION MEAN	1514		812		55		1056		491		505	
S.E.OF MEAN	229.78		136.40		43.05		112.50		51.40		72.90	
LSD. AT 5%	648.66		384.80		126.97		317.30		145.10		-	
C.V.%	30.34		33.60		109.74		21.30		20.90		28.80	
ERROR DF	66		69		20		69		69		69	
SIGNIFICANCE	*		*		*		*		*		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		0		0		0		-	

Cont'd. ...

Table 3.4.6. Cont'd. ...

ENTRY NAME	SYRIA								TUNISIA		TURKEY	
	Kamishely		Hama		Tel Hadya		Jindiress		Beja		Eskisehir	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILC 35	594	5	1297	6	1523	2	1059	4	2675	10	1640	17
ILC 76	365	24	1035	20	1416	6	779	23	2433	22	1937	5
ILC 83	470	18	1023	21	1505	3	970	10	2483	18	1689	15
ILC 116	486	16	845	23	1357	10	934	12	2483	18	1565	21
ILC 132	453	19	1136	15	1321	16	892	16	2316	23	1720	13
ILC 134	426	21	1327	5	1339	14	892	16	2608	12	1804	10
ILC 135	401	23	1047	18	1226	21	869	20	2050	24	1637	18
ILC 136	495	13	1255	9	1386	9	952	11	3000	3	1981	3
ILC 165	488	15	1113	16	1345	12	1041	5	2891	6	1279	23
ILC 171	562	8	1095	17	1410	7	994	9	2608	12	1787	11
ILC 254	495	13	1154	14	1345	12	1005	7	2825	8	1873	8
ILC 263	635	3	1261	7	1535	1	1154	1	3091	2	1609	19
ILC 451	642	2	1452	2	1488	4	928	13	2950	4	2115	1
ILC 496	515	11	863	22	1190	23	1011	6	2675	10	2090	2
ILC 613	439	20	1178	12	1196	22	904	15	2516	17	1717	14
ILC 620	413	22	1041	19	1267	19	1005	7	2591	14	1942	4
ILC 629	529	10	1452	2	1470	5	845	22	2566	15	1204	24
ILC 2587	570	7	1261	7	1357	10	922	14	2450	21	1892	7
ILC 3395	626	4	1250	10	1285	18	880	19	2550	16	1657	16
ILC 3396	582	6	1202	11	1089	24	744	24	2900	5	1334	22
ILC 3749	471	17	690	24	1232	20	886	18	2816	9	1739	12
ILC 482	503	12	1178	12	1321	16	1083	3	3116	1	1609	19
ILC 1929	650	1	1428	4	1339	14	1113	2	2858	7	1918	6
LOCAL CHECK	556	9	1523	1	1410	7	857	21	2475	20	1859	9
LOCATION MEAN	515		1171		1348		947		2663		1733	
S.E.OF MEAN	42.70		161.60		75.70		90.80		196.50		200.50	
LSD. AT 5%	120.60		455.90		213.60		256.30		559.30		565.50	
C.V.%	16.50		27.60		11.20		19.10		12.70		23.10	
ERROR DF	69		69		69		69		46		69	
SIGNIFICANCE	*		NS		*		NS		NS		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		0		-		-		-	

Cont'd. ...

Table 3.4.6. Cont'd. ...

ENTRY NAME	TURKEY						U.S.A		Overall Mean	(1) Rank
	Ankara-1		Erzurum		Ankara-2		Wall-SD			
	Y	R	Y	R	Y	R	Y	R		
ILC 35	696	23	3595	19	423	5	1263	13	1469	22
ILC 76	2714	4	3511	20	280	20	1325	10	1636	7
ILC 83	2964	2	3815	13	306	19	1187	18	1706	3
ILC 116	2357	10	4166	7	464	2	1299	11	1652	6
ILC 132	2410	8	4059	9	511	1	1374	7	1577	15
ILC 134	2482	6	4482	1	369	11	1472	5	1668	5
ILC 135	2696	5	3750	15	345	15	1444	6	1624	10
ILC 136	2107	12	3809	14	328	18	1236	14	1703	4
ILC 165	1821	16	3619	18	357	14	1227	16	1615	11
ILC 171	1553	18	4357	4	392	8	1559	3	1612	13
ILC 254	2053	14	3839	12	371	10	1345	9	1632	9
ILC 263	2357	10	3113	22	232	22	1209	17	1521	19
ILC 451	1892	15	4190	5	416	6	1896	1	1785	1
ILC 496	3303	1	2994	23	404	7	1347	8	1613	12
ILC 613	1125	20	4392	2	369	11	1077	21	1549	16
ILC 620	1500	19	4172	6	452	4	1071	22	1580	14
ILC 629	2392	9	3904	11	464	2	1660	2	1634	8
ILC 2537	1589	17	3949	10	345	15	886	24	1501	21
ILC 3395	1071	21	2898	24	369	11	908	23	1516	20
ILC 3396	928	22	3642	17	392	8	1087	20	1336	23
ILC 3749	2750	3	3285	21	333	17	1230	15	1538	17
ILC 482	2446	7	4095	8	-		1505	4	1773	2
ILC 1929	660	24	3660	16	-		1126	19	1537	18
LOCAL CHECK	2071	13	4363	3	261	21	1275	12		
LOCATION MEAN	1997		3819		409		1292			
S.E.OF MEAN	424.90		380.40		17.90		152.90			
LSD. AT 5%	1243.00		-		52.40		431.30			
C.V.%	30.00		19.90		6.10		23.60			
ERROR DF	23		69		23		69			
SIGNIFICANCE	*		NS		*		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		18		1			

(1)Laxia, Faisalabd-2, Hudeiba and Ankara-2 were excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.4.7. The five heaviest seed yielding entries at the individual locations in the CIYT-L during 1984/85.

RANK	ALGERIA	ARGENTINA	CANADA	CHILE		CYPRUS	EGYPT	ITALY	
	Sidi Bel Abbes	Perico	Ridgetown	Chillan	Carahue	Laxia	Mallawi	Perugia	Metaponto
1	ILC 171	ILC 136	ILC 171	ILC 35	ILC 451	ILC 482	ILC 451	ILC 451	ILC 165
2	ILC 2587	ILC 76	ILC 482	ILC 136	ILC 116	ILC 3395	ILC 83	ILC 254	ILC 254]
3	ILC 3396	ILC 132	ILC 613	ILC 3395	Local check	ILC 136	ILC 482	ILC 629	ILC 1929]
4	ILC 254	ILC 165	ILC 165	ILC 2587]	ILC 496	ILC 451	ILC 171	Local check	ILC 451
5	ILC 496	ILC 83	ILC 3396	ILC 83]	ILC 620	ILC 83	ILC 2587	ILC 613	ILC 83

Cont'd. ...

RANK	ITALY	JORDAN	LEBANON	MEXICO		PAKISTAN		PERU	SPAIN
	Capalbio	Jubeiha	Terbol	Culiacan	Sonora	Faisalabad-1	Faisalabad-2	Paijan	Alcala de Henares
1	Local check	ILC 263	ILC 35	ILC 482	Local check	ILC 482	ILC 613	ILC 116	ILC 451
2	ILC 496	ILC 629	ILC 482	ILC 165	ILC 3396	Local check	ILC 136	ILC 496	ILC 135
3	ILC 3749	ILC 613	ILC 263	Local check	ILC 496	ILC 3395	ILC 171	ILC 136	ILC 83
4	ILC 83	ILC 496	ILC 165	ILC 1929	ILC 136	ILC 83	Local check	ILC 134	ILC 629
5	ILC 3395	ILC 165	ILC 116	ILC 3395	ILC 165	ILC 136	ILC 496	ILC 254	ILC 134

Cont'd. ...

RANK	SPAIN	SUDAN		SYRIA					
	Sevilla	Shambat	Hudeiba	Al-Ghab	Izra'a	Gelline	Kamishly	Hama	Tel Hadya
1	ILC 482	Local check	Local check	ILC 263	Local check	ILC 629	ILC 1929	Local check	ILC 263
2	ILC 76	ILC 2587	ILC 3396	ILC 451	ILC 2587	ILC 451	ILC 451	ILC 629]	ILC 35
3	ILC 134	ILC 1929	ILC 3395	ILC 1929	ILC 35	ILC 171	ILC 263	ILC 451]	ILC 83
4	ILC 135	ILC 3395	ILC 35	ILC 2587	ILC 1929	ILC 620	ILC 3395	ILC 1929	ILC 451
5	ILC 116	ILC 3396	ILC 263	ILC 629	ILC 263	ILC 263	ILC 35	ILC 134	ILC 629

Cont'd. ...

RANK	SYRIA	TUNISIA	TURKEY				U.S.A.
	Jindiress	Beja	Eskisehir	Ankara	Erzurum	Ankara-2	Wall-SD
1	ILC 263	ILC 482	ILC 451	ILC 496	ILC 134	ILC 132	ILC 451
2	ILC 1929	ILC 263	ILC 496	ILC 83	ILC 613	ILC 116]	ILC 629
3	ILC 482	ILC 136	ILC 136	ILC 3749	Local check	ILC 629]	ILC 171
4	ILC 35	ILC 451	ILC 620	ILC 76	ILC 171	ILC 620	ILC 482
5	ILC 165	ILC 3396	ILC 76	ILC 135	ILC 451	ILC 35	ILC 134

The brackets indicate entries having the same rank.

Table 3.4.8. Correlation (df=21) among different locations for the seed yield of entries in CIYT-L during 1984/85.

COUNTRY	LOCATION	ALGERIA	ARGENTINA	CANADA	CHILE		CYPRUS	EGYPT	ITALY	
		Sidi Bel-Abbes	Perico	Ridge-Town	Chillan	Carahue	Laxia	Mallawi	Perugia	Metaponto
ARGENTINA	Perico	-0.153								
CANADA	Ridge Town	0.339	-0.160							
CHILE	Chillan	0.137	0.158	0.161						
CHILE	Carahue	-0.171	0.380	-0.302	0.005					
CYPRUS	Laxia	-0.363	-0.128	0.221	0.060	-0.009				
EGYPT	Mallawi	-0.132	-0.034	0.152	0.106	0.289	0.526			
ITALY	Perugia	-0.229	0.078	-0.306	-0.081	0.562	-0.229	0.200		
ITALY	Metaponto	-0.270	0.318	-0.236	-0.168	0.411	0.088	0.463	0.198	
ITALY	Capalbio	-0.245	0.389	-0.177	0.128	0.459	-0.004	0.188	0.187	0.335
JORDAN	Jubeiha	-0.250	0.113	-0.246	-0.113	0.237	-0.126	0.068	0.084	0.428
LEBANON	Terbol	0.028	-0.113	0.257	0.207	-0.236	0.452	0.060	-0.550	0.125
MEXICO	Culiacan	-0.089	0.071	0.617	-0.101	-0.413	0.426	0.207	-0.328	0.235
MEXICO	Sonora	-0.176	0.273	0.026	0.011	-0.160	-0.009	-0.180	-0.205	0.042
PAKISTAN	Faisalabad-1	-0.076	0.147	0.388	0.202	0.171	0.656	0.612	-0.072	0.174
PAKISTAN	Faisalabad-2	0.071	-0.037	0.354	-0.086	-0.085	-0.048	0.028	-0.086	-0.126
PERU	Paijan	0.143	0.412	-0.240	0.259	0.341	-0.014	-0.006	-0.044	0.204
SPAIN	Alcala de Henares	-0.309	0.206	-0.396	-0.073	0.627	0.164	0.436	0.343	0.649
SPAIN	Sevilla	-0.208	0.243	0.118	-0.108	0.473	0.553	0.255	0.046	0.174
SUDAN	Shambat	0.157	-0.287	0.299	0.281	-0.552	0.126	0.178	-0.200	-0.278
SUDAN	Hudeiba	0.148	-0.353	0.131	0.203	-0.669	0.183	-0.083	-0.145	-0.541
SYRIA	Al Ghab	-0.287	-0.403	0.081	0.053	-0.330	0.230	0.270	0.001	0.057
SYRIA	Izra'a	0.041	-0.579	0.229	0.159	-0.559	0.276	0.185	-0.362	-0.065
SYRIA	Gelline	0.068	-0.238	0.099	0.000	-0.006	-0.025	0.317	0.091	0.441
SYRIA	Kamishely	0.031	-0.475	0.063	0.066	-0.437	0.160	0.198	-0.187	-0.088
SYRIA	Hama	-0.149	-0.390	0.142	0.101	-0.297	0.161	0.267	0.169	0.052
SYRIA	Tel Hadya	-0.146	-0.131	-0.053	0.394	0.072	0.249	0.426	-0.049	0.401
SYRIA	Jindiress	-0.014	-0.244	0.021	-0.232	-0.089	0.292	0.184	-0.383	0.460
TUNISIA	Beja	-0.149	-0.269	0.161	-0.201	-0.268	0.292	0.064	-0.154	0.136
TURKEY	Eskisehir	0.012	0.254	-0.185	0.124	0.566	0.104	0.324	0.249	0.185
TURKEY	Ankara-1	-0.193	0.361	-0.349	-0.080	0.514	0.220	0.238	-0.035	0.318
TURKEY	Erzurum	0.136	-0.144	0.352	0.048	0.421	-0.093	0.133	0.406	-0.051
TURKEY	Ankara-2	0.156	0.003	0.063	-0.028	0.232	-0.098	-0.265	0.099	-0.188
U. S. A.	Wall-SD	-0.127	0.004	0.005	0.015	0.501	0.194	0.319	0.226	0.375

Cont'd. ...

Table 3.4.8. Cont'd. ...

COUNTRY	LOCATION	ITALY	JORDAN	LEBANON	MEXICO		PAKISTAN		PERU	SPAIN
		Capalbio	Jubeiha	Terbol	Culiacan	Sonora	Faisal-abad-1	Faisal-abad-2	Paijan	Alcala - de Henares
JORDAN	Jubeiha	0.406								
LEBANON	Terbol	-0.330	-0.111							
MEXICO	Culiacan	-0.247	-0.186	0.376						
MEXICO	Sonora	-0.057	-0.001	0.007	0.384					
PAKISTAN	Faisalabad-1	0.272	-0.197	0.083	0.423	0.003				
PAKISTAN	Faisalabad-2	0.285	0.303	-0.210	0.141	0.062	0.011			
PERU	Paijan	0.054	0.113	0.200	-0.079	0.201	-0.060	-0.153		
SPAIN	Alcala de Henares	0.453	0.368	-0.105	-0.247	-0.403	0.318	-0.331	0.061	
SPAIN	Sevilla	0.329	-0.015	-0.012	0.101	-0.332	0.610	-0.021	0.056	0.513
SUDAN	Shambat	-0.568	-0.406	0.165	0.393	0.338	0.118	-0.187	-0.124	-0.412
SUDAN	Hudeiba	-0.415	-0.398	0.126	0.144	0.079	-0.024	-0.179	-0.067	-0.483
SYRIA	Al Ghab	-0.387	0.010	0.318	0.320	0.213	0.054	-0.089	-0.211	-0.212
SYRIA	Izra'a	-0.475	-0.252	0.385	0.430	0.105	0.109	0.093	-0.155	-0.351
SYRIA	Gelline	-0.250	0.112	0.322	0.255	-0.034	0.076	0.024	-0.004	0.075
SYRIA	Kamishely	-0.388	-0.214	0.255	0.187	0.405	-0.019	-0.148	-0.174	-0.357
SYRIA	Hama	-0.389	-0.088	0.096	0.354	0.037	0.011	0.063	-0.122	-0.149
SYRIA	Tel Hadya	-0.080	0.221	0.486	0.027	-0.249	0.097	-0.105	-0.002	0.234
SYRIA	Jindiress	-0.178	-0.005	0.663	0.350	0.171	0.047	-0.076	0.197	0.036
TUNISIA	Beja	-0.060	-0.067	0.227	0.306	0.257	0.055	-0.152	-0.178	-0.130
TURKEY	Eskisehir	0.259	-0.109	0.080	-0.273	0.047	-0.011	0.030	0.457	0.130
TURKEY	Ankara-1	0.600	0.463	-0.190	-0.345	-0.310	0.286	0.030	0.156	0.664
TURKEY	Erzurum	-0.151	-0.048	-0.083	-0.016	-0.375	0.142	0.029	0.111	0.161
TURKEY	Ankara-2	-0.201	-0.368	-0.068	0.015	0.119	0.221	-0.158	0.040	-0.020
U. S. A.	Wall-SD	0.150	0.273	-0.004	-0.114	-0.324	0.263	-0.174	0.041	0.607

Cont'd. ...

Table 3.4.8. Cont'd. ...

COUNTRY	LOCATION	SPAIN	SUDAN		SYRIA					
		Sevilla	Shambat	Hudeiba	Al Ghab	Izra'a	Gelline	Kamishely	Hama	Tel Hadya
SUDAN	Shambat	-0.434								
SUDAN	Hudeiba	-0.381	0.510							
SYRIA	Al Ghab	-0.428	0.564	0.302						
SYRIA	Izra'a	-0.299	0.624	0.341	0.677					
SYRIA	Gelline	-0.298	0.198	-0.139	0.640	0.481				
SYRIA	Kamishely	-0.639	0.577	0.537	0.680	0.544	0.400			
SYRIA	Hama	-0.373	0.553	0.308	0.716	0.604	0.574	0.522		
SYRIA	Tel Hadya	-0.095	0.057	-0.106	0.550	0.449	0.604	0.276	0.390	
SYRIA	Jindiress	-0.060	0.021	-0.079	0.371	0.491	0.506	0.375	0.114	0.389
TUNISIA	Beja	-0.087	0.130	0.254	0.434	0.217	0.180	0.507	0.249	0.147
TURKEY	Eskisehir	0.079	-0.109	-0.289	-0.161	-0.259	-0.025	-0.030	-0.066	0.032
TURKEY	Ankara-1	0.637	-0.629	-0.460	-0.469	-0.460	-0.362	-0.521	-0.503	0.087
TURKEY	Erzurum	0.276	-0.042	-0.237	0.080	-0.018	0.286	-0.310	0.216	0.070
TURKEY	Ankara-2	0.102	0.015	-0.121	0.009	-0.021	0.255	0.029	0.102	-0.182
U. S. A.	Wall-SD	0.342	-0.365	-0.329	-0.048	-0.275	0.268	-0.040	0.185	0.349

Cont'd. ...

Table 3.4.8 Cont'd. ...

		SYRIA	TUNISIA	TURKEY			
		Jindiress	Beja	Eskisehir	Ankara-1	Erzurum	Ankara-2
TUNISIA	Beja	0.486					
TURKEY	Eskisehir	0.156	0.008				
TURKEY	Ankara-1	-0.105	-0.170	0.112			
TURKEY	Erzurum	-0.096	-0.168	0.052	-0.103		
TURKEY	Ankara-2	-0.073	-0.187	-0.103	-0.213	0.406	
U. S. A.	Wall-SD	-0.023	0.093	0.049	0.397	0.364	0.270

The underlined values are significant at $P \leq 0.05$.

The five best entries in each of the locations are given in Table 3.4.7. The entry ILC 451 occurred most frequently (15 times) among the five heaviest yielders and was followed by ILC 83, ILC 263 and ILC 482 (10 times). These lines were comparatively better in adaptation.

The correlations between seed yields of different locations are given in Table 3.4.8. Tel Hadya in Syria was positively associated with Mallawi in Egypt, Terbol in Lebanon, AL-Ghab, Izra'a and Gelline in Syria. Jinderis in Syria was associated with Metaponto in Italy, Terbol in Lebanon, Izra'a and Gelline in Syria, and Beja in Tunisia. On the basis of average over three and four years for the common entries, ILC 451 ranked number 1 and was closely followed by ILC 134, ILC 116, and ILC 136 etc. (Table 3.4.9).

Table 3.4.9. The mean yield (Y= kg/ha) and rank (R) of the common entries in the CIYT-L during 1981-85.

Entry Name	1981/82		1982/83		1983/84		1984/85		Average[1]		Average[2]	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILC 35	1334	7	1424	12	1265	11	1469	17	1373	13	1386	15
ILC 76	-	-	1338	17	1272	9	1636	6	-	-	1415	13
ILC 83	1274	15	1439	10	1245	12	1706	2	1416	8	1463	9
ILC 116	1427	1	1417	13	1378	1	1652	5	1469	2	1482	4
ILC 132	1333	8	1396	14	1289	7	1577	14	1399	10	1421	12
ILC 134	1340	6	1515	4	1325	3	1668	4	1462	3	1502	2
ILC 135	1245	16	1365	15	1283	8	1624	9	1379	12	1424	11
ILC 136	1296	12	1441	9	1358	2	1703	3	1450	4	1501	3
ILC 165	1362	4	1545	2	1266	10	2615	10	1447	5	1475	7
ILC 171	1380	2	1550	1	1244	13	1612	12	1447	5	1468	8
ILC 254	-	-	1483	7	1302	4	1632	8	-	-	1472	6
ILC 451	1373	3	1532	3	1291	5	1785	1	1496	1	1536	1
ILC 496	1301	11	1353	16	1200	18	1613	11	1367	14	1381	16
ILC 613	1327	10	1470	8	1213	15	1549	15	1390	11	1411	14
ILC 620	1352	5	1489	6	1229	14	1580	13	1413	9	1432	10
ILC 629	1330	9	1512	5	1291	5	1634	7	1442	7	1479	5
ILC 2587	1285	13	1431	11	1211	16	1501	16	1357	15	1381	16

1= based on 1981/82 through 1984/85, 2= based on 1982/83 through 1984/85.

3.5. CHICKPEA INTERNATIONAL SCREENING NURSERY - WINTER (CISN-W)

Material

The Chickpea International Screening Nursery comprised of 36 test entries which originated from the materials developed through hybridization at ICARDA. The nursery also included three checks namely ILC 482, ILC 3279 and one local check to be supplied by the cooperator.

Table 3.5.1. Agronomic data for different locations in the CISN-W during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Setif	29.12.1984	07.07.1985		46		-	Trifluraline	Rabat 9
CYPRUS	Athalassa	17.12.1984	17.06.1985	24	54		-	-	Local
EGYPT	Shandweel	20.11.1984	05.05.1985	47	71		NA	NA	Giza 1
ETHIOPIA	Debre Zeit	27.08.1985	NA	NA			NA	NA	DZ-10-11
FRANCE	Montpellier	22.11.1984	-		100		-	-	E 36
GREECE	Larissa	27.11.1984	17.06.1985		60		-	Phosdrin	U-14356
IRAN	Karaj	15.12.1984	18.07.1985	25	75		5	Treflan,Metasystox	Jam
ITALY	Basilicata	06.02.1985	15.07.1985	20	60		NA	NA	Maleroua
ITALY	Rome	15.01.1985	06.08.1985	20	60		-	Tribunil	NA
JORDAN	Marow	11.11.1984	06.06.1985	20	40		NA	NA	UJC 107
LEBANON	Beqa'a	21.12.1984	20.06.1985		50		-	-	NA
LEBANON	Terbol	22.11.1984	06.1985		50		NA	Kerb,Bladex	NA
LIBYA	Tripoli	14.11.1984	NA	30	60			-	ILC 550
MEXICO	Carretera	06.12.1984	28.03.1985	90			2	Lorsban,Ridomi,Decis	NA
MEXICO	Culiacan	03.12.1984	12.04.1985	40	40		2	Semilla-PCNB,Ambush	Santo-Domingo-82
MEXICO	Sonora	14.11.1984	20.06.1985	60			3	-	Sarututo 77
PAKISTAN	Chakwal	13.10.1984	16.04.1985	14	27		-	-	C-235
PAKISTAN	Faisalabad-1	06.11.1984	25.04.1985	25	50		2	B.H.C.,Dimecron	PB.1.
PAKISTAN	Faisalabad-2	04.11.1984	15.04.1985	-			1	-	-
PAKISTAN	Islamabad	18.10.1984	05.1985	-			-	-	-
PERU	Paijan	10.05.1985	20.11.1985	-			2	EnduthionN,Citowett,Ripend	Criollo
POLAND	Pulawy	18.04.1985	NA		110	180	-	Tribunil,Dithane,Cynkolox	P.sativum L.hawil
SAUDI ARABIA	Riyad	33.10.1984		74	112		13	Delabone,Lancex.Novakrone	Local
SPAIN	Alcala de-Henares	26.12.1984	13.07.1985	24	72		-	-	1472
SPAIN	Cordoba	18.12.1984	25.06.1985	-			1	-	Trompo
SPAIN	Sevilla	17.12.1984	16.07.1985				-	-	Trompo
SUDAN	Hudeiba	18.11.1984	03.1985	43			7		Geladi
SYRIA	Izra'a	04.12.1984	05.06.1985	NA			NA	NA	FLIP 82-225
SYRIA	Tel Hadya	06.12.1985	10.06.1985						ILC 1929
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	Bouficha	21.12.1984	11.06.1985		100		NA	Decis	ICARDA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Ankara	01.11.1984	22.07.1985	40	60		1	-	65 C 830
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA

NA = not available.

Table 3.5.2. Time to flowering of entries at different locations in CISN-W during 1984/85.

ENTRY NAME	PEDIGREE	ALGERIA Setif	CYPRUS Athalassa	EGYPT Shandweel	ETHIOPIA Debre-Zeit	GREECE Larissa	IRAN Karaj
FLIP 82-208C	X 79 TH 49 'ILC 591XILC 195'	135	125	86	70	158	85
FLIP 82-243C	X 79 TH219 ' ILC 201XILC3279'	138	121	89	91	155	90
FLIP 82-259C	X 79 TH151 'ILC 72XILC 897'	133	123	86	77	157	99
FLIP 83- 1C	X 81 TH 9 'ILC 480XILC 202'	136	119	84	83	154	91
FLIP 83- 2C	X 81 TH 15 'ILC 480XILC2956'	135	120	87	79	153	86
FLIP 83- 5C	X 81 TH 16 'ILC 480XILC3279'	136	119	84	59	156	97
FLIP 83- 6C	X 80 TH264-2TH-1T'(ILC 480XILC72)XILC263'	136	120	83	63	156	89
FLIP 83- 7C	X 80 TH264-32TH-1T'(ILC480XILC72)XILC263'	136	123	88	84	156	108
FLIP 83- 12C	X 80 TH176-BTH'ILC72XILC215'	136	122	85	76	156	90
FLIP 83- 13C	X 80 TH176-BTH'ILC72XILC215'	137	124	86	76	156	88
FLIP 83- 14C	X 80 TH176-BTH'ILC72XILC215'	135	117	84	70	153	85
FLIP 83- 15C	X 80 TH177-BTH'ILC195XILC482'	133	117	81	58	154	91
FLIP 83- 16C	X 80 TH181-BTH'ILC3279XILC1108'	133	118	90	80	157	85
FLIP 83- 17C	X 80 TH181-BTH'ILC3279XILC1108'	133	122	89	83	156	96
FLIP 83- 19C	X 80 TH264-BTH'(ILC480XILC72)XILC263	132	119	89	78	155	93
FLIP 83- 22C	X 80 TH177-BTH'ILC195 X ILC482'	136	118	84	73	154	88
FLIP 83- 23C	X 79 TH219 'ILC 201XILC3279'	137	121	82	58	155	92
FLIP 83- 24C	X 79 TH219 'ILC 201XILC3279'	135	117	83	54	153	85
FLIP 83- 27C	X 79 TH 1 'ILC 118XILC 183'	137	119	82	-	154	91
FLIP 83- 28C	X 79 TH101 'ILC 523XILC 183'	132	116	85	80	153	96
FLIP 83- 31C	X 79 TH123 'ILC1929XILC 200'	137	118	85	84	154	99
FLIP 83- 35C	X 79 TH158 'ILC 202XILC 893'	134	121	80	62	154	99
FLIP 83- 45C	X 80 TH176-BTH 'ILC 72XILC 215'	136	122	84	77	154	90
FLIP 83- 46C	X 80 TH176-BTH 'ILC 72XILC 215'	136	116	85	59	153	85
FLIP 83- 47C	X 80 TH176-BTH 'ILC 72XILC 215'	135	123	85	81	156	90
FLIP 83- 48C	X 80 TH176-BTH 'ILC 72XILC 215'	136	120	91	82	154	86
FLIP 83- 49C	X 80 TH181-BTH 'ILC3279XILC1108'	135	123	87	84	154	96
FLIP 83- 50C	X 80 TH264-BTH'(ILC480XILC72)XILC263'	136	123	87	84	156	95
FLIP 83- 60C	X 80 TH176-BTH 'ILC 72XILC 215'	136	118	79	59	154	96
FLIP 83- 71C	X 80 TH176-BTH 'ILC 72XILC 215'	135	121	89	79	157	86
FLIP 83- 72C	X 80 TH176-BTH 'ILC 72XILC 215'	133	120	88	81	156	96
FLIP 83-73C	X 80 TH177-BTH 'ILC 195XILC 482'	136	116	84	63	156	91
FLIP 83-76C	X 80 TH176-BTH 'ILC 72XILC 215'	135	117	85	64	158	93
FLIP 83-97C	X 80 TH176 'ILC 72XILC 215	135	122	87	63	156	96
FLIP 83- 98C	X 80 TH176 'ILC 72XILC 215'	135	122	86	81	155	90
FLIP 83-100C	X 80 TH264 '(ILC480XILC72)XILC263'	136	121	87	81	156	89
ILC 482		136	119	79	59	148	91
ILC 3279		135	123	89	88	156	96
LOCAL CHECK		138	116	81	48	154	91
LOCATION MEAN		135	120	85	73	155	92
C.V. %		1.50	0.90	1.60	4.70	0.20	5.30
L.S.D AT 5% FOR:							
CHECKS		4.70	2.60	3.20	7.62	0.90	11.10
CHECKS VS TEST ENTRIES		7.70	4.20	5.30	12.46	1.50	18.20
TEST ENTRIES IN THE SAME BLOCK		8.10	4.50	5.70	13.21	1.60	19.30
TEST ENTRIES IN DIFFERENT BLOCKS		9.40	5.20	6.50	15.25	1.80	22.30
S.E. FOR:							
CHECKS		1.60	0.90	1.10	2.70	0.30	4.02
CHECKS VS TEST ENTRIES		2.70	1.50	1.90	4.40	0.50	6.50
TEST ENTRIES IN THE SAME BLOCK		2.90	1.60	2.05	4.70	0.50	6.90
TEST ENTRIES IN DIFFERENT BLOCKS		3.30	1.80	2.30	5.40	0.60	8.04

Cont'd. ...

Table 3.5.2. Cont'd. ...

ENTRY NAME	ITALY	JORDAN	LEBANON		LIBYA	MEXICO			PAKISTAN	
	Basilicata	Marow	Beqa'a	Terbol	Tripoli	Culiacan	Carretera	Sonora	Islamabad	Faisalabad-1
FLIP 82-208C	120	145	129	151	121	67	94	91	145	11'
FLIP 82-243C	120	149	128	154	119	70	95	95	141	10
FLIP 82-259C	120	149	128	148	126	67	91	94	131	106
FLIP 83- 1C	106	152	126	150	121	72	94	91	148	113
FLIP 83- 2C	106	149	129	147	124	66	90	91	137	113
FLIP 83- 5C	120	146	128	148	122	66	92	92	129	99
FLIP 83- 6C	120	151	124	148	125	66	90	93	140	113
FLIP 83- 7C	120	151	128	154	130	70	90	95	141	-
FLIP 83- 12C	120	145	128	148	124	69	94	94	137	109
FLIP 83- 13C	120	147	128	150	126	73	92	94	137	113
FLIP 83- 14C	106	146	126	145	120	66	93	86	131	110
FLIP 83- 15C	106	149	126	148	120	66	85	86	129	108
FLIP 83- 16C	120	147	129	153	129	73	92	53	145	117
FLIP 83- 17C	120	152	129	148	130	85	92	93	154	120
FLIP 83- 19C	120	145	129	154	125	68	92	98	145	110
FLIP 83- 22C	106	147	127	153	118	67	89	93	146	113
FLIP 83- 23C	106	148	121	146	119	63	82	89	125	101
FLIP 83- 24C	106	150	123	145	123	64	88	86	131	101
FLIP 83- 27C	106	151	127	146	122	71	93	93	140	113
FLIP 83- 28C	106	144	127	147	122	68	93	86	137	103
FLIP 83- 31C	120	145	124	146	120	69	87	89	125	109
FLIP 83- 35C	106	150	126	146	126	68	87	88	140	108
FLIP 83- 45C	120	156	128	148	122	67	86	92	141	103
FLIP 83- 46C	120	143	126	147	124	70	87	86	137	110
FLIP 83- 47C	120	149	128	148	126	76	89	92	137	113
FLIP 83- 48C	120	144	127	147	129	78	90	93	140	110
FLIP 83- 49C	120	144	129	149	122	69	95	94	137	110
FLIP 83- 50C	120	145	126	150	127	71	92	94	131	113
FLIP 83- 60C	106	151	126	146	122	67	89	88	140	97
FLIP 83- 71C	120	150	129	149	124	67	92	93	137	117
FLIP 83- 72C	120	147	129	150	127	80	88	93	154	116
FLIP 83- 73C	106	150	129	156	121	71	87	95	140	108
FLIP 83- 76C	120	147	129	147	125	67	92	94	145	110
FLIP 83- 97C	120	152	129	150	128	71	93	93	162	120
FLIP 83- 98C	120	151	128	150	125	68	89	92	132	103
FLIP 83-100C	120	153	122	148	125	68	94	91	140	108
ILC 482	106	147	122	144	116	63	85	87	123	100
ILC 3279	120	151	129	154	125	67	95	93	142	117
LOCAL CHECK	120	150	122	148	115	39	62	57	127	103
LOCATION MEAM	115	148	127	148	123	68	89	89	138	109
C.V. %	0.00	1.70	0.40	0.70	2.30	2.70	0.70	0.30	4.30	5.10
L.S.D AT 5% FOR:										
CHECKS	0.00	5.90	1.30	2.60	6.60	4.20	1.50	0.70	13.50	12.50
CHECKS VS TEST ENTRIES	0.00	9.60	2.10	4.20	10.70	6.90	2.40	1.20	22.20	20.40
TEST ENTRIES IN THE SAME BLOCK	0.00	10.20	2.20	4.50	11.40	7.30	2.60	1.30	23.50	21.70
TEST ENTRIES IN DIFFERENT BLOCKS	0.00	11.80	2.60	5.20	13.20	8.40	3.02	1.50	27.10	25.00
S.E.FOR:										
CHECKS	0.00	2.10	0.40	0.90	2.30	1.50	0.50	0.20	4.80	4.50
CHECKS VS TEST ENTRIES	0.00	3.40	0.70	1.50	3.80	2.40	0.80	0.40	8.00	7.30
TEST ENTRIES IN THE SAME BLOCK	0.00	3.60	0.80	1.60	4.10	2.60	0.90	0.40	8.40	7.80
TEST ENTRIES IN DIFFERENT BLOCKS	0.00	4.20	0.90	1.80	4.70	3.05	1.08	0.50	9.70	9.04

Cont'd. ...

Table 3.5.2. Cont'd. ...

ENTRY NAME	PAKISTAN Chakwal	PERU Paijan	POLAND Pulawy	S. ARABIA Riyad	SPAIN Sevilla	SPAIN Alcala de-Henares	SYRIA Izra'a	SYRIA Tel Hadya	TURKEY Ankara	Overall Mean
FLIP 82-208C	126	81	75	74	110	141	139	142	203	116
FLIP 82-243C	127	77	76	85	150	141	136	136	207	119
FLIP 82-259C	130	75	77	70	148	146	142	136	207	118
FLIP 83- 1C	128	78	74	78	112	140	138	138	205	117
FLIP 83- 2C	127	77	74	82	110	138	140	133	204	115
FLIP 83- 5C	131	77	75	70	150	136	134	134	205	116
FLIP 83- 6C	127	70	76	82	110	137	139	136	201	115
FLIP 83- 7C	123	80	78	80	155	142	134	144	202	120
FLIP 83- 12C	128	71	76	70	152	136	137	137	207	117
FLIP 83- 13C	128	80	77	80	152	139	136	134	207	119
FLIP 83- 14C	127	66	72	75	108	134	133	140	204	113
FLIP 83- 15C	123	64	74	75	107	139	138	144	207	113
FLIP 83- 16C	128	83	76	88	115	140	138	139	200	117
FLIP 83- 17C	126	82	76	82	119	140	140	143	207	120
FLIP 83- 19C	128	84	74	95	114	139	138	134	202	118
FLIP 83- 22C	129	72	76	80	107	139	137	135	201	115
FLIP 83- 23C	124	60	73	70	144	138	136	133	205	113
FLIP 83- 24C	124	5	68	72	111	139	136	134	204	109
FLIP 83- 27C	130	70	76	71	105	140	136	135	205	116
FLIP 83- 28C	131	83	72	88	110	137	134	134	204	115
FLIP 83- 31C	125	71	76	73	146	139	135	134	203	116
FLIP 83- 35C	126	67	69	82	107	138	136	139	201	114
FLIP 83- 45C	133	61	76	90	150	135	136	136	205	117
FLIP 83- 46C	128	79	76	108	112	141	137	132	201	115
FLIP 83- 47C	133	71	76	95	153	144	136	135	206	119
FLIP 83- 48C	129	86	76	103	113	144	137	134	204	118
FLIP 83- 49C	130	86	76	78	115	141	135	134	203	117
FLIP 83- 50C	128	80	76	75	150	139	134	134	206	118
FLIP 83- 60C	127	67	69	74	105	137	134	135	205	113
FLIP 83- 71C	133	84	76	80	113	138	137	134	205	117
FLIP 83- 72C	128	82	76	113	109	144	137	136	204	120
FLIP 83- 73C	126	67	75	85	105	139	137	137	206	115
FLIP 83- 76C	133	79	75	95	112	141	138	132	199	117
FLIP 83- 97C	130	78	77	82	112	143	139	137	200	119
FLIP 83- 98C	131	70	76	75	148	143	133	135	206	117
FLIP 83-100C	132	67	76	80	107	142	137	139	206	117
ILC 482	118	54	68	63	38	136	133	136	201	106
ILC 3279	131	73	76	81	125	141	138	140	198	119
LOCAL CHECK	125	79	64	72	41	139	136	139	201	
LOCATION MEAN	127	72	74	81	119	139	136	136	203	
C.V. %	1.60	3.80	0.55	7.20	55.70	0.60	1.90	1.70	0.30	
L.S.D AT 5% FOR:										
CHECKS	4.40	6.30	0.92	13.20	142.30	1.90	6.10	5.40	1.70	
CHECKS VS TEST ENTRIES	7.80	10.40	1.51	21.60	232.50	3.20	10.09	8.80	2.80	
TEST ENTRIES IN THE SAME BLOCK	8.20	11.06	1.60	22.90	246.60	3.40	10.70	9.40	3.06	
TEST ENTRIES IN DIFFERENT BLOCKS	9.50	12.70	1.85	26.50	284.70	3.90	12.30	10.80	3.50	
S.E. FOR:										
CHECKS	1.70	2.30	0.33	4.70	51.20	0.70	2.20	1.90	0.60	
CHECKS VS TEST ENTRIES	2.80	3.70	0.54	7.80	83.70	1.10	3.60	3.20	1.04	
TEST ENTRIES IN THE SAME BLOCK	2.90	3.90	0.57	8.20	88.80	1.20	3.80	3.30	1.10	
TEST ENTRIES IN DIFFERENT BLOCKS	3.40	4.60	0.66	9.50	102.50	1.40	4.40	3.90	1.20	

Table 3.5.3. Time to maturity (days) of entries at different locations in CISN-W during 1984/85.

ENTRY NAME	EGYPT	ETHIOPIA	GREECE	IRAN	JORDAN	LEBANON	LIBYA	MEXICO		
	Shandweel	Debre Zeit	Larissa	Karaj	Marow	Terbol	Tripoli	Culiacan	Carretera	Sonora
FLIP 82-208C	136	140	197	152	191	199	184	114	126	152
FLIP 82-243C	139	147	199	151	193	196	186	119	128	151
FLIP 82-259C	142	137	199	151	193	196	185	116	127	151
FLIP 83- 1C	187	153	198	157	191	199	185	158	131	152
FLIP 83- 2C	136	135	198	155	192	195	183	115	119	152
FLIP 83- 5C	136	141	198	151	191	196	185	113	127	151
FLIP 83- 6C	187	132	198	138	191	199	184	156	128	152
FLIP 83- 7C	137	139	199	151	191	198	186	116	127	151
FLIP 83- 12C	133	145	199	151	190	194	184	115	128	151
FLIP 83- 13C	-	139	199	145	190	196	185	116	128	151
FLIP 83- 14C	133	145	196	149	195	195	184	119	123	152
FLIP 83- 15C	184	131	197	152	192	199	184	156	118	152
FLIP 83- 16C	135	147	198	155	192	197	185	120	127	142
FLIP 83- 17C	184	153	197	152	191	199	185	159	127	152
FLIP 83- 19C	140	137	198	149	191	199	183	114	125	152
FLIP 83- 22C	185	143	198	138	191	199	183	-	127	152
FLIP 83- 23C	135	129	198	156	189	196	185	112	118	151
FLIP 83- 24C	137	122	197	143	194	195	182	115	126	152
FLIP 83- 27C	184	-	198	152	191	197	185	159	131	152
FLIP 83- 28C	138	144	197	152	192	199	184	119	126	152
FLIP 83- 31C	141	147	197	151	189	196	185	114	128	151
FLIP 83- 35C	180	145	198	152	190	199	184	156	127	152
FLIP 83- 45C	135	133	198	151	193	196	185	115	120	151
FLIP 83- 46C	134	145	198	152	191	199	185	118	126	152
FLIP 83- 47C	141	139	199	156	193	196	184	117	128	151
FLIP 83- 48C	143	142	198	155	195	199	183	118	122	152
FLIP 83- 49C	138	144	198	143	186	197	184	114	128	152
FLIP 83- 50C	134	135	199	151	193	196	184	116	128	151
FLIP 83- 60C	188	135	198	152	191	199	184	156	126	152
FLIP 83- 71C	140	143	198	155	192	199	184	121	127	152
FLIP 83- 72C	188	146	197	138	190	199	184	-	126	152
FLIP 83- 73C	187	149	196	152	191	199	185	156	127	152
FLIP 83- 76C	139	142	198	149	191	197	184	119	126	152
FLIP 83- 97C	192	141	198	152	191	199	183	159	127	152
FLIP 83- 98C	140	134	198	156	193	198	186	117	127	151
FLIP 83-100C	191	151	198	152	192	199	183	157	128	152
ILC 482	149	128	198	150	188	191	184	82	119	152
ILC 3279	158	144	198	149	192	198	184	133	130	152
LOCAL CHECK	99	103	198	149	193	197	185	127	107	142
LOCATION MEAN	153	139	198	150	191	197	184	127	125	151
C.V. %	33.80	2.50	0.30	4.03	1.10	0.80	0.40	33.70	0.80	0.70
L.S.D AT 5% FOR:										
CHECKS	112.90	7.66	1.50	13.70	4.90	3.70	1.80	92.90	2.30	0.12
CHECK VS TEST ENTRIES	184.50	12.52	2.40	22.50	8.10	6.04	3.02	151.70	3.90	0.01
TEST ENTRIES IN THE SAME BLOCK	195.60	13.27	2.60	23.80	8.60	6.40	3.20	160.90	4.10	0.01
TEST ENTRIES IN DIFFERENT BLOCKS	225.90	15.33	3.02	27.50	9.90	7.40	3.70	185.80	4.70	0.01
S.E. FOR:										
CHECKS	40.60	2.70	0.50	4.90	1.70	1.30	0.60	33.40	0.80	0.70
CHECK VS TEST ENTRIES	66.40	4.50	0.80	8.10	2.90	2.10	1.08	54.60	1.40	0.90
TEST ENTRIES IN THE SHAE BLOCK	70.40	4.70	0.90	8.60	3.10	2.30	1.10	57.90	1.40	0.90
TEST ENTRIES IN DIFFERENT BLOCKS	81.30	5.50	1.08	9.90	3.50	2.60	1.30	66.90	1.70	0.10

Cont'd. ...

Table 3.5.3. Cont'd. ...

ENTRY NAME	PAKISTAN Chakwal	PERU Paijan	S. ARABIA Riyad	SPAIN Alcala de-Henares	SYRIA Izra'a	SYRIA Tel Hadya	TURKEY Ankara	Overall Mean
FLIP 82-208C	183	153	164	185	180	186	265	171
FLIP 82-243C	183	170	157	189	176	177	267	172
FLIP 82-259C	183	150	150	191	178	181	269	170
FLIP 83- 1C	182	150	151	179	175	177	265	175
FLIP 83- 2C	183	148	157	186	179	179	265	169
FLIP 83- 5C	183	145	148	182	174	182	264	168
FLIP 83- 6C	182	160	155	184	181	184	260	174
FLIP 83- 7C	183	145	158	190	178	179	267	170
FLIP 83- 12C	183	145	148	181	174	183	268	168
FLIP 83- 13C	183	140	153	187	177	182	268	171
FLIP 83- 14C	183	153	154	181	175	186	260	169
FLIP 83- 15C	182	150	148	188	177	183	265	174
FLIP 83- 16C	183	158	162	189	174	187	265	171
FLIP 83- 17C	182	140	154	185	177	181	265	175
FLIP 83- 19C	183	138	164	192	179	179	265	169
FLIP 83- 22C	182	153	155	188	177	177	265	175
FLIP 83- 23C	183	150	148	187	174	184	266	168
FLIP 83- 24C	183	138	162	187	175	179	265	167
FLIP 83- 27C	182	140	154	184	175	174	260	175
FLIP 83- 28C	183	163	160	188	175	182	265	171
FLIP 83- 31C	183	155	156	182	173	181	266	170
FLIP 83- 35C	182	150	145	187	174	177	265	174
FLIP 83- 45C	183	155	159	180	174	177	266	168
FLIP 83- 46C	183	158	158	193	179	183	265	171
FLIP 83- 47C	183	155	163	188	180	180	268	171
FLIP 83- 48C	183	168	160	189	179	182	265	172
FLIP 83- 49C	183	143	154	191	183	186	265	169
FLIP 83- 50C	183	145	156	184	176	181	269	169
FLIP 83- 60C	182	140	151	179	174	177	260	173
FLIP 83- 71C	183	153	152	191	177	181	268	171
FLIP 83- 72C	182	155	146	187	176	177	265	175
FLIP 83- 73C	182	145	155	184	176	179	260	175
FLIP 83- 76C	183	158	162	186	177	179	265	171
FLIP 83- 97C	182	145	154	191	179	183	265	176
FLIP 83- 98C	183	165	163	189	176	181	269	172
FLIP 83-100C	182	155	145	183	177	181	260	175
ILC 482	173	143	146	184	173	184	263	165
ILC 3279	183	170	156	188	177	180	266	174
LOCAL CHECK	183	143	157	188	182	186	260	
LOCATION	182	151	154	186	177	181	264	
C.V. %	0.01	2.90	4.20	0.90	0.60	0.60	0.50	
L.S.D AT 5% FOR:								
CHECKS	0.07	9.90	14.90	4.10	2.50	2.70	3.30	
CHECKS VS TEST ENTRIES	0.10	16.30	24.40	6.70	4.10	4.50	5.40	
TEST ENTRIES IN THE SAME BLOCK	0.10	17.30	25.90	7.10	4.40	4.70	5.70	
TEST ENTRIES IN DIFFERENT BLOCKS	0.10	19.90	29.90	8.20	5.10	5.40	6.60	
S.E.FOR:								
CHECKS	0.02	3.50	5.30	1.40	0.90	0.90	1.20	
CHECKS VS TEST ENTRIES	0.04	5.80	8.80	2.40	1.50	1.60	1.90	
TEST ENTRIES IN THE SAME BLOCK	0.04	6.20	9.30	2.50	1.50	1.70	2.08	
TEST ENTRIES IN DIFFERENT BLOCKS	0.05	7.10	10.70	2.90	1.80	1.90	2.40	

Table 3.5.4. Plant height (cm) of entries at different locations in CISN-W during 1984/85.

ENTRY NAME	ALGERIA	CYPRUS	EGYPT	ETHIOPIA	GREECE	IRAN	ITALY		JORDAN
	Setif	Athalassa	Shandweel	Debre Zeit	Larissa	Karaj	Basilicata	Rome	Marow
FLIP 82-208C	36	35	84	54	49	27	51	53	43
FLIP 82-243C	34	46	97	65	49	33	57	50	26
FLIP 82-259C	36	36	102	46	54	32	67	33	34
FLIP 83- 1C	35	43	107	54	46	41	62	52	43
FLIP 83- 2C	36	35	84	57	39	25	61	39	35
FLIP 83- 5C	36	36	72	61	44	24	57	43	33
FLIP 83- 6C	34	33	137	75	51	35	52	47	26
FLIP 83- 7C	32	46	107	64	54	35	62	54	24
FLIP 83- 12C	38	26	97	64	44	35	57	59	42
FLIP 83- 13C	35	21	-	43	39	26	47	44	21
FLIP 83- 14C	38	35	74	51	49	26	71	39	51
FLIP 83- 15C	37	43	97	49	46	26	52	42	39
FLIP 83- 16C	36	40	94	55	44	33	61	55	48
FLIP 83- 17C	37	43	112	57	46	30	62	59	50
FLIP 83- 19C	36	40	74	53	49	30	51	49	48
FLIP 83- 22C	33	28	127	61	46	28	57	46	28
FLIP 83- 23C	35	36	87	51	44	22	62	51	38
FLIP 83- 24C	37	40	89	54	39	30	56	47	45
FLIP 83- 27C	36	35	107	48	46	28	62	49	39
FLIP 83- 28C	37	35	74	55	44	33	61	44	43
FLIP 83- 31C	36	41	72	50	49	32	47	41	24
FLIP 83- 35C	38	33	107	74	51	19	57	44	51
FLIP 83- 45C	39	31	92	57	49	35	52	53	22
FLIP 83- 46C	38	40	69	54	49	33	56	50	26
FLIP 83- 47C	36	36	77	49	49	25	57	53	33
FLIP 83- 48C	33	35	79	50	49	24	56	39	36
FLIP 83- 49C	33	45	64	54	44	22	51	46	56
FLIP 83- 50C	35	31	77	56	49	36	57	44	41
FLIP 83- 60C	36	38	92	50	41	27	52	44	29
FLIP 83- 71C	38	40	69	60	44	23	61	42	46
FLIP 83- 72C	36	43	102	57	41	24	52	44	37
FLIP 83- 73C	38	38	107	49	51	25	52	56	44
FLIP 83- 76C	36	40	94	45	54	38	62	59	46
FLIP 83- 97C	36	38	117	63	51	27	52	42	33
FLIP 83- 98C	37	31	82	48	44	33	61	57	39
FLIP 83-100C	36	33	127	54	46	30	62	45	27
ILC 482	38	30	73	39	38	22	57	41	41
ILC 3279	35	43	121	57	51	45	65	56	46
LOCAL CHECK	36	36	58	37	43	27	50	45	47
LOCATION MEAN	36	37	92	54	46	29	57	47	37
C.V. %	6.80	11.00	34.20	13.60	7.10	12.80	9.87	9.20	23.10
L.S.D AT 5% FOR:									
CHECKS	5.60	9.20	69.40	16.52	7.50	8.70	40.03	10.05	20.50
CHECKS VS TEST ENTRIES	9.20	15.10	113.40	26.98	12.30	14.20	65.39	16.40	33.50
TEST ENTRIES IN THE SAME BLOCK	9.80	16.02	120.30	28.62	13.08	15.08	69.30	17.40	35.50
TEST ENTRIES IN DIFFERENT BLOCKS	11.30	18.50	138.90	33.04	15.10	17.40	80.07	20.10	41.08
S.E.FOR:									
CHECKS	2.04	3.30	25.03	5.90	2.70	3.10	4.65	3.60	7.40
CHECKS VS TEST ENTRIES	3.30	5.40	40.80	9.70	4.40	5.10	7.59	5.90	12.08
TEST ENTRIES IN THE SAME BLOCK	3.50	5.70	43.30	10.30	4.70	5.40	8.05	6.20	12.80
TEST ENTRIES IN DIFFERENT BLOCKS	4.09	6.60	50.06	11.90	5.40	6.20	9.30	7.20	14.80

Cont'd. ...

Table 3.5.4. Cont'd. ...

ENTRY NAME	LEBANON		LIBYA	MEXICO			PAKISTAN		PERU
	Beqa'a	Terbol	Tripoli	Culiacan	Carretera	Sonora	Faisalabad-1	Chakwal	Paijan
FLIP 82-208C	40	46	57	111	88	65	57	75	92
FLIP 82-243C	32	48	58	79	72	70	57	52	100
FLIP 82-259C	27	56	58	75	69	50	62	51	72
FLIP 83- 1C	42	63	74	101	78	73	60	55	81
FLIP 83- 2C	32	53	57	73	66	45	59	66	62
FLIP 83- 5C	22	52	63	72	72	70	76	50	79
FLIP 83- 6C	42	43	54	92	78	78	90	66	87
FLIP 83- 7C	39	49	53	83	73	70	66	51	90
FLIP 83- 12C	35	42	73	77	70	70	41	63	90
FLIP 83- 13C	32	46	63	61	67	55	40	48	58
FLIP 83- 14C	30	49	82	76	72	55	70	61	83
FLIP 83- 15C	37	57	64	85	83	73	78	57	69
FLIP 83- 16C	40	58	42	84	76	45	60	64	84
FLIP 83- 17C	37	47	74	93	76	83	94	56	79
FLIP 83- 19C	35	52	57	85	77	50	39	64	65
FLIP 83- 22C	37	42	44	71	74	73	73	55	72
FLIP 83- 23C	27	46	68	81	74	80	64	63	93
FLIP 83- 24C	35	47	74	91	74	75	65	66	77
FLIP 83- 27C	42	55	69	100	77	48	56	47	85
FLIP 83- 28C	30	48	57	84	72	55	41	51	70
FLIP 83- 31C	32	50	43	79	60	50	47	70	75
FLIP 83- 35C	37	50	59	97	76	83	91	65	85
FLIP 83- 45C	37	51	58	81	74	75	71	64	88
FLIP 83- 46C	35	51	50	64	68	50	47	75	69
FLIP 83- 47C	32	47	48	70	68	65	68	63	78
FLIP 83- 48C	35	49	47	81	63	60	49	67	70
FLIP 83- 49C	35	57	37	87	68	55	47	64	84
FLIP 83- 50C	32	51	68	74	74	70	52	52	71
FLIP 83- 60C	37	36	54	78	59	48	51	46	64
FLIP 83- 71C	30	52	52	82	69	65	58	66	79
FLIP 83- 72C	27	58	54	69	65	58	66	70	71
FLIP 83- 73C	42	56	74	78	76	53	66	58	85
FLIP 83- 76C	40	52	47	79	68	55	48	62	94
FLIP 83- 79C	32	58	64	96	65	78	82	59	84
FLIP 83- 98C	42	46	46	65	66	65	74	54	85
FLIP 83-100C	32	49	59	89	61	78	63	36	83
ILC 482	33	53	51	74	61	56	55	62	52
ILC 3279	38	58	66	96	85	85	77	49	110
LOCAL CHECK	30	52	57	73	63	50	46	43	67
LOCATION MEAN	34	51	58	82	71	64	62	58	79
C.V. %	13.90	16.20	11.60	19.50	0.00	19.20	26.60	9.70	3.20
L.S.D. AT 5% FOR:									
CHECKS	11.01	18.90	15.50	36.40	0.00	28.01	37.50	12.70	5.70
CHECKS VS TEST ENTRIES	17.90	30.90	25.30	59.50	0.00	45.70	61.20	20.80	9.30
TEST ENTRIES IN THE SAME BLOCK	19.07	32.70	26.80	63.10	0.00	48.50	64.90	22.10	9.90
TEST ENTRIES IN DIFFERENT BLOCKS	22.02	37.80	31.05	72.90	0.00	56.02	75.02	25.50	11.50
S.E.FOR:									
CHECKS	3.90	6.80	5.50	13.10	0.00	10.09	13.50	4.60	2.07
CHECKS VS TEST ENTRIES	6.40	11.10	9.10	21.40	0.00	16.40	22.07	7.50	3.30
TEST ENTRIES IN THE SAME BLOCK	6.80	11.80	9.60	22.70	0.00	17.40	23.40	7.90	3.50
TEST ENTRIES IN DIFFERENT BLOCKS	7.90	13.60	11.10	26.20	0.00	20.10	27.02	9.20	4.10

Cont'd. ...

Table 3.5.4. Cont'd. ...

ENTRY NAME	POLAND	S.ARABIA	SPAIN	SYRIA		TURKEY	Overall Mean
	Pulawy	Riyad	Sevilla	Izra'a	Tel-Hadya	Ankara	
FLIP 82-208C	98	51	81	42	29	33	58
FLIP 82-243C	110	68	67	47	34	27	57
FLIP 82-259C	110	54	62	45	34	24	53
FLIP 83- 1C	93	57	76	40	33	32	60
FLIP 83- 2C	113	43	66	40	27	24	51
FLIP 83- 5C	110	83	62	40	25	27	54
FLIP 83- 6C	88	53	76	34	21	30	59
FLIP 83- 7C	110	56	72	45	37	27	58
FLIP 83- 12C	110	68	67	49	29	24	57
FLIP 83- 13C	90	50	57	37	30	25	44
FLIP 83- 14C	100	47	66	39	25	27	54
FLIP 83- 15C	98	64	66	35	26	32	56
FLIP 83- 16C	95	52	66	43	29	29	55
FLIP 83- 17C	93	62	71	43	26	33	60
FLIP 83- 19C	103	47	61	39	25	31	52
FLIP 83- 22C	93	42	71	41	30	31	54
FLIP 83- 23C	110	43	67	54	24	24	56
FLIP 83- 24C	100	55	81	44	37	21	57
FLIP 83- 27C	101	43	66	47	32	29	56
FLIP 83- 28C	103	41	66	39	24	29	51
FLIP 83- 31C	110	48	67	45	25	23	50
FLIP 83- 35C	96	51	71	43	32	35	60
FLIP 83- 45C	90	52	72	48	24	26	55
FLIP 83- 46C	105	49	66	41	29	32	51
FLIP 83- 47C	115	80	77	49	32	23	55
FLIP 83- 48C	108	58	61	38	29	28	51
FLIP 83- 49C	95	58	76	39	25	30	53
FLIP 83-50C	110	62	67	46	29	36	55
FLIP 83- 60C	108	62	61	34	24	26	49
FLIP 83-71C	98	48	71	38	31	23	53
FLIP 83- 72C	98	54	71	42	31	31	54
FLIP 83-73C	103	44	76	46	30	34	57
FLIP 83-76C	110	49	71	45	31	35	56
FLIP 83-97C	98	55	71	40	33	30	58
FLIP 83- 98C	110	68	67	49	33	26	55
FLIP 83-100C	103	44	76	46	22	32	55
ILC 482	111	54	61	34	20	27	49
ILC 3279	110	65	86	47	38	41	65
LOCAL CHECK	50	46	-	41	-	26	
LOCATION MEAN	100	55	69	42	29	29	
C.V. %	2.29	8.10	2.50	6.90	3.30	3.40	
L.S.D AT 5% FOR:							
CHECKS	5.23	10.10	3.70	6.70	2.06	2.30	
CHECK VS TEST ENTRIES	8.54	16.50	6.10	11.06	3.30	3.70	
TEST ENTRIES IN THE SAME BLOCK	9.06	17.50	6.50	11.70	3.50	3.90	
TEST ENTRIES IN DIFFERENT BLOCKS	10.46	20.20	7.50	13.50	4.10	4.60	
S.E.FOR:							
CHECKS	1.88	3.60	1.30	2.40	0.70	0.80	
CHECKS VS TEST ENTRIES	3.07	5.90	2.20	3.90	1.20	1.30	
TEST ENTRIES IN THE SAME BLOCK	3.26	6.30	2.30	4.20	1.20	1.40	
TEST ENTRIES IN DIFFERENT BLOCKS	3.77	7.20	2.70	4.80	1.40	1.60	

Table 3.5.5. 100-Seed weight (g) of entries at different locations in CISN-W during 1984/85.

ENTRY NAME	EGYPT	ETHIOPIA	IRAN	ITALY		LEBANON	
	Shandweel	Debre Zeit	Karaj	Basilicata	Rome	Beqa'a	Terbol
FLIP 82-208C	23	7	28	34	39	36	29
FLIP 82-243C	18	25	26	22	26	29	29
FLIP 82-259C	24	28	27	30	32	36	33
FLIP 83- 1C	31	41	28	27	32	33	31
FLIP 83- 2C	20	27	33	29	32	25	26
FLIP 83- 5C	22	37	28	31	31	34	30
FLIP 83- 6C	30	42	26	29	31	35	32
FLIP 83- 7C	32	37	36	38	41	40	44
FLIP 83- 12C	25	34	30	32	36	36	38
FLIP 83- 13C	-	38	28	30	37	37	34
FLIP 83- 14C	20	25	27	27	27	26	26
FLIP 83- 15C	34	47	32	32	28	34	34
FLIP 83- 16C	21	24	35	27	34	26	28
FLIP 83- 17C	34	46	33	30	36	36	36
FLIP 83- 19C	22	29	28	29	33	30	30
FLIP 83- 22C	30	44	28	28	27	35	33
FLIP 83- 23C	26	32	29	29	28	30	31
FLIP 83- 24C	20	24	26	27	26	25	23
FLIP 83- 27C	30	45	31	31	34	36	38
FLIP 83- 28C	20	24	26	29	30	31	31
FLIP 83- 31C	21	33	34	32	34	37	33
FLIP 83- 35C	28	45	28	30	30	34	33
FLIP 83- 45C	26	35	34	32	34	38	35
FLIP 83- 46C	21	32	29	32	38	31	31
FLIP 83- 47C	27	28	30	33	33	39	34
FLIP 83- 48C	23	31	31	33	36	32	32
FLIP 83- 49C	20	29	29	28	33	30	28
FLIP 83- 50C	23	31	27	29	30	34	32
FLIP 83- 60C	35	43	29	30	32	37	34
FLIP 83- 71C	23	28	32	31	34	32	34
FLIP 83- 72C	34	46	31	32	35	37	37
FLIP 83- 73C	30	40	28	25	27	35	33
FLIP 83- 76C	20	26	27	29	32	31	35
FLIP 83- 97C	37	49	35	33	37	39	39
FLIP 83- 98C	26	38	33	32	37	39	37
FLIP 83-100C	37	52	35	34	34	40	39
ILC 482	22	23	28	28	28	30	29
ILC 3279	23	11	28	29	30	32	31
LOCAL CHECK	18	14	30	32	40	46	41
LOCATION MEAN	25	33	30	30	33	34	33
C.V %	37.70	43.90	6.30	2.40	4.30	16.07	7.05
L.S.D AT 5% FOR:							
CHECKS	21.30	30.99	4.30	1.70	3.20	12.60	5.30
CHECKS VS TEST ENTRIES	34.80	50.63	7.09	2.80	5.30	20.60	8.70
TEST ENTRIES IN THE SAME BLOCK	36.90	53.69	7.50	2.90	5.70	21.80	9.20
TEST ENTRIES IN DIFFERENT BLOCKS	42.60	61.99	8.60	3.40	6.50	25.20	10.60
S.E.FOR:							
CHECKS	7.60	11.10	1.50	0.60	1.10	4.50	1.90
CHECKS VS TEST ENTRIES	12.50	18.20	2.50	1.00	1.90	7.40	3.10
TEST ENTRIES IN THE SAME BLOCK	13.30	19.30	2.70	1.07	2.05	7.80	3.30
TEST ENTRIES IN DIFFERENT BLOCKS	15.30	22.30	3.10	1.23	2.30	9.10	3.80

Cont'd. ...

Table 3.5.5. Cont'd. ...

ENTRY NAME	LIBYA Tripoli	MEXICO Culiacan	PERU Paijan	SPAIN Alcala de-Henares	SYRIA Tel Hadya	Overall Mean	(1) Rank
FLIP 82-208C	36	37	31	22	35	29	23
FLIP 82-243C	25	27	-	-	24	24	38
FLIP 82-259C	26	29	31	26	31	29	23
FLIP 83- 1C	28	35	29	20	28	30	14
FLIP 83- 2C	30	25	29	19	27	26	35
FLIP 83- 5C	21	32	27	27	31	30	14
FLIP 83- 6C	-	37	23	30	27	31	12
FLIP 83- 7C	-	42	27	26	36	36	1
FLIP 83- 12C	22	42	31	26	29	32	7
FLIP 83- 13C	25	34	23	27	30	30	14
FLIP 83- 14C	30	32	43	21	27	27	29
FLIP 83- 15C	33	32	33	22	31	32	7
FLIP 83- 16C	29	34	27	18	28	27	29
FLIP 83- 17C	28	36	37	-	30	35	3
FLIP 83- 19C	32	34	36	20	28	29	23
FLIP 83- 22C	-	27	35	23	28	30	14
FLIP 83- 23C	-	32	25	21	26	28	27
FLIP 83- 24C	-	33	27	19	29	25	37
FLIP 83- 27C	31	28	36	26	31	33	6
FLIP 83- 28C	-	31	27	21	29	27	29
FLIP 83- 31C	26	33	31	28	30	31	12
FLIP 83- 35C	-	32	27	24	26	30	14
FLIP 83- 45C	14	40	23	25	30	32	7
FLIP 83- 46C	37	38	28	23	32	30	14
FLIP 83- 47C	-	35	23	22	30	30	14
FLIP 83- 48C	33	32	34	24	32	30	14
FLIP 83- 49C	28	32	31	18	29	27	29
FLIP 83- 50C	19	38	27	22	27	29	23
FLIP 83- 60C	34	32	35	23	28	32	7
FLIP 83- 71C	-	34	31	22	33	30	14
FLIP 83- 72C	-	37	30	23	32	34	5
FLIP 83- 73C	29	26	27	19	27	28	27
FLIP 83- 76C	30	32	26	21	28	27	29
FLIP 83- 97C	-	40	26	22	33	35	3
FLIP 83- 98C	16	37	25	24	31	32	7
FLIP 83-100C	32	41	29	27	32	36	1
ILC 482	18	27	33	23	26	27	29
ILC 3279	-	33	28	22	27	26	35
LOCAL CHECK	24	57	30	41	24		
LOCATION MEAN	27	34	29	23	29		
C.V %	87.50	7.50	10.60	2.90	4.60		
L.S.D AT 5% FOR:							
CHECKS	37.20	6.06	7.07	1.50	3.05		
CHECKS VS TEST ENTRIES	60.70	9.90	11.50	2.50	4.90		
TEST ENTRIES IN THE SAME BLOCK	64.40	10.50	12.20	2.70	5.20		
TEST ENTRIES IN DIFFERENT BLOCKS	74.40	12.10	14.10	3.10	6.10		
S.E.FOR:							
CHECKS	13.40	2.10	2.50	0.50	1.10		
CHECKS VS TEST ENTRIES	21.80	3.50	4.10	0.90	1.70		
TEST ENTRIES IN THE SAME BLOCK	23.20	3.70	4.40	0.90	1.90		
TEST ENTRIES IN DIFFERENT BLOCKS	26.80	4.30	5.09	1.10	2.20		

(1) Tripoli was excluded from the overall mean

Table 3.5.6. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in CISN-W during 1984/85.

ENTRY NAME	ALGERIA Setif		CYPRUS Athalassa		EGYPT Shandweel		ETHIOPIA Debre Zeit		GREECE Larissa		IRAN Karaj	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-208C	802	29	152	36	1032	25	0	37	1408	26	881	36
FLIP 82-243C	913	19	1022	7	2074	1	615	24	1565	23	1269	29
FLIP 82-259C	1006	12	672	16	1699	5	621	23	2343	5	1972	14
FLIP 83- 1C	1027	10	1100	5	1060	22	694	17	-		1623	21
FLIP 83- 2C	1184	3	519	22	1282	17	702	15	1435	25	1421	24
FLIP 83- 5C	725	35	630	17	824	33	846	12	1620	20	1360	27
FLIP 83- 6C	777	31	100	38	1476	11	1257	6	-		1572	22
FLIP 83- 7C	881	21	630	17	1657	6	965	11	1620	20	1209	31
FLIP 83- 12C	725	35	472	26	1490	10	665	19	1676	17	1983	13
FLIP 83- 13C	944	16	463	27	-		1121	7	2037	9	2320	7
FLIP 83- 14C	809	25	477	24	949	30	196	33	1796	14	1884	16
FLIP 83- 15C	809	25	950	9	1476	11	663	20	-		1926	15
FLIP 83- 16C	1184	3	619	19	1449	14	159	34	1658	19	238	39
FLIP 83- 17C	840	24	308	34	1560	9	1000	10	-		972	34
FLIP 83- 19C	871	23	1311	2	1032	25	334	30	2519	3	2244	9
FLIP 83- 22C	809	25	750	14	1893	3	1032	9	-		2354	6
FLIP 83- 23C	944	16	588	21	1032	25	2090	2	1454	24	1406	25
FLIP 83- 24C	934	18	344	32	1032	25	596	25	1963	10	1266	30
FLIP 83- 27C	1059	8	600	20	643	35	1575	4	-		932	35
FLIP 83- 28C	965	15	1011	8	1449	14	515	27	1880	12	4187	1
FLIP 83- 31C	1006	12	1047	6	1907	2	659	21	2176	7	2114	11
FLIP 83- 35C	777	31	316	33	1476	11	513	28	-		360	38
FLIP 83- 45C	713	37	505	23	1074	21	1340	5	1676	17	1326	28
FLIP 83- 46C	1246	1	727	15	1240	18	327	31	2158	8	2267	8
FLIP 83- 47C	444	39	922	10	1657	6	1084	8	3259	1	2652	3
FLIP 83- 48C	1121	7	436	29	1032	25	221	32	1574	22	1375	26
FLIP 83- 49C	1152	6	1102	4	615	38	0	37	2824	2	395	37
FLIP 83-50C	881	21	463	27	1574	8	590	26	1898	11	2572	4
FLIP 83- 60C	1059	8	766	13	1060	22	1850	3	-		1463	23
FLIP 83-71C	1184	3	477	24	1449	14	159	34	1824	13	975	33
FLIP 83- 72C	746	34	366	31	851	32	669	18	-		1803	17
FLIP 83-73C	1027	10	1225	3	1893	3	807	13	-		1777	19
FLIP 83-76C	802	29	911	11	824	33	0	37	2519	3	2027	12
FLIP 83-97C	996	14	141	37	643	35	700	16	-		1789	18
FLIP 83- 98C	506	38	838	12	1157	19	802	14	2204	6	2829	2
FLIP 83-100C	809	25	16	39	643	35	369	29	-		1649	20
ILC 482	1187	2	369	30	875	31	658	22	1375	27	2181	10
ILC 3279	906	20	283	35	1055	24	102	36	1709	16	1132	32
LOCAL CHECK	770	33	1380	1	1083	20	2410	1	1777	15	2430	5
LOCATION MEAN	915		621		1246		741		1924		1676	
C.V. %	17.70		53.50		25.70		63.49		11.60		17.90	
L.S.D. AT 5% FOR:												
CHECKS	368.70		784.00		696.70		1111.53		362.00		703.10	
CHECKS VS TEST ENTRIES	602.20		1280.50		1137.90		1815.39		591.30		1148.40	
TEST ENTRIES IN THE SAME BLOCK	638.60		1358.00		1206.70		1925.22		627.10		1217.90	
TEST ENTRIES IN DIFFERENT BLOCKS	737.40		1568.10		1393.40		2223.06		724.10		1406.30	
S.E.FOR:												
CHECKS	132.80		282.40		250.90		400.40		130.40		253.30	
CHECKS VS TEST ENTRIES	216.90		461.30		409.90		653.96		213.00		413.70	
TEST ENTRIES IN THE SAME BLOCK	230.00		489.20		434.70		693.52		225.90		438.70	
TEST ENTRIES IN DIFFERENT BLOCKS	265.60		564.80		501.90		800.81		260.80		506.60	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		4		1	

Cont'd. ...

Table 3.5.6. Cont'd. ...

ENTRY NAME	ITALY				JORDAN		LEBANON				LIBYA	
	Basilicata		Rome		Marow		Beqa'a		Terbol		Tripoli	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-208C	1546	30	1161	26	779	5	865	20	4451	1	167	8
FLIP 82-243C	1777	21	1038	35	254	30	876	18	1738	36	80	19
FLIP 82-259C	2138	7	1077	32	774	7	736	28	2310	23	53	24
FLIP 83- 1C	1592	26	1444	9	272	26	1000	9	3000	7	51	25
FLIP 83- 2C	1824	18	877	39	925	1	617	37	1832	35	123	12
FLIP 83- 5C	2833	2	1200	21	814	3	666	34	2691	11	191	5
FLIP 83- 6C	1648	24	1294	15	219	31	1172	2	3507	3	0	34
FLIP 83- 7C	1861	16	1177	24	308	25	876	18	2405	21	8	32
FLIP 83- 12C	2055	10	1194	22	1	38	1022	6	1897	33	86	18
FLIP 83- 13C	1777	21	1216	19	921	2	857	21	1961	30	97	16
FLIP 83- 14C	2129	9	1583	7	525	17	846	22	1483	38	206	4
FLIP 83- 15C	2203	5	1272	16	179	33	708	30	2111	26	151	10
FLIP 83- 16C	1407	33	1077	32	792	4	782	23	2054	29	106	15
FLIP 83- 17C	1564	27	1300	14	179	33	530	39	2111	26	17	31
FLIP 83- 19C	2046	12	1372	12	632	12	751	26	2562	15	179	6
FLIP 83- 22C	1842	17	1033	36	219	31	899	16	3317	5	0	34
FLIP 83- 23C	1916	14	1077	32	374	21	749	27	2119	25	25	29
FLIP 83- 24C	1435	32	1094	29	592	13	674	33	2499	17	-	
FLIP 83- 27C	1453	31	1094	29	125	35	734	29	3381	4	167	8
FLIP 83- 28C	1657	23	1183	23	765	8	954	13	2562	15	123	12
FLIP 83- 31C	2138	7	1233	17	681	11	1028	5	2373	22	80	19
FLIP 83- 35C	1370	34	1105	28	352	24	632	36	2650	13	0	34
FLIP 83- 45C	1916	14	1150	27	0	39	971	12	1516	37	30	28
FLIP 83- 46C	1824	18	1700	3	552	16	1074	4	2435	18	234	2
FLIP 83- 47C	3027	1	1205	20	734	9	1571	1	2913	8	25	29
FLIP 83- 48C	1129	37	1355	13	459	18	890	17	2435	18	140	11
FLIP 83- 49C	2296	4	1805	2	592	13	1011	7	2784	10	179	6
FLIP 83- 50C	2472	3	1000	37	708	10	692	31	1865	34	80	19
FLIP 83- 60C	1564	27	1594	5	125	35	943	15	2682	12	73	22
FLIP 83- 71C	1101	38	961	.38	365	23	770	24	2435	18	117	14
FLIP 83- 72C	1564	27	1166	25	779	5	676	32	2619	14	0	34
FLIP 83- 73C	1648	24	1405	10	445	19	1108	3	3539	2	90	17
FLIP 83- 76C	1268	36	1633	4	592	13	763	25	911	39	290	1
FLIP 83- 79C	1925	13	1538	8	125	35	600	38	2111	26	0	34
FLIP 83- 98C	2055	10	1394	11	401	20	977	11	1929	31	58	23
FLIP 83-100C	2148	6	1227	18	272	26	1007	8	3095	6	6	33
ILC 482	1805	20	1585	6	373	22	954	13	1904	32	42	26
ILC 3279	1277	35	1081	31	262	28	653	35	2171	24	37	27
LOCAL CHECK	244	39	2011	1	262	28	994	10	2849	9	218	3
LOCATION MEAN	1821		1260		459		858		2391		93	
C.V. %	13.60		12.20		40.40		25.40		24.30		146.00	
L.S.D AT 5% FOR:												
CHECKS	524.10		367.00		394.40		498.40		1339.40		299.70	
CHECKS VS TEST ENTRIES	856.10		599.40		644.30		814.00		2187.50		489.50	
TEST ENTRIES IN THE SAME BLOCK	907.80		635.70		683.20		863.20		2319.90		519.10	
TEST ENTRIES IN DIFFERENT BLOCKS	1048.30		734.00		788.90		996.80		2678.80		599.40	
S.E.FOR:												
CHECKS	188.80		132.20		142.10		179.50		482.40		107.90	
CHECKS VS TEST ENTRIES	308.30		215.90		232.00		293.20		788.00		176.30	
TEST ENTRIES IN THE SAME BLOCK	327.00		229.00		246.10		310.90		835.70		187.00	
TEST ENTRIES IN DIFFERENT BLOCKS	377.60		264.40		284.20		359.00		964.90		215.90	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	38		0		2		0		0		0	

Cont'd. ...

Table 3.5.6. Cont'd. ...

ENTRY NAME	MEXICO						PAKISTAN					
	Culiacan		Carretera		Sonora		Islamabad		Chakwal		Faisalabad-1	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-208C	968	24	1848	28	184	39	592	9	1410	12	-	
FLIP 82-243C	962	26	1720	31	1840	10	523	14	934	25	182	11
FLIP 82-259C	1724	6	1824	30	1602	17	337	22	1252	16	178	12
FLIP 83- 1C	1211	19	1949	26	1068	29	176	32	765	30	70	23
FLIP 83- 2C	1380	13	2712	8	934	33	503	15	1410	12	0	25
FLIP 83- 5C	1693	7	2502	13	1557	18	709	4	1252	16	178	12
FLIP 83- 6C	608	33	2202	19	2599	2	0	36	1781	6	195	10
FLIP 83- 7C	1407	10	2934	3	1737	14	359	21	1061	22	-	
FLIP 83- 12C	1534	9	2013	24	1404	22	448	18	1252	16	174	14
FLIP 83- 13C	1407	10	2663	9	2279	4	587	11	617	33	-	
FLIP 83- 14C	571	34	1826	29	1938	7	796	1	776	27	-	
FLIP 83- 15C	1338	15	3092	2	2214	5	484	16	1146	20	391	3
FLIP 83- 16C	650	32	1962	25	504	36	381	20	776	27	-	
FLIP 83- 17C	1338	15	1420	34	1067	30	44	35	67	39	124	18
FLIP 83- 19C	1285	18	2873	4	559	34	413	19	1601	10	-	
FLIP 83- 22C	322	39	2859	5	2539	3	101	33	1908	4	91	21
FLIP 83- 23C	740	31	2542	10	1727	15	309	24	1887	5	232	8
FLIP 83- 24C	1793	5	1862	27	1393	23	460	17	776	27	0	25
FLIP 83- 27C	481	37	984	37	1067	30	0	36	511	35	170	16
FLIP 83- 28C	1000	23	1301	35	1351	24	571	12	649	32	-	
FLIP 83- 31C	1312	17	2520	11	1242	26	330	23	2363	1	174	14
FLIP 83- 35C	1402	12	2513	12	1773	13	0	36	1146	20	312	5
FLIP 83- 45C	1375	14	3106	1	1815	12	723	2	934	25	328	4
FLIP 83- 46C	746	29	2169	21	476	37	638	7	1728	8	-	
FLIP 83- 47C	2232	2	2720	7	1857	9	255	29	2363	1	270	7
FLIP 83- 48C	1095	22	1190	36	526	35	688	5	2045	3	-	
FLIP 83- 49C	746	29	1426	33	1081	28	710	3	1410	12	-	
FLIP 83- 50C	1185	20	2124	22	1641	16	262	28	617	33	-	
FLIP 83- 60C	1910	4	1427	32	1327	25	230	30	511	35	95	20
FLIP 83- 71C	968	24	2048	23	1018	32	653	6	1410	12	0	25
FLIP 83- 72C	544	35	2463	14	1882	8	216	31	511	35	74	22
FLIP 83- 73C	417	38	2206	18	1167	27	566	13	1463	11	441	2
FLIP 83- 76C	841	27	2433	16	371	38	613	8	1728	8	-	
FLIP 83- 97C	1592	8	2767	6	2697	1	98	34	1781	6	170	16
FLIP 83- 98C	804	28	2202	19	1426	21	294	27	1061	22	228	9
FLIP 83-100C	2132	3	870	39	1983	6	0	36	384	38	107	19
ILC 482	486	36	2285	17	1828	11	295	26	952	24	287	6
ILC 3279	1158	21	940	38	1468	20	296	25	677	31	43	24
LOCAL CHECK	2402	1	2442	15	1524	19	592	9	1174	19	588	1
LOCATION MEAN	1140		2118		1451		385		1181		188	
C.V. %	20.00		20.80		45.00		42.20		21.30		261.56	
L.S.D AT 5% FOR:												
CHECKS	543.90		989.20		1505.40		370.10		556.20		697.05	
CHECKS VS TEST ENTRIES	888.40		1615.60		2458.60		604.50		908.40		1138.45	
TEST ENTRIES IN THE SAME BLOCK	942.10		1713.40		2607.40		641.10		963.40		1207.33	
TEST ENTRIES IN DIFFERENT BLOCKS	1087.90		1978.40		3010.80		740.30		1112.40		1394.10	
S.E.FOR:												
CHECKS	195.90		356.30		542.20		133.30		200.30		251.10	
CHECKS VS TEST ENTRIES	320.00		582.00		885.60		217.70		327.20		410.10	
TEST ENTRIES IN THE SAME BLOCK	339.30		617.20		939.20		230.90		347.00		434.91	
TEST ENTRIES IN DIFFERENT BLOCKS	391.90		712.70		1084.50		266.60		400.70		502.20	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		2		0	

Cont'd. ...

Table 3.5.6. Cont'd. ...

ENTRY NAME	PERU		S. ARABIA		SPAIN						SYRIA	
	Paijan		Riyad		Cordoba		Sevilla		Alcala de Henares		Izra'a	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-208C	1687	19	2205	17	3583	15	3449	10	805	20	663	34
FLIP 82-243C	1451	30	1016	30	3700	10	3084	25	1160	4	641	35
FLIP 82-259C	1334	33	3300	8	2500	35	3240	20	850	18	927	27
FLIP 83- 1C	1415	31	3344	7	3916	7	3258	19	1579	1	980	16
FLIP 83- 2C	2983	2	2405	15	3283	23	3292	16	760	24	1107	9
FLIP 83- 5C	997	39	3416	5	3650	14	3501	8	712	28	864	32
FLIP 83- 6C	2394	4	694	33	5366	1	4039	2	432	37	1393	1
FLIP 83- 7C	1601	23	1266	27	2450	36	3292	16	497	36	1245	4
FLIP 83- 12C	1088	36	2050	21	2950	29	2771	33	1099	7	959	24
FLIP 83- 13C	1059	37	1600	24	2400	37	2980	29	554	33	1149	7
FLIP 83- 14C	1483	28	655	35	3133	27	2928	30	754	26	1044	10
FLIP 83- 15C	1911	10	3627	3	5166	2	3778	3	1266	3	980	16
FLIP 83- 16C	1970	8	-		3283	23	3032	27	651	31	917	28
FLIP 83- 17C	1386	32	2561	13	3366	18	2320	37	964	11	1012	13
FLIP 83- 19C	1750	16	5588	1	3333	20	3501	8	935	12	948	26
FLIP 83- 22C	1723	17	0	37	4416	5	3362	13	758	25	1171	6
FLIP 83- 23C	1476	29	1766	23	2600	32	2824	32	764	23	578	36
FLIP 83- 24C	1133	35	2405	15	3533	16	2251	38	1145	5	1139	8
FLIP 83- 27C	1577	24	2611	12	3316	22	2685	34	1287	2	917	28
FLIP 83- 28C	2162	6	2155	19	3283	23	3605	6	424	38	1266	3
FLIP 83- 31C	1497	27	2166	18	2600	32	3344	14	863	16	1308	2
FLIP 83- 35C	1927	9	2511	14	3666	12	2372	36	676	30	980	16
FLIP 83- 45C	1872	12	683	34	2800	30	3136	24	924	13	895	31
FLIP 83- 46C	1820	14	1472	26	2533	34	3240	20	864	15	1044	10
FLIP 83- 47C	3013	1	1516	25	4950	3	4282	1	706	29	102	39
FLIP 83- 48C	1533	26	988	31	3233	26	3032	27	104	39	790	33
FLIP 83- 49C	1570	25	3772	2	4683	4	3084	25	921	14	1012	13
FLIP 83- 50C	1038	38	2733	11	2300	38	3240	20	851	17	959	24
FLIP 83- 60C	1856	13	944	32	3966	6	3206	23	789	21	980	16
FLIP 83- 71C	2129	7	2855	9	2683	31	3344	14	787	22	980	16
FLIP 83- 72C	1790	15	0	37	3766	9	3778	3	521	35	1044	10
FLIP 83- 73C	1898	11	2061	20	3116	28	3778	3	1000	8	1234	5
FLIP 83- 76C	2320	5	2788	10	3333	20	3292	16	1142	6	1012	13
FLIP 83- 79C	1698	18	461	36	3666	12	2893	31	828	19	980	16
FLIP 83- 98C	2434	3	1183	28	3350	19	3449	10	593	32	229	38
FLIP 83-100C	1619	22	1977	22	3916	7	3414	12	718	27	980	16
ILC 482	1630	21	3450	4	3416	17	3593	7	998	9	962	23
ILC 3279	1229	34	1088	29	3683	11	2586	35	969	10	529	37
LOCAL CHECK	1677	20	3411	6	700	39	-		527	34	910	30
LOCATION MEAN	1722		2035		3444		3217		832		945	
C.V. %	39.40		42.90		20.10		7.30		40.90		20.70	
L.S.D AT 5% FOR:												
CHECKS	1514.40		2046.40		1495.40		500.00		764.40		434.30	
CHECKS VS TEST ENTRIES	2473.40		3342.40		2442.30		816.60		1248.50		709.30	
TEST ENTRIES IN THE SAME BLOCK	2623.10		3544.60		2590.10		866.00		1324.00		752.20	
TEST ENTRIES IN DIFFERENT BLOCKS	3028.90		4092.90		2990.80		1000.00		1528.90		868.60	
S.E. FOR:												
CHECKS	545.50		737.20		538.60		180.10		275.30		156.40	
CHECKS VS TEST ENTRIES	891.00		1204.00		879.80		294.10		449.70		255.50	
TEST ENTRIES IN THE SAME BLOCK	944.90		1276.80		933.00		311.90		476.90		270.90	
TEST ENTRIES IN DIFFERENT BLOCKS	1091.10		1474.40		1077.30		360.20		550.70		312.90	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		26		-		0		0	

Cont'd. ...

Table 3.5.6. Cont'd. ...

ENTRY NAME	SYRIA Tel Hadya Y	SYRIA Tel Hadya R	TUNISIA El Kef Y	TUNISIA El Kef R	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA Bouficha Y	TUNISIA Bouficha R	TURKEY Ankara Y	TURKEY Ankara R	Overall Mean	(1) Rank
FLIP 82-208C	226	37	1650	28	2836	13	-		486	25	1382	30
FLIP 82-243C	232	36	1550	32	3061	10	-		172	36	1364	32
FLIP 82-259C	770	28	1375	38	3223	4	-		268	31	1463	22
FLIP 83- 1C	1028	21	2200	12	2702	20	-		642	18	1565	14
FLIP 83- 2C	1112	19	1850	22	2561	27	753	8	644	17	1542	17
FLIP 83- 5C	580	31	2475	5	3223	4	-		522	23	1603	7
FLIP 83- 6C	1502	11	1575	31	2052	33	-		960	4	1747	3
FLIP 83- 7C	2068	2	1400	36	2761	15	782	6	649	16	1518	18
FLIP 83- 12C	264	35	2175	14	4286	1	-		45	38	1447	24
FLIP 83- 13C	928	24	1825	24	2786	14	668	10	299	29	1478	20
FLIP 83- 14C	985	23	2050	18	2011	35	-		676	13	1368	31
FLIP 83- 15C	521	32	2400	9	3202	6	-		769	9	1754	2
FLIP 83- 16C	1017	22	2600	4	2661	21	500	13	1470	1	1354	34
FLIP 83- 17C	869	26	1800	25	2177	32	-		229	34	1219	37
FLIP 83- 19C	1523	10	2150	15	3261	2	553	12	740	11	1662	6
FLIP 83- 22C	1312	15	1550	32	2639	23	764	7	833	6	1710	4
FLIP 83- 23C	675	30	1775	26	2761	15	-		287	30	1449	23
FLIP 83- 24C	1650	8	1650	28	2936	12	-		232	33	1404	28
FLIP 83- 27C	1787	6	1650	28	1277	39	964	1	579	20	1320	36
FLIP 83- 28C	764	29	2475	5	2411	28	-		327	27	1581	10
FLIP 83- 31C	1087	20	1550	32	2661	21	-		458	26	1594	9
FLIP 83- 35C	331	33	2475	5	1402	38	564	11	706	12	1337	35
FLIP 83- 45C	42	39	1975	20	3248	3	-		58	37	1436	26
FLIP 83- 46C	1555	9	2450	8	3173	7	-		803	8	1579	11
FLIP 83- 47C	1941	4	1775	26	3161	8	-		236	32	1994	1
FLIP 83- 48C	1777	7	1850	22	2986	11	-		327	27	1359	33
FLIP 83- 49C	1903	5	2625	3	2186	31	-		613	19	1563	15
FLIP 83- 50C	865	27	2125	16	3098	9	-		45	38	1423	27
FLIP 83- 60C	1154	18	1975	20	2739	19	831	3	579	20	1566	13
FLIP 83- 71C	1966	3	2000	19	2598	24	826	5	517	24	1402	29
FLIP 83- 72C	2452	1	3000	1	2577	25	-		547	22	1602	8
FLIP 83- 73C	1502	11	2200	12	2577	25	-		1341	2	1676	5
FLIP 83- 76C	1302	16	1190	39	2761	15	-		1152	3	1444	25
FLIP 83- 97C	1439	14	1550	32	2202	30	-		674	14	1576	12
FLIP 83- 98C	1182	17	2675	2	2236	29	828	4	845	5	1554	16
FLIP 83-100C	1471	13	2300	10	1552	37	-		769	9	1485	19
ILC 482	327	34	2300	10	1750	36	426	14	833	6	1471	21
ILC 3279	875	25	1400	36	2050	34	686	9	190	35	1163	38
LOCAL CHECK	109	38	2055	17	2758	18	840	2	662	15		
LOCATION MEAN	1105		1989		2625		713		569			
C.V. %	15.90		0.00		12.90		27.32		2.20			
L.S.D AT 5% FOR:												
CHECKS	367.40		0.00		755.40		191.90		29.10			
CHECKS VS TEST ENTRIES	600.10		0.00		1233.70		313.42		47.60			
TEST ENTRIES IN THE SAME BLOCK	636.40		0.00		1308.40		322.38		50.50			
TEST ENTRIES IN DIFFERENT BLOCKS	734.80		0.00		1510.80		383.80		58.30			
S.E. FOR:												
CHECKS	132.30		0.00		272.10		69.12		10.50			
CHECKS VS TEST ENTRIES	216.10		0.00		444.40		112.90		17.10			
TEST ENTRIES IN THE SAME BLOCK	229.20		0.00		471.30		119.73		18.20			
TEST ENTRIES IN DIFFERENT BLOCKS	264.70		0.00		544.20		138.25		21.00			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	29		16		1		0		11			

(1) Larissa, Tripoli, Islamabad, Faisalabad-1, Bouficha, Shandweel and Riyad were excluded from the overall mean.

Table 3.5.7. The five heaviest seed yielding entries at the individual locations in the CISN-W during 1984/85.

RANK	ALGERIA	CYPRUS	EGYPT	ETHIOPIA	GREECE	IRAN	ITALY	
	Setif	Athalassa	Shandweel	Debre Zeit	Larissa	Karaj	Basilicata	Rome
1	FLIP 83-46C	Local check	FLIP 82-243C	Local check	FLIP 83-47C	FLIP 83-28C	FLIP 83-47C	Local check
2	ILC 482	FLIP 83-19C	FLIP 83-31C	FLIP 83-23C	FLIP 83-49C	FLIP 83-98C	FLIP 83-5C	FLIP 83-49C
3	FLIP 83-71C	FLIP 83-73C	FLIP 83-22C	FLIP 83-60C	FLIP 83-19C	FLIP 83-47C	FLIP 83-50C	FLIP 83-46C
4	FLIP 83-2 C	FLIP 83-49C	FLIP 83-73C	FLIP 83-27C	FLIP 83-76C	FLIP 83-50C	FLIP 83-49C	FLIP 83-76C
5	FLIP 83-16C	FLIP 83-1C	FLIP 82-259C	FLIP 83-45C	FLIP 82-259C	Local check	FLIP 83-15C	FLIP 83-60C

Cont'd. ...

RANK	JORDAN	LEBANON		LIBYA	MEXICO			PAKISTAN
	Marow	Beqa'a	Terbol	Tripoli	Culiacan	Carretera	Sonora	Islamabad
1	FLIP 83-2C	FLIP 83-76C	FLIP 82-208C	FLIP 83-76C	Local check	FLIP 83-45C	FLIP 83-97C	FLIP 83-14C
2	FLIP 83-13C	FLIP 83-6C	FLIP 83-73C	FLIP 83-46C	FLIP 83-47C	FLIP 83-15C	FLIP 83-6C	FLIP 83-45C
3	FLIP 83-5C	FLIP 83-73C	FLIP 83-6C	Local check	FLIP 83-100C	FLIP 83-7C	FLIP 83-22C	FLIP 83-49C
4	FLIP 83-16C	FLIP 83-14C	FLIP 83-27C	FLIP 83-14C	FLIP 83-60C	FLIP 83-19C	FLIP 83-13C	FLIP 83-5C
5	FLIP 83-72C	FLIP 83-5C	FLIP 83-22C	FLIP 83-5C	FLIP 83-24C	FLIP 83-22C	FLIP 83-15C	FLIP 83-48C

Cont'd. ...

RANK	PAKISTAN		PERU	S.ARABIA	SPAIN			SYRIA
	Chakwal	Faisalabad	Paijan	Riyad	Cordoba	Sevilla	Alcala de Henares	Izra'a
1	FLIP 83-47C	Local check	FLIP 83-47C	FLIP 83-19C	FLIP 83-6C	FLIP 83-47C	FLIP 83-1C	FLIP 83-6C
2	FLIP 83-31C	FLIP 83-73C	FLIP 83-31C	FLIP 83-49C	FLIP 83-15C	FLIP 83-6C	FLIP 83-27C	FLIP 83-31C
3	FLIP 83-48C	FLIP 83-15C	FLIP 83-48C	FLIP 83-15C	FLIP 83-47C	FLIP 83-15C	FLIP 83-15C	FLIP 83-28C
4	FLIP 83-22C	FLIP 83-45C	FLIP 83-22C	ILC 482	FLIP 83-49C	FLIP 83-72C	FLIP 82-243C	FLIP 83-7C
5	FLIP 83-23C	FLIP 83-35C	FLIP 83-23C	FLIP 83-5C	FLIP 83-22C	FLIP 83-73C	FLIP 83-24C	FLIP 83-73C

Cont'd. ...

RANK	SYRIA	TUNISIA			TURKEY
	Tel Hadya	El-Kef	Beja	Bouficha	Ankara
1	FLIP 83-72C	FLIP 83-72C	FLIP 83-12C	FLIP 83-27C	FLIP 83-16C
2	FLIP 83-7C	FLIP 83-98C	FLIP 83-19C	Local check	FLIP 83-73C
3	FLIP 83-71C	FLIP 83-49C	FLIP 83-45C	FLIP 83-60C	FLIP 83-76C
4	FLIP 83-47C	FLIP 83-16C	FLIP 82-259C	FLIP 83-98C	FLIP 83-6C
5	FLIP 83-49C	FLIP 83-5C FLIP 83-28C FLIP 83-35C	FLIP 83-5C	FLIP 83-71C	FLIP 83-98C

The brackets indicate entries having the same rank.

All the test entries were almost homozygous and had shown superior performance in ICARDA's local or regional trials.

Methods and Management

The entries were planted in single row non-replicated plots of 4 m length. The three checks were repeatedly grown in a block of 15 entries. The spacings between and within rows were 45- and 10 cm respectively.

Fifty one sets of nursery were distributed to cooperators in 27 countries and the results were received from 34 locations in 21 countries. However, only 29 sets were worth analysis and are presented. The agronomic details received from the cooperators are given in Table 3.5.1.

Results and Discussion

The data on time to flowering, time to maturity and plant height are given in Tables 3.5.2, 3.5.3, and 3.5.4 respectively. The location mean for time to flowering, time to maturity and plant height ranged from 68 days at Culiacan in Mexico to 203 days at Ankara in Turkey, 125 days at Carretera in Mexico to 264 days at Ankara in Turkey, and 29 cm at Karaj in Iran, Tel Hadya in Syria and Ankara in Turkey to 100 cm at Pulawy in Poland, respectively. On the basis of average over all locations, ILC 482 flowered and matured earliest in 106 and 165 days, respectively, and ILC 3279 was the tallest with 65 cm plant height.

The 100-seed weight of different entries at each location is given in Table 3.5.5. The mean over entries for each location ranged from 23 g at Alcala de Henares in Spain to 34 g at Beqa'a in Lebanon and Culiacan in Mexico. The overall mean of entries over locations ranged 24 g (per 100 seeds) to 36 g for FLIP 83-100C and FLIP 83-7C.

The adjusted seed yields of entries are presented in Table 3.5.6. Highest yield of 3444 kg/ha was recorded at Cordoba which was closely followed by Sevilla (3217 kg/ha) in Spain. Tripoli in Libya, and Faisalabad in Pakistan were the locations with extremely low yields. CV was very high at Tripoli in Libya (146%) and Faisalabad (262%) in Pakistan, but at other locations, it ranged from 0 to 63.5%. The ANOVA of the experimental design revealed that at locations namely Larrisa (Greece), Karaj (Iran), Basilicata (Italy), Marow (Jordan), Chakwal (Pakistan), Cordoba (Spain), Tel Hadya (Syria), El-Kef and Beja (Tunisia) and Ankara (Turkey), 4, 1, 38, 2, 2, 26, 29, 16, 1, and 11 entries, respectively, exceeded the local check in yield by a significant margin. The five heaviest seed yielding entries at different locations are given in Table 3.5.7. It was observed that FLIP 83-47C occurred most frequently among the top five heaviest yielders and was closely followed by FLIP 83-49C, FLIP 83-73C, FLIP 83-6C and FLIP 83-15C etc.

3.6. CHICKPEA INTERNATIONAL SCREENING NURSERY - SPRING (CISN-SP)

Material

The Chickpea International Screening Nursery comprised of 39 test entries which originated from the materials developed through hybridization at ICARDA. The nursery also included three checks namely ILC 482, ILC 1929 and one local check to be supplied by the cooperator. All these entries were almost homozygous and had shown superior performance in ICARDA's local or regional trials.

Methods and Management

The entries were planted in single row non-replicated plots of 4 m length. The three checks were repeatedly grown in a block of 15 entries. The spacings between and within rows were 40- and 10 cm respectively.

Forty one sets of nursery were distributed to cooperators in 20 countries and the results were recieved from 28 locations in 19 countries. However, only 26 sets were worth analysis and are presented. The agronomic details received from the cooperators are given in Table 3.6.1.

Mean time to flowering (Table 3.6.2), time to maturity (Table 3.6.3), plant height (Table 3.6.4) and 100-seed weight (Table 3.6.5) for different locations varied from 52 to 109 days, 91 to 177 days, 6 to 124 cms and 25 to 36 g, respectively. The entries ILC 1929 and ILC 482 flowered earliest in 67 and 70 days and were also among the earliest to mature. The maximum plant height of 53 cm was obtained for FLIP 83-101C and largest seed size of 37 g for FLIP 83-77C.

The adjusted seed yields of entries are given in Table 3.6.6. On the basis of overall mean, FLIP 83-104C gave the highest seed yield of 1937 kg/ha and was closely followed by FLIP 83-9C (1746 kg/ha), FLIP 83-42C (1686 kg/ha), FLIP 83-10C (1657 kg/ha) etc. The location mean was highest for Terbol (2831 kg/ha) in Lebanon, and was closely followed by Carahue (2484 kg/ha) in Chile, La Batie Rolland (2466 kg/ha) in France, Alcala de Henares (2446 kg/ha) in Spain, Beja (2289 kg/ha) in Tunisia etc. The ANOVA of the experimental design revealed that at locations namely, Carahue in Chile, Montpellier in France, Terbol in Lebanon, La Molina in Peru, Riyad in Saudi Arabia, Al-Ghab and Izra'a in Syria, and Ankara-2 in Turkey, 8, 2, 1, 20, 5, 20, 3 and 1 entries exceeded the respective local check by a significant margin.

The five heaviest seed yielding entries at different locations are given in Table 3.6.7. The entry FLIP 83-42C occurred most frequently (12 times) among the top five heaviest yielders and was more adaptable.

Table 3.6.1. Agronomic data for different locations in the CISN-SP during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
CHILE	Valdivia	09.11.1984	15.04.1985	60	100	50	-	Linuron	California INIA
CHILE	Carahue	14.09.1985	20.02.1986		100	30	-	-	Zeta-INIA
ETHIOPIA	Debre Zeit	27.08.1985	NA	-			-	-	D7-10-11
FRANCE	La Batie-Rolland	28.02.1985	10.08.1985		100		1	Benfuraline	Cascari
FRANCE	Montpellier	27.02.1985	20.07.1985		100		-	Nitrofene,Neburon	INRA 199
IRAN	Oroumieh	05.05.1985	10.08.1985	27	69		5	Metasystox,Basudine, Endosulfan	Jame
JORDAN	Jubeiha	13.02.1985	04.07.1985	20	40		NA	NA	UJC 107
LEBANON	Terbol	29.02.1985	07.1985		50		many	Kerb,Bladex	NA
LIBYA	El Marg	20.12.1984	17.05.1985	18	46		-	-	Cyprus
MEXICO	Culiacan	03.12.1984	10.04.1985	40	40		2	PCNB,Ambush	Santo Domingo-82
NEPAL	Rupandehi	30.11.1984	09.04.1985	20	20	20	-	-	Dhanush
P.D.R.YEMEN	Seiyun	18.11.1984	30.03.1984	60	60		10	Sevin	NA
PAKISTAN	Dasht	20.11.1984	26.05.1985	28	72		-	-	Kabuli Chana
PAKISTAN	Faisalabad	06.11.1984	25.04.1985	25	50		2	B.H.C.,Dimecron	PB.1
PERU	La Molina-1	23.07.1985	28.12.1985	-			3	Afalon,Pomarsol,Tamaum	ACV-007
PERU	La Molina-2	15.10.1985	02.1986	-			3	Afalon,Pomarsol,Tamaum	ACV-007
SAUDI ARABIA	Al Hassa	11.1984	04.1985	80	80		15	-	NA
SAUDI ARABIA	Riyad	23.10.1984		74	112		13	Delabone,Lancex,Nuvacron	Local
SPAIN	Alcala de-Henares	15.04.1985	12.08.1985	24	72		-	-	1472
SUDAN	Shambat	06.11.1984	28.03.1985	43			13	-	Baladi
SYRIA	Al Ghab	10.03.1985	NA	-			-	NA	ILC 3279
SYRIA	Izra'a	07.03.0985	06.07.1985	40	80		NA	NA	ILC 3279
SYRIA	Tel Hadya	28.02.1985	08.06.1985	30	50		1	Bravo,Bladex,Kerb	ILC 263
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TURKEY	Ankara-2	07.04.1985	11.07.1985	23	60		-	Basudine	65 C 830
TURKEY	Ankara-1	12.04.1985	20.08.1985	-			-	Gusathion	NA
TURKEY	Eskisehir	16.04.1985	20.08.1985	30	75		NA	-	19/1-5
U.S.A.	Highmore	14.04.1985	09.08.1985	-			-	Treflan	NA

NA = not available.

Table 3.6.2. Time to flowering (days) of entries at different locations in CISN-SP during 1984/85.

ENTRY NAME	PEDIGREE	CHILE		ETHIOPIA	FRANCE		IRAN	JORDAN
		Valdivia	Carahue	Debre Zeit	La Batie-Rolland	Mont-Pellier	Oroumieh	Jubeiha
FLIP 82-172C	X79 TH220 'ILC 72XILC 480'	68	81	80	99	97	62	-
FLIP 82-174C	X79 TH159 'ILC 202XNEC1088'	63	79	58	97	92	58	-
FLIP 82-221C	X79 TH219 'ILC 201XILC3279'	62	76	60	96	97	60	74
FLIP 83- 9C	X79 TH221 'ILC 72XILC1922'	63	76	77	95	94	59	-
FLIP 83- 10C	X79 TH168 'ILC 72XILC573'	63	77	86	98	99	58	-
FLIP 83- 11C	X79 TH159 'ILC 202XNEC1088'	62	82	82	94	102	64	81
FLIP 83- 21C	X80 TH176 'ILC 72XILC 215'	62	77	64	92	99	64	81
FLIP 83- 26C	X79 TH220 'ILC 72XILC 480'	67	77	87	99	98	61	-
FLIP 83- 30C	X79 TH151 'ILC 72XILC 897'	63	77	61	93	93	61	82
FLIP 83- 32C	X79 TH151 'ILC 72XILC 897'	62	77	87	97	96	62	82
FLIP 83- 33C	X79 TH151 'ILC 72XILC 897'	63	73	71	95	97	59	82
FLIP 83- 34C	X79 TH158 'ILC 202XILC 893'	63	76	89	95	94	59	85
FLIP 83- 37C	X79 TH158 'ILC 202XILC 893'	63	76	60	96	95	57	82
FLIP 83- 40C	X79 TH112 'ILC1043XILC 194'	59	81	86	92	99	61	83
FLIP 83- 41C	X79 TH221 'ILC 72XILC1922'	63	81	62	96	94	60	82
FLIP 83- 42C	X79 TH221 'ILC 72XILC1922'	56	77	82	95	91	61	82
FLIP 83- 43C	X79 TH203 'ILC 953XILC 201'	59	74	69	92	101	54	82
FLIP 83- 52C	X79 TH219 'ILC 201XILC3279'	62	75	59	99	96	62	71
FLIP 83- 53C	X79 TH220 'ILC 72XILC 480'	63	74	79	95	110	59	-
FLIP 83- 62C	X79 TH221 'ILC 72XILC1922'	63	84	70	99	93	61	-
FLIP 83- 63C	X79 TH 82 'ILC 591XILC 196'	62	82	67	97	101	61	-
FLIP 83- 69C	X79 TH220 'ILC 72XILC 480'	67	77	89	99	96	62	83
FLIP 83- 77C	X80 TH176 'ILC 72XILC 215'	67	77	84	97	102	63	81
FLIP 83- 78C	X79 TH219'ILC 201XILC3279'	63	76	57	97	94	56	74
FLIP 83- 85C	X79 TH159 'ILC 202XNEC1088'	66	81	80	99	92	61	83
FLIP 83- 86C	X79 TH216 'ILC 202XILC 577'	56	84	62	96	103	59	78
FLIP 83- 88C	X79 TH 23 'ILC 263XILC 783'	55	82	67	98	104	64	81
FLIP 83- 91C	X79 TH151 'ILC 72XILC 897'	66	84	79	99	101	59	83
FLIP 83- 96C	X79 TH123 'ILC1929XILC 200'	62	82	74	97	99	61	-
FLIP 83- 99C	X80 TH263'(ILC72XILC263)XILC1919'	65	77	65	96	98	57	80
FLIP 83-101C	X80 TH264'(ILC480XILC72)XILC263'	63	84	71	98	97	61	80
FLIP 83-102C	X79 TH221 'ILC 72XILC1922'	68	77	82	99	90	59	-
FLIP 83-103C	X79 TH151 'ILC 72XILC 897'	63	77	89	97	93	59	78
FLIP 83-104C	X79 TH112 'ILC1043XILC 194'	63	81	88	96	106	57	-
FLIP 83-107C	X80 TH199 'ILC3279XICCL78184'	59	75	86	92	100	60	78
FLIP 83-111C	X79 TH220 'ILC 72XILC 480'	63	81	85	96	95	61	-
ILC 482	-	54	70	58	90	90	57	75
ILC 1929	-	54	73	60	91	-	61	75
LOCAL CHECK		56	75	47	98	95	57	77
LOCATION MEAN		62	78	73	96	97	60	79
C.V. %		2.30	2.10	3.10	0.30	1.60	0.10	2.40
L.S.D. AT 5% FOR:								
CHECKS		3.20	3.70	5.12	0.70	3.40	0.12	3.20
CHECKS VS TEST ENTRIES		5.30	6.10	8.36	1.20	5.50	0.01	5.30
TEST ENTRIES IN THE SAME BLOCK		5.70	6.50	8.87	1.30	5.90	0.01	5.70
TEST ENTRIES IN DIFFERENT BLOCKS		6.50	7.50	10.24	1.50	6.80	0.01	6.50
S.E.FOR:								
CHECKS		1.18	1.30	1.80	0.20	1.20	0.70	1.10
CHECKS VS TEST ENTRIES		1.90	2.20	3.01	0.40	2.01	0.90	1.90
TEST ENTRIES IN THE SAME BLOCK		2.05	2.30	3.10	0.40	2.10	0.90	2.05
TEST ENTRIES IN DIFFERENT BLOCKS		2.30	2.70	3.60	0.50	2.40	0.10	2.30

Cont'd. ...

Table 3.6.2. Cont'd. ...

ENTRY NAME	LEBANON	LIBYA	MEXICO	NEPAL	PAKISTAN		PERU		S.ARABIA
	Terbol	El Marg	Culiacan	Rupandehi	Dasht	Faisalabad	La Molina-1	La Molina-2	Riyad
FLIP 82-172C	69	107	83	96	103	-	82	70	92
FLIP 82-174C	65	100	68	95	106	114	85	67	77
FLIP 82-221C	64	95	66	90	105	102	69	59	81
FLIP 83- 9C	63	106	65	90	112	108	86	67	75
FLIP 83- 10C	69	106	71	94	112	114	91	62	74
FLIP 83- 11C	70	107	70	97	103	116	60	73	99
FLIP 83- 21C	70	102	68	93	100	104	73	65	77
FLIP 83- 26C	70	106	74	97	100	109	72	77	97
FLIP 83- 30C	67	103	66	91	108	107	84	64	79
FLIP 83- 32C	68	109	81	95	103	116	73	83	84
FLIP 83- 33C	63	106	67	94	109	108	78	62	82
FLIP 83- 34C	63	102	68	94	108	107	87	71	84
FLIP 83- 37C	61	110	67	96	109	108	77	63	100
FLIP 83- 40C	67	102	70	88	116	114	81	83	94
FLIP 83- 41C	65	107	66	103	106	113	72	64	74
FLIP 83- 42C	63	102	66	94	103	104	83	67	74
FLIP 83- 43C	61	92	66	93	108	102	79	60	79
FLIP 83- 52C	62	98	67	98	105	109	52	63	75
FLIP 83- 53C	61	107	69	96	109	120	78	60	92
FLIP 83- 62C	67	106	67	99	111	113	77	73	82
FLIP 83- 63C	66	106	68	96	107	116	51	75	77
FLIP 83- 69C	68	106	69	96	102	109	62	69	84
FLIP 83- 77C	70	106	70	94	104	116	62	80	84
FLIP 83- 78C	63	92	64	92	109	102	90	64	67
FLIP 83- 85C	73	102	67	92	117	110	95	70	79
FLIP 83- 86C	63	100	71	91	115	120	78	66	87
FLIP 83- 88C	68	106	81	98	101	-	64	82	94
FLIP 83- 91C	69	101	71	89	107	120	70	65	92
FLIP 83- 96C	66	110	73	100	106	106	52	67	77
FLIP 83- 99C	66	99	81	94	106	116	49	70	79
FLIP 83-101C	69	107	69	98	107	113	74	69	100
FLIP 83-102C	73	103	72	95	106	-	87	76	94
FLIP 83-103C	67	102	67	98	112	114	81	82	99
FLIP 83-104C	61	106	76	103	106	-	86	66	92
FLIP 83-107C	67	92	68	88	111	102	86	65	74
FLIP 83-111C	65	106	67	90	104	116	80	61	92
ILC 482	59	97	66	91	107	92	79	61	72
ILC 1929	61	95	67	94	109	100	76	63	78
LOCAL CHECK	60	104	40	94	104	102	80	60	74
LOCATION MEAN	66	103	69	95	107	109	75	68	84
C.V. %	1.20	4.10	1.90	3.30	2.20	3.80	5.50	2.50	2.80
L.S.D. AT 5% FOR:									
CHECKS	1.80	9.50	3.00	7.00	5.30	8.70	9.50	3.90	5.30
CHECKS VS TEST ENTRIES	3.02	15.60	4.90	11.50	8.70	14.20	15.60	6.50	8.60
TEST ENTRIES IN THE SAME BLOCK	3.20	16.50	5.20	12.20	9.20	15.08	16.50	6.90	9.20
TEST ENTRIES IN DIFFERENT BLOCKS	3.70	19.10	6.04	14.10	10.70	17.40	19.10	7.90	10.60
S.E.FOR:									
CHECKS	0.60	3.40	1.08	2.50	1.90	3.10	3.40	1.40	1.90
CHECKS VS TEST ENTRIES	1.08	5.60	1.70	4.10	3.10	5.10	5.60	2.30	3.10
TEST ENTRIES IN THE SAME BLOCK	1.10	5.90	1.80	4.40	3.30	5.40	5.90	2.40	3.30
TEST ENTRIES IN DIFFERENT BLOCKS	1.30	6.80	2.10	5.10	3.80	6.20	6.80	2.80	3.80

Cont'd. ...

Table 3.6.2. Cont'd. ...

ENTRY NAME	SPAIN	SUDAN	SYRIA			TURKEY		P.D.R YEMEN	(1) Overall Mean
	Alcala de Henares	Shambat	Al Ghab	Izra'a	Tel Hadya	Ankara-1	Ankara-2	Seiyun	
FLIP 82-172C	68	70	62	82	78	-	59	84	80
FLIP 82-174C	64	74	60	78	78	-	61	72	75
FLIP 82-221C	64	69	74	76	69	71	51	68	74
FLIP 83- 9C	67	68	58	77	78	-	58	76	76
FLIP 83- 10C	63	77	58	80	80	-	53	75	78
FLIP 83- 11C	75	80	83	81	-	-	61	81	81
FLIP 83- 21C	68	69	82	77	-	-	59	73	76
FLIP 83- 26C	71	80	84	81	-	-	62	83	82
FLIP 83- 30C	66	70	58	74	78	-	56	75	75
FLIP 83- 32C	61	80	84	81	77	-	59	77	80
FLIP 83- 33C	60	70	60	76	74	29	53	69	75
FLIP 83- 34C	65	77	60	54	77	-	54	72	76
FLIP 83- 37C	65	77	59	74	76	-	58	77	77
FLIP 83- 40C	65	77	55	77	78	-	54	81	79
FLIP 83- 41C	62	74	58	81	74	29	58	72	75
FLIP 83- 42C	66	75	59	77	78	-	55	81	76
FLIP 83- 43C	57	77	57	73	76	89	52	73	73
FLIP 83- 52C	65	78	74	74	74	71	51	64	73
FLIP 83- 53C	60	75	59	78	75	29	54	60	76
FLIP 83- 62C	68	77	62	78	78	-	59	81	78
FLIP 83- 63C	61	78	80	75	75	-	58	82	77
FLIP 83- 69C	67	78	85	76	-	-	61	77	79
FLIP 83- 77C	65	78	81	79	-	-	60	77	80
FLIP 83- 78C	62	77	53	77	72	89	50	61	73
FLIP 83- 85C	65	76	61	78	80	-	59	72	79
FLIP 83- 86C	62	73	55	75	74	28	51	76	76
FLIP 83- 88C	59	80	82	75	74	70	54	81	79
FLIP 83- 91C	62	80	60	79	78	-	59	81	78
FLIP 83- 96C	65	78	81	76	75	-	57	78	78
FLIP 83- 99C	66	78	79	74	77	-	55	77	76
FLIP 83-101C	64	68	61	79	75	-	59	81	78
FLIP 83-102C	-	77	59	81	80	-	59	72	76
FLIP 83-103C	64	79	58	75	77	-	55	72	79
FLIP 83-104C	65	74	59	79	78	-	56	76	79
FLIP 83-107C	64	67	53	78	71	90	52	61	74
FLIP 83-111C	64	73	61	78	76	-	59	76	77
ILC 482	58	58	58	72	63	40	51	63	70
ILC 1929	63	64	61	72	68	20	51	67	67
LOCAL CHECK	64	56	49	82	70	20	51	-	
LOCATIO MEAN	64	74	65	77	75	52	56	74	
C.V. %	3.20	2.40	29.30	0.40	1.40	103.30	0.50	6.30	
L.S.D. AT 5% FOR:									
CHECKS	4.60	3.90	42.70	0.70	2.20	45.70	0.70	9.90	
CHECKS VS TEST ENTRIES	7.50	6.50	69.70	1.20	3.50	74.60	1.20	16.20	
TEST ENTRIES IN THE SAME BLOCK	8.01	6.90	73.90	1.30	3.80	79.10	1.30	17.20	
TEST ENTRIES IN DIFFERENT BLOCKS	9.20	7.90	85.40	1.50	4.40	91.40	1.50	19.90	
S.E.FOR:									
CHECKS	1.60	1.40	15.30	0.20	0.70	16.40	0.20	3.50	
CHECKS VS TEST ENTRIES	2.70	2.30	25.10	0.40	1.20	26.80	0.40	5.80	
TEST ENTRIES IN THE SAME BLOCK	2.80	2.40	26.60	0.40	1.30	28.50	0.40	6.20	
TEST ENTRIES IN DIFFERENT BLOCKS	3.30	2.80	30.70	0.50	1.50	32.90	0.50	7.10	

(1) Jubeiha, Faisalabad, Ankara-1, Tel-hadya were excluded from the overall mean

Table 3.6.3. Time to maturity (days) of entries at different locations in CISN-SP during 1984/85.

ENTRY NAME	CHILE		ETHIOPIA	IRAN	JORDAN	LEBANON	LIBYA	MEXICO
	Valdivia	Carahue	Debre Zeit	Oroumieh	Jubeiha	Terbol	El Marg	Culiacan
FLIP 82-172C	-	155	154	99	113	101	148	137
FLIP 82-174C	-	152	132	93	112	108	144	175
FLIP 82-221C	-	146	141	87	111	104	145	86
FLIP 83- 9C	-	143	138	92	112	101	147	129
FLIP 83- 10C	183	150	134	86	114	102	144	172
FLIP 83- 11C	-	162	152	92	112	108	146	-
FLIP 83- 21C	-	167	152	89	113	110	145	86
FLIP 83- 26C	-	167	152	97	112	110	145	89
FLIP 83- 30C	183	148	135	86	114	102	144	163
FLIP 83- 32C	-	154	152	96	113	104	151	93
FLIP 83- 33C	168	143	144	85	113	101	147	-
FLIP 83- 34C	183	150	-	88	114	100	144	-
FLIP 83- 37C	-	141	149	94	115	103	147	130
FLIP 83- 40C	183	160	-	90	112	106	144	-
FLIP 83- 41C	-	144	154	92	113	103	147	133
FLIP 83- 42C	183	160	-	90	110	108	144	170
FLIP 83- 43C	183	144	124	86	112	100	144	170
FLIP 83- 52C	-	155	135	92	111	108	143	-
FLIP 83- 53C	-	143	154	85	112	101	147	-
FLIP 83- 62C	-	153	154	96	112	109	147	133
FLIP 83- 63C	-	148	137	92	111	106	145	93
FLIP 83- 69C	-	167	152	89	110	104	146	-
FLIP 83- 77C	-	152	152	92	111	110	151	89
FLIP 83- 78C	-	148	126	91	110	104	144	171
FLIP 83- 85C	-	163	-	95	110	108	144	-
FLIP 83- 86C	-	141	137	94	115	101	147	131
FLIP 83- 88C	144	150	152	92	112	104	145	87
FLIP 83- 91C	-	143	-	94	113	101	147	-
FLIP 83- 96C	-	155	147	87	112	102	151	-
FLIP 83- 99C	173	134	139	95	111	102	145	89
FLIP 83-101C	-	146	-	96	112	103	147	132
FLIP 83-102C	-	160	-	95	112	110	144	-
FLIP 83-103C	183	153	-	91	112	108	144	-
FLIP 83-104C	168	146	154	95	112	109	147	137
FLIP 83-107C	183	152	-	92	110	104	144	176
FLIP 83-111C	168	143	151	95	113	101	147	-
ILC 482	167	135	130	88	113	100	143	42
ILC 1929	181	135	129	89	115	102	145	85
LOCAL CHECK	149	146	108	88	114	102	146	126
LOCATION MEAN	173	150	142	91	112	104	146	124
C.V. %	9.50	2.70	3.30	3.20	0.80	1.10	0.80	62.30
L.S.D AT 5% FOR:								
CHECKS	18.03	9.10	8.41	6.70	2.20	2.60	2.80	118.80
CHECKS VS TEST ENTRIES	29.40	15.00	13.73	11.10	3.50	4.20	4.60	194.10
TEST ENTRIES IN THE SAME BLOCK	31.20	15.90	14.56	11.70	3.80	4.50	4.90	205.90
TEST ENTRIES IN DIFERENT BLOCKS	36.07	18.30	16.82	13.50	4.40	5.20	5.70	237.70
S.E.FOR:								
CHECKS	6.40	3.30	3.03	2.40	0.70	0.90	1.03	42.80
CHECKS VS TEST ENTRIES	10.60	5.40	4.90	3.90	1.20	1.50	1.60	69.90
TEST ENTRIES IN THE SAME BLOCK	11.20	5.70	5.20	4.20	1.30	1.60	1.70	74.10
TEST ENTRIES IN DIFFERENT BLOCKS	12.90	6.60	6.06	4.80	1.50	1.80	2.07	85.60

Cont'd. ...

Table 3.6.3. Cont'd. ...

ENTRY NAME	NEPAL	PAKISTAN	PERU		S. ARABIA	SPAIN	SYRIA	
	Rupandehi	Dasht	La-Molina-1	La-Molina-2	Riyad	Alcala de Henares	Al Ghab	Izra'a
FLIP 82-172C	137	169	155	113	195	116	103	118
FLIP 82-174C	128	165	149	134	181	109	99	125
FLIP 82-221C	122	165	133	119	172	109	98	110
FLIP 83- 9C	125	173	133	113	183	113	97	111
FLIP 83- 10C	127	171	140	127	162	112	97	122
FLIP 83- 11C	134	175	96	123	161	120	100	117
FLIP 83- 21C	130	175	107	137	204	117	99	115
FLIP 83- 26C	133	172	126	131	202	117	102	118
FLIP 83- 30C	124	172	123	122	160	114	99	119
FLIP 83- 32C	136	180	135	134	202	109	100	118
FLIP 83- 33C	134	167	147	110	185	108	101	108
FLIP 83- 34C	127	173	139	134	160	114	99	125
FLIP 83- 37C	125	172	130	118	195	110	100	106
FLIP 83- 40C	121	167	145	139	179	113	99	124
FLIP 83- 41C	127	171	140	124	183	109	101	116
FLIP 83- 42C	127	169	130	127	160	115	98	124
FLIP 83- 43C	126	170	126	129	162	106	96	112
FLIP 83- 52C	136	173	93	116	188	111	98	106
FLIP 83- 53C	136	170	155	106	195	102	99	111
FLIP 83- 62C	128	174	145	126	154	110	101	116
FLIP 83- 63C	128	174	109	133	161	107	100	113
FLIP 83- 69C	131	174	106	125	161	115	102	118
FLIP 83- 77C	126	176	107	135	172	113	100	118
FLIP 83- 78C	125	168	133	131	181	110	97	115
FLIP 83- 85C	125	170	151	129	179	112	101	128
FLIP 83- 86C	124	175	125	129	183	112	98	109
FLIP 83- 88C	132	173	108	129	202	108	98	113
FLIP 83- 91C	129	169	151	115	177	109	99	115
FLIP 83- 96C	139	171	95	125	187	112	97	113
FLIP 83- 99C	126	174	105	132	161	114	96	110
FLIP 83-101C	127	173	145	126	195	113	101	117
FLIP 83-102C	128	170	139	138	171	-	97	127
FLIP 83-103C	122	169	149	137	160	110	101	125
FLIP 83-104C	189	168	159	110	195	111	100	115
FLIP 83-107C	121	167	149	132	171	112	99	127
FLIP 83-111C	130	168	121	110	177	108	100	112
ILC 482	125	172	130	120	159	106	98	108
ILC 1929	124	171	130	129	163	109	89	108
LOCAL CHECK	125	169	146	120	170	115	104	111
LOCATION MEAN	130	171	131	125	177	111	99	115
C.V. %	1.10	1.60	7.60	4.20	6.60	2.40	0.80	8.60
L.S.D AT 5% FOR:								
CHECKS	3.40	6.20	22.90	12.08	26.50	6.10	1.80	22.70
CHECKS VS TEST ENTRIES	5.50	10.20	37.40	19.70	43.30	10.02	3.02	37$
TEST ENTRIES IN THE SAME BLOCK	5.90	10.80	39.70	20.90	45.90	10.60	3.20	39.30
TEST ENTRIES IN DIFFERENT BLOCKS	6.80	12.50	45.80	24.10	53.04	12.20	3.70	45.40
S.E.FOR:								
CHECKS	1.20	2.20	8.20	4.30	9.50	2.20	0.60	8.10
CHECKS VS TEST ENTRIES	2.01	3.60	13.40	7.10	15.60	3.60	1.08	13.30
TEST ENTRIES IN THE SAME BLOCK	2.10	3.90	14.30	7.50	16.50	3.80	1.10	14.10
TEST ENTRIES IN DIFFERENT BLOCKS	2.40	4.50	16.50	8.70	19.10	4.40	1.30	16.30

Cont'd. ...

Table 3.6.3. Cont'd. ...

ENTRY NAME	SYRIA	TURKEY		U.S.A.	P.D.R YEMEN	Overall Mean (1)
	Tel Hadya	Ankara-1	Ankara-2	Highmore	Seiyun	
FLIP 82-172C	118	114	95	106	134	128
FLIP 82-174C	114	122	96	104	115	128
FLIP 82-221C	112	101	89	104	129	120
FLIP 83- 9C	118	107	93	101	127	123
FLIP 83- 10C	109	118	90	99	121	123
FLIP 83- 11C	119	107	97	104	130	123
FLIP 83- 21C	112	105	97	104	124	127
FLIP 83- 26C	119	107	97	104	130	129
FLIP 83- 30C	107	123	90	99	129	122
FLIP 83- 32C	112	101	98	99	124	128
FLIP 83- 33C	111	105	91	101	127	123
FLIP 83- 34C	113	120	91	99	129	125
FLIP 83- 37C	111	107	90	101	128	123
FLIP 83- 40C	113	120	95	104	129	127
FLIP 83- 41C	118	107	94	101	133	125
FLIP 83- 42C	110	120	93	104	121	124
FLIP 83- 43C	107	117	89	99	113	121
FLIP 83- 52C	111	99	89	104	124	121
FLIP 83- 53C	111	106	89	106	134	124
FLIP 83- 62C	118	108	96	101	134	125
FLIP 83- 63C	113	100	96	104	129	121
FLIP 83- 69C	119	105	95	104	124	123
FLIP 83- 77C	113	104	98	104	124	124
FLIP 83- 78C	109	117	90	104	113	124
FLIP 83- 85C	115	126	96	104	121	129
FLIP 83- 86C	110	106	92	101	126	123
FLIP 83- 88C	110	99	91	-	124	123
FLIP 83- 91C	118	105	96	106	126	124
FLIP 83- 96C	112	100	90	99	130	122
FLIP 83- 99C	112	101	95	104	129	119
FLIP 83-101C	116	112	95	106	134	127
FLIP 83-102C	121	125	95	104	129	128
FLIP 83-103C	113	120	96	104	129	126
FLIP 83-104C	118	111	94	106	134	131
FLIP 83-107C	113	119	94	104	115	126
FLIP 83-111C	111	105	90	106	126	121
ILC 482	106	92	90	100	130	118
ILC 1929	106	113	90	-	130	120
LOCAL CHECK	105	112	90	103	-	
LOCATION MEAN	113	110	93	102	126	
C.V. %	1.50	14.40	1.10	1.70	4.40	
L.S.D AT 5% FOR:						
CHECKS	3.90	35.80	2.30	3.70	11.90	
CHECKS VS TEST ENTRIES	6.40	58.50	3.90	6.10	19.50	
TEST ENTRIES IN THE SAME BLOCK	6.70	62$	4.10	6.50	20.70	
TEST ENTRIES IN DIFFERENT BLOCKS	7.80	71.60	4.70	7.50	23.90	
S.E.FOR:						
CHECKS	1.40	12.90	0.80	1.30	4.30	
CHECKS VS TEST ENTRIES	2.30	21$	1.40	2.20	7.05	
TEST ENTRIES IN THE SAME BLOCK	2.40	22.30	1.40	2.30	7.40	
TEST ENTRIES IN DIFFERENT BLOCKS	2.80	25.80	1.70	2.70	8.60	

(1) Valdivia, Debre zeit, Culiacan, Alcala de Henares, Seiyun, Highmore were excluded from the overall mean.

Table 3.6.4. Plant height (cm) of entries at different locations in CISN-SP during 1984/85.

ENTRY NAME	CHILE		ETHIOPIA	FRANCE	IRAN	JORDAN	LEBANON	LIBYA	MEXICO
	Valdivia	Carahue	Debre Zeit	La Batie Rolland	Oroumieh	Jubeiha	Terbol	El Marg	Culiacan
FLIP 82-172C	43	50	61	49	27	42	43	50	137
FLIP 82-174C	-	48	39	46	45	40	47	47	175
FLIP 82-221C	35	44	54	58	34	39	47	47	86
FLIP 83- 9C	33	40	62	50	30	40	47	40	129
FLIP 83- 10C	-	41	36	36	36	44	44	42	172
FLIP 83- 11C	32	42	-	48	24	41	49	52	-
FLIP 83- 21C	27	46	41	49	24	37	36	47	86
FLIP 83- 26C	37	47	-	52	31	36	59	52	89
FLIP 83- 30C	-	37	43	34	25	37	42	42	163
FLIP 83- 32C	36	46	54	50	31	38	44	52	93
FLIP 83- 33C	31	35	50	43	29	40	39	45	-
FLIP 83- 34C	-	37	46	45	30	38	44	52	-
FLIP 83- 37C	30	50	48	47	22	40	34	55	130
FLIP 83- 40C	-	45	54	42	33	42	43	42	-
FLIP 83- 41C	34	48	65	48	22	43	33	60	133
FLIP 83- 42C	-	45	42	38	35	42	35	52	170
FLIP 83- 43C	-	37	48	35	30	40	44	42	170
FLIP 83- 52C	39	48	-	51	24	38	41	52	-
FLIP 83- 53C	28	30	44	44	28	42	41	45	-
FLIP 83- 62C	38	55	61	50	30	39	36	55	133
FLIP 83- 63C	31	44	45	42	24	42	37	42	93
FLIP 83- 69C	28	51	-	53	26	41	41	52	-
FLIP 83- 77C	28	42	60	50	26	37	43	47	89
FLIP 83- 78C	-	47	48	47	48	39	43	47	171
FLIP 83- 85C	-	54	53	43	45	43	43	52	-
FLIP 83- 86C	29	38	52	45	30	39	39	35	131
FLIP 83- 88C	28	34	-	42	31	37	49	42	87
FLIP 83- 91C	33	43	64	48	27	38	37	45	-
FLIP 83- 96C	31	56	-	43	29	38	38	57	-
FLIP 83- 99C	28	36	40	46	21	41	45	37	89
FLIP 83-101C	35	55	58	49	36	42	46	55	132
FLIP 83-102C	-	52	52	50	33	38	41	52	-
FLIP 83-103C	-	49	49	53	33	45	39	52	-
FLIP 83-104C	33	38	46	49	45	43	47	45	137
FLIP 83-107C	-	51	41	44	25	39	51	52	176
FLIP 83-111C	30	32	48	51	32	39	36	45	-
ILC 482	29	33	34	42	26	40	40	38	42
ILC 1929	26	28	33	36	27	39	39	33	85
LOCAL CHECK	33	41	34	49	31	40	45	35	126
LOCATION MEAN	32	43	48	46	30	40	42	47	124
C.V. %	1.40	5.40	18.30	7.80	14.30	4.01	14.70	7.20	62.30
L.S.D AT 5% FOR:									
CHECKS	0.70	5.20	16.95	8.20	9.90	3.60	14.10	7.50	118.80
CHECKS VS TEST ENTRIES	1.20	8.60	27.68	13.40	16.10	5.90	23.10	12.30	194.10
TEST ENTRIES IN THE SAME BLOCK	1.30	9.10	29.35	14.30	17.10	6.30	24.50	13.08	205.90
TEST ENTRIES IN DIFFERENT BLOCKS	1.50	10.50	33.90	16.50	19.80	7.30	28.30	15.10	237.70
S.E.FOR:									
CHECKS	0.20	1.90	6.10	2.90	3.50	1.30	5.10	2.70	42.80
CHECKS VS TEST ENTRIES	0.40	3.10	9.90	4.80	5.80	2.10	8.30	4.40	69.90
TEST ENTRIES IN THE SAME BLOCK	0.40	3.20	10.50	5.10	6.10	2.20	8.80	4.70	74.10
TEST ENTRIES IN DIFFERENT BLOCKS	0.50	3.80	12.20	5.90	7.10	2.60	10.20	5.40	85.60

Cont'd. ...

Table 3.6.4. Cont'd. ...

	NEPAL	PAKISTAN		PERU	S.ARABIA	SPAIN	SYRIA	
ENTRY NAME	Rupandehi	Dasht	Faisal-abad	La Molina-2	Riyad	Alcala de-Henares	Al Ghab	Izra'a
FLIP 82-172C	53	5	65	58	53	46	105	27
FLIP 82-174C	98	6	83	54	59	38	0	26
FLIP 82-221C	47	6	58	68	62	40	95	25
FLIP 83- 9C	45	6	50	48	64	39	90	29
FLIP 83- 10C	39	7	73	36	56	37	0	21
FLIP 83- 11C	36	6	69	60	60	39	95	27
FLIP 83- 21C	67	6	39	50	52	47	95	27
FLIP 83- 26C	55	7	58	74	57	46	95	26
FLIP 83- 30C	38	6	74	59	45	30	0	29
FLIP 83- 32C	60	6	62	81	53	44	100	31
FLIP 83- 33C	61	6	54	44	62	45	90	28
FLIP 83- 34C	98	7	76	58	56	38	0	31
FLIP 83- 37C	53	6	71	63	67	36	105	30
FLIP 83- 40C	51	7	77	56	45	41	0	27
FLIP 83- 41C	48	7	57	62	51	43	100	29
FLIP 83- 42C	60	7	75	68	54	40	0	26
FLIP 83- 43C	48	6	59	48	51	33	0	23
FLIP 83- 52C	51	6	79	63	59	37	95	30
FLIP 83- 53C	49	6	60	50	53	37	90	29
FLIP 83- 62C	47	6	81	58	60	36	100	32
FLIP 83- 63C	85	6	43	61	55	38	85	32
FLIP 83- 69C	42	6	79	68	58	45	95	31
FLIP 83- 77C	43	6	77	69	60	46	95	27
FLIP 83- 78C	64	7	105	62	54	33	0	28
FLIP 83- 85C	52	7	60	75	53	38	0	35
FLIP 83- 86C	41	6	50	52	67	46	90	22
FLIP 83- 88C	35	7	40	50	57	43	85	25
FLIP 83- 91C	50	7	69	58	73	46	90	27
FLIP 83- 96C	44	6	81	79	63	36	95	29
FLIP 83- 99C	31	6	79	62	56	43	85	27
FLIP 83-101C	55	7	65	72	71	41	110	28
FLIP 83-102C	49	7	64	71	46	-	0	35
FLIP 83-103C	52	7	54	62	67	31	0	31
FLIP 83-104C	45	5	74	50	31	39	90	27
FLIP 83-107C	96	7	73	69	54	39	0	27
FLIP 83-111C	45	6	65	45	56	43	90	26
ILC 482	45	7	57	34	52	41	28	22
ILC 1929	47	6	53	39	57	38	25	24
LOCAL CHECK	29	6	56	55	55	39	213	32
LOCATION MEAN	53	6	66	59	57	40	64	28
C.V. %	24.80	2.10	15.10	13.05	16.40	6.30	339.80	4.20
L.S.D. AT 5% FOR:								
CHECKS	29.00	0.30	22.10	16.90	21.10	5.60	383.30	2.70
CHECKS VS TEST ENTRIES	47.50	0.50	36.20	27.60	34.50	9.20	626.10	4.40
TEST ENTRIES IN THE SAME BLOCK	50.30	0.50	38.40	29.20	36.60	9.80	664.00	4.70
TEST ENTRIES IN DIFFERENT BLOCKS	58.10	0.60	44.30	33.80	42.30	11.30	766.70	5.40
S.E. FOR:								
CHECKS	10.40	0.10	7.90	6.08	7.60	2.04	138.10	0.90
CHECKS VS TEST ENTRIES	17.10	0.10	13.05	9.90	12.40	3.30	225.50	1.60
TEST ENTRIES IN THE SAME BLOCK	18.10	0.20	13.80	10.50	13.10	3.50	239.20	1.60
TEST ENTRIES IN DIFFERENT BLOCKS	20.90	0.20	15.90	12.10	15.20	4.09	276.20	1.90

Cont. ...

Table 3.6.4. Cont'd. ...

ENTRY NAME	SYRIA	TURKEY			U.S.A	P.D.R YEMEN	Overall Mean (1)
	Tel Hadya	Ankara-1	Ankara-2	Eskisehir	Highmore	Seiyun	
FLIP 82-172C	35	41	29	41	46	97	47
FLIP 82-174C	27	41	33	35	45	95	51
FLIP 82-221C	32	37	33	43	43	105	48
FLIP 83- 9C	26	30	30	35	46	101	44
FLIP 83- 10C	26	26	26	33	34	110	43
FLIP 83- 11C	26	39	35	34	37	103	46
FLIP 83- 21C	23	36	29	38	37	91	43
FLIP 83- 26C	32	39	36	43	40	107	50
FLIP 83- 30C	24	27	25	31	48	98	41
FLIP 83- 32C	31	37	34	38	38	102	49
FLIP 83- 33C	26	30	24	40	33	92	43
FLIP 83- 34C	27	35	28	39	41	100	49
FLIP 83- 37C	33	37	32	36	36	113	48
FLIP 83- 40C	26	34	27	35	41	103	45
FLIP 83- 41C	34	41	32	38	41	110	47
FLIP 83- 42C	27	33	39	31	43	100	47
FLIP 83- 43C	27	34	26	37	28	104	42
FLIP 83- 52C	29	42	39	40	38	110	49
FLIP 83- 53C	26	25	24	30	39	93	41
FLIP 83- 62C	36	41	35	38	51	111	50
FLIP 83- 63C	29	35	31	32	27	105	46
FLIP 83- 69C	33	36	35	38	40	126	50
FLIP 83- 77C	33	35	29	33	35	87	46
FLIP 83- 78C	30	36	31	39	43	108	51
FLIP 83- 85C	32	43	32	44	48	101	50
FLIP 83- 86C	22	26	25	34	47	98	41
FLIP 83- 88C	26	33	27	36	-	96	41
FLIP 83- 91C	33	34	28	36	37	108	47
FLIP 83- 96C	31	44	37	38	40	105	50
FLIP 83- 99C	26	31	27	38	30	103	44
FLIP 83-101C	37	46	38	41	43	114	53
FLIP 83-102C	31	41	29	37	45	98	47
FLIP 83-103C	32	31	30	39	43	111	48
FLIP 83-104C	32	29	26	34	51	89	44
FLIP 83-107C	33	36	32	31	51	105	51
FLIP 83-111C	27	30	25	36	41	111	43
ILC 482	20	24	24	32	31	94	38
ILC 1929	21	17	23	31	-	97	38
LOCAL CHECK	22	29	29	32	34	-	
LOCATION MEAN	29	34	30	36	40	102	
C.V. %	5.90	9.70	1.60	8.17	10.70	3.50	
L.S.D AT 5% FOR:							
CHECKS	3.70	7.30	1.10	6.67	8.80	7.60	
CHECKS VS TEST ENTRIES	6.10	12.05	1.80	10.89	14.30	12.40	
TEST ENTRIES IN THE SAME BLOCK	6.50	12.70	1.90	11.55	15.20	13.20	
TEST ENTRIES IN DIFFERENT BLOCKS	7.50	14.70	2.20	13.34	17.60	15.20	
S.E. FOR:							
CHECKS	1.30	2.60	0.30	2.40	3.10	2.70	
CHECKS VS TEST ENTRIES	2.20	4.30	0.60	3.92	5.10	4.40	
TEST ENTRIES IN THE SAME BLOCK	2.30	4.60	0.60	4.16	5.40	4.70	
TEST ENTRIES IN DIFFERENT BLOCKS	2.70	5.30	0.70	4.80	6.30	5.40	

(1) Valdivia, Debre Zeit, Culiacan, Dasht, Alcala de Henares, Al Ghab and Highmore were excluded from the overall mean.

Table 3.6.5. 100-Seed weight (g) of entries at different locations in CISN-SP during 1984/85.

ENTRY NAME	CHILE Carahue	ETHIOPIA Debre Zeit	FRANCE La Batie-Rolland	IRAN Oroumieh	LEBANON Terbol	SPAIN Alcala de-Henares	SYRIA Al Ghab	TURKEY Ankara-2	P.D.R YEMEN Seiyun	Overall Mean	(1) Rank
FLIP 82-172C	28	32	28	24	26	26	32	39	24	27	31
FLIP 82-174C	26	16	26	22	21	24	27	28	18	21	38
FLIP 82-221C	32	35	29	28	29	29	35	29	21	29	20
FLIP 83- 9C	35	37	31	32	33	32	42	33	26	33	5
FLIP 83- 10C	37	33	31	32	28	33	32	32	19	29	20
FLIP 83- 11C	35	42	33	26	31	31	30	35	29	31	12
FLIP 83- 21C	36	37	31	28	32	32	35	34	25	31	12
FLIP 83- 26C	38	38	32	30	34	33	30	37	26	31	12
FLIP 83- 30C	33	22	33	29	25	32	32	34	27	28	26
FLIP 83- 32C	31	17	31	25	29	32	30	31	22	25	34
FLIP 83- 33C	32	30	28	26	29	31	32	31	22	27	31
FLIP 83- 34C	38	2	31	31	28	31	27	-	27	24	36
FLIP 83- 37C	31	37	28	30	30	29	32	30	22	29	20
FLIP 83- 40C	39	37	32	30	29	38	32	32	27	31	12
FLIP 83- 41C	38	43	34	36	38	38	42	37	27	36	2
FLIP 83- 42C	43	40	34	32	35	30	32	37	33	34	4
FLIP 83- 43C	38	38	31	34	30	35	32	35	23	31	12
FLIP 83- 52C	34	35	30	24	32	30	30	31	23	29	20
FLIP 83- 53C	34	39	28	31	31	30	37	34	28	32	10
FLIP 83- 62C	39	42	36	33	40	40	37	39	27	35	3
FLIP 83- 63C	36	36	33	29	35	31	35	37	27	32	10
FLIP 83- 69C	36	34	31	25	29	28	35	31	20	29	20
FLIP 83- 77C	46	43	43	31	38	37	40	41	31	37	1
FLIP 83- 78C	34	33	29	31	27	28	27	29	24	28	26
FLIP 83- 85C	31	17	29	26	27	28	32	28	24	25	34
FLIP 83- 86C	-	30	30	30	31	31	37	35	24	30	18
FLIP 83- 89C	35	31	34	26	28	28	30	31	22	28	26
FLIP 83- 91C	32	32	29	29	39	31	37	35	20	31	12
FLIP 83- 96C	30	28	32	26	30	31	30	33	24	28	26
FLIP 83- 99C	38	41	36	33	33	32	35	36	25	33	5
FLIP 83-101C	34	27	36	32	32	30	32	34	25	30	18
FLIP 83-102C	36	18	36	25	29	-	27	39	25	26	33
FLIP 83-103C	42	31	35	35	36	38	37	37	26	33	5
FLIP 83-104C	38	23	37	36	36	35	42	35	27	33	5
FLIP 83-107C	35	8	29	28	26	29	27	29	25	23	37
FLIP 83-111C	31	33	27	28	28	28	32	30	22	28	26
ILC 482	33	29	34	29	27	30	33	30	22	29	20
ILC 1929	39	31	37	37	32	40	38	42	27	33	5
LOCAL CHECK	57	13	28	29	38	41	30	33	-		
LOCATION MEAN	36	31	32	29	31	32	33	34	25		
C.V. %	7.00	20.80	6.20	5.80	13.60	0.80	9.90	0.30	4.40		
L.S.D AT 5% FOR:											
CHECKS	5.70	14.17	4.60	4.04	9.80	0.60	7.50	0.20	2.30		
CHECKS VS TEST ENTRIES	9.40	23.14	7.50	6.50	16.00	1.02	12.30	0.40	3.80		
TEST ENTRIES IN THE SAME BLOCK	10.01	24.54	7.90	6.90	17.00	1.08	13.08	0.40	4.09		
TEST ENTRIES IN DIFFERENT BLOCKS	11.50	28.34	9.20	8.08	19.60	1.20	15.10	0.50	4.70		
S.E. FOR:											
CHECKS	2.08	5.10	1.60	1.40	3.50	0.20	2.70	0.09	0.80		
CHECKS VS TEST ENTRIES	3.40	8.30	2.70	2.30	5.70	0.30	4.40	0.10	1.30		
TEST ENTRIES IN THE SAME BLOCK	3.60	8.80	2.80	2.50	6.10	0.30	4.70	0.10	1.40		
TEST ENTRIES IN DIFFERENT BLOCKS	4.10	10.20	3.30	2.90	7.00	0.40	5.40	0.10	1.70		

(1) Carahue, Alcala de Henares, Ankara-2 were excluded from the overall mean

Table 3.6.6. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in CISN-SP during 1984/85.

ENTRY NAME	CHILE				ETHIOPIA		FRANCE				IRAN	
	Carahue		Valdivia		Debre Zeit		La Batie Rolland		Montpellier		Oroumieh	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-172C	2462	22	-		0	36	3218	6	1363	35	484	28
FLIP 82-174C	1712	38	-		375	28	1989	28	2679	6	874	19
FLIP 82-221C	2021	32	-		694	16	1899	31	1975	25	692	24
FLIP 83- 9C	2984	6	-		936	7	3132	9	2456	12	958	13
FLIP 83- 10C	2271	25	585	6	506	23	1961	29	2436	14	2006	1
FLIP 83- 11C	3010	5	-		538	22	1249	37	1869	27	0	36
FLIP 83- 21C	2626	15	-		875	9	2570	19	2463	10	406	30
FLIP 83- 26C	3935	1	-		638	18	3706	2	2494	9	0	36
FLIP 83- 30C	2589	17	-		413	25	2718	17	3729	1	977	10
FLIP 83- 32C	2481	20	-		269	32	1499	36	1219	37	292	33
FLIP 83- 33C	2762	9	-		1548	2	3846	1	2200	19	844	21
FLIP 83- 34C	2341	23	1187	3	288	31	2089	27	2767	5	863	20
FLIP 83- 37C	1970	34	-		0	36	3168	7	2413	15	958	13
FLIP 83-40C	3026	3	357	9	544	21	3068	10	1842	29	1206	7
FLIP 83- 41C	2168	28	-		317	30	3525	3	2463	10	901	17
FLIP 83- 42C	2714	11	550	7	619	20	3146	8	2892	4	1606	3
FLIP 83- 43C	2578	18	854	5	1088	6	2225	25	2917	3	1320	6
FLIP 83- 52C	2056	30	-		1188	5	892	39	1344	36	0	36
FLIP 83- 53C	2814	8	-		254	33	2968	13	1100	38	901	17
FLIP 83- 62C	2192	26	-		142	34	3446	4	2331	17	644	25
FLIP 83- 63C	1916	37	-		781	15	1906	30	2594	7	463	29
FLIP 83- 69C	2721	10	-		825	12	2463	21	2550	8	0	36
FLIP 83- 77C	3136	2	-		838	11	2763	15	3144	2	177	35
FLIP 83- 78C	1929	36	-		669	17	1182	38	2148	21	1492	5
FLIP 83- 85C	2694	12	-		381	27	2182	26	2379	16	577	26
FLIP 83- 86C	-		-		1248	3	2539	20	1425	34	724	23
FLIP 83- 88C	2632	14	1039	4	788	14	1506	35	1819	30	406	30
FLIP 83- 91C	2335	24	-		104	35	2632	18	1781	32	958	13
FLIP 83- 96C	3013	4	-		1194	4	1534	34	1869	27	292	33
FLIP 83- 99C	1983	33	-		800	13	1713	32	1800	31	577	26
FLIP 83-101C	1960	35	-		0	36	2803	14	2038	24	1073	8
FLIP 83-102C	2595	16	-		388	26	2982	11	2448	13	326	32
FLIP 83-103C	2664	13	-		469	24	2725	16	1592	33	1034	9
FLIP 83-104C	2487	19	-		0	36	2346	23	2069	23	958	13
FLIP 83-107C	2042	31	-		325	29	1668	33	2186	20	1549	4
FLIP 83-111C	2476	21	-		842	10	3246	5	1900	26	844	21
ILC 482	2173	27	1196	2	635	19	2969	12	2252	18	971	11
ILC 1929	2062	29	1239	1	879	8	2390	22	-		971	11
LOCAL CHECK	2877	7	506	8	3500	1	2330	24	2100	22	1790	2
LOCATION MEAN	2484		834		664		2466		2185		797	
C.V. %	3.60		81.89		116.13		19.90		12.60		38.70	
L.S.D AT 5% FOR:												
CHECKS	197.90		572.07		2061.65		1121.10		586.80		733.80	
CHECKS VS TEST ENTRIES	323.20		934.33		3367.17		1831.00		958.40		1198.50	
TEST ENTRIES IN THE SAME BLOCK	342.80		990.85		3570.88		1941.80		1016.40		1271.00	
TEST ENTRIES IN DIFFERENT BLOCKS	395.80		1144.14		4123.30		2242.20		1173.60		1467.60	
S.E.FOR:												
CHECKS	71.30		206.07		742.67		403.80		211.30		264.30	
HECKS VS TEST ENTRIES	116.40		336.57		1212.95		659.50		345.20		431.70	
TEST ENTRIES IN THE SAME BLOCK	123.40		356.93		1286.34		699.50		366.10		457.80	
TEST ENTRIES IN DIFFERENT BLOCKS	142.60		412.15		1485.34		807.70		422.70		528.60	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	8		0		0		0		2		0	

Cont'd. ...

Table 3.6.6. Cont'd. ...

ENTRY NAME	JORDAN		LEBANON		LIBYA		MEXICO		NEPAL		PAKISTAN	
	Jubeiha		Terbol		El Marg		Culiacan		Rupandehi		Dasht	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-172C	830	30	3828	6	553	36	603	10	12	29	17	15
FLIP 82-174C	896	25	1923	34	831	30	438	17	-		10	25
FLIP 82-221C	913	23	3299	9	1021	21	270	24	23	25	38	3
FLIP 83- 9C	470	39	4463	3	1009	23	604	9	203	13	18	14
FLIP 83- 10C	1056	18	2166	29	933	25	1422	1	-		12	22
FLIP 83- 11C	923	22	4711	2	739	32	274	22	29	24	0	39
FLIP 83- 21C	1503	8	2449	25	1664	4	246	30	80	21	1	33
FLIP 83- 26C	813	31	3544	7	1171	15	263	26	16	28	1	33
FLIP 83- 30C	976	20	1293	39	2119	1	0	33	211	8	70	1
FLIP 83- 32C	813	31	2734	22	627	34	275	21	35	22	1	33
FLIP 83- 33C	910	24	2865	19	1584	5	583	14	158	16	26	6
FLIP 83- 34C	1626	4	1582	37	931	26	-		205	10	19	13
FLIP 83- 37C	550	37	3206	11	500	37	615	7	0	30	17	15
FLIP 83- 40C	856	27	3071	17	1425	9	0	33	325	3	57	2
FLIP 83- 41C	990	19	2145	30	690	33	607	8	0	30	17	15
FLIP 83- 42C	1576	5	1944	32	1100	17	1199	2	256	5	6	27
FLIP 83- 43C	876	26	1722	35	1244	11	755	4	-		13	20
FLIP 83- 52C	1163	14	4248	4	1064	19	233	31	442	1	5	31
FLIP 83- 53C	750	33	3148	15	1240	12	587	13	152	17	22	10
FLIP 83- 62C	560	36	2748	21	449	38	618	6	0	30	23	9
FLIP 83- 63C	1133	15	3122	16	821	31	262	27	23	25	1	33
FLIP 83- 69C	1483	9	3388	8	1064	19	271	23	23	25	1	33
FLIP 83- 77C	1323	11	2488	24	1202	14	276	20	124	19	1	32
FLIP 83- 78C	1106	16	1405	38	1101	16	247	29	-		11	23
FLIP 83- 85C	1306	12	2219	28	356	39	0	33	205	10	6	27
FLIP 83- 86C	540	38	2368	26	1010	22	599	12	152	17	22	10
FLIP 83- 88C	1563	6	2899	18	1066	18	251	28	201	14	7	26
FLIP 83- 91C	1220	13	3193	13	1215	13	601	11	114	20	26	6
FLIP 83- 96C	833	28	3285	10	1539	6	267	25	-		0	38
FLIP 83- 99C	833	28	3833	5	1246	10	277	19	35	22	11	23
FLIP 83-101C	630	34	2241	27	587	35	621	5	0	30	28	5
FLIP 83-102C	1786	2	1682	36	931	26	0	33	224	7	17	15
FLIP 83-103C	1666	3	3182	14	900	28	-		211	8	6	27
FLIP 83-104C	1920	1	5574	1	1440	7	-		0	30	17	15
FLIP 83-107C	1526	7	2027	31	966	24	199	32	205	10	6	27
FLIP 83-111C	610	35	2754	20	833	29	578	15	247	6	21	12
ILC 482	1100	17	2546	23	1793	2	400	18	308	4	37	4
ILC 1929	1413	10	1932	33	1432	8	449	16	167	15	24	8
LOCAL CHECK	956	21	3195	12	1750	3	1035	3	330	2	13	20
LOCATIO MEAN	1076		2831		1080		442		138		16	
C.V. %	24.80		21.30		19.10		240.70		81.50		155.70	
L.S.D AT 5% FOR:												
CHECKS	613.40		1353.90		502.00		2066.30		277.70		62.50	
CHECKS VS TEST ENTRIES	1001.80		2211.30		820.00		3374.90		453.60		102.20	
TEST ENTRIES IN THE SAME BLOCK	1062.40		2345.10		869.60		3579.00		481.10		108.40	
TEST ENTRIES IN DIFFERENT BLOCKS	1226.80		2707.90		1004.10		4132.70		555.50		125.10	
S.E. FOR:												
CHECKS	220.90		487.70		180.80		744.30		100.00		22.50	
CHECKS VS TEST ENTRIES	360.90		796.50		295.30		1215.70		163.40		36.80	
TEST ENTRIES IN THE SAME BLOCK	382.70		844.70		313.20		1289.30		173.30		39.00	
TEST ENTRIES IN DIFFERENT BLOCKS	441.90		975.40		361.70		1488.70		200.10		45.00	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		1		0		0		0		0	

Cont'd. ...

Table 3.6.6 Cont'd. ...

ENTRY NAME	PAKISTAN		PERU				SAUDI ARABIA				SPAIN	
	Faisalabad		La Molina-1		La Molina-2		Riyad		Al Hassa		Alcala de Henares	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-172C	529	2	334	6	916	22	1161	24	126	30	2430	24
FLIP 82-174C	-		402	3	861	24	2416	10	0	37	2603	14
FLIP 82-221C	0	24	338	5	1583	8	-		317	17	2512	18
FLIP 83- 9C	608	1	259	9	2027	2	7144	1	570	4	2058	32
FLIP 83- 10C	33	23	598	1	861	24	866	27	0	37	2982	7
FLIP 83- 11C	-		-		638	34	1738	16	412	13	1626	34
FLIP 83- 21C	0	24	291	8	1083	17	788	29	428	11	3060	5
FLIP 83- 26C	-		26	33	638	34	1305	21	481	7	3167	4
FLIP 83- 30C	433	6	380	4	1416	10	-		390	14	2071	31
FLIP 83- 32C	0	24	-		722	28	22	33	0	36	2451	21
FLIP 83- 33C	337	8	53	27	1472	9	1827	14	817	1	2439	23
FLIP 83- 34C	133	21	180	17	1333	13	2566	7	125	31	2556	16
FLIP 83- 37C	183	16	15	34	1805	3	1611	17	90	32	1440	36
FLIP 83- 40C	166	18	211	12	666	32	816	28	85	33	3277	3
FLIP 83- 41C	183	16	184	16	1611	7	-		241	22	2512	18
FLIP 83- 42C	470	3	417	2	1027	19	5833	2	538	5	3447	1
FLIP 83- 43C	137	20	155	18	416	38	-		597	3	2898	9
FLIP 83- 52C	-	32	185	15	1305	14	1272	22	227	23	1432	37
FLIP 83- 53C	316	9	53	27	1750	6	744	30	173	28	1918	33
FLIP 83- 62C	304	10	209	13	527	37	3244	5	160	29	1478	35
FLIP 83- 63C	0	24	41	30	1416	10	2522	8	390	14	2454	20
FLIP 83- 69C	0	24	316	7	277	39	1538	20	207	26	2635	13
FLIP 83- 77C	0	24	191	14	722	28	2105	13	17	34	2559	15
FLIP 83- 78C	-		-		2361	1	-		288	20	2308	27
FLIP 83- 85C	195	15	30	32	722	28	2483	9	220	24	2772	11
FLIP 83- 86C	279	11	6	35	805	26	3394	4	450	10	2844	10
FLIP 83- 88C	0	24	-		638	34	622	32	258	21	2528	17
FLIP 83- 91C	212	14	215	11	1277	15	5277	3	480	8	3351	2
FLIP 83- 96C	0	24	57	26	1044	18	-		414	12	2227	28
FLIP 83- 99C	158	19	35	31	750	27	2272	11	330	16	2326	26
FLIP 83-101C	-		137	20	1138	16	627	31	185	27	2970	8
FLIP 83-102C	-		61	25	666	32	1600	18	0	37	-	
FLIP 83-103C	100	22	252	10	888	23	1216	23	209	25	2647	12
FLIP 83-104C	466	4	100	22	1805	3	1161	24	486	6	2123	30
FLIP 83-107C	-		155	18	722	28	1550	19	479	9	2986	6
FLIP 83-111C	358	7	109	21	1361	12	2244	12	788	2	2402	25
ILC 482	225	13	93	23	1000	20	2605	6	291	19	2450	22
ILC 1929	245	12	43	29	1805	3	1122	26	311	18	2142	29
LOCAL CHECK	466	4	62	24	944	21	1788	15	-		887	38
LOCATION MEAN	210		176		1102		2044		296		2446	
C.V. %	184.90		11.60		42.40		21.60		20.80		34.60	
L.S.D. AT 5% FOR:												
CHECKS	692.50		39.00		1079.30		848.20		133.40		1819.30	
CHECKS VS TEST ENTRIES	1131.00		63.70		1762.90		1385.30		217.90		2971.40	
TEST ENTRIES IN THE SAME BLOCK	1199.40		67.50		1869.50		1469.10		231.10		3151.10	
TEST ENTRIES IN DIFFERENT BLOCKS	1385.00		78.00		2158.70		1696.40		266.80		3638.60	
S.E.FOR:												
CHECKS	249.40		14.00		388.80		305.50		48.00		655.30	
CHECKS VS TEST ENTRIES	407.40		22.90		635.00		499.00		78.50		1070.30	
TEST ENTRIES IN THE SAME BLOCK	432.00		24.30		673.40		529.20		83.20		1135.10	
TEST ENTRIES IN DIFFERENT BLOCKS	498.90		28.10		777.60		611.10		96.10		1310.70	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		20		0		5		-		0	

Cont'd. ...

Table 3.6.6. Cont'd. ...

ENTRY NAME	SYRIA						TUNISIA		TURKEY			
	Al Ghab		Izra'a		Tel Hadya		Beja		Ankara-1		Ankara-2	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP 82-172C	765	29	81	36	848	17	2016	23	1361	20	475	21
FLIP 82-174C	606	35	59	39	590	36	3250	3	1194	29	239	36
FLIP 82-221C	1072	22	239	20	668	32	2283	20	1587	8	502	18
FLIP 83- 9C	1209	17	398	5	734	24	2666	12	1003	36	565	14
FLIP 83- 10C	1527	3	409	4	1046	8	2600	15	1194	29	162	37
FLIP 83- 11C	1104	20	81	36	472	38	1533	37	1408	17	593	11
FLIP 83- 21C	1389	6	335	8	890	15	2483	17	1444	13	345	31
FLIP 83- 26C	659	34	112	33	814	19	1633	33	1444	13	416	28
FLIP 83- 30C	1305	11	313	11	843	18	1750	30	1765	1	737	2
FLIP 83- 32C	691	32	112	33	675	30	1983	24	1444	13	420	27
FLIP 83- 33C	1051	25	493	2	898	14	1016	39	1146	31	697	6
FLIP 83- 34C	1051	25	155	25	1097	5	3050	6	1658	3	-	
FLIP 83- 37C	955	28	239	20	772	21	2566	16	932	37	500	19
FLIP 83- 40C	1241	13	123	31	1204	3	3050	6	1658	3	265	34
FLIP 83- 41C	1241	13	144	26	879	16	2816	8	1396	19	605	10
FLIP 83- 42C	1241	13	345	7	1128	4	4000	1	1337	23	386	29
FLIP 83- 43C	1495	4	313	11	729	25	2350	18	1337	23	631	8
FLIP 83- 52C	1008	27	335	8	675	30	2633	13	1480	12	701	5
FLIP 83- 53C	1305	11	208	23	550	37	1916	26	1361	20	503	17
FLIP 83- 62C	447	39	112	33	677	29	1766	29	1111	33	495	20
FLIP 83- 63C	1643	1	176	24	327	39	1833	27	1444	13	467	22
FLIP 83- 69C	596	37	144	26	649	33	1633	33	1658	3	709	4
FLIP 83- 77C	1072	22	81	36	1276	1	1133	38	1658	3	533	16
FLIP 83- 78C	765	29	250	18	989	11	1550	36	1301	26	585	12
FLIP 83- 85C	670	33	123	31	609	34	3150	4	1623	7	122	38
FLIP 83- 86C	1114	19	271	16	765	22	1816	28	1146	31	358	30
FLIP 83- 88C	1072	22	271	16	1067	7	2333	19	1337	23	665	7
FLIP 83- 91C	765	29	239	20	962	13	2716	10	1218	28	437	25
FLIP 83- 96C	1389	6	366	6	744	23	1983	24	1730	2	442	24
FLIP 83- 99C	1389	6	462	3	706	27	1583	35	1515	11	566	13
FLIP 83-101C	606	35	144	26	721	26	2616	14	1253	27	547	15
FLIP 83-102C	1241	13	250	18	603	35	3350	2	1587	8	1413	1
FLIP 83-103C	1082	21	282	13	989	11	2050	22	1408	17	425	26
FLIP 83-104C	1336	10	144	26	1044	9	2716	10	1039	35	341	32
FLIP 83-107C	1400	5	282	13	995	10	3100	5	1551	10	249	35
FLIP 83-111C	1209	17	335	8	791	20	1666	32	932	37	615	9
ILC 482	1576	2	275	15	685	28	1716	31	1357	22	324	33
ILC 1929	1343	9	592	1	1090	6	2250	21	619	39	455	23
LOCAL CHECK	582	38	137	30	1255	2	2733	9	1071	34	734	3
LOCATION MEAN	1082		241		832		2289		1351		505	
C.V. %	12.60		29.50		16.40		18.90		19.00		5.20	
L.S.D AT 5% FOR:												
CHECKS	313.10		170.40		319.70		979.10		565.20		59.20	
CHECKS VS TEST ENTRIES	511.40		278.30		522.10		1599.10		923.20		96.80	
TEST ENTRIES IN THE SAME BLOCK	452.30		295.10		553.70		1695.90		979.00		102.60	
TEST ENTRIES IN DIFFERENT BLOCKS	626.20		340.80		639.40		1958.20		1130.50		118.50	
S.E.FOR:												
CHECKS	112.80		61.30		115.10		352.70		203.60		21.30	
CHECKS VS TEST ENTRIES	184.20		100.20		188.00		576.00		332.50		34.80	
TEST ENTRIES IN THE SAME BLOCK	195.30		106.30		199.40		610.90		352.60		36.90	
TEST ENTRIES IN DIFFERENT BLOCKS	225.60		122.70		230.30		705.40		407.20		42.70	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	20		3		0		0		0		1	

Cont'd. ...

Table 3.6.6. Cont'd. ...

ENTRY NAME	U.S.A. Highmore Y	U.S.A. Highmore R	P.D.R. YEMEN Seiyun Y	P.D.R. YEMEN Seiyun R	Overall Mean	(1) Rank
FLIP 82-172C	1743	4	1887	23	1392	28
FLIP 82-174C	576	28	1744	25	1260	34
FLIP 82-221C	1258	9	2296	14	1500	13
FLIP 83- 9C	793	21	2353	13	1746	2
FLIP 83- 10C	-		4038	1	1657	4
FLIP 83- 11C	580	27	1840	24	1262	33
FLIP 83- 21C	997	19	2257	15	1584	9
FLIP 83- 26C	775	23	1351	34	1367	29
FLIP 83- 30C	1160	14	1300	35	1405	24
FLIP 83- 32C	180	34	1012	37	1063	38
FLIP 83- 33C	1943	3	2070	19	1603	8
FLIP 83- 34C	1188	12	2050	21	1467	19
FLIP 83- 37C	-		1353	33	1396	26
FLIP 83- 40C	671	25	1738	26	1643	5
FLIP 83- 41C	1410	8	2059	20	1547	12
FLIP 83- 42C	465	30	1511	28	1686	3
FLIP 83- 43C	-	35	2644	8	1453	20
FLIP 83- 52C	836	20	2079	18	1477	18
FLIP 83- 53C	2004	2	3203	3	1612	7
FLIP 83- 62C	1232	10	1392	29	1158	37
FLIP 83- 63C	241	33	2185	16	1422	22
FLIP 83- 69C	1164	13	790	38	1235	36
FLIP 83- 77C	1191	11	1379	31	1335	31
FLIP 83- 78C	504	29	2938	5	1404	25
FLIP 83- 85C	1115	17	2150	17	1328	32
FLIP 83- 86C	782	22	2648	7	1393	27
FLIP 83- 88C	-		1368	32	1336	30
FLIP 83- 91C	1716	5	1659	27	1492	14
FLIP 83- 96C	669	26	1390	30	1413	23
FLIP 83- 99C	414	32	2479	10	1451	21
FLIP 83-101C	1138	15	1214	36	1239	35
FLIP 83-102C	1032	18	2355	12	1491	15
FLIP 83-103C	726	24	2561	9	1579	10
FLIP 83-104C	1638	6	3075	4	1937	1
FLIP 83-107C	459	31	1972	22	1482	16
FLIP 83-111C	2127	1	2692	6	1481	17
ILC 482	1129	16	3288	2	1636	6
ILC 1929	-		2477	11	1550	11
LOCAL CHECK	1505	7	-			
LOCATION MEAN	1040		2073			
C.V. %	39.00		19.30			
L.S.D AT 5% FOR:						
CHECKS	798.60		881.10			
CHECKS VS TEST ENTRIES	1304.40		1439.00			
TEST ENTRIES IN THE SAME BLOCK	1383.30		1526.10			
TEST ENTRIES IN DIFFERENT BLOCKS	1597.30		1762.20			
S.E. FOR:						
CHECKS	287.70		317.40			
CHECKS VS TEST ENTRIES	469.80		518.40			
TEST ENTRIES IN THE SAME BLOCK	498.30		549.70			
TEST ENTRIES IN DIFFERENT BLOCKS	575.40		634.80			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-			

(1) Carahue, Montpellier, Valdivia, Culiacan, Rupandehi, Dasht, Faisalabad, La Molina-1, Riyad, Al Hassa, Alcala de Henares, Izra'a, Ankara-2 and Highmore were excluded from the overall mean.

Table 3.6.7. The five heaviest seed yielding entries at the individual locations in the CISN-SP during 1984/85.

RANK	CHILE		ETHIOPIA	FRANCE		IRAN	JORDAN	LIBYA
	Carahue	Valdivia	Debre Zeit	La Batie Rolland	Montpellier	Oroumieh	Jubeiha	El-Marg
1	FLIP 83-26C	ILC 1929	Local check	FLIP 83-33C	FLIP 83-30C	FLIP 83-10C	FLIP 83-104C	FLIP 83-30C
2	FLIP 83-77C	ILC 482	FLIP 83-33C	FLIP 83-26C	FLIP 83-77C	Local check	FLIP 83-102C	ILC 482
3	FLIP 83-40C	FLIP 83-34C	FLIP 83-86C	FLIP 83-41C	FLIP 83-43C	FLIP 83-42C	FLIP 83-103C	Local check
4	FLIP 83-96C	FLIP 83-88C	FLIP 83-96C	FLIP 83-62C	FLIP 83-42C	FLIP 83-107C	FLIP 83-34C	FLIP 83-21C
5	FLIP 83-11C	FLIP 83-43C	FLIP 83-52C	FLIP 83-111C	FLIP 83-34C	FLIP 83-78C	FLIP 83-42C	FLIP 83-33C

Cont'd. ...

RANK	LEBANON	MEXICO	NEPAL	PAKISTAN	PERU		SAUDI ARABIA	
	Terbol	Culiacan	Rupandehi	Faisalabad	La Molina-1	La Molina-2	Riyad	Al-Hassa
1	FLIP 83-104C	FLIP 83-52C	FLIP 83-52C	FLIP 83-9C	FLIP 83-10C	FLIP 83-78C	FLIP 83-9C	FLIP 83-33C
2	FLIP 83-11C	Local check	Local check	FLIP 82-172C	FLIP 83-42C	FLIP 83-9C	FLIP 83-42C	FLIP 83-111C
3	FLIP 83-9C	FLIP 83-40C	FLIP 83-40C	FLIP 83-42C	FLIP 82-174C	FLIP 83-37C]	FLIP 83-91C	FLIP 83-43C
4	FLIP 83-52C	ILC 482	ILC 482	FLIP 83-104C]	FLIP 83-30C	FLIP 83-104C]	FLIP 83-86C	FLIP 83-9C
5	FLIP 83-99C	FLIP 83-42C	FLIP 83-42C	Local check]	FLIP 82-221C	ILC 1929]	FLIP 83-62C	FLIP 83-42C

Cont'd. ...

RANK	SYRIA			TUNISIA	TURKEY		U.S.A.	P.D.R. YEMEN
	Al-Ghab	Izra'a	Tel-Hadya	Beja	Ankara-1	Ankara-2	Highmore	Seiyun
1	FLIP 83-63C	ILC 1929	FLIP 83-77C	FLIP 83-42C	FLIP 83-30C	FLIP 83-102C	FLIP 83-111C	FLIP 83-10C
2	ILC 482	FLIP 83-33C	Local check	FLIP 83-102C	FLIP 83-96C	FLIP 83-30C	FLIP 83-53C	ILC 482
3	FLIP 83-10C	FLIP 83-99C	FLIP 83-40C	FLIP 82-174C	FLIP 83-34C]	Local check	FLIP 83-33C	FLIP 83-53C
4	FLIP 83-43C	FLIP 83-10C	FLIP 83-42C	FLIP 83-85C	FLIP 83-40C]	FLIP 83-69C	FLIP 82-172C	FLIP 83-104C
5	FLIP 83-107C	FLIP 83-9C	FLIP 83-34C	FLIP 83-107C	FLIP 83-69C]	FLIP 83-52C	FLIP 83-91C	FLIP 83-78C
					FLIP 83-77C]			

The brackets indicate entries having the same rank.

3.7. CHICKPEA INTERNATIONAL F_3 TRIAL (CIF_3T)

Material

The material for the Chickpea International F_3 Trial comprised of 21 F_3 populations which were derived from different crosses, and three checks. Two of the checks, namely ILC 482 and ILC 3279 were supplied by ICARDA and the third was to be added by the cooperator. The material was assumed to provide a wide range of variation within which the cooperators were free to practice their own selection.

Methods and Management

The trial design was a randomised complete block with three replications. The suggested plot size was 4 rows, 4 meter long with an inter- and intra row spacings of 30 - and 10 cm respectively. Thirty six sets of trials were distributed to cooperators in 20 countries. The results were, however, received back for 23 trials and 19 were worth analysis. The agronomic details supplied by the cooperators are given in Table 3.7.1.

Results and Discussion

The data on time to flowering, time to maturity, plant height and 100-seed weight are given in Tables 3.7.2, 3.7.3, 3.7.4, and 3.7.5 respectively. The entry means averaged over locations ranged from 97 to 105 days for time to flowering, 150 to 155 days for time to maturity, 49 to 64 cm for plant height, and 24-33 g for 100-seed weight, respectively.

The mean seed yield of the F_3 crosses and checks at each location are given in Table 3.7.6. Metaponto (Italy), La Batie (France), and Toshevo (Bulgaria) were high yielding locations with location means of 3114, 2906, 2733 kg/ha, respectively. In general a large number of F_3 populations exceeded the local check at different locations. On the basis of average over locations the cross, X83TH 1 gave the highest yield (1820 kg/ha). The top five heaviest yielders are given in Table 3.7.7. It was observed that the cross X83TH 1 occurred most frequently among the top five heaviest yielders and was most adaptable than others.

3.8. CHICKPEA INTERNATIONAL F_4 TRIAL (CIF_4T)

Material

The material for the Chickpea International F_4 Trial comprised of 20 F_4 populations derived from different crosses and four checks. Three of the checks, ILC 482, ILC 620 and ILC 3279 were supplied by ICARDA and the fourth was to be added by the cooperator. The material was assumed

Table 3.7.1. Agronomic data for different locations in the CIF3T during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Sidi Bel Abbes	09.01.1985	29.06.1985	15	90		-	-	NA
BULGARIA	Toshevo	11.04.1985	01.08.1985	30	60		-	Afalon	Stepway 1
CHILE	Chillan	21.08.1985	NA	42	90		-	Linuron	California-INIA
CYPRUS	Laxia	26.11.1984	04.06.1985	24	54		-	-	Local
EGYPT	Shandweel	20.11.1984	08.05.1985	47	71		2	NA	Giza 1
FRANCE	La Batie Rolland	28.02.1985	08.08.1985		100		1	Benfuraline	Cascari
IRAN	Karaj	14.12.1984	17.07.1985	25	75		5	Treflan,Metasystox	Jam
ITALY	Metaponto	17.12.1984	18.07.1985	20	60		-	Tribunil	Materano
JORDAN	Marow	11.11.1984	07.06.1985	20	40		NA	NA	-
MEXICO	Eltablero	05.11.1985	10.04.1986	-			5	Lannate	NA
PAKISTAN	Faisalabad-1	10.11.1984	NA	25	50		2	B.H.C.,Dimecron	PB.1.
PAKISTAN	Faisalabad-2	04.11.1984	15.04.1985	-			1	-	-
PAKISTAN	Karak	17.10.1984	14.04.1985		50		-	-	CM72
PAKISTAN	Quetta	20.11.1984	29.06.1985	20	50		4	-	C-727
PERU	Paijan	10.05.1985	20.11.1985	-			2	Endithion,Citowett,Ribend	Criollo
SUDAN	Hudeiba	19.11.1984	.03.1985	43			7	NA	Geladi
SYRIA	Tel Hadya	02.12.1984	06.08.1985	30	50		-	Bravo,Bladex,Kerb	ILC 1929
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Ankara-1	27.03.1985	10.08.1985	-			-	Gusathion	NA
TURKEY	Ankara-2	07.04.1985	10.15.1985	23	60		-	Basudine	65 C 830
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
TURKEY	Izmir	NA	NA	NA			NA	NA	NA

NA = not available.

Table 3.7.2. Time to flowering (days) of entries at different locations in CIF3T during 1984/85.

CROSS NO.	PEDIGREE	ORIGIN	ALGERIA Sidi Bel Abbes	BULGARIA Toshevo	CHILE Chillan	CYPRUS Laxia	EGYPT Shandweel	FRANCE La Batie Rolland	IRAN Karaj
X 83 TH 1/	FLIP 81-41 X FLIP 81-56	ICARDA/ICRISAT	100	57	87	132	86	91	89
X 83 TH 3/	FLIP 81-41 X FLIP 82-65C	ICARDA/ICRISAT	100	57	87	133	86	91	90
X 83 TH 4/	FLIP 81-41 X FLIP 82-69C	ICARDA/ICRISAT	100	58	87	133	86	90	90
X 83 TH 5/	FLIP 81-41 X FLIP 82-72C	ICARDA/ICRISAT	100	57	87	134	87	92	91
X 83 TH 7/	FLIP 81-41 X FLIP 82-78C	ICARDA/ICRISAT	100	57	86	130	83	90	90
X 83 TH 8/	FLIP 81-56 X FLIP 81-57	ICARDA/ICRISAT	100	56	88	133	89	91	89
X 83 TH 13/	FLIP 81-56 X FLIP 82-78C	ICARDA/ICRISAT	98	56	87	133	85	91	92
X 83 TH 24/	FLIP 82-69CX FLIP 82-78C	ICARDA/ICRISAT	104	59	87	135	69	91	89
X 83 TH 26/	FLIP 82-72CX FLIP 82-78C	ICARDA/ICRISAT	100	59	88	135	85	94	92
X 83 TH 28/	FLIP 82-78CX FLIP 82-81C	ICARDA/ICRISAT	104	59	87	136	83	92	90
X 83 TH 43/	ILC 72 X ILC 35	ICARDA/ICRISAT	98	58	89	137	89	92	92
X 83 TH 58/	ILC 3346X ILC165	ICARDA/ICRISAT	100	57	87	134	86	91	92
x 83 TH 64/	ILC 604X FLIP 81-41	ICARDA/ICRISAT	100	54	85	132	85	90	91
X 83 TH 82/	ILC 3394X FLIP 81-41	ICARDA/ICRISAT	98	55	85	131	86	90	92
X 83 TH 89/	ILC 3396X FLIP 81-59	ICARDA/ICRISAT	92	56	87	132	84	91	90
X 83 TH114/	FLIP 82-8C X ILC 451	ICARDA/ICRISAT	98	54	89	137	85	91	90
X 83 TH120/	FLIP 82-68CX FLIP 82-92C	ICARDA/ICRISAT	104	61	89	138	87	93	94
X 83 TH121/	FLIP 82-69CX FLIP 82-92C	ICARDA/ICRISAT	104	59	87	135	86	92	90
X 83 TH123/	FLIP 82-72CX FLIP 82-93C	ICARDA/ICRISAT	100	61	91	139	86	94	92
X 82 TH133/	ILC 136X FLIP 82-78C	ICARDA/ICRISAT	98	58	88	132	84	90	92
X 83 TH136/	ILC 2593X FLIP 82-92C	ICARDA/ICRISAT	104	59	89	135	87	92	90
ILC 482		TURKEY	92	53	85	128	78	89	90
ILC 3279		USSR	104	62	90	139	86	95	92
LOCAL CHECK			92	60	87	136	80	96	94
LOCATION MEAN			99	57	87	134	84	92	91
S.E. OF MEAN			0.00	0.60	0.50	0.70	2.90	0.40	1.60
LSD. AT 5%			0.20	1.90	1.40	2.20	8.30	1.30	-
C.V. %			0.10	2.00	0.90	1.00	5.90	0.80	3.00
ERROR DF			46	46	46	46	46	46	46
SIGNIFICANCE			*	*	*	*	*	*	NS

Cont'd. ...

Table 3.7.2. Cont'd. ...

CROSS NO. X 83 TH	ITALY	JORDAN	MEXICO	PAKISTAN			
	Metaponto	Marow	El Tablero	Faisal-abad-1	Faisal-abad-2	Karak	Quetta
1	152	146	82	104	121	120	147
3	152	143	83	108	121	118	147
4	154	145	88	107	123	116	147
5	152	144	83	108	123	120	147
7	154	142	80	101	123	108	144
8	152	145	83	104	122	120	142
13	156	144	71	103	122	115	147
24	152	145	73	99	119	110	142
26	152	149	74	102	118	118	142
28	154	147	82	101	122	108	144
43	152	149	83	109	123	120	144
58	154	146	83	107	120	120	147
64	154	146	76	102	122	120	144
82	157	149	85	103	121	120	144
89	157	150	72	94	118	103	142
114	154	148	68	101	120	120	144
120	152	149	73	109	120	120	144
121	150	143	84	106	116	120	142
123	150	149	75	106	120	120	147
133	157	147	88	99	121	108	144
136	152	149	83	110	121	120	144
ILC 482	151	149	76	93	119	81	142
ILC 3279	150	149	70	96	122	115	144
LOCAL CHECK	150	148	-1	104	117	103	142
LOCATION MEAN	153	147	79	103	120	114	144
S.E. OF MEAN	1.60	1.40	0.66	2.10	2.30	2.40	1.80
LSD. AT 5%	-	4.20	1.88	6.10	-	7.00	-
C.V. %	1.90	1.70	1.44	3.50	3.30	3.70	2.20
ERROR DF	46	46	44	46	46	46	46
SIGNIFICANCE	NS	*	*	*	NS	*	NS

Cont'd. ...

Table 3.7.2. Cont'd. ...

CROSS NO. X 83 TH	PERU Paijan	SYRIA Tel Hadya	TURKEY Ankara-1	Ankara-2	Izmir	Overall Mean
1	81	134	71	53	125	104
3	77	134	73	54	123	104
4	76	134	75	55	124	104
5	80	134	72	55	127	104
7	71	134	75	53	120	102
8	72	136	74	53	125	103
13	72	136	72	53	125	103
24	67	135	75	56	127	101
26	69	136	75	54	125	103
28	70	135	75	56	124	103
43	76	137	76	53	127	105
58	83	135	75	54	125	105
64	76	135	72	52	125	103
82	70	135	70	53	118	103
89	46	136	69	51	127	99
114	73	136	75	52	129	103
120	76	137	76	55	125	105
121	71	136	75	56	127	104
123	77	137	76	55	125	105
133	67	135	75	53	125	103
136	78	137	77	55	127	105
ILC 482	49	140	70	50	121	97
ILC 3279	73	139	78	55	127	104
LOCAL CHECK	71	141	-	50	122	
LOCATION MEAN	71	136	74	53	125	
S.E. OF MEAN	2.60	0.40	One Rep.	0.30	1.60	
LSD. AT 5%	7.60	1.20		1.00	4.70	
C.V. %	6.40	0.50		1.10	2.30	
ERROR DF	46	46		46	46	
SIGNIFICANCE	*	*		*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.7.3. Time to maturity (days) of entries at different locations in CIF3T during 1984/85.

CROSS NO. X 83 TH	ALGERIA	BULGARIA	EGYPT	IRAN	JORDAN	MEXICO	PAKISTAN	
	Sidi Bel Abbes	Toshevo	Shandweel	Karaj	Marow	El Tablero	Karak	Faisalabad-1
1	168	103	161	142	190	144	180	155
3	168	104	162	144	190	147	180	158
4	168	104	165	142	190	146	180	157
5	168	103	165	145	191	144	180	158
7	168	104	159	145	191	144	180	155
8	168	103	162	144	191	147	180	158
13	168	104	165	144	191	146	180	156
24	168	104	160	143	191	143	180	157
26	168	108	162	142	190	143	180	156
28	168	106	159	143	190	148	180	158
43	168	106	163	145	190	145	180	158
58	168	107	166	147	191	145	180	156
64	168	105	164	144	191	143	180	158
82	168	102	165	145	191	142	180	155
89	168	106	164	145	191	143	180	156
114	168	104	161	145	190	143	180	158
120	168	105	166	144	191	143	180	158
121	168	104	162	144	190	145	180	157
123	168	104	165	145	191	142	180	158
133	168	104	163	143	191	142	180	157
136	168	104	163	145	191	144	180	158
ILC 482	168	102	163	146	190	144	170	152
ILC 3279	168	107	160	143	190	146	180	158
LOCAL CHECK	168	108	144	146	190	–	165	156
LOCATION MEAN	168	104	162	144	190	144	178	157
S.E. OF MEAN	0.00	1.30	3.40	1.40	0.40	0.54	0.00	1.50
LSD. AT 5%	–	–	–	–	–	1.54	–	–
C.V. %	0.00	2.20	3.70	1.70	0.40	0.65	0.00	1.70
ERROR DF	46	46	46	46	46	44	46	46
SIGNIFICANCE	NS	NS	NS	NS	NS	*	NS	NS

Cont'd. ...

Table 3.7.3.Cont'd. ...

CROSS NO. X 83 TH	PAKISTAN Quetta	PERU Paijan	SYRIA Tel Hadya	TURKEY Ankara-1	TURKEY Ankara-2	Overall Mean
1	194	150	176	115	93	151
3	195	155	177	120	89	153
4	195	153	176	118	92	152
5	195	153	177	117	92	152
7	195	150	176	121	89	152
8	193	145	179	118	89	152
13	192	145	178	118	91	152
24	197	141	177	122	92	151
26	196	145	178	121	94	152
28	195	143	176	121	90	152
43	195	156	178	123	92	153
58	197	160	179	123	93	154
64	194	148	178	120	88	152
82	195	150	179	118	89	152
89	195	153	180	119	91	153
114	195	146	180	121	90	152
120	194	151	180	122	90	153
121	195	150	179	121	90	152
123	195	153	179	121	89	153
133	196	143	179	121	88	151
136	195	150	179	124	93	153
ILC 482	195	138	182	121	89	150
ILC 3279	196	163	181	125	99	155
LOCAL CHECK	194	146	191	-	90	
LOCATION MEAN	135	149	179	120	91	
S.E. OF MEAN	1.10	3.10	1.00	One Rep.	0.50	
LSD. AT 5%	-	8.90	2.90		1.50	
C.V. %	0.90	3.60	1.00		1.00	
ERROR DF	46	46	46		46	
SIGNIFICANCE	NS	*	*		*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.7.4. Plant height (cm) of entries at different locations in CIF3T during 1984/85.

CROSS NO. X 83 TH	ALGERIA Sidi Bel Abbes	BULGARIA Toshevo	CHILE Chillan	CYPRUS Laxia	EGYPT Shandweel	FRANCE La Batie Rolland	IRAN Karaj	ITALY Metaponto	JORDAN Marow
1	30	35	56	45	118	50	26	62	44
3	35	40	65	45	100	51	28	71	47
4	35	36	59	45	98	46	24	74	48
5	35	38	70	49	103	55	27	73	46
7	35	38	60	51	90	54	29	69	47
8	35	35	57	42	96	42	22	66	40
13	35	40	62	49	103	47	23	72	31
24	40	43	68	50	126	57	31	77	39
26	40	43	76	56	115	47	29	71	37
28	40	43	81	56	125	49	30	79	49
43	45	35	67	47	118	46	35	27	41
58	35	42	65	47	116	51	26	71	45
64	30	34	56	45	90	49	30	62	42
82	30	33	56	42	108	43	25	66	36
89	40	40	67	50	103	49	27	67	39
114	40	39	64	57	116	49	36	76	36
120	45	38	67	57	130	47	32	72	44
121	45	40	73	52	115	53	31	79	44
123	35	37	73	57	118	52	30	77	39
133	35	39	73	57	120	50	30	74	40
136	35	33	62	52	111	51	32	27	40
ILC 482	35	34	59	45	88	46	20	66	32
ILC 3279	50	47	80	59	133	59	42	79	51
LOCAL CHECK	30	48	61	39	95	56	24	71	33
LOCATION MEAN	37	39	66	49	110	50	28	71	41
S.E. OF MEAN	0.00	2.10	4.00	3.90	8.40	2.90	3.00	2.90	3.40
LSD. AT 5%	0.00	6.10	11.60	-	23.90	8.30	8.60	8.30	9.60
C.V. %	0.00	9.50	10.60	11.20	13.20	10.10	18.20	7.00	14.10
ERROR DF	46	46	46	23	46	46	46	46	46
SIGNIFICANCE	*	*	*	NS	*	*	*	*	*

Cont'd. ...

Table 3.7.4.Cont'd. ...

CROSS NO. X 83 TH	MEXICO El Tablero	PAKISTAN Karak	PAKISTAN Faisalabad-1	PAKISTAN Quetta	PERU Paijan	SYRIA Tel Hadya	TURKEY Ankara-2	Overall Mean
1	71	70	60	39	70	27	25	51
3	112	58	60	40	65	32	30	54
4	108	55	75	43	71	38	29	55
5	99	55	73	38	80	34	31	56
7	87	70	74	45	69	34	25	54
8	114	53	68	38	57	27	27	51
13	115	55	64	37	78	30	33	54
24	90	75	81	43	81	44	31	61
26	104	85	86	48	68	37	31	60
28	111	65	76	40	81	44	35	62
43	94	80	87	37	70	31	34	55
58	87	66	63	43	89	35	34	57
64	93	58	62	40	72	28	28	51
82	109	70	55	39	55	27	27	51
89	92	80	69	48	75	33	33	57
114	98	85	72	49	82	37	33	60
120	104	85	81	47	81	35	31	62
121	89	82	74	36	84	41	35	60
123	112	80	83	46	82	34	35	61
133	108	86	74	41	77	35	34	60
136	92	70	89	36	75	32	30	54
ILC 482	111	55	57	39	55	20	26	49
ILC 3279	90	45	84	37	98	43	38	64
LOCAL CHECK	-	35	56	38	70	17	27	
LOCATION MEAN	99	67	72	41	74	33	31	
S.E. OF MEAN	3.07	1.90	7.10	4.20	6.30	1.60	0.30	
LSD. AT 5%	8.76	5.60	20.40	-	17.90	4.60	1.00	
C.V. %	5.33	5.00	17.20	17.70	14.60	8.50	2.00	
ERROR DF	44	46	46	46	46	46	46	
SIGNIFICANCE	*	*	*	NS	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.7.5. 100-Seed weight (g) of entries at different locations in CIF3T during 1984/85.

CROSS NO. X 83 TH	BULGARIA Toshevo	CHILE Chillan	EGYPT Shandweel	FRANCE La Batie Rolland	IRAN Karaj	ITALY Metaponto	MEXICO El Tablero
1	26	23	22	24	22	24	21
3	29	24	23	28	25	28	21
4	30	23	26	28	26	29	21
5	29	28	25	28	27	28	21
7	27	23	23	27	25	27	21
8	30	26	26	27	28	31	20
13	29	25	24	26	26	30	19
24	30	30	29	31	29	33	19
26	30	29	28	31	29	36	17
28	31	28	26	29	27	33	22
43	32	28	27	33	32	32	17
58	33	30	30	33	29	32	21
64	31	25	30	28	25	30	22
82	29	24	22	27	26	29	20
89	31	29	27	32	31	36	24
114	37	31	28	34	30	38	19
120	31	27	26	31	27	32	22
121	32	30	28	30	29	36	16
123	34	29	29	33	34	37	20
133	30	32	27	34	30	34	18
136	37	31	31	36	36	38	23
ILC 482	31	26	25	32	28	31	21
ILC 3279	29	26	26	30	27	29	17
LOCAL CHECK	28	44	23	28	28	41	-
LOCATION MEAN	31	28	26	30	28	32	20
S.E. OF MEAN	0.70	1.00	1.90	0.40	1.00	1.70	0.25
LSD. AT 5%	2.00	3.10	-	1.40	3.00	4.90	0.71
C.V. %	3.90	6.60	12.50	2.80	6.50	9.10	2.11
ERROR DF	46	46	46	46	46	46	44
SIGNIFICANCE	*	*	NS	*	*	*	*

Cont'd. ...

Table 3.7.5. Cont'd. ...

CROSS NO. X 83 TH	PAKISTAN Karak	PAKISTAN Quetta	PERU Paijan	TURKEY Ankara-2	Overall Mean	Rank
1	26	29	25	26	24	23
3	25	34	28	27	26	17
4	28	27	26	28	26	17
5	27	27	31	31	27	15
7	26	28	28	29	25	22
8	29	23	27	28	26	17
13	27	31	25	31	26	17
24	32	31	30	29	29	7
26	34	30	30	31	29	7
28	31	40	28	30	29	7
43	32	29	31	30	29	7
58	31	34	31	33	30	6
64	26	33	32	31	28	13
82	24	27	30	28	26	17
89	33	36	32	34	31	3
114	34	43	35	35	33	1
120	26	34	29	30	28	13
121	32	30	33	29	29	7
123	29	32	32	34	31	3
133	35	36	32	34	31	3
136	33	35	34	34	33	1
ILC 482	48	24	27	30	29	7
ILC 3279	29	27	26	31	27	15
LOCAL CHECK	19	26	31	32		
LOCATION MEAN	30	31	30	31		
S.E. OF MEAN	4.10	4.50	1.30	0.70		
LSD. AT 5%	-	-	3.80	2.00		
C.V. %	23.5	0.20	7.60	3.90		
ERROR DF	46	46	46	46		
SIGNIFICANCE	NS	NS	*	*		

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.7.6. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in CIF3T during 1984/85.

CROSS NO. X 83 TH	ALGERIA Sidi Bel Abbes		BULGARIA Toshevo		CHILE Chillan		CYPRUS Laxia		EGYPT Shandweel		FRANCE La Batie Rolland	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
1	1173	18	2571	20	1703	2	2275	1	1736	10	2961	13
3	1013	21	2682	15	1593	6	1793	18	2291	3	3113	9
4	1444	7	2634	19	1588	7	2052	6	2013	4	2687	17
5	840	24	2079	24	2161	1	1458	23	1458	19	3288	4
7	1111	19	2682	15	1656	3	2031	8	1250	20	3276	6
8	1638	2	2777	12	1656	3	2036	7	1527	18	3264	7
13	1527	3	2841	9	1609	5	2142	4	1597	15	2880	14
24	1236	15	2841	9	1500	13	1865	12	1944	5	3321	3
26	1479	6	3111	2	1526	9	1845	13	1875	7	2291	22
28	1388	10	2761	13	1552	8	2152	2	1944	5	2657	19
43	1097	20	2984	4	1067	22	1820	16	1597	15	2226	23
58	1493	5	2809	11	1328	17	1763	19	1666	12	3080	10
64	1409	9	2952	5	1526	9	1928	10	972	22	3151	8
82	1437	8	2857	8	1520	11	2102	5	2430	1	2687	17
89	1361	12	3015	3	1453	14	1822	15	1250	20	3062	12
114	923	22	2936	6	1395	15	1844	14	1875	7	2803	16
120	1208	17	2333	22	1208	21	1754	20	1805	9	1872	24
121	1215	16	2666	18	1364	16	1876	11	2361	2	3386	2
123	1340	13	2365	21	1244	19	1734	21	1666	12	3279	5
133	1368	11	3158	1	1223	20	2025	9	1569	16	2851	15
136	1500	4	2222	23	1520	11	1814	17	902	24	3077	11
ILC 482	1687	1	2888	7	994	23	2151	3	1180	22	3425	1
ILC 3279	1319	14	2682	15	875	24	1720	22	1666	12	2452	21
LOCAL CHECK	844	23	2746	14	1270	18	938	24	1736	10	2645	20
LOCATION MEAN	1294		2733		1439		1872		1679		2906	
S.E. OF MEAN	166.90		307.40		190.30		209.30		229.80		323.20	
LSD. AT 5%	475.00		-		541.60		-		654.00		-	
C.V. %	22.30		19.40		22.90		19.30		23.60		19.20	
ERROR DF	46		46		46		46		46		46	
SIGNIFICANCE	*		NS		*		NS		*		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	13		-		1		-		1		-	

Cont'd. ...

Table 3.7.6. Cont'd. ...

CROSS NO. X 83 TH	IRAN		ITALY		JORDAN		MEXICO		PAKISTAN			
	Karaj		Metaponto		Marow		El Tablero		Faisalabad-2		Karak	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
1	1387	4	3472	1	1653	3	1315	1	434	6	166	15
3	816	17	2930	21	1528	6	86	22	350	13	34	24
4	536	24	3166	12	1831	2	159	17	307	18	66	22
5	1449	3	3277	6	1517	8	419	11	355	12	219	12
7	1029	10	3319	5	1562	5	931	3	369	10	309	9
8	876	14	3472	1	1528	6	83	23	446	5	76	21
13	865	15	3458	3	746	22	220	14	260	20	115	18
24	992	11	3118	16	848	20	679	7	295	19	388	6
26	765	21	3173	11	1002	19	452	9	317	16	406	2
28	904	13	3125	14	1866	1	206	15	238	23	152	16
43	808	19	2826	22	1344	11	256	13	425	7	236	10
58	1161	5	3236	9	1126	16	948	2	479	3	151	17
64	1564	1	3125	14	1346	10	811	6	341	15	194	13
82	846	16	3277	6	1244	13	120	19	349	14	375	8
89	924	12	2972	20	677	23	904	4	255	21	402	3
114	1079	6	3090	18	1051	17	408	12	317	16	381	7
120	1069	7	3131	13	1195	15	831	5	420	8	400	4
121	817	17	3055	19	1511	9	133	18	369	10	191	14
123	771	20	3368	4	1262	12	175	16	371	9	115	18
133	723	22	3194	10	1026	18	118	20	476	4	229	11
136	1031	9	3263	8	1213	14	537	8	244	22	87	20
ILC 482	1054	8	3104	17	795	21	420	10	177	24	395	5
ILC 3279	590	23	2756	23	1595	4	93	21	658	2	62	23
LOCAL CHECK	1504	2	1827	24	383	24	-		984	1	486	1
LOCATION MEAN	982		3114		1244		448		385		235	
S.E. OF MEAN	305.00		246.80		255.00		113.76		158.00		113.70	
LSD. AT 5%	-		-		725.90		324.19		-		-	
C.V. %	53.80		13.70		35.50		43.93		71.00		83.70	
ERROR DF	46		46		46		44		46		46	
SIGNIFICANCE	NS		NS		*		*		NS		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		16		-		-		-	

Cont'd. ...

Table 3.7.6. Cont'd. ...

CROSS NO. X 83 TH	PAKISTAN				PERU		SYRIA	
	Faisalabad-1		Quetta		Paijan		Tel Hadya	
	Y	R	Y	R	Y	R	Y	R
1	1007	23	821	5	1051	23	1896	16
3	1457	6	768	7	888	24	1944	13
4	1162	11	671	11	1220	18	2166	4
5	948	24	937	2	1142	20	1944	13
7	1091	15	775	6	1094	21	2095	6
8	1386	7	601	16	1290	12	2063	9
13	1082	18	694	10	1597	7	1722	19
24	1677	1	648	13	1523	9	2341	1
26	1059	20	555	19	1432	10	2095	6
28	1513	5	763	8	1421	11	1928	15
43	1308	9	625	14	1086	22	1468	21
58	1075	19	849	4	1229	15	2047	10
64	1331	8	590	17	1264	14	2214	3
82	1041	21	659	12	1152	19	2293	2
89	1030	22	347	23	1281	13	1817	17
114	1101	14	543	20	1877	1	1365	22
120	1122	13	613	15	1734	4	2111	5
121	1635	2	520	21	1741	3	2095	6
123	1295	10	520	21	1579	8	2047	10
133	1578	3	560	18	1753	2	1761	18
136	1087	16	752	9	1226	17	2007	12
ILC 482	1137	12	914	3	1711	5	880	23
ILC 3279	1087	16	289	24	1229	15	1539	20
LOCAL CHECK	1574	4	1122	1	1646	6	555	24
LOCATION MEAN	1241		672		1382		1850	
S.E. OF MEAN	191.90		113.60		237.70		126.60	
LSD. AT 5%	-		323.30		-		360.40	
C.V. %	26.70		29.20		29.70		11.80	
ERROR DF	46		46		46		46	
SIGNIFICANCE	NS		*		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		-		22	

Cont'd. ...

Table 3.7.6. Cont'd. ...

CROSS NO. X 83 TH	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El Kef Y	TUNISIA El Kef R	TURKEY Ankara-2 Y	TURKEY Ankara-2 R	Overall Mean	(1) Rank
1	2133	5	1966	4	338	13	1820	1
3	1466	20	1950	5	401	5	1644	14
4	1908	12	2025	3	274	18	1703	8
5	2341	1	1933	6	528	2	1699	11
7	1933	11	1408	19	293	16	1702	9
8	1683	17	1350	21	353	9	1701	10
13	1225	23	1700	11	452	3	1619	16
24	2066	6	1481	18	274	18	1755	3
26	1716	16	1266	23	339	12	1602	19
28	1758	14	1400	20	295	15	1708	7
43	2008	10	1700	11	290	17	1513	22
58	2050	7	1583	15	415	4	1715	6
64	2050	7	1675	13	349	10	1744	4
82	2316	2	1900	8	388	6	1742	5
89	1658	19	1333	22	330	14	1556	21
114	2141	4	1875	9	341	11	1644	14
120	1675	18	2075	2	358	8	1608	17
121	2025	9	1916	7	263	20	1769	2
123	1391	21	1591	14	546	1	1601	20
133	1758	14	1708	10	263	20	1648	13
136	2233	3	2233	1	198	24	1663	12
ILC 482	1766	13	1550	16	206	23	1603	18
ILC 3279	1358	22	1091	24	247	22	1396	23
LOCAL CHECK	883	24	1483	17	361	7		
LOCATION MEAN	1814		1674		338			
S.E. OF MEAN	356.00		297.20		6.70			
LSD. AT 5%	-		-		19.10			
C.V. %	33.90		30.70		3.40			
ERROR DF	46		46		46			
SIGNIFICANCE	NS		NS		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		6			

(1) Faisalabad-2, Karak and Ankara-2 were excluded from the overall mean.

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.7.7. The five heaviest seed yielding entries at the individual locations in the CIF_3T during 1984/85.

RANK	ALGERIA	BULGARIA	CHILE	CYPRUS	EGYPT	FRANCE	IRAN
	Sidi Bel Abbes	Toshevo	Chillan	Laxia	Shandweel	La Batie Rolland	Karaj
1	ILC 482	X82TH 133	X83TH 5	X83TH 1	X83TH 82	ILC 482	X83TH 64
2	X83TH 8	X83TH 26	X83TH 1	X83TH 28	X83TH 121	X83TH 121	Local check
3	X83TH 13	X83TH 89	X83TH 7]	ILC 482	X83TH 3	X83TH 24	X83TH 5
4	X83TH 136	X83TH 43	X83TH 8]	X83TH 13	X83TH 4	X83TH 5	X83TH 1
5	X83TH 58	X83TH 64	X83TH 13	X83TH 82	X83TH 24]	X83TH 123	X83TH 58
					X83TH 28]		

Cont'd. ...

RANK	ITALY	JORDAN	MEXICO	PAKISTAN			
	Metaponto	Marow	Eltablero	Faisalabad-2	Karak	Faisalabad-1	Quetta
1	X83TH 1]	X83TH 28	X83TH 1	Local check	Local check	X83TH 24	Local check
2	X83TH 8]	X83TH 4	X83TH 58	ILC 3279	X83TH 26	X83TH 121	X83TH 5
3	X83TH 13	X83TH 1	X83TH 7	X83TH 58	X83TH 89	X82TH 133	ILC 482
4	X83TH 123	ILC 3279	X83TH 89	X82TH 133	X83TH 120	Local check	X83TH 58
5	X83TH 7	X83TH 7	X83TH 120	X83TH 8	ILC 482	X83TH 28	X83TH 1

Cont'd. ...

RANK	PERU	SYRIA	TUNISIA		TURKEY
	Paijan	Tel Hadya	Beja	El-Kef	Ankara-2
1	X83TH 114	X83TH 24	X83TH 5	X83TH 136	X83TH 123
2	X82TH 133	X83TH 82	X83TH 82	X83TH 120	X83TH 5
3	X83TH 121	X83TH 64	X83TH 136	X83TH 4	X83TH 13
4	X83TH 120	X83TH 4	X83TH 114	X83TH 1	X83TH 58
5	ILC 482	X83TH 120	X83TH 1	X83TH 3	X83TH 3

The brackets indicate entries having the same rank.

to provide a wide range of variation within which the cooperators were free to practice their own selection.

Methods and Management

The trial design was a randomised complete block with three replications. The suggested plot size was 4 rows, each 4 m long with inter- and intra row spacings of 45 - and 10 cm, respectively.

Twenty sets of trials were distributed to the cooperators in 14 countries. The results were, however, received for 15 and are reported. The agronomic details provided by cooperators are given in Table 3.8.1.

Results and Discussion

The data on time to flowering, time to maturity, plant height and 100-seed weight are given in Table 3.8.2, 3.8.3, 3.8.4 and 3.8.5, respectively. The cross means averaged over locations for time to flowering, time to maturity and plant height ranged from 96 days for X82TH 99 to 102 days for X82TH 61; 132 days for X82TH 2, -13, and -156 to 138 days for X82TH 85; 39 cm for X82TH 156 to 47 cm for X82TH 86; and 24 g for X82TH 156 to 35 g for X82TH 86, respectively.

The seed yield of the F_4 crosses and checks at each location is given in Table 3.8.6. Cross 82TH 98 ranked number 1 (2434 kg/ha) and was closely followed by X82TH 78 (1893 kg/ha) and X82TH 152 (1881 kg/ha) and X82TH 165 (1846 kg/ha) etc. The five best entries at each location are given in Table 3.8.7. It was observed that the populations X82TH 78 and X82TH 152 occurred most frequently among the top five heaviest yielders at each location.

3.9. CHICKPEA INTERNATIONAL ASCOCHYTA BLIGHT NURSERY (CIABN)

Material

Two Chickpea International Ascochyta Blight Nurseries CIABN-A (for kabuli types) and CIABN-B (for kabuli and desi types) were developed. CIABN-A included 40 test entries which were all kabuli types; and CIABN-B included 50 entries out of which 40 entries were same as that of CIABN-A and 10 entries were of desi types. In both these trials 29 test entries were from the materials developed through hybridization at ICARDA.

The susceptible check was the Syrian Local land race (ILC 1929).

Methods and Management

The suggested experimental design was randomised complete block design with two replications. The suggested plot size was one row 4 m long

Table 3.8.1. Agronomic data for different locations in the CIF4T during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
BULGARIA	Toshevo	11.04.1985	01.08.1985	30	60		-	Afalon	Stepway 1
FRANCE	La Batie Rolland	28.02.1985	08.08.1985		100		1	Benfluraline	Cascari
JORDAN	Marrow	NA	NA	20	40		NA	NA	NA
LEBANON	Terbol	22.11.1984	06.1985		50		NA	Kerb,Bladex	NA
MEXICO	Sonora	03.12.1984	10.06.1985	60			1	-	Surutato 77
PERU	La Molina	23.07.1985	30.12.1985	-			3	Afalon,Tamarin,Pamarsol	ACU-007
SYRIA	Tel Hadya	02.12.1984	08.06.1985	30	50		-	Bravo,Bladex,Kerb	ILC 3279
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Ankara-1	27.03.1985	10.08.1985	-			-	Gusathion	NA
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
TURKEY	Eskisehir	16.04.1985	18.08.1985	30	75		1	-	19/1-5
TURKEY	Izmir	NA	NA	NA			NA	NA	NA
U.S.A.	Highmore	14.04.1985	09.08.1985	NA			NA	Treflan	SD4I-6
U.S.A.	Wall SD	13.04.1985	31.07.1985	-			-	Treflan	SD4I-6

NA = not available.

Table 3.8.2. Time to flowering (days) of entries at different locations in CIF4T during 1984/85.

CROSS NO. & PEDIGREE	ORIGIN	BULGARIA Toshevo	FRANCE La Batie-Rolland	LEBANON Terbol	MEXICO Sonora	PERU La-Molina	SYRIA Tel-Hadya	TURKEY Izmir	TURKEY Ankara-1	Overall Mean
X 82 TH 2/ ILC 191XILC295	ICARDA/ICRISAT	56	93	148	86	72	138	122	74	98
X 82 TH 13/ ILC 2380XILC249	ICARDA/ICRISAT	57	90	144	86	75	135	120	71	97
X 82 TH 61/ ILC 95XILC191	ICARDA/ICRISAT	60	93	154	89	84	138	122	77	102
X 82 TH 65/ ILC 1250XILC191	ICARDA/ICRISAT	58	92	153	73	72	138	121	72	97
X 82 TH 77/ ILC 3346XILC464	ICARDA/ICRISAT	59	93	150	88	85	137	123	76	101
X 82 TH 78/ ILC 3346XILC249	ICARDA/ICRISAT	57	92	147	85	78	135	121	71	98
X 82 TH 81/ ILC 196XILC484	ICARDA/ICRISAT	56	90	145	83	73	136	120	72	96
X 82 TH 86/ ILC 3279XILC464	ICARDA/ICRISAT	61	93	150	88	85	138	123	75	101
X 82 TH 91/ ILC 202XILC464	ICARDA/ICRISAT	60	92	150	87	86	137	125	77	101
X 82 TH 92/ ILC 202XILC249	ICARDA/ICRISAT	57	91	140	85	78	138	122	75	99
X 82 TH 98/ ILC202WHXILC3394	ICARDA/ICRISAT	56	92	149	83	81	138	123	77	99
X 82 TH 99/ ILC202WHXILC3395	ICARDA/ICRISAT	57	91	150	74	73	138	120	72	96
X 82 TH137/ (ILC 97XILC 194)XILC2956	ICARDA/ICRISAT	59	91	148	86	86	136	121	77	99
X 82 TH146/ (ILC 445XILC 482)XILC202	ICARDA/ICRISAT	57	92	150	86	79	138	122	74	99
X 82 TH149/ (ILC 272XILC 482)XILC2956	ICARDA/ICRISAT	58	92	148	84	86	137	121	75	100
X 82 TH152/ (ILC 202XILC 256)XILC482	ICARDA/ICRISAT	54	91	145	84	78	136	120	73	97
X 82 TH156/ (ILC3279XILC 484)XILC194	ICARDA/ICRISAT	59	90	145	85	74	135	120	71	97
X 82 TH158/ (ILC 480XILC 72)XILC482	ICARDA/ICRISAT	59	91	146	85	87	136	119	75	99
X 82 TH160/ (ILC 610XILC 72)XILC165	ICARDA/ICRISAT	60	92	148	86	79	137	123	76	100
X 82 TH165/ (ILC1920XILC3279)XILC484	ICARDA/ICRISAT	56	92	144	83	76	135	119	75	97
ILC 620	TUNISIA	58	93	151	83	81	138	124	75	100
ILC 482	TURKEY -	53	90	144	73	69	139	119	71	94
ILC 1929	SYRIA -	62	96	154	89	92	140	128	81	105
LOCAL CHECK		61	96	148	61	72	139	125	-	
LOCATION MEAN		58	92	148	83	79	137	121	74	
S.E. OF MEAN		1.10	0.50	0.50	1.20	0.50	0.50	1.10	One Rep.	
LSD AT 5%		3.20	1.40	1.60	3.40	1.60	1.60	3.30		
C.V.%		3.30	0.90	0.60	2.50	1.20	0.70	1.60		
ERROR DF		46	46	46	46	46	46	46		
SIGNIFICANCE		*	*	*	*	*	*	*		

* = Significant at $P \leq 0.05$

Table 3.8.3. Time to maturity (days) of entries at different locations in CIF4T during 1984/85.

CROSS NO. X 82 TH	BULGARIA	LEBANON	MEXICO	PERU	SYRIA	TURKEY		U. S. A.		Overall Mean
	Toshevo	Terbol	Sonora	La Molina	Tel Hadya	Ankara-1	Eskisehir	Wall-SD	Highmore	
2	104	198	148	125	177	119	116	105	100	132
13	105	197	143	129	178	118	117	101	101	132
61	107	199	148	136	180	122	118	108	105	135
65	106	201	140	126	182	121	117	111	103	134
77	106	202	143	142	177	122	116	111	108	136
78	105	198	143	140	179	119	117	106	101	134
81	105	200	143	131	181	120	117	106	100	133
86	108	203	148	146	183	122	119	111	105	138
91	107	201	143	143	179	123	120	110	110	137
92	105	197	140	133	179	121	116	105	103	133
98	104	199	143	134	181	121	118	106	103	134
99	108	202	133	125	184	122	118	111	106	134
137	109	199	143	137	180	124	118	106	108	136
146	104	199	143	143	183	123	117	110	108	136
149	106	199	143	146	177	124	116	108	110	136
152	102	199	143	142	179	120	118	103	101	134
156	104	195	143	138	177	118	116	101	100	132
158	107	199	143	142	179	121	118	105	105	135
160	105	203	143	138	180	123	118	111	103	136
165	103	198	143	129	179	122	116	103	105	133
ILC 620	104	205	138	142	185	125	117	108	109	137
ILC 482	102	197	148	119	184	221	116	103	101	143
ILC 1929	108	199	143	152	183	127	119	111	105	138
LOCAL CHECK	106	203	128	132	180	-	118	100	100	
LOCATION MEAN	105	199	142	136	180	126	117	107	104	
S. E. OF MEAN	1.20	0.70	3.60	0.70	1.00	One Rep.	0.90	2.40	1.80	
LSD. AT 5%	3.40	2.00	-	2.20	2.90		-	6.90	5.30	
C.V.%	1.90	0.60	3.60	0.90	0.90		1.40	3.90	3.10	
ERROR DF	46	46	23	46	46		46	46	46	
SIGNIFICANCE	*	*	NS	*	*		NS	*	*	

* = Significant at $P \leq 0.05$
NS = not significant

Table 3.8.4. Plant height (cm) of entries at different locations in CIF4T during 1984/85.

CROSS NO. X 82 TH	BULGARIA Toshevo	FRANCE La Batie-Rolland	LEBANON Terbol	MEXICO Sonora	PERU La Molina	SYRIA Tel Hadya	TURKEY Eskisehir	U. S. A. Wall-SD	U. S. A. Highmore	Overall Mean
2	37	55	43	67	50	24	37	30	35	42
13	38	51	47	70	49	31	36	31	33	42
61	43	51	50	77	53	31	35	35	36	45
65	38	47	47	57	56	27	34	32	33	41
77	40	55	45	72	45	29	38	34	38	44
78	41	53	47	67	54	33	35	36	38	44
81	41	58	45	65	53	29	37	31	34	43
86	41	63	47	85	58	34	39	29	34	47
91	39	51	48	80	57	33	34	34	35	45
92	38	52	47	75	52	29	37	32	35	44
98	38	57	48	60	49	31	33	25	33	41
99	44	56	47	75	54	30	34	32	36	45
137	43	59	51	67	54	33	36	34	37	46
146	39	60	49	72	58	32	36	33	34	45
149	40	56	48	70	54	35	38	31	33	45
152	37	51	43	75	52	32	36	30	33	43
156	34	49	44	70	46	26	33	27	29	39
158	36	53	46	60	47	30	33	29	33	40
160	38	55	44	72	56	32	32	28	36	43
165	36	54	40	77	50	29	34	30	34	42
ILC 620	37	51	52	50	47	26	34	33	35	40
ILC 482	33	51	41	55	40	19	31	22	31	35
ILC 1929	50	58	55	87	82	41	44	38	40	55
LOCAL CHECK	42	55	43	57	41	43	35	25	30	
LOCATION MEAN	39	54	46	69	52	31	35	31	34	
S. E. OF MEAN	2.50	2.90	2.60	4.40	1.70	2.00	1.70	1.30	1.40	
LSD. AT 5%	7.20	-	-	13.00	4.90	5.60	5.00	3.80	3.90	
C.V.%	11.20	9.20	9.70	9.00	5.60	11.10	8.60	7.50	6.90	
ERROR DF	46	46	46	23	46	46	46	46	46	
SIGNIFICANCE	*	NS	NS	*	*	*	*	*	*	

* = Significant at $P \leq 0.05$
NS = not significant

Table 3.8.5.100-Seed weight (g) of entries at different locations in CIF4T during 1984/85.

CROSS NO. X 82 TH	BULGARIA Toshevo	FRANCE La Batie-Rolland	LEBANON Terbol	Overall Mean	Rank
2	28	27	27	27	19
13	26	25	24	25	22
61	30	29	28	29	13
65	30	28	28	28	17
77	34	35	33	34	3
78	30	29	29	29	13
81	27	27	26	26	21
86	36	37	34	35	2
91	35	33	35	34	3
92	30	30	28	29	13
98	29	29	32	30	9
99	33	35	33	33	5
137	27	28	26	27	19
146	33	34	32	33	5
149	31	33	31	31	7
152	31	33	31	31	7
156	25	26	23	24	23
158	30	31	29	30	9
160	31	31	28	30	9
165	30	28	26	28	17
ILC 620	45	47	47	46	1
ILC 482	30	33	27	30	9
ILC 1929	28	30	29	29	13
LOCAL CHECK	27	27	32		
LOCATION MEAN	31	31	30		
S. E. OF MEAN	0.70	1.00	1.30		
LSD. AT 5%	1.90	3.10	3.70		
C.V.%	3.80	6.00	7.50		
ERROR DF	46	46	46		
SIGNIFICANCE	*	*	*		

* = Significant at $P \leq 0.05$

Table 3.8.6. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in CIF4T during 1984/85.

CROSS NO. X 82 TH	BULGARIA Toshevo		FRANCE La Batie Rolland		LEBANON Terbol		MEXICO Sonora		PERU La Molina		SYRIA Tel Hadya	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
2	2137	21	2529	17	2489	9	1313	17	929	2	1166	21
13	2560	12	3071	1	2360	11	1604	9	753	9	1444	16
61	2687	6	2589	14	2050	21	1253	19	874	4	1507	13
65	2613	10	1312	24	2661	6	1420	14	857	6	666	23
77	2486	15	2351	20	2194	14	1243	20	716	10	1587	11
78	2338	20	2952	4	1986	22	1841	3	413	21	1761	3
81	2370	16	2812	7	2807	3	1282	18	697	12	1325	19
86	2634	9	2607	12	2454	10	1630	8	600	18	1460	15
91	2677	7	2267	22	2496	8	1457	13	496	19	1666	8
92	2656	8	2699	9	2079	17	1012	24	607	17	1492	14
98	9322	1	2904	5	2622	7	1816	5	631	16	1761	3
99	2846	2	2375	19	2334	12	1818	4	869	5	1365	18
137	2550	13	2604	13	2677	5	1547	11	282	22	1666	8
146	2349	19	2678	11	3406	1	1181	21	281	23	1444	16
149	2730	4	2815	6	2069	20	1461	12	636	15	1619	10
152	2370	16	3026	2	2175	15	1604	9	647	14	1722	5
156	2359	18	2488	18	1896	24	1345	16	702	11	1690	6
158	2730	4	3008	3	2126	16	1729	7	469	20	1865	2
160	2497	14	2565	16	1922	23	1375	15	815	7	1587	11
165	2042	23	2589	14	2222	13	1776	6	875	3	1992	1
ILC 620	2126	22	2250	23	2699	4	1121	23	765	8	992	22
ILC 482	2592	11	2770	8	2072	19	1891	2	1056	1	476	24
ILC 1929	2772	3	2279	21	2078	18	1152	22	213	24	1317	20
LOCAL CHECK	1809	24	2622	10	2815	2	2472	1	675	13	1674	7
LOCATION MEAN	2761		2590		2362		1514		661		1468	
S. E. OF MEAN	1344.10		201.40		284.20		232.20		49.50		203.90	
LSD. AT 5%	-		573.20		-		-		140.90		580.50	
C.V.%	84.30		13.40		20.80		21.60		12.90		24.00	
ERROR DF	46		46		46		23		46		46	
SIGNIFICANCE	NS		*		NS		NS		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		-		-		6		0	

Cont'd. ...

Table 3.8.6.Cont'd. ...

CROSS NO. X 82 TH	TUNISIA				TURKEY		U. S. A.				Overall Mean	(1) Rank
	Beja		El Kef		Eskischir		Wall-SD		Highmore			
	Y	R	Y	R	Y	R	Y	R	Y	R		
2	1700	5	1913	7	1647	7	1140	14	1429	14	1696	11
13	1250	14	1571	21	1608	10	1687	2	1903	2	1790	5
61	1458	11	1848	12	1320	18	1165	13	982	22	1675	14
65	1191	16	1891	9	1154	23	823	23	1319	17	1459	23
77	1233	15	1258	24	1425	15	682	24	1039	21	1517	22
78	2658	1	1906	8	1800	3	1274	10	1665	6	1893	2
81	1166	18	2091	1	1516	13	1273	11	1519	11	1734	9
86	1583	9	1998	4	1656	6	872	22	1352	16	1749	7
91	1166	18	1723	17	1025	24	905	20	1194	18	1588	20
92	1616	8	2091	1	1518	12	1210	12	1534	9	1698	10
98	1158	20	1891	9	1245	21	989	17	1403	15	2434	1
99	958	23	1975	5	1172	22	927	19	894	23	1663	13
137	950	24	1730	16	1297	19	1288	9	1681	4	1659	15
146	1075	22	1515	22	1604	11	966	18	1167	19	1650	17
149	1108	21	1688	20	1635	9	1072	15	1450	13	1683	12
152	2191	2	2020	3	1764	4	1298	8	1473	12	1881	3
156	1291	13	1695	19	1450	14	1318	5	1963	1	1623	18
158	1316	12	1815	15	1375	17	1389	4	1574	8	1782	6
160	1191	16	1825	14	1283	20	1057	16	1054	20	1612	19
165	2041	3	1713	18	1906	1	1311	6	1582	7	1846	4
ILC 620	1650	6	1920	6	1647	7	1402	3	-	5	1656	16
ILC 482	1533	10	1866	11	1904	2	1310	7	1676	10	1746	8
ILC 1929	1625	7	1498	23	1391	16	893	21	1524	3	1522	21
LOCAL CHECK	1858	4	1836	13	1712	5	1711	1	1730	24		
LOCATION MEAN	1498		1803		1502		1165		1439			
S. E. OF MEAN	328.50		190.30		178.00		155.50		129.76			
LSD. AT 5%	935.10		-		506.60		442.60		369.79			
C.V.%	37.90		18.20		20.50		23.10		15.61			
ERROR DF	46		46		46		46		44			
SIGNIFICANCE	*		NS		*		*		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		0		0		0			

(1) Highmore was excluded from the overall mean

* = Significant at $P \leq 0.05$, NS = not significant.

Table 3.8.7. The five heaviest seed yielding entries at the individual locations in the CIF_4T during 1984/85.

RANK	BULGARIA	FRANCE	LEBANON	MEXICO	PERU	SYRIA
	Toshevo	La Batie Rolland	Terbol	Sonora	La Molina	Tel Hadya
1	X82TH 98	X82TH 13	X82TH 146	Local check	ILC 482	X82TH 165
2	X82TH 99	X82TH 152	Local check	ILC 482	X82TH 2	X82TH 158
3	ILC 1929	X82TH 158	X82TH 81	X82TH 78	X82TH 165	X82TH 78
4	X82TH 158	X82TH 78	ILC 620	X82TH 99	X82TH 16	X82TH 98
5	X82TH 149	X82TH 98	X82TH 137	X82TH 98	X82TH 99	X82TH 152

Cont'd. ...

RANK	TUNISIA		TURKEY	U.S.A.	
	Beja	El-Kef	Eskisehir	Wall-SD	Highmore
1	X82TH 78	X82TH 81	X82TH 165	Local check	X82TH 156
2	X82TH 152	X82TH 92	ILC 482	X82TH 13	X82TH 13
3	X82TH 163	X82TH 152	X82TH 78	ILC 620	ILC 1929
4	Local check	X82TH 86	X82TH 152	X82TH 158	X82TH 137
5	X82TH 2	X82TH 99	Local check	X82TH 156	ILC 482

The brackets indicate entries having the same rank.

accomodating 40 plants. The susceptible check was repeatedly sown after every two test entries/rows to serve as an indicator cum spreader row. The cooperators in the Mediterranean region were advised to sow the nursery in the winter season instead of the usual spring season to get high disease pressure. Otherwise the nurseries were managed as per the local agronomic practices. In the absence of natural infestation, the cooperators were advised to do the artificial inoculation of the nursery with the blight disease either by scattering the diseased debris collected from the previous season or by supplementing the natural infection by spraying the spore suspension prepared from the freshly infected plants in the fields. A 1-9 scale was recommended for scoring the disease severity at least at two times, first in the vegetative stage and the second at the podding stage. The scale recommended was 1= highly resistant; 3= resistant; 5= tolerant; 7= susceptible; and 9= highly susceptible.

Thirty one sets of CIABN-A and 18 sets of CIABN-B were distributed to cooperators in 14 and 6 countries, respectively. The results were, however, received for 18 sets for CIABN-A and 10 sets for CIABN-B.

Results and Discussion

The performance of the entries in each location is presented in Table 3.9.1 and discussed as under:

Bulgaria: The nursery was sown at Toshevo. There was very little disease development and all the entries except ILC 1929 took rating of 1, ILC 1929 was rated at 5.

Egypt: At Tahrier in Egypt, 22 entries with rating of 1 to 4 were rated resistant.

Iran: At Karaj in Iran, the disease development was little and all the entries took ratings between 1 to 5. The entries namely ILC 182, -200, -3279, -3856, -3868, -3870, FLIP 82-1C, -52C, -258C, FLIP 83-7C, -13C, -21C, -28C, -31C, -46C, -47C and -48C with rating of 1 were comparatively better in resistance than others.

Italy: The nursery was sown at Basilicata. All the entries except ILC 1929 which took rating of 5, were rated as 1 or 3 on 1 to 9 scale.

Jordan: The nursery was sown at Marow. Only 8 entries (with rating of 1 to 4) namely FLIP 82-52C, -104C, -130C, -144C, -150C, -243C, -258C, and FLIP 83-46C were resistant.

Lebanon: The nursery was sown at Beqa'a and Terbol and the entry ILC 1929 was rated 9 and 8, respectively at these locations. At Beqa'a all other entries except ILC 215, -482, FLIP 82-64C, -104C, -258C and FLIP 83-7C and ILC 5127 were resistant. At Terbol, however, all entries showed resistant reaction.

Table 3.9.1. Reaction of entries to ascochyta blight in CIABN during 1984/85.

ENTRY NAME	ORIGIN	BULGARIA	EGYPT	IRAN	ITALY	JORDAN	LEBANON		MOROCCO	PAKISTAN	
		Toshevo	Tahrier	Karaj	Basilicata	Marow	Beqa'a	Terbol	Marchouch	Tarnab	Faisalabad-1
ILC 72	SPAIN	1	3	3	1	7	3	2	1	3	9
ILC 182	USSR	1	3	1	1	5	4	2	5	3	9
ILC 200	USSR	1	1	1	1	5	4	2	5	3	9
ILC 202	USSR	1	3	3	1	5	3	2	1	3	9
ILC 215	USSR	1	3	5	3	9	9	2	5	5	9
ILC 482	TURKEY	1	5	5	1	7	6	2	3	6	9
ILC 3279	USSR	1	5	1	1	5	2	3	5	2	9
ILC 3856	MOROCCO	1	3	1	1	5	4	2	5	3	7
ILC 3868	BULGARIA	1	3	1	3	5	4	2	1	3	9
ILC 3870	BULGARIA	1	3	1	3	5	4	2	3	6	5
ILC 4421	USSR	1	7	3	1	5	4	2	3	3	9
FLIP 81- 70	ICARDA/ICRISAT	1	7	5	1	7	4	2	3	6	9
FLIP 81-293	ICARDA/ICRISAT	1	3	3	1	5	4	2	5	5	9
FLIP 82- 1C	ICARDA/ICRISAT	1	3	1	1	8	4	2	5	6	9
FLIP 82- 52C	ICARDA/ICRISAT	1	1	1	1	4	3	2	5	4	9
FLIP 82- 64C	ICARDA/ICRISAT	1	3	3	3	7	5	2	1	5	9
FLIP 82- 74C	ICARDA/ICRISAT	1	3	3	3	7	3	2	3	3	7
FLIP 82- 93C	ICARDA/ICRISAT	1	5	5	1	8	4	2	3	4	7
FLIP 82-104C	ICARDA/ICRISAT	3	5	3	1	3	5	2	3	4	9
FLIP 82-127C	ICARDA/ICRISAT	1	1	3	3	7	3	2	3	4	9
FLIP 82-128C	ICARDA/ICRISAT	1	5	3	1	7	4	2	5	4	9
FLIP 82-130C	ICARDA/ICRISAT	1	1	3	1	3	4	2	3	3	9
FLIP 82-144C	ICARDA/ICRISAT	1	1	3	1	4	4	2	5	5	7
FLIP 82-150C	ICARDA/ICRISAT	1	1	3	3	3	4	2	5	5	9
FLIP 82-191C	ICARDA/ICRISAT	1	3	5	3	6	4	2	3	4	5
FLIP 82-243C	ICARDA/ICRISAT	1	3	3	1	4	4	2	3	4	9
FLIP 82-258C	ICARDA/ICRISAT	1	5	1	1	4	5	2	5	3	9
FLIP 82-259C	ICARDA/ICRISAT	1	5	3	1	6	4	2	1	5	9
FLIP 83- 7C	ICARDA/ICRISAT	1	7	1	1	7	5	2	3	4	7
FLIP 83- 12C	ICARDA/ICRISAT	1	5	3	1	7	3	2	1	3	7
FLIP 83- 13C	ICARDA/ICRISAT	1	3	1	3	5	3	2	3	4	7
FLIP 83- 15C	ICARDA/ICRISAT	1	1	3	1	7	4	2	1	5	9
FLIP 83- 21C	ICARDA/ICRISAT	1	9	1	1	6	3	2	1	3	9
FLIP 83- 22C	ICARDA/ICRISAT	1	9	3	1	5	4	4	3	6	9
FLIP 83- 28C	ICARDA/ICRISAT	1	5	1	1	5	4	2	1	5	7
FLIP 83- 31C	ICARDA/ICRISAT	3	7	1	3	8	4	2	3	5	9
FLIP 83- 46C	ICARDA/ICRISAT	1	5	1	1	4	4	2	3	4	9
FLIP 83- 47C	ICARDA/ICRISAT	1	7	1	1	7	3	2	1	5	9
FLIP 83- 48C	ICARDA/ICRISAT	1	5	1	3	6	3	2	1	4	9
FLIP 83- 60C	ICARDA/ICRISAT	1	3	5	1	7	3	2	1	5	9
ICC 3932	IRAN	NT	NT	NT	NT	NT	3	2	NT	5	9
ICC 5035	INDIA	NT	NT	NT	NT	NT	4	2	NT	3	7
ICC 5127	UNKNOWN	NT	NT	NT	NT	NT	6	4	NT	3	9
ICC 5566	MEXICO	NT	NT	NT	NT	NT	4	2	NT	4	9
ICC 6304	USSR	NT	NT	NT	NT	NT	4	2	NT	5	9
ICC 6306	USSR	NT	NT	NT	NT	NT	3	2	NT	4	9
ICC 6373		NT	NT	NT	NT	NT	3	2	NT	5	9
ICC 6945	IRAN	NT	NT	NT	NT	NT	2	2	NT	5	9
PCH 70	MOROCCO	NT	NT	NT	NT	NT	4	2	NT	5	7
PCH 124	MOROCCO	NT	NT	NT	NT	NT	3	2	NT	3	9
ILC 1929		5	9	5	7	9	9	8	7	9	9

Cont'd. ...

Table 3.9.1. Cont'd. ...

		PAKISTAN		SPAIN	SYRIA			TUNISIA	TURKEY		U.S.A.	
ENTRY NAME	ORIGIN	Faisalabad-2	Islamabad	Cordoba	Jableh	Lattakia	Tel Hadya	Tunis	Izmir	Ankara	S.Dakota	Highmore
ILC 72	SPAIN	7	3	3	2	3	3	7	3	3	3	3
ILC 182	USSR	7	3	5	4	3	3	7	3	5	4	4
ILC 200	USSR	7	3	5	5	3	5	8	2	4	3	3
ILC 202	USSR	9	3	3	3	3	3	9	2	3	3	3
ILC 215	USSR	7	6	7	8	4	5	7	5	7	7	7
ILC 482	TURKEY	7	6	6	5	3	5	9	4	6	5	5
ILC 3279	USSR	9	2	3	2	3	3	7	2	4	7	4
ILC 3856	MOROCCO	7	3	5	4	3	3	8	4	4	7	5
ILC 3868	BULGARIA	7	2	6	5	3	3	7	4	3	4	4
ILC 3870	BULGARIA	7	9	5	5	4	3	9	3	4	3	3
ILC 4421	USSR	7	3	5	6	3	7	7	4	4	3	3
FLIP 81- 70	ICARDA/ICRISAT	7	7	6	6	3	5	8	3	5	5	4
FLIP 81-293	ICARDA/ICRISAT	7	6	6	6	3	4	7	4	5	7	7
FLIP 82- 1C	ICARDA/ICRISAT	7	6	5	7	3	3	7	5	6	7	7
FLIP 82- 52C	ICARDA/ICRISAT	7	6	6	7	3	4	6	4	5	7	4
FLIP 82- 64C	ICARDA/ICRISAT	7	4	5	7	3	3	7	5	5	7	5
FLIP 82- 74C	ICARDA/ICRISAT	7	3	5	5	3	3	9	4	4	3	3
FLIP 82- 93C	ICARDA/ICRISAT	7	5	4	3	3	5	7	4	6	3	3
FLIP 82-104C	ICARDA/ICRISAT	7	6	6	6	3	5	9	3	6	3	3
FLIP 82-127C	ICARDA/ICRISAT	7	6	6	6	3	3	9	3	3	5	5
FLIP 82-128C	ICARDA/ICRISAT	7	6	6	6	3	2	9	3	5	5	5
FLIP 82-130C	ICARDA/ICRISAT	7	4	6	7	3	5	6	4	5	5	5
FLIP 82-144C	ICARDA/ICRISAT	7	6	6	4	4	3	8	4	5	5	5
FLIP 82-150C	ICARDA/ICRISAT	7	7	6	7	3	5	7	4	6	4	4
FLIP 82-191C	ICARDA/ICRISAT	7	6	6	3	3	5	8	3	4	5	5
FLIP 82-243C	ICARDA/ICRISAT	5	6	6	5	3	3	7	4	5	7	7
FLIP 82-258C	ICARDA/ICRISAT	7	4	5	3	3	5	8	2	5	5	5
FLIP 82-259C	ICARDA/ICRISAT	7	6	5	5	3	5	9	4	5	9	5
FLIP 83- 7C	ICARDA/ICRISAT	7	3	5	2	3	3	8	4	5	7	7
FLIP 83- 12C	ICARDA/ICRISAT	5	3	5	5	6	3	9	4	4	5	5
FLIP 83- 13C	ICARDA/ICRISAT	9	3	5	5	8	3	5	3	5	5	5
FLIP 83- 15C	ICARDA/ICRISAT	7	6	5	5	3	5	8	4	6	7	6
FLIP 83- 21C	ICARDA/ICRISAT	5	3	5	4	3	5	9	3	5	7	5
FLIP 83- 22C	ICARDA/ICRISAT	9	6	6	6	3	5	8	4	5	7	5
FLIP 83- 28C	ICARDA/ICRISAT	9	3	6	4	3	3	9	4	6	7	6
FLIP 83- 31C	ICARDA/ICRISAT	7	6	6	6	4	4	9	4	5	5	5
FLIP 83- 46C	ICARDA/ICRISAT	7	5	5	7	3	3	6	3	4	3	3
FLIP 83- 47C	ICARDA/ICRISAT	5	8	5	7	4	3	7	3	3	5	5
FLIP 83- 48C	ICARDA/ICRISAT	9	4	4	3	3	5	7	3	5	5	5
FLIP 83- 60C	ICARDA/ICRISAT	7	6	5	6	3	5	9	4	4	4	4
ICC 3932	IRAN	9	6	NT	NT	3	3	NT	NT	NT	NT	NT
ICC 5035	INDIA	5	4	NT	NT	5	3	NT	NT	NT	NT	NT
ICC 5127	UNKNOWN	9	3	NT	NT	3	7	NT	NT	NT	NT	NT
ICC 5566	MEXICO	7	3	NT	NT	4	2	NT	NT	NT	NT	NT
ICC 6304	USSR	9	6	NT	NT	3	3	NT	NT	NT	NT	NT
ICC5306	USSR	9	6	NT	NT	3	5	NT	NT	NT	NT	NT
ICC 6373		9	6	NT	NT	3	3	NT	NT	NT	NT	NT
ICC 6945	IRAN	7	6	NT	NT	3	3	NT	NT	NT	NT	NT
PCH 70	MOROCCO	5	6	NT	NT	4	3	NT	NT	NT	NT	NT
PCH 124	MOROCCO	7	4	NT	NT	3	5	NT	NT	NT	NT	NT
ILC 1929	SYRIA	9	8	9	9	8	7	9	8	8	9	9

Note: The disease development at Beja and El Kef location in TUNISIA was least, thus not included here.
NT= not tested

Morocco: The nursery was sown at Merchouch. ILC 1929 showed rating of 7, 12 entries were rated as 5, and all others were rated between 1 and 3. The entries with 1 rating included, ILC 72, -202, -3868, FLIP 82-64C, -259C, FLIP 83-12C, -15C, -21C, -28C, -47C, -48C and -60C, were highly resistant.

Pakistan: The nursery was sown at Tarnab, Faisalabad-1, Faisalabad-2 and Islamabad. At all the locations ILC 1929 took rating of 8 or 9. Twenty nine entries at Tarnab, none at Faisalabad-1 and Faisalabad-2, and 22 at Islamabad were rated as resistant. None of the entries across Pakistan locations was resistant.

Spain: The nursery was sown at Cordoba. Only five entries namely ILC 72, ILC 202, ILC 3279, FLIP 82-93C and FLIP 83-48C were rated as resistant. All other entries had tolerant to susceptible ratings.

Syria: Out of 40 kabuli entries tested at Jableh, thirteen entries, and out of 50 entries (40 kabuli and 10 desi) tested at Lattakia and Tel Hadya, 47 entries at Lattakia, and 31 entries at Tel Hadya were rated as resistant. Among the kabuli types, 8 entries and among desi types six entries were resistant across sites.

Tunisia: The nursery was sown at Beja, El-Kef and Tunis. At Beja and El-Kef the disease development was almost neglibible and thus the reaction was not recorded. At Tunis, However, none of the entries showed resistant reaction.

Turkey: The nursery was sown at Izmir and Ankara. At both the sites ILC 1929 was rated 8. At Izmir all the entries except ILC 215, FLIP 82-1C, and FLIP 82-64C were rated as resistant. However, at Ankara, 15 entries out of 40 were rated as resistant. All the entries which were resistant at Ankara were also resistant at Izmir.

U.S.A.: The nursery was sown at Dakota and Highmore. Thirteen entries at Dakota, and 16 at Highmore showed resistant reaction. All the entries which showed resistant reaction at Dakota were also resistant at Highmore.

On the basis of overall locations in different countries, out of 50 test entries, ILC 202, ILC 72, ILC 3868, FLIP 82-74C, FLIP 83-46C, ILC 3279, and ILC 182 occurred most frequently among the resistant lines and were widely adaptable.

3.10. CHICKPEA INTERNATIONAL LEAFMINER NURSERY (CILMN)

Material

The Chickpea International Leafminer Nursery comprised of 30 test entries. The susceptible check was ILC 3397.

Table 3.10.1. Reaction of chickpea entries to leaf miner in CIABN during 1984/85.

ENTRY NAME	ORIGIN	BULGARIA	PERU	SYRIA			TUNISIA
		Toshevo	Paijan	Alghab	Izra'a	Tel-hadya	Jendouba
ILC 11	JORDAN	5	1	3	7	7	2
ILC 32	SYRIA	5	1	3	5	7	2
ILC 333	IRAN	5	1	3	5	6	1
ILC 352	IRAN	3	1	3	5	9	2
ILC 356	IRAN	3	1	3	5	7	2
ILC 359	IRAN	3	1	3	7	7	1
ILC 404	IRAN	5	1	3	7	7	4
ILC 617	TUNISIA	3	1	3	7	9	2
ILC 715	IRAN	5	1	3	7	8	1
ILC 722	IRAN	5	1	3	5	8	4
ILC 726	IRAN	3	1	3	5	6	1
ILC 730	IRAN	5	1	3	5	5	2
ILC 732	IRAN	3	1	3	7	7	4
ILC 800	IRAN	5	1	3	7	7	3
ILC 805	IRAN	3	1	5	7	7	2
ILC 824	IRAN	3	1	5	5	6	2
ILC 854	IRAN	5	1	3	7	7	1
ILC 992	IRAN	3	1	3	7	4	4
ILC 1000	IRAN	3	1	3	5	5	1
ILC 1003	IRAN	3	1	3	7	7	1
ILC 1008	IRAN	3	1	3	7	6	1
ILC 1048	IRAN	5	1	3	5	6	2
ILC 1169	IRAN	5	1	3	7	5	2
ILC 1187	TURKEY	3	1	3	5	7	1
ILC 1216	IRAN	3	1	3	7	4	3
ILC 1776	CHILE	5	1	3	7	7	4
ILC 2319	IRAN	3	1	3	7	5	4
ILC 2436	PAKISTAN	5	1	3	5	5	2
ILC 2961	IRAN	5	1	3	5	5	2
ILC 3805	MOROCCO	3	1	3	5	7	1
ILC 3397	SYRIA	5	3	5	9	9	4

Methods and Management

The suggested experimental design was randomised complete block design with two replications. The suggested plot size was one row 4 m long accomodating 40 plants. The susceptible check was repeatedly sown after every two test entries/rows to serve as an indicator row. A 1-9 scale was recommended for scoring the severity in the vegetative, flowering and mid podding stage. The scale recommended was 1= highly resistant; 3= resistant; 5= tolerant; 7= susceptible; and 9= highly susceptible.

Sixteen sets of leafminer nursery were distributed to cooperators in 9 countries, and the results were received for 7 sets from 4 countries.

Results and Discussion

The results from six locations reporting leafminer rating are given in Table 3.10.1. The leafminer ratings at El-Kef (Tunisia) were not reported. Out of six sites, only at two sites namely Izra'a and Tel Hadya in Syria the susceptible check was rated 9 and at other sites it ranged from 3 to 5. None of the lines at Izra'a and two lines namely ILC 992 and ILC 1216 at Tel Hadya in Syria showed resistant reaction.

4. FABA BEAN INTERNATIONAL TRIALS AND NURSERIES

Introduction

Fourteen sets of trials and nurseries were available to cooperators. These included yield trials, screening nurseries, F_3 nurseries, disease and pest nurseries and agronomy trials. Except for agronomy trials all other nurseries and trials are discussed in this section. The cooperators were free to use these materials in their breeding programs or for release as cultivars. The results reported by the cooperators are presented in the following pages.

4.1. FABA BEAN INTERNATIONAL YIELD TRIAL - LARGE SEED (FBIYT-L)

Material

The Faba Bean International Yield Trial -. Large Seed (FBIYT-L) comprised of 23 test entries and one local check to be supplied by the cooperator. All these entries were tested for their superior performance at least once either in regional trials or international screening nurseries.

Methods and Management

The trial design was a randomised complete block with 3 replications. The suggested plot size was 4 rows, each 4 m long, with inter row spacing of 0.50 m accomodating 100 seeds per plot. Forty sets of the trial were distributed in 23 countries. The results were returned from 26 locations from 19 countries. The agronomic details received from the cooperators for different locations are given in Table 4.1.1. The trial at Mendoza in Argentina could not be sown, in Libya failed due to heavy infestation of ascochyta blight and at Zhejiang in China was ploughed up due to viral problems.

Results and Discussion

The data on time to flowering, time to maturity and plant height are given in Tables 4.1.2, 4.1.3 and 4.1.4, respectively. The location and entry means for time to flowering (Table 4.1.2) ranged from 54 days (for Denbi in Ethiopia) to 153 days for Graneros in Chile, and 93 days (for 80S80128) to 101 days (for 79S546), respectively. The time to maturity varied from 133 days for Denbi in Ethiopia to 193 days for Tripoli in Libya. There was, however, very little variation among entries in time to maturity. The plant height was least at Setif in Algeria (31 cm) and maximum at Denbi in Ethiopia (129 cm). Among the entries, however, ILB 1269 and ILB 1270 had the least plant height (69 cm), and FLIP 83-8FB, 79S546, and 80S80128 had the maximum plant height (76 cm).

The seed yield and rank of different entries at different locations is given in Table 4.1.5. The location mean of entries varied from 65 kg/ha at Yanamulco in Peru to 5708 kg/ha at Riyad in Saudi Arabia. The entry means, however, varied from 2231 kg/ha to 2665 kg/ha. The five best entries over all locations included ILB 1270,

Table 4.1.1 Agronomic data for different locations in the FBIYT-L during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Setif	26.12.1984	08.07.1985		46		-	Trifluraline	Seville
CHILE	Graneros	30.04.1985	28.12.1985		108		12	NA	Haba Blanca Aquadulce
CHINA	Zhejiang	04.11.1984	-	26	57	22	-	-	Cixi Debaican
ETHIOPIA	Denbi	28.06.1985	28.11.1985	-			NA	NA	NC58
EGYPT	Sakha	28.10.1984	18.04.1985	36	72		3	Igran	Giza3
IRAN	Gorgan	28.11.1984	25.05.1985	-			1	-	Loaal
IRAN	Ahvaz	13.10.1985	23.04.1986	34	58		8	Ambosh	Zohre
IRAQ	Mosul	24.11.1984	30.05.1985	-			6	-	Aquadulce
ITALY	Catania	15.12.1984	02.06.1985	45	90		NA	Nitrofen,Linuron	45 NSV
JORDAN	Marow	17.12.1984	06.07.1985	20	40		NA	NA	NA
JORDAN	Mushagar	04.12.1984	30.06.1985	20	40		NA	NA	-
LEBANON	Terbol	16.11.1984	20.06.1985		50		2	Igran,Kerb	Lebanese local large
LEBANON	Beqa'a	21.11.1984	14.05.1985		50		3	Nogus	NA
LIBYA	Tripoli	22.10.1984	31.05.1985	30	60		2	Pirimor	Aquadulce
MOROCCO	Douyet	11.1984	05.1985	30	50		-	Glyphosate,Dimethoate Pirimor	NA
PERU	Ancash	22.11.1984	06.1985	-			1	Pomarsol	Sincos
PERU	Cusco	21.11.1984	19.06.1985	-			-	Antraco	Blanco Anta
PERU	Yanamuclo	20.10.1984	06.05.1985	-			2	Tamaun	Sincos
SAUDI ARABIA	Riyad	21.10.1984		74	112		13	Delabone,Lancer,Novakrone Malathion,Pirimor,Diptrex	Local
SYRIA	Tel Hadya	1.11.1984	06.1985	30	50		-	Kerb,Igran,Fusilade, Thiodan,Pirimor	ILB 1814
TUNISIA	Beja	NA							
TUNISIA	Jendouba	24.11.1984	03.06.1985	-			-	-	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Izmir	20.11.1984	04.06.1985	-			-	Funlate	Seville
U.A.EMIRATES	Dhaid	03.11.1984	01.04.1985	427	267		Weekly	Cymbush,Thiodan,Kalif 10 Plictran,Actellic,Kelthane	Aquadulci

NA = not available

Table 4.1.2. Time to flowering (days) of entries at different locations in FBIYT-L during 1984/85.

ILB/CROSS NO.	PEDIGREE	ALGERIA Setif	CHILE Graneros	CHINA Zhejiang	EGYPT Sakha	ETHIOPIA Denbi	IRAN Gorgan	IRAN Ahvaz	IRAQ Mosul	ITALY Catania
1814	SYRIAN LOCAL LARGE	127	115	154	65	57	74	107	127	115
1813	SYRIAN LOCAL LONG POD	128	115	154	75	55	74	107	123	115
1815	LATTAKIA LOCAL	126	115	154	65	55	74	107	126	115
1814	79S4	130	110	154	60	54	74	120	128	115
398	76TA56264	127	119	154	75	52	74	107	128	115
1817	LEBANESE LOCAL LARGE	127	119	153	65	52	74	107	127	115
1805	ELEGANT 5 MCI	128	106	152	50	48	74	107	128	115
605	78S49694	125	102	153	50	50	74	107	127	115
1821	TURKISH LOCAL	125	117	154	60	60	74	107	128	115
X75TA43	FLIP 83-8FB	127	110	153	65	55	74	107	128	115
1270	REINA BLANCA	127	113	153	65	57	74	107	128	115
282	79SL48590	126	117	154	65	53	74	113	129	115
31	74TA87	125	110	153	65	56	74	107	129	115
9	74TA22	127	117	154	60	54	74	107	129	115
1814	79S546	127	119	154	65	57	74	107	128	115
1814	79S653	128	113	153	65	56	74	107	127	115
X79S160	80S80128	128	102	152	55	49	74	107	127	115
10	78S49907	128	115	154	60	52	74	107	129	115
1269	NEW MAMMOTH	127	113	153	65	51	74	107	126	115
1933	SEVILLA GIANT	126	113	153	65	55	74	113	128	115
X79S72	80S80028	128	119	153	63	58	74	107	129	115
X79S155	80S80123	128	115	154	65	49	74	113	128	115
X79L153	80S81054	127	106	153	65	56	74	107	126	115
-	LOCAL CHECK	126	119	154	40	50	74	107	130	115
LOCATION MEAN		127	113	153	62	54	74	108	128	115
S.E.OF MEAN		1.10	1.40	0.32	0.34	2.94	0.00	3.45	8.60	0.00
L.S.D.AT 5%		-	4.09	0.92	0.97	-	-	-	24.50	-
C.V. %		1.60	2.20	0.37	0.95	9.42	0.00	5.54	11.80	0.00
ERROR DF		46	46	46	46	46	46	46	46	46
SIGNIFICANCE		NS	*	*	*	NS	NS	NS	*	NS

Cont'd. ...

Table 4.1.2. Cont'd. ...

ENTRY NAME	JORDAN	LEBANON	LIBYA	PERU			S.ARABIA	SYRIA	TURKEY	U.A.EMIRATES	Oveerall Mean
	Marow	Terbol	Tripoli	Cusco	Ancash	Yanamuclo	Riyad	Tel Hadya	Izmir	Dhaid	
SYRIAN LOCAL LARGE	134	122	93	75	82	96	56	119	106	64	99
SYRIAN LOCAL LONG POD	137	122	92	75	73	94	57	121	107	61	99
LATTAKIA LOCAL	138	122	94	75	73	103	60	119	105	58	98
79S4	142	122	89	74	93	108	57	119	106	59	99
76TA56264	144	120	94	74	91	108	59	120	107	62	100
LEBANESE LOCAL LARGE	146	120	85	75	73	92	55	121	105	60	98
ELEGANT 5 MCI	138	120	79	74	73	96	50	119	105	53	95
76S49694	137	120	76	73	84	95	56	121	105	54	95
TURKISH LOCAL	141	122	93	74	84	105	66	120	109	59	100
FLIP 83-8FB	134	122	92	75	82	103	61	120	107	58	99
ILB CROSS NO. 1270	140	122	95	74	82	96	59	122	105	65	98
79SL48590	148	121	95	75	73	102	58	121	107	60	100
74TA87	136	120	89	74	73	103	57	120	105	58	97
74TA22	144	122	93	74	73	118	56	121	107	59	100
79S546	138	122	97	73	82	103	58	119	107	59	101
79S653	140	120	92	75	73	105	58	120	105	63	100
80S80128	138	120	77	75	73	102	51	121	105	55	93
78S49907	140	122	92	73	102	106	54	120	105	59	100
ILB CROSS NO. 1269	138	122	86	74	73	95	54	121	105	62	97
ILB CROSS NO. 1933	144	122	96	75	73	96	56	120	106	64	100
80S80028	142	122	88	73	93	101	60	120	105	58	99
80S80123	136	120	87	73	82	111	52	120	105	58	100
80S81054	138	122	91	73	73	101	56	121	105	59	96
LOCAL CHECK	137	121	81	90	91	103	71	118	105	63	
LOCATION MEAN	139	121	89	74	80	102	57	120	106	59	
S.E.OF MEAN	2.60	0.24	2.00	0.40	6.40	5.10	3.50	0.40	1.37	0.50	
L.S.D AT 5%	7.30	0.67	5.80	1.20	-	-	-	1.30	-	1.60	
C.V. %	3.20	0.39	3.90	1.00	13.90	8.70	10.70	0.70	2.24	1.70	
ERROR DF	46	69	46	46	46	46	46	69	46	46	
SIGNIFICANCE	*	*	*	*	NS	NS	NS	*	NS	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.1.3. Time to maturity (days) of entries at different locations in FBIYT-L during 1984/85.

ENTRY NAME	ETHIOPIA	IRAN		IRAQ	ITALY	JORDAN	LEBANON
	Denbi	Gorgan	Ahvaz	Mosul	Catania	Marow	Terbol
SYRIAN LOCAL LARGE	133	136	190	169	168	164	204
SYRIAN LOCAL LONG POD	135	136	190	162	168	158	203
LATTAKIA LOCAL	134	136	190	168	168	165	202
79S4	135	136	190	169	168	170	203
76TA56264	134	136	190	170	168	164	200
LEBANESE LOCAL LARGE	134	136	190	169	168	165	199
ELEGANT 5 MCI	135	136	190	170	168	170	199
78S49694	131	136	190	170	168	166	199
TURKISH LOCAL	137	136	190	171	168	167	200
FLIP 83-8FB	133	136	190	171	168	160	201
ILB CROSS NO. 1270	130	136	190	171	168	163	199
79SL48590	133	136	190	172	168	166	198
74TA87	131	136	190	167	168	165	200
74TA22	134	136	190	171	168	167	200
79S546	134	136	190	171	168	163	204
79S653	134	136	190	171	168	162	204
80S80128	134	136	190	168	168	159	199
78S49907	133	136	190	171	168	171	201
ILB CROSS NO. 1269	134	136	190	169	168	168	199
ILB CROSS NO. 1933	134	136	190	170	168	162	200
80S80028	133	136	190	170	168	165	201
80S80123	134	136	190	171	168	162	201
80S81054	134	136	190	168	168	163	198
LOCAL CHECK	131	136	190	172	168	161	200
LOCATION MEAN	133	136	190	170	168	164	200
S. E. OF MEAN	1.57	0.00	0.00	11.50	0.00	3.30	0.98
L.S.D. AT 5%	-	-	-	32.70	-	-	2.77
C.V. %	2.04	0.00	0.00	11.80	0.00	3.50	0.98
ERROR DF	46	46	46	46	46	46	69
SIGNIFICANCE	NS	NS	NS	*	NS	NS	*

Cont'd. ...

Table 4.1.3. Cont'd. ...

ENTRY NAME	LIBYA	PERU		S. ARABIA	SYRIA	U.A.EMIRATES	Overall Mean
	Tripoli	Cusco	Ancash	Riyad	Tel Hadya	Dhaid	
SYRIAN LOCAL LARGE	193	180	181	150	171	140	167
SYRIAN LOCAL LONG POD	194	180	180	142	172	140	166
LATTAKIA LOCAL	194	180	186	143	173	145	167
79S4	193	180	176	144	171	142	167
76TA56264	194	180	180	150	171	140	167
LEBANESE LOCAL LARGE	192	180	184	138	173	138	166
ELEGANT 5 MCI	192	180	192	142	171	140	168
78S49694	193	180	179	140	173	142	167
TURKISH LOCAL	197	180	180	149	171	145	168
FLIP 83-8FB	192	180	192	147	172	142	168
ILB CROSS NO. 1270	190	180	182	147	171	140	167
79SL48590	193	180	181	145	172	138	167
74TA87	193	180	180	142	173	145	167
74TA22	192	180	170	145	172	140	166
79S546	195	180	180	146	173	145	168
79S653	194	180	177	147	171	144	167
80S80128	193	180	177	142	176	142	166
78S49907	194	180	187	141	171	140	168
ILB CROSS NO. 1269	192	180	180	143	171	140	167
ILB CROSS NO. 1933	195	180	173	143	171	142	166
80S80028	195	180	187	152	172	140	168
80S80123	193	180	186	138	171	145	167
80S81054	191	180	178	143	171	142	167
LOCAL CHECK	190	200	178	154	171	142	
LOCATION MEAN	193	180	181	145	172	141	
S. E. OF MEAN	0.90	0.00	6.50	2.60	0.70	0.20	
L.S.D. AT 5%	2.60	-	-	7.60	2.00	0.70	
C.V. %	0.80	0.00	6.30	3.20	0.80	0.30	
ERROR DF	46	46	46	46	69	46	
SIGNIFICANCE	*	NS	NS	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.1.4. Plant height (cm) of entries at different locations in FBIYT-L during 1984/85.

ENTRY NAME	ALGERIA	ETHIOPIA	IRAN		IRAQ	ITALY	JORDAN		LEBANON	
	Setif	Denbi	Gorgan	Ahvaz	Mosul	Catania	Mushagar	Marow	Beqa'a	Terbol
SYRIAN LOCAL LARGE	33	140	55	103	65	69	33	45	56	75
SYRIAN LOCAL LONG POD	32	130	60	108	64	63	40	40	59	70
LATTAKIA LOCAL	32	145	55	113	62	69	43	42	63	71
79S4	32	135	80	121	65	68	42	43	58	68
76TA56264	29	133	85	113	63	67	41	44	60	76
LEBANESE LOCAL LARGE	29	128	60	121	60	65	44	47	59	72
ELEGANT 5 MCI	32	128	65	114	53	68	38	45	52	67
78S49694	31	133	75	130	63	65	36	46	62	67
TURKISH LOCAL	33	140	65	116	62	71	42	42	54	67
FLIP 83-8FB	32	135	70	123	59	63	39	42	55	68
ILB CROSS NO. 1270	32	130	70	111	64	57	47	43	50	70
79SL48590	30	116	80	103	59	63	41	45	57	68
74TA87	31	125	72	106	54	67	43	43	54	76
74TA22	31	121	70	106	59	62	45	48	65	65
79S546	32	128	85	108	58	67	37	41	65	72
79S653	35	143	65	113	60	70	39	41	60	72
80S80128	32	133	65	116	62	68	41	47	57	73
78S49907	32	128	70	86	58	65	39	46	55	67
ILB CROSS NO. 1269	33	123	70	86	56	66	41	41	50	68
ILB CROSS NO. 1933	32	116	70	81	56	65	42	38	55	67
80S80028	31	128	75	79	60	68	38	45	62	68
80S80123	31	125	75	85	57	63	43	41	54	70
80S81054	33	120	75	93	58	61	42	44	54	63
LOCAL CHECK	29	130	70	80	70	71	36	42	55	75
LOCATION MEAN	31	129	70	105	60	66	40	43	57	70
S. E. OF MEAN	1.10	8.20	0.51	7.60	1.99	2.60	2.38	2.80	4.16	3.16
L.S.D. AT 5%	-	-	1.49	21.62	5.65	-	-	-	-	8.90
C.V. %	6.10	10.90	1.03	12.50	5.67	6.90	10.10	11.40	12.53	8.99
ERROR DF	46	46	23	46	46	46	46	46	46	69
SIGNIFICANCE	NS	NS	*	*	*	NS	NS	NS	NS	NS

Cont'd. ...

Table 4.1.4. Cont'd. ...

ENTRY NAME	LIBYA	PERU			S. ARABIA	SYRIA	TURKEY	U.A.EMIRATES	Overall Mean
	Tripoli	Cusco	Ancash	Yanamuclo	Riyad	Tel Hadya	Izmir	Dhaid	
SYRIAN LOCAL LARGE	98	111	85	50	114	53	61	68	73
SYRIAN LOCAL LONG POD	89	117	91	64	110	46	56	71	73
LATTAKIA LOCAL	93	105	83	51	105	50	56	63	72
79S4	92	108	68	63	120	48	55	66	74
76TA56264	105	111	85	55	113	47	58	70	75
LEBANESE LOCAL LARGE	92	102	86	76	105	43	53	82	74
ELEGANT 5 MCI	88	98	78	53	104	47	51	88	71
78S49694	91	101	78	63	103	46	55	93	75
TURKISH LOCAL	92	108	86	52	107	51	53	87	74
FLIP 83-8FB	105	113	93	50	107	50	58	95	76
ILB CROSS NO. 1270	89	79	85	55	90	40	46	88	69
79SL48590	97	101	81	63	110	45	55	93	73
74TA87	99	112	86	62	101	47	56	85	73
74TA22	104	116	76	61	105	46	60	85	74
79S546	96	112	93	61	112	52	65	81	76
79S653	96	114	81	52	118	51	61	83	75
80S80128	107	112	81	71	110	42	60	85	76
78S49907	107	120	90	62	106	47	51	90	74
ILB CROSS NO. 1269	74	104	80	52	109	45	56	81	69
ILB CROSS NO. 1933	101	114	80	72	112	45	50	88	72
80S80028	99	104	86	53	106	48	55	93	72
80S80123	84	109	80	40	110	47	58	88	70
80S81054	84	97	86	55	106	42	53	83	70
LOCAL CHECK	104	130	95	81	145	57	55	93	
LOCATION MEAN	95	108	84	59	109	47	56	83	
S. E. OF MEAN	7.80	7.30	7.10	8.00	5.50	2.00	4.78	2.50	
L.S.D. AT 5%	-	-	-	-	15.60	5.70	-	7.10	
C.V. %	14.20	11.60	14.60	23.30	8.60	8.50	14.78	5.20	
ERROR DF	46	46	46	46	46	69	46	46	
SIGNIFICANCE	NS	NS	NS	NS	*	*	NS	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.1.5. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in FBIYT-L during 1984/85.

ENTRY NAME	ALGERIA		CHILE		EGYPT		ETHIOPIA		IRAN			
	Setif		Graneros		Sakha		Denbi		Gorgan		Ahvaz	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
SYRIAN LOCAL LARGE	465	22	2822	12	1990	24	1283	18	4666	1	1592	2
SYRIAN LOCAL LONG POD	545	2	2711	15	3287	12	1452	14	3694	11	1374	6
LATTAKIA LOCAL	513	9	2266	23	3277	13	2595	3	4062	7	1342	9
79S4	492	17	2866	10	2722	19	840	24	3562	15	1812	1
76TA56264	525	7	2555	18	3481	11	1361	16	4076	6	1533	3
LEBANESE LOCAL LARGE	545	2	2666	16	4166	6	1912	9	3590	14	1320	10
ELEGANT 5 MCI	499	16	2788	14	3879	8	1351	17	3215	18	1122	20
78S49694	489	18	2411	21	3203	15	2045	7	3666	12	1362	7
TURKISH LOCAL	444	24	2222	24	2462	22	1093	21	4347	2	1192	17
FLIP 83-8FB	518	8	2950	8	3000	17	1056	22	3409	16	1451	4
ILB CROSS NO. 1270	455	23	4088	1	4953	1	2969	2	2708	24	1283	11
79SL48590	513	9	3611	4	4194	5	2397	5	3006	19	1185	18
74TA87	477	20	3177	7	3703	9	1831	10	3986	9	1357	8
74TA22	541	5	2844	11	2481	21	2418	4	3326	17	1248	15
79S546	527	6	2822	12	2185	23	1101	20	4104	5	1205	16
79S653	475	21	2622	17	2981	18	1281	19	4006	8	998	24
80S80128	545	2	2311	22	3694	10	2337	6	2833	22	1131	19
78S49907	506	13	2422	20	3203	15	1761	11	3715	10	1281	12
ILB CROSS NO. 1269	489	18	2488	19	4287	4	1370	15	3631	13	1444	5
ILB CROSS NO. 1933	510	12	3811	2	4138	7	1672	13	2909	20	1275	13
80S80028	500	15	2900	9	2629	20	902	23	2909	20	1122	20
80S80123	559	1	3211	6	3212	14	1927	8	4111	4	1033	23
80S81054	513	9	3677	3	4398	3	1691	12	2770	23	1051	22
LOCAL CHECK	506	13	3366	5	4638	2	3216	1	4194	3	1270	14
LOCATION MEAN	506		2900		3424		1744		3404		1291	
S. E. OF MEAN	34.60		411.50		341.50		601.46		385.30		179.47	
L.S.D. AT 5%	-		-		972.00		-		1096.60		-	
C.V. %	11.80		24.50		17.20		59.71		18.50		24.07	
ERROR DF	46		46		46		46		46		46	
SIGNIFICANCE	NS		NS		*		NS		*		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		0		-		0		-	

Cont'd. ...

Table 4.1.5 Cont'd. ...

ENTRY NAME	IRAQ		ITALY		JORDAN				LEBANON				LIBYA	
	Mosul		Catania		Mushager		Marow		Beqa'a		Terbol		Tripoli	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
SYRIAN LOCAL LARGE	3517	3	2244	20	861	11	794	3	3734	6	4819	20	1400	17
SYRIAN LOCAL LONG POD	2256	21	2722	10	870	10	611	16	3652	11	5375	4	1194	21
LATTAKIA LOCAL	2798	10	2822	8	1101	4	516	22	4287	2	5175	9	1561	13
79S4	3282	4	2488	12	981	5	750	7	3430	16	5439	3	1377	18
76TA56264	2473	18	2422	16	824	14	500	23	3685	9	4606	24	1677	11
LEBANESE LOCAL LARGE	2728	11	3000	4	1185	1	461	24	3927	5	4629	23	1933	5
ELEGANT 5 MCI	3156	6	2966	5	1120	3	555	18	3353	18	5189	7	1783	7
78S49694	2140	23	1766	24	750	19	666	11	3398	17	5125	11	1144	23
TURKISH LOCAL	2825	9	2311	18	842	13	522	21	3152	22	4919	17	1405	16
FLIP 83-8FB	2483	16	2300	19	861	11	700	9	3731	7	5055	14	1744	8
ILB CROSS NO. 1270	2677	12	2966	5	759	18	594	17	4651	1	5231	6	2844	2
79SL48590	2272	20	2466	14	694	20	614	15	3724	8	4911	18	1733	9
74TA87	2229	22	2344	17	953	7	888	2	3613	12	4796	21	1633	12
74TA22	3581	2	2744	9	888	9	772	5	4079	4	5497	1	1683	10
79S546	2537	14	2144	22	537	24	794	3	3322	20	5465	2	694	24
79S653	2542	13	3011	3	916	8	761	6	3510	14	5166	10	1172	22
80S80128	3633	1	2477	13	787	16	544	19	2923	24	5023	15	2094	4
78S49907	2482	17	2155	21	1138	2	655	12	4238	3	4928	16	1500	15
ILB CROSS NO. 1269	1729	24	2444	15	962	6	650	13	3345	19	5176	8	1361	19
ILB CROSS NO. 1933	2490	15	3555	1	824	14	722	8	3228	21	4879	19	1877	6
80S80028	2875	8	2111	23	787	16	647	14	3489	15	5111	13	1533	14
80S80123	3217	5	2855	7	592	23	1041	1	2971	23	4745	22	1338	20
80S81054	2464	19	2588	11	601	22	688	10	3523	13	5289	5	2127	3
LOCAL CHECK	3031	7	3400	2	629	21	533	20	3668	10	5120	12	2855	1
LOCATION MEAN	2726		2596		853		666		3610		5069		1653	
S. E. OF MEAN	470.40		385.40		169.50		157.30		407.50		222.99		254.30	
L.S.D. AT 5%	1338.80		1097.10		482.60		447.70		1159.80		628.90		723.70	
C.V. %	30.10		25.70		34.40		40.90		19.50		8.80		26.60	
ERROR DF	46		46		46		46		46		69		46	
SIGNIFICANCE	NS		NS		NS		NS		NS		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		-		-		-		-		0	

Cont'd. ...

Table 4.1.5. Cont'd. ...

ENTRY NAME	MOROCCO		PERU						SAUDI ARABIA		SYRIA	
	Douyet		Cusco		Ancash		Yanamuclo		Riyad		Tel Hadya	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
SYRIAN LOCAL LARGE	765	24	138	18	1482	22	2	24	4777	21	1662	2
SYRIAN LOCAL LONG POD	879	21	277	7	706	23	53	10	6362	8	1231	9
LATTAKIA LOCAL	1189	10	174	13	1534	19	18	20	5451	16	1351	3
79S4	1400	2	90	24	680	24	27	15	5185	18	1078	15
76TA56264	1365	3	93	23	2058	12	19	19	5896	13	1245	6
LEBANESE LOCAL LARGE	1240	6	286	5	2993	2	161	2	5740	14	944	20
ELEGANT 5 MCI	1436	1	188	10	1486	21	78	7	5029	20	1175	13
78S49694	1043	15	132	19	2050	13	49	11	6259	9	1208	10
TURKISH LOCAL	881	20	99	22	2149	10	8	22	3925	23	1300	4
FLIP 83-8FB	1117	13	167	15	2423	8	25	17	5074	19	1037	17
ILB CROSS NO. 1270	838	22	279	6	2506	7	145	3	6600	3	967	19
79SL48590	1249	5	476	2	2892	4	92	5	6370	5	1282	5
74TA87	1157	12	173	14	1607	18	72	8	4362	22	1037	17
74TA22	1046	14	128	20	2069	11	43	12	6074	11	907	22
79S546	803	23	205	8	2916	3	40	14	6259	9	1189	12
79S653	1192	9	102	21	1906	14	9	21	6814	2	1245	6
80S80128	996	16	183	11	2739	5	128	4	6885	1	449	24
78S49907	1163	11	155	16	2343	9	88	6	5451	16	1078	15
ILB CROSS NO. 1269	922	18	352	4	1635	17	22	18	6370	5	1166	14
ILB CROSS NO. 1933	1291	4	389	3	1727	16	54	9	6451	4	912	21
80S80028	885	19	140	17	2736	6	27	15	5629	15	1199	11
80S80123	1196	8	197	9	1520	20	8	22	6370	5	1240	8
80S81054	960	17	178	12	1777	15	41	13	6000	12	856	23
LOCAL CHECK	1238	7	2447	1	3626	1	364	1	3666	24	1944	1
LOCATION MEAN	1094		294		2065		65		5708		1154	
S. E. OF MEAN	156.00		124.20		602.60		27.30		562.60		152.90	
L.S.D. AT 5%	-		353.60		-		77.60		1601.30		431.40	
C.V. %	24.60		73.10		50.50		71.60		17.00		26.40	
ERROR DF	46		46		46		46		46		69	
SIGNIFICANCE	NS		*		NS		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		-		0		17		0	

Cont'd. ...

Table 4.1.5. Cont'd. ...

ENTRY NAME	TUNISIA						TURKEY		U.A.EMIRATES		Overall Mean	(1) Rank
	El Kef		Jendouba		Beja		Izmir		Dhaid			
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
SYRIAN LOCAL LARGE	1825	9	3650	10	2950	2	2006	16	103	20	2347	13
SYRIAN LOCAL LONG POD	1237	21	3683	8	2933	3	2201	8	51	24	2332	14
LATTAKIA LOCAL	1275	20	4116	2	2916	4	2597	3	131	16	2511	3
79S4	2562	1	3433	16	2125	20	2152	11	122	18	2316	17
76TA56264	2362	3	3350	19	2308	16	2166	10	103	20	2403	10
LEBANESE LOCAL LARGE	1475	18	4000	3	2541	7	1548	23	177	14	2501	4
ELEGANT 5 MCI	1187	22	3766	6	2050	22	2048	14	418	6	2331	15
78S49694	1550	13	4000	3	2441	10	1618	21	379	7	2301	19
TURKISH LOCAL	2425	2	3566	13	2258	18	2930	2	125	17	2231	23
FLIP 83-8FB	1725	10	3716	7	2275	17	2284	7	500	2	2328	16
ILB CROSS NO. 1270	1525	15	3166	24	2425	11	1777	19	346	10	2665	1
79SL48590	2150	5	3616	11	2633	6	2326	5	362	9	2563	2
74TA87	1712	11	3666	9	2375	14	1638	20	177	14	2311	18
74TA22	1837	8	3350	19	2500	9	2187	9	114	19	2478	5
79S546	1525	15	3616	11	2233	19	2048	14	81	23	2286	20
79S653	1675	12	3216	23	3000	1	2131	13	88	22	2409	9
80S80128	2187	4	3366	18	2519	8	1798	18	377	8	2441	8
78S49907	1900	7	3466	15	2400	12	1597	22	227	12	2350	12
ILB CROSS NO. 1269	1062	23	3333	21	2391	13	1097	24	430	3	2255	22
ILB CROSS NO. 1933	1537	14	3250	22	2375	14	2152	11	218	13	2456	6
80S80028	2087	6	3383	17	1983	23	2354	4	420	5	2274	21
80S80123	1500	17	3883	5	2708	5	2312	6	425	4	2454	7
80S81054	1287	19	3550	14	2100	21	1854	17	307	11	2369	11
LOCAL CHECK	762	24	4200	1	1708	24	3062	1	570	1		
LOCATION MEAN	1682		3597		2423		2078		261			
S. E. OF MEAN	480.40		363.80		327.60		348.23		82.70			
L.S.D. AT 5%	-		-		-		-		235.50			
C.V. %	40.30		17.50		23.40		29.01		54.90			
ERROR DF	23		46		46		46		46			
SIGNIFICANCE	NS		NS		NS		NS		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		-		-		0			

(1) Cusco, Yanamuclo and Dhaid were excluded from the overall mean.
* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.1.6. The five heaviest seed yielding entries at the individual locations in the FBIYT-L during 1984/85.

RANK	ALGERIA Setif		CHILE Graneros		EGYPT Sakha		ETHIOPIA Denbi	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X79S 155	80S 80123	1270	Reina Blanca	1270	Reina Blanca	-	Local check
2	X79S 160	80S 80128	1933	Sevilla giant	-	Local check	1270	Reina Blanca
3	1815	Lebanese Local Large	X79L 153	80S 81054	X79L 153	80S 81054	1815	Lattakia Local
4	1813	Syrian Local Long Pod	282	79SL 48590	1269	New Mammoth	9	74TA 22
5	9	74TA 22	-	Local check	282	79SL 48590	282	79SL 48590

Cont'd. ....

RANK	IRAN Gorgan		IRAN Ahvaz		IRAQ Mosul		ITALY Catania	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	1814	Syrian Local Large	1814	79S 4	X79S 160	80S 80128	1933	Sevilla giant
2	1821	Turkish Local	1814	Syrian Local Large	9	74TA 22	-	Local check
3	-	Local check	398	76TA 56264	1814	Syrian Local Large	1814	79S 653
4	X79S 155	80S 80123	X75TA 43	FLIP 83-8FB	1814	79S 4	1815	Lebanese Local Large
5	1814	79S 546	1269	New Mammoth	X79S 155	80S 80123	1805 1270	Elegant 5 MCI Reina Blanca

Cont'd. ...

RANK	JORDAN Mushagar		JORDAN Marow		LEBANON Beqa'a		LIBYA Trilopi	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	1815	Lebanese Local Large	X79S 155	80S 80123	1270	Reina Blanca	-	Local check
2	10	78S 49907	31	74TA 87	1815	Lattakia Local	1270	Reina Blanca
3	1805	Elegant 5 MCI	1814	Syrian Local Large	10	78S 49907	X79L 153	80S 81054
4	1815	Lattakia Local	1814	79S 546	9	74TA 22	X79S 160	80S 80128
5	1814	79S 4	9	74TA 22	1815	Lebanese Local Large	1815	Lebanese Local Large

Cont'd. ...

Table 4.1.6. Cont'd.

RANK	MOROCCO Douyet		PERU Cusco		PERU Ancash		SAUDI ARABIA Riyad	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	1805	Elegant 5 MCI	-	Local check	-	Local check	X79S 160	80S 80128
2	1814	79S 4	282	79SL 48590	1815	Lebanese Local Large	1814	79S 653
3	398	76TA 56264	1933	Sevilla giant	1814	79S 546	1270	Reina Blanca
4	1933	Sevilla giant	1269	New Mammoth	282	79SL 48590	1933	Sevilla giant
5	282	79SL 48590	1815	Lebanese Local Large	X79S 160	80S 80128	1269	New Mammoth
							X79S 155	80S 80123

Cont'd. ...

RANK	SYRIA Tel Hadya		TUNISIA Beja		TUNISIA El-Kef		TUNISIA Jendouba	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	-	Local check	1814	79S 653	1814	79S 4	-	Local check
2	1814	Syrian Local Large	1814	Syrian Local Large	1821	Turkish Local	1815	Lattakia Local
3	1814	Lattakia Local	1813	Syrian Local Long Pod	398	76TA 56264	1815	Lebanese Local Large
4	1821	Turkish Local	1815	Lattakia Local	X79S 160	80S 80128	605	78S 49694
5	282	79SL 48590	X79S 155	80S 80123	282	79SL 48590	X79S 155	80S 80123

Cont'd. ...

RANK	TURKEY Izmir		U.A.E. Dhaid	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	-	Local check	-	Local check
2	1821	Turkish Local	X75TA 43	FLIP 83-8FB
3	1815	Lattakia Local	1269	New Mammoth
4	X79S 72	80S 80028	X79S 155	80S 80123
5	282	79SL 48590	X79S 72	80S 80028

The brackets indicate entries having the same rank.

79SL48590, Lattakia local, Lebanese local large, and 74TA22 with respective seed yields of 2665, 2563, 2511, 2501 and 2478 kg/ha. The C.V. for the experiment varied from 11.80 to 73.10%. The ANOVA revealed that out of 24 locations the mean squares due to entries were significant at 8 locations. The comparison of entry means with the respective checks, however, revealed that only at Riyad in Saudi Arabia 17 entries exceeded the local check by a significant margin. At some other locations although some of the entries exceeded the local check but the differences were not significant.

The five heaviest seed yielding entries at individual locations are listed in Table 4.1.6. It was observed that among the entries, 79SL48590 occurred more frequently among the top five heaviest yielders at different locations and was followed by Lebanese local large, ILB 1270, and 80S80123 etc.

The mean performance of entries common over 1983/84 and 1984/85 are given in Table 4.1.7. It was observed that 79SL48590 ranked number 1 with 2540 kg/ha and was closely followed by FLIP 83-8FB and ILB 1270 with seed yields of 2539 and 2533 kg/ha, respectively.

Table 4.1.7. The mean yield (Y= kg/ha) and rank (R) of common entries in the FBIYT-L during 1983-1985.

ILB/Cross No.	Pedigree	1983/84		1984/85		Average	
		Y	R	Y	R	Y	R
1814	Syrian Local Large	2133	22	2347	13	2240	15
1813	Syrian Local Large Pod	2361	13	2332	14	2346	12
1815	Lattakia Local	2492	5	2511	3	2501	4
1814	79S 4	2393	11	2316	17	2354	11
398	76TA 56264	2414	9	2403	10	2408	7
1817	Lebanese Local Large	2317	16	2501	4	2409	6
1805	Elegant 5 MCI	2379	12	2331	15	2355	10
605	78S 49694	2261	19	2301	19	2281	13
1821	Turkish Local	2263	18	2231	23	2247	14
X75TA 43	FLIP 83-8FB	2751	1	2328	16	2539	2
1270	Reina Blanca	2401	10	2665	1	2533	3
282	79SL 48590	2517	3	2563	2	2540	1
31	74TA 87	2148	21	2311	18	2229	16
9	74TA 22	2509	4	2478	5	2493	5
1269	New Mammoth	2462	6	2350	12	2406	8
1933	Sevilla Giant	2518	2	2255	22	2386	9

The correlations between seed yields of different locations (Table 4.1.8) revealed that Tel Hadya location did not exhibit any significant correlation with other locations, except with Tripoli in Libya and Yanamulco in Peru where correlations were negative.

Table 4.1.8. Correlation (df=21) among different locations for the sed yield of entries in the FBIYT-L during 1984/85.

		ALGERIA	CHILE	EGYPT	ETHIOPIA	IRAN		IRAQ	ITALY	JORDAN
COUNTRY	LOCATION	Setif	Graneros	Sakha	Denbi	Gorgan	Ahvaz	Mosul	Catania	Mushagar
CHILE	Graneros	-0.061								
EGYPT	Sakha	0.040	0.507							
ETHIOPIA	Denbi	0.163	0.276	0.515						
IRAN	Gorgan	-0.173	-0.540	-0.617	-0.335					
IRAN	Ahvaz	-0.171	-0.159	-0.187	-0.242	0.293				
IRAQ	Mosul	0.167	-0.104	-0.411	0.072	0.015	-0.030			
ITALY	Catania	0.187	0.416	0.463	0.280	-0.276	-0.242	0.146		
JORDAN	Mushagar	-0.113	-0.435	0.074	-0.014	0.140	0.316	0.038	0.209	
JORDAN	Marow	0.060	0.315	-0.317	-0.139	0.248	-0.075	0.117	-0.044	-0.413
LEBANON	Beqa'a	-0.155	0.181	0.191	0.481	-0.083	0.220	-0.091	0.089	0.377
LEBANON	Terbol	-0.013	0.026	-0.180	-0.044	-0.267	-0.011	0.067	-0.047	-0.146
LIBYA	Tripoli	-0.076	0.539	0.704	0.558	-0.670	-0.107	0.158	0.417	0.082
MOROCCO	Douyet	0.237	0.010	0.245	0.000	-0.082	0.114	0.036	0.387	0.430
PERU	Cusco	0.182	0.505	0.628	0.353	-0.422	-0.126	-0.419	0.387	-0.101
PERU	Ancash	0.100	0.053	0.109	0.239	-0.288	-0.400	-0.044	-0.206	-0.203
PERU	Yanamuclo	0.168	0.254	0.617	0.560	-0.547	-0.147	0.009	0.228	0.224
SAUDI ARABIA	Riyad	0.447	0.244	0.377	0.396	-0.440	-0.337	-0.135	0.307	-0.377
SYRIA	Tel Hadya	-0.365	-0.180	-0.448	-0.324	0.693	0.242	-0.140	-0.237	0.036
TUNISIA	El Kef	-0.165	-0.157	-0.388	-0.220	0.077	0.267	0.361	-0.343	-0.086
TUNISIA	Jendouba	0.270	-0.298	-0.117	0.110	0.361	0.038	-0.025	-0.175	0.179
TUNISIA	Beja	0.112	-0.162	-0.105	0.357	0.427	-0.016	0.048	0.245	0.103
TURKEY	Izmir	-0.016	-0.039	-0.459	-0.163	0.191	-0.148	0.347	0.108	-0.194
U.A.EMIRATES	Dhaid	0.064	0.238	0.418	0.129	-0.539	-0.276	-0.110	-0.118	-0.177

Cont'd. ...

Table 4.1.8. Cont'd. ...

COUNTRY	LOCATION	JORDAN	LEBANON		LIBYA	MOROCCO	PERU			S. Arabia
		Marow	Beqa'a	Terbol	Tripoli	Douyet	Cusco	Ancash	Yanamuclo	Riyad
LEBANON	Beqa'a	-0.269								
LEBANON	Terbol	0.078	0.098							
LIBYA	Tripoli	-0.351	0.401	-0.167						
MOROCCO	Douyet	-0.075	-0.052	-0.288	0.087					
PERU	Cusco	-0.116	0.050	-0.111	0.257	0.022				
PERU	Ancash	-0.289	0.131	-0.235	0.239	-0.195	0.194			
PERU	Yanamuclo	-0.405	0.322	-0.133	0.621	0.084	0.429	0.473		
SAUDI ARABIA	Riyad	0.027	-0.042	0.223	0.109	-0.053	0.414	0.201	0.257	
SYRIA	Tel Hadya	0.139	0.108	-0.138	-0.536	-0.104	-0.112	-0.291	-0.591	-0.361
TUNISIA	El Kef	-0.086	-0.132	-0.212	-0.010	0.147	-0.363	0.191	-0.086	-0.277
TUNISIA	Jendouba	-0.036	-0.002	-0.191	-0.273	0.136	-0.033	-0.081	-0.014	-0.305
TUNISIA	Beja	0.117	0.207	-0.140	-0.187	-0.116	0.137	-0.210	-0.082	0.278
TURKEY	Izmir	-0.034	-0.101	0.040	-0.150	0.068	-0.234	-0.083	-0.448	-0.295
U.A.EMIRATES	Dhaid	0.024	-0.198	-0.098	0.349	0.039	0.277	0.280	0.192	0.165

Cont'd. ...

Table 4.1.8. Cont'd. ...

		SYRIA	TUNISIA			TURKEY
		Tel Hadya	El Kef	Jendouba	Beja	Izmir
TUNISIA	El Kef	-0.033				
TUNISIA	Jendouba	0.311	-0.326			
TUNISIA	Beja	0.343	-0.221	0.212		
TURKEY	Izmir	0.329	0.392	0.110	0.078	
U.A.EMIRATES	Dhaid	-0.268	-0.192	0.060	-0.373	-0.241

The undelined values indicate significant correlation values at $P \leq 0.05$

4.2. FABA BEAN INTERNATIONAL YIELD TRIAL-SMALL SEED (FBIYT-S)

Material

The Faba Bean International Yield Trial - Small Seed comprised of 23 test entries and one local check to be supplied by the cooperator. These entries were selected on the basis of their performance either in the International Screening Nursery Small Seed or FBIYT-S conducted during 1983/84.

Methods and Management

The material was suggested to be sown in a randomised complete block design with 3 replications. The suggested plot size was 4 rows 4 m long with inter row spacings of 0.5 m accomodating 140 seeds per plot. Thirty five sets of trial were distributed to cooperators in 23 countries. Results were reported from 20 trials covering 15 countries. Agronomic data received from the cooperators are presented in Table 4.2.1.

Results and Discussion

The location mean for time to flowering ranged from 53 days for Sudan to 140 days for Quetta (Table 4.2.2). The overall mean for entries ranged from 78 days for 78S48476 and ILB 1819 to 87 days for 80S44150. In general, early flowering locations were earlier in maturity (Table 4.2.3). The range in entry means for time to maturity was very narrow (146 to 148 days). The plant height (Table 4.2.4) at Denbi in Ethiopia was maximum (128 cm) and was closely followed by Riyad in Saudi Arabia (122 cm). The mean plant height for entries ranged from 69 cm (78S49395) to 76 cm (80S43064, 80S50106, 80S45727).

The mean seed yield and rank of entries at different locations are given in Table 4.2.5. The mean seed yield at Riyad in Saudi Arabia was the maximum (6412 kg/ha) and at a few more locations, namely, Saskatoon in Canada, Dijon in France, and Gorgan in Iran the seed yield levels were high and ranged between 3046 and 3280 kg/ha. The ANOVA for the experimental design revealed that the differences between entry means were significant at 9 out of 19 locations and only at two locations, namely, Peshawar in Pakistan and Riyad in Saudi Arabia, 5 and 23 entries, respectively, exceeded the local check in seed yield by a significant margin. The overall mean of entries indicated that 80S44539 was the top yielder (2264 kg/ha) and was followed by 74TA91, 80S45676, 80S50106 and 74TA95, respectively. The top five heaviest yielders at each location are given in Table 4.2.6.

It was observed that the frequency of occurence of the entries among the top five yielders was highest for 80S44539 and 80S46121, and was closely followed by 74TA91 and 80S43651. The overall mean yield

Table 4.2.1. Agronomic data for different locations in the FBIYT-S during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ARGENTINA	Perico	24.05.1985	08.11.1985	-			3	Gesagard,Tecto,Actellic, Calixin M	Crioliz
CANADA	Saskatoon	14.05.1985	05.09.1985	-			-	Treflan,Sencor	Outlook
EGYPT	Gemmiza	21.11.1984	07.05.1985	35	71		3	NA	Geza 402
ETHIOPIA	Denbi	03.07.1985	27.11.1985	-			-	-	NC 58
FRANCE	Dijon	01.03.1985	12.08.1985		115		-	Metabenzthizuron,Linuron pyrimicarbe	Alfred
FRANCE	Le Rheu	05.04.1985	10.08.1985	-			-	Simazine,Peltar,Metasystox	Alfred
IRAN	Gorgan	28.11.1984	25.05.1985	-			1	-	Local
IRAQ	Baghdad	14.11.1984	20.05.1985	40	40		7	Pirimor	Arbil
ITALY	Catania	15.12.1984	02.06.1985	45	90		-	Nitrofen,Linuron	MS 125 VE
LEBANON	Terbol	16.11.1984	06.1985		50		2	Igran,Kerb	Lebanese Local
PAKISTAN	Peshawar	21.10.1984	28.04.1985	-			1	-	Peshawar Local
PAKISTAN	Quetta	03.11.1984	14.05.1985	28	72		-	-	NA
SAUDI ARABIA	Al Hassa	11.1984	04.1985	80	80		15	Ronilon	NA
SAUDI ARABIA	Riyad	21.10.1984		74	112		13	Delabone,Lancer,Novakrone Malathion,Pirimor,Diptrex	Local
SPAIN	Toledo	NA	NA	NA			NA	NA	NA
SUDAN	Shambat	31.10.1984	27.03.1985	-			14	-	Hudeiba 70
SUDAN	Wad Medani	04.11.1984	15.03.1985	86	43		15	-	BF 2/2
SYRIA	Tel Hadya	01.11.1984	06.1985	30	50		-	Kerb,Igran,Fusilade, Thiodan,Pirimor	ILB 1814
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA

NA = not available

Table 4.2.2. Time to flowering (days) of entries at different locations in FBIYT-S during 1984/85.

ILB/ CROSS NO.	PEDIGREE	ARGENTINA	CANADA	EGYPT	ETHIOPIA	FRANCE		IRAN	IRAQ
		Perico	Saskatoon	Gemmiza	Denbi	Dijon	Le Rhue	Gorgan	Baghdad
1819	GIZA 3	59	58	60	50	84	57	74	86
1812	SYRIAN LOCAL SHORT POD	79	57	75	54	85	58	74	98
33	74TA95	76	57	68	50	84	57	74	90
X77SD92	80S46593	90	58	68	54	84	58	74	90
X77SD13	80S45727	83	58	75	56	85	58	74	92
295	75TA26467	84	57	75	53	85	59	74	103
112	78S49288	59	57	68	54	86	58	74	92
22	FLIP 83-2FB	80	58	73	54	85	58	74	95
X77SD70	80S46341	83	56	69	54	85	58	74	93
32	74TA91	80	57	67	54	85	58	74	88
X77TA88	80S44539	59	57	59	50	84	58	74	88
285	78S48476	59	56	59	49	85	56	74	85
X77SD70	80S46121	70	58	67	53	85	58	74	90
X75TA193	80S50106	59	57	60	54	83	57	74	87
X75TA150	80S50088	84	57	81	53	85	58	74	88
X77TA60	80S43977	87	57	80	54	85	59	74	89
X77SD11	80S45676	74	56	81	60	85	59	74	90
407	78S49395	89	57	77	55	85	57	74	92
X77TA66	80S44056	82	57	79	55	85	58	74	101
X75TA3	80S43064	89	57	77	55	86	59	74	93
X75TA33	80S43651	77	56	67	55	84	58	74	86
X77TA70	80S44150	85	57	81	60	85	59	74	95
1105	79S97330	86	58	83	56	85	59	74	93
-	LOCAL CHECK	60	57	57	50	89	65	74	95
LOCATION MEAN		76	57	71	54	85	58	74	92
S.E.OF MEAN		2.10	0.40	0.14	1.40	0.40	0.50	0.00	1.37
LSD AT 5%		6.00	-	0.39	4.00	1.13	1.50	-	3.91
C.V. %		4.70	1.30	0.33	4.50	0.81	1.50	0.00	2.59
ERROR df		46	46	46	46	46	46	46	46
SIGNIFICANCE		*	NS	*	*	*	*	NS	*

Cont'd. ...

Table 4.2.2 Cont'd. ...

ENTRY NAME	ITALY	LEBANON	PAKISTAN		S. ARABIA	SPAIN	SUDAN		SYRIA	Overall Mean
	Catania	Terbol	Peshawar	Quetta	Riyad	Toledo	Shambat	Wad Medani	Tel-Hadya	
ILB 1819	112	122	98	141	49	112	53	44	122	80
SYRIAN LOCAL SHORT POD	112	122	108	141	58	112	54	54	119	85
74TA95	112	121	100	141	57	112	54	42	120	83
80S46593	112	120	106	141	51	112	59	59	119	85
80S45727	112	122	109	141	55	112	59	57	120	86
75TA26467	112	122	100	141	61	114	56	58	121	86
78S49288	112	122	102	140	58	112	56	47	121	83
FLIP 83-2FB	112	120	101	141	57	112	56	50	120	84
80S46341	112	120	109	141	60	112	56	53	120	85
74TA91	112	122	102	141	58	112	57	55	120	84
80S44539	112	120	99	141	51	112	55	45	121	81
78S48476	112	120	99	141	57	112	53	43	120	80
80S46121	112	121	101	141	57	112	57	55	119	83
80S50106	112	120	102	141	50	112	56	55	121	82
80S50088	112	122	102	141	60	112	55	60	120	86
80S43977	112	123	108	140	60	114	58	56	120	86
80S45676	112	124	111	141	66	114	56	59	121	86
78S49395	112	120	99	141	57	112	57	47	122	85
80S44056	112	121	111	141	64	114	60	61	122	88
80S43064	112	124	109	141	66	114	58	62	122	87
80S43651	112	122	99	140	55	114	55	48	122	83
80S44150	112	124	119	141	66	117	61	62	122	89
79S97330	112	122	112	141	58	112	60	60	119	87
LOCAL CHECK	112	120	108	-	62	131	42	41	119	
LOCATION MEAN	112	121	105	140	58	113	56	53	120	
S.E. OF MEAN	0.00	0.31	2.80	0.24	3.30	1.30	0.81	1.50	0.60	
L.S.D. AT 5%	-	0.86	8.00	-	9.40	3.80	2.30	4.30	1.80	
C.V. %	0.00	0.50	4.60	0.30	9.80	2.00	2.48	4.90	1.00	
ERROR DF	46	69	46	44	46	46	46	46	69	
SIGNIFICANCE	NS	*	*	NS	*	*	*	*	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.2.3. Time to maturity (days) of entries at different locations in FBIYT-S during 1984/85.

ENTRY NAME	ARGENTINA	CANADA	ETHIOPIA	FRANCE		IRAN	ITALY	LEBANON
	Perico	Saskatoon	Denbi	Dijon	Le Rhue	Gorgan	Catania	Terbol
ILB 1819	158	91	132	144	115	136	164	200
SYRIAN LOCAL SHORT POD	167	98	130	144	118	136	164	202
74TA95	168	93	129	144	115	136	164	200
80S46593	170	97	129	144	118	136	164	202
80S45727	166	97	129	144	119	136	164	200
75TA26467	164	95	129	144	116	136	164	199
78S49288	160	96	129	144	117	136	164	200
FLIP 83-2FB	166	96	130	144	116	136	164	199
80S46341	166	96	129	144	118	136	164	200
74TA91	165	95	130	144	117	136	164	200
80S44539	158	94	129	144	116	136	164	204
78S48476	156	94	131	144	115	136	164	201
80S46121	163	96	128	144	117	136	164	202
80S50106	158	95	129	144	118	136	164	203
80S50088	166	94	130	144	115	136	164	201
80S43977	166	97	129	144	117	136	164	202
80S45676	166	95	129	144	116	136	164	202
78S49395	171	94	129	144	116	136	164	199
80S44056	167	95	130	144	119	136	164	200
80S43064	170	95	129	144	118	136	164	202
80S43651	165	93	130	144	116	136	164	199
80S44150	167	97	131	144	120	136	164	200
79S97330	166	96	130	144	117	136	164	200
LOCAL CHECK	157	97	130	154	126	136	164	195
LOCATION MEAN	164	95	129	144	117	136	164	200
S.E. OF MEAN	1.40	0.70	0.80	0.00	0.80	0.00	0.00	0.98
L.S.D. AT 5%	4.10	2.20	-	0.00	2.30	0.00	-	2.76
C.V. %	1.50	1.40	1.10	0.00	1.20	0.00	0.00	0.98
ERROR DF	46	46	46	46	46	46	46	69
SIGNIFICANCE	*	*	NS	*	*	*	NS	*

Cont'd. ...

Table 4.2.3. Cont'd. ...

ENTRY NAME	PAKISTAN		S. ARABIA	SUDAN		SYRIA	Overall Mean
	Peshawar	Quetta	Riyad	Shambat	Wad Medani	Tel Hadya	
ILB 1819	182	190	143	130	141	174	149
SYRIAN LOCAL SHORT POD	184	190	149	133	140	171	151
74TA95	182	190	147	132	140	171	150
80S46593	179	190	149	130	140	171	150
80S45727	183	190	149	131	141	172	150
75TA26467	179	190	149	129	140	174	149
78S49288	179	190	150	128	142	172	149
FLIP 83-2FB	181	190	148	132	142	172	150
80S46341	183	190	149	130	142	173	150
74TA91	178	190	149	130	142	172	150
80S44539	178	190	149	132	140	173	150
78S48476	182	190	148	128	141	172	149
80S46121	186	190	151	133	142	172	150
80S50106	178	190	151	133	142	172	150
80S50088	182	190	150	130	142	172	150
80S43977	179	190	149	130	144	172	150
80S45676	184	190	151	129	144	172	150
78S49395	182	190	150	134	140	173	151
80S44056	182	190	151	132	140	173	150
80S43064	179	190	150	130	142	174	150
80S43651	178	190	150	128	140	173	149
80S44150	184	190	153	132	144	171	151
79S97330	184	190	150	132	142	173	151
LOCAL CHECK	180	-	151	129	116	171	
LOCATION MEAN	181	190	149	130	140	172	
S.E.OF MEAN	1.70	0.00	1.50	0.09	0.00	0.60	
L.S.D. AT 5%	-	-	-	0.27	-	1.70	
C.V. %	1.60	0.00	1.70	0.12	0.00	0.70	
ERROR DF	46	44	64	46	64	69	
SIGNIFICANCE	NS	NS	NS	*	NS	*	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.2.4. Plant height (cm) of entries at different locations in FBIYT-S during 1984/85.

ENTRY NAME	ARGENTINA	CANADA	ETHIOPIA	FRANCE		IRAN	IRAQ
	Perico	Saskatoon	Denbi	Dijon	Le Rhue	Gorgan	Baghdad
ILB 1819	75	43	123	65	55	80	66
SYRIAN LOCAL SHORT POD	65	47	128	66	65	70	62
74TA95	68	46	116	68	63	76	78
80S46593	65	49	118	66	56	76	77
80S45727	75	52	136	71	63	73	77
75TA26467	73	44	143	70	53	86	78
78S49288	72	46	136	68	56	70	78
FLIP 83-2FB	68	44	133	63	51	80	71
80S46341	70	48	136	65	45	73	80
74TA91	69	45	123	63	56	80	80
80S44539	73	44	138	66	56	76	80
78S48476	71	46	115	63	58	73	77
80S46121	64	45	128	71	53	80	87
80S50106	72	50	140	70	65	76	87
80S50088	79	47	120	73	65	76	77
80S43977	74	48	144	68	63	66	75
80S45676	71	49	123	65	63	73	86
78S49395	69	46	118	66	55	70	66
80S44056	63	47	133	76	56	73	78
80S43064	70	52	128	68	66	66	87
80S43651	72	45	128	75	56	80	81
80S44150	69	49	125	73	65	70	83
79S97330	66	43	123	70	60	83	72
LOCAL CHECK	59	56	125	101	73	73	72
LOCATION MEAN	70	47	128	69	59	75	77
S.E.OF MEAN	2.40	1.90	8.30	3.50	4.00	2.50	3.69
L.S.D. AT 5%	6.80	5.50	-	10.10	11.40	7.20	10.49
C.V. %	5.90	7.10	11.20	8.80	11.70	5.80	8.23
ERROR DF	46.00	46.00	46.00	46.00	46.00	46.00	46.00
SIGNIFICANCE	*	*	NS	*	*	*	*

Cont'd. ...

Table 4.2.4. Cont'd. ...

ENTRY NAME	ITALY	LEBANON	PAKISTAN		S. ARABIA	SUDAN	SYRIA	Overall Mean
	Catania	Terbol	Peshawar	Quetta	Riyad	Wad Medani	Tel Hadya	
ILB 1819	72	71	95	26	123	79	50	72
SYRIAN LOCAL SHORT POD	75	72	81	25	120	74	52	71
74TA95	70	73	72	26	112	72	53	70
80S46593	78	73	82	22	129	72	51	72
80S45727	80	81	89	27	118	85	52	76
75TA26467	74	66	81	25	120	75	50	73
78S49288	74	63	81	29	118	73	50	72
FLIP 83-2FB	66	68	82	27	110	72	50	69
80S46341	71	75	88	29	123	85	53	74
74TA91	73	73	82	21	121	77	52	72
80S44539	72	70	80	19	125	78	50	72
78S48476	71	70	85	26	107	70	50	70
80S46121	69	68	78	23	126	77	51	72
80S50106	79	68	67	26	129	79	52	75
80S50088	75	72	79	20	120	79	51	73
80S43977	66	68	91	34	119	75	51	74
80S45676	72	78	82	22	122	77	57	74
78S49395	69	72	88	21	116	73	50	69
80S44056	66	67	84	30	124	75	55	73
80S43064	80	81	84	26	131	78	57	76
80S43651	72	76	78	31	129	87	48	75
80S44150	67	68	78	26	123	74	52	72
79S97330	71	70	82	24	123	74	52	71
LOCAL CHECK	67	68	88	-	138	84	55	
LOCATION MEAN	72	71	82	25	122	77	52	
S.E.OF MEAN	3.30	3.09	4.90	3.11	5.70	3.60	1.90	
L.S.D. AT 5%	-	8.72	-	-	-	-	-	
C.V. %	7.90	8.62	10.30	20.96	8.10	8.00	7.50	
ERROR DF	46	69	46	44	46	46	69	
SIGNIFICANCE	NS	*	NS	NS	NS	NS	NS	

* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.2.5. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in FBIYT-S during 1984/85.

ENTRY NAME	ARGENTINA Perico		CANADA Saskatoon		EGYPT Gemmiza		ETHIOPIA Denbi		FRANCE Dijon	
	Y	R	Y	R	Y	R	Y	R	Y	R
ILB 1819	861	6	3617	3	2268	12	2561	2	3354	10
SYRIAN LOCAL SHORT POD	744	10	2290	24	2009	16	744	22	2969	21
74TA95	544	21	3252	11	2120	15	1750	10	3219	14
80S46593	722	11	3129	16	2240	13	1037	17	3025	20
80S45727	688	14	2807	20	1814	21	722	23	3678	4
75TA26467	638	17	3246	12	2000	17	1902	9	3183	15
78S49288	955	3	3158	15	2287	9	2241	5	3392	9
FLIP 83-2FB	722	11	3118	17	2694	4	929	18	3040	19
80S46341	572	20	3290	10	2287	9	1676	11	3511	6
74TA91	938	4	3062	18	3009	1	1130	16	3238	13
80S44539	883	5	3400	8	3000	2	2344	3	3414	8
78S48476	805	7	2525	23	2759	3	1647	12	3072	17
80S46121	688	14	3568	4	2370	8	1236	14	3872	2
80S50106	533	23	3425	7	1944	18	1527	13	3492	7
80S50088	788	8	3516	5	2277	11	2172	6	3256	12
80S43977	577	19	3438	6	2481	6	1231	15	3270	11
80S45676	783	9	3382	9	2129	14	755	21	3794	3
78S49395	972	2	3167	14	1925	19	1920	8	3179	16
80S44056	611	18	2637	22	1916	20	2325	4	2871	23
80S43064	455	24	3651	2	1472	23	708	24	3969	1
80S43651	705	13	2796	21	2564	5	2045	7	3047	18
80S44150	677	16	3214	13	1537	22	926	19	2936	22
79S97330	544	21	3035	19	1333	24	854	20	2409	24
LOCAL CHECK	1416	1	3787	1	2444	7	3875	1	3524	5
LOCATION MEAN	743		3188		2203		1594		3280	
S.E.OF MEAN	90.30		300.40		403.40		287.01		265.50	
L.S.D. AT 5%	257.20		-		-		816.85		-	
C.V. %	21.00		16.30		31.70		31.18		14.00	
ERROR DF	46		46		46		46		46	
SIGNIFICANCE	*		NS		NS		*		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		-		0		-	

Cont'd. ...

Table 4.2.5. Cont'd. ...

ENTRY NAME	FRANCE Le Rhue		IRAN Gorgan		IRAQ Baghdad		ITALY Catania		LEBANON Terbol		PAKISTAN Peshawar	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILB CROSS NO. 1819	1237	15	3215	7	552	24	1866	22	5115	11	625	15
SYRIAN LOCAL SHORT POD	1630	3	3229	6	1090	23	3177	1	5615	1	695	12
74TA95	1682	2	3020	14	1607	19	2611	4	5263	7	908	3
80S46593	1132	19	3187	8	1705	17	2055	15	5495	3	833	6
80S45727	1472	5	2902	16	1559	20	2877	2	4893	17	504	23
75TA26467	813	23	3041	13	1416	21	2288	7	5277	6	775	11
78S49288	1092	20	3659	2	1946	9	2455	5	5046	12	591	18
FLIP 83-2FB	1225	17	3263	4	1665	18	1877	21	5023	13	816	7
80S46341	887	22	2958	15	1779	15	2000	17	5388	4	587	19
74TA91	1438	7	3145	10	2508	4	2766	3	5175	9	691	13
80S44539	1417	9	2562	22	2760	2	2077	14	4620	24	633	14
78S48476	1443	6	2854	18	1728	16	1988	19	4939	14	800	9
80S46121	1285	12	2812	19	2504	5	2166	10	5194	8	850	5
80S50106	1489	4	3138	11	2313	6	2133	12	4875	18	512	22
80S50088	1282	13	3097	12	1923	10	2211	8	4745	22	866	4
80S43977	1179	18	3555	3	2096	8	1900	20	5564	2	600	17
80S45676	1234	16	3187	8	2235	7	2188	9	4912	15	812	8
78S49395	1324	11	2548	23	1899	11	2100	13	5287	5	950	2
80S44056	693	24	2708	20	1840	14	2055	15	4824	20	795	10
80S43064	1343	10	2506	24	1998	1	2000	17	4824	20	525	21
80S43651	936	21	3243	5	1392	22	2166	10	4875	18	954	1
80S44150	1430	8	2861	17	2514	3	1677	24	4898	16	579	20
79S97330	1242	14	2611	21	1857	13	1800	23	5175	9	495	24
LOCAL CHECK	1801	1	3798	1	1884	12	2433	6	4625	23	616	16
LOCATION MEAN	1279		3046		1865		2203		5069		709	
S.E.OF MEAN	199.20		253.70		261.26		378.30		185.95		78.00	
L.S.D. AT 5%	567.00		-		-		-		524.44		222.20	
C.V. %	26.90		14.40		24.25		29.70		7.34		19.00	
ERROR DF	46		46		46		46		69		46	
SIGNIFICANCE	*		NS		NS		NS		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		-		-		-		10		5	

Cont'd. ...

Table 4.2.5. Cont'd. ...

ENTRY NAME	PAKISTAN		SAUDI ARABIA				SPAIN		SUDAN	
	Quetta		Al Hassa		Riyad		Toledo		Shambat	
	Y	R	Y	R	Y	R	Y	R	Y	R
ILB 1819	288	2	100	12	7488	4	1833	20	186	6
SYRIAN LOCAL SHORT POD	210	8	67	20	6962	10	2316	11	72	20
74TA95	192	10	121	8	6133	15	2266	14	159	8
80S46593	180	11	132	5	7370	6	1100	24	52	23
80S45727	175	12	95	14	5170	22	2466	6	105	17
75TA26467	193	9	102	10	8111	1	2500	4	99	18
78S49288	144	15	61	21	7111	8	1950	19	148	13
FLIP 83-2FB	213	7	78	17	6592	14	2483	5	156	10
80S46341	245	4	82	16	5866	17	1983	18	59	21
74TA91	92	22	126	7	7111	8	2183	16	195	5
80S44539	143	16	135	3	6666	13	2383	10	399	2
78S48476	265	3	100	12	4814	23	1600	23	386	3
80S46121	77	23	129	6	6222	15	1816	21	126	15
80S50106	167	13	144	2	6874	11	2816	2	115	16
80S50088	139	17	20	24	7333	7	2300	12	159	8
80S43977	296	1	101	11	5444	20	2390	9	155	11
80S45676	134	18	155	1	5555	19	3016	1	54	22
78S49395	167	13	69	19	6740	12	2533	3	131	14
80S44056	236	5	117	9	7629	2	2100	17	30	24
80S43064	234	6	59	22	5714	18	2283	13	151	12
80S43651	127	20	133	4	7518	3	1616	22	323	4
80S44150	133	19	88	15	5288	21	2223	15	162	7
79S97330	98	21	70	18	7488	4	2456	7	93	19
LOCAL CHECK	-		31	23	2692	24	2450	8	1633	1
LOCATION MEAN	180		96		6412		2211		215	
S.E.OF MEAN	52.56		32.90		590.00		308.40		63.83	
L.S.D. AT 5%	-		-		1679.40		877.80		181.67	
C.V. %	50.33		59.00		15.90		24.10		51.42	
ERROR DF	44		46		46		46		46	
SIGNIFICANCE	NS		NS		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		-		23		0		0	

Cont'd. ...

Table 4.2.5. Cont'd. ...

ENTRY NAME	SUDAN		SYRIA		TUNISIA				Overall Mean (1)	Rank (1)
	Wad Medani		Tel-Hadya		Beja		El Kef			
	Y	R	Y	R	Y	R	Y	R	Y	R
ILB 1819	746	2	671	24	1358	16	1412	9	2281	10
SYRIAN LOCAL SHORT POD	407	21	1768	2	1683	8	2037	1	2315	8
74TA95	537	15	1731	3	1741	6	1437	6	2342	3
80S46593	505	18	1208	13	1616	10	1250	12	2212	16
80S45727	641	11	1037	15	1050	23	1575	5	2109	21
75TA26467	519	17	824	20	1216	20	1025	18	2280	11
78S49288	400	22	689	23	1691	7	937	19	2328	6
FLIP 83-2FB	550	14	1458	7	1583	11	1150	15	2246	14
80S46341	434	20	1240	11	1433	13	1075	16	2173	18
74TA91	357	23	1708	4	1433	13	1437	6	2430	1
80S44539	695	7	865	18	1225	19	1900	2	2402	2
78S48476	722	4	935	17	2166	1	1437	6	2131	19
80S46121	721	5	1643	5	2016	2	662	23	2330	5
80S50106	572	12	1023	16	958	24	1875	3	2323	7
80S50088	524	16	805	21	1108	22	825	22	2295	9
80S43977	560	13	1194	14	1983	3	912	21	2256	13
80S45676	472	19	1560	6	1858	5	1700	4	2327	4
78S49395	662	8	847	19	1633	9	937	19	2271	12
80S44056	662	9	1236	12	1391	15	1225	13	2206	17
80S43064	175	24	1319	10	1133	21	1062	17	2066	23
80S43651	712	6	712	22	1266	18	1225	13	2221	15
80S44150	744	3	1333	8	1316	17	1312	11	2085	22
79S97330	655	10	1333	8	1541	12	1362	10	2128	20
LOCAL CHECK	1186	1	1925	1	1908	4	525	24		
LOCATION MEAN	590		1211		1513		1262			
S.E.OF MEAN	171.60		151.30		325.00		332.95			
L.S.D. AT 5%	-		426.80		-		-			
C.V. %	50.30		24.90		37.20		37.30			
F. VALUE	1.20		6.20		1.00		1.32			
ERROR DF	46		69		46		23			
SIGNIFICANCE	NS		*		NS		NS			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		0		-		-			

(1) Quetta, Al Hassa and Shambat were excluded from the overall mean .
* = Significant at $P \leq 0.05$, NS = not significant.

Table 4.2.6. The five heaviest seed yielding entries at the individual locations in the FBIYT-S during 1984/85.

RANK	ARGENTINA		CANADA		EGYPT		ETHIOPIA	
	Perico		Saskatoon		Gemmiza		Denbi	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	-	Local check	-	Local check	32	74TA 91	-	Local check
2	407	78S 49395	X75TA 3	80S 43064	X77TA 88	80S 44539	1819	Giza 3
3	112	78S 49288	1819	Giza 3	285	78S 48476	X77TA 88	80S 44539
4	32	74TA 91	X77SD 70	80S 46121	22	FLIP 83-2FB	X77TA 66	80S 44056
5	X77TA 88	80S 44539	X75TA 150	80S 50088	X75TA 33	80S 43651	112	78S 49288

Cont'd. ...

RANK	FRANCE				IRAN		IRAQ	
	Dijon		Le Rhue		Gorgan		Baghdad	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X75TA 3	80S 43064	-	Local check	-	Local check	X75TA 3	80S 43064
2	X77SD 70	80S 46121	33	74TA 95	112	78S 49288	X77TA 88	80S 44539
3	X77SD 11	80S 45676	1812	Syrian Local Short Pod	X77TA 60	80S 43977	X77TA 70	80S 44150
4	X77SD 13	80S 45727	X75TA 193	80S 50106	22	FLIP 83-2FB	32	74TA 91
5	-	Local check	X77SD 13	80S 45727	X75TA 33	80S 43651	X77SD 70	80S 46121

Cont'd. ...

RANK	ITALY		PAKISTAN				SAUDI ARABIA	
	Catania		Peshawar		Quetta		Al-Hassa	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	1812	Syrian local short pod	X75TA 33	80S 43651	X77TA 60	80S 43977	X77SD 11	80S 45676
2	X77SD 13	80S 45727	407	78S 49395	1819	Giza 3	X75TA 193	80S 50106
3	32	74TA 91	33	74TA 95	285	78S 48476	X77TA 88	80S 44539
4	33	74TA 95	X75TA 150	80S 50088	X77SD 70	80S 46341	X75TA 33	80S 43651
5	112	78S 49288	X77SD 70	80S 46121	X77TA 66	80S 44056	X77SD 92	80S 46593

Cont'd. ...

Table 4.2.6. Cont'd.

RANK	SAUDI ARABIA		SPAIN		SUDAN			
	Riyad		Toledo		Shambat		Wad Medani	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	295	75TA 26467	X77SD 11	80S 45676	-	Local check	-	Local check
2	X77TA 66	80S 44056	X75TA 193	80S 50106	X77TA 88	80S 44539	1819	Giza 3
3	X75TA 33	80S 43651	407	78S 49395	285	78S 48476	X77TA 70	80S 44150
4	1819	Giza 3]	295	75TA 26467	X75TA 33	80S 43651	285	78S 48476
5	1105	79S 97330]	22	FLIP 83-2FB	32	74TA 91	X77SD 70	80S 46121

Cont'd. ...

RANK	SYRIA		TUNISIA			
	Tel Hadya		Beja		El-Kef	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	-	Local check	285	78S 48476	1812	Syrian Local Short Pod
2	1812	Syrian Local Short Pod	X77SD 70	80S 46121	X77TA 88	80S 44539
3	33	74TA 95	X77TA 60	80S 43977	X75TA 193	80S 50106
4	32	74TA 91	-	Local check	X77SD 11	80S 45676
5	X77SD 70	80S 46121	X77SD 11	80S 45676	X77SD 13	80S 45727

The brackets indicate entries having the same rank.

Table 4.2.8. Correlation (df=21) among different locations for the seed yield of entries in the FBIYT-S during 1984/85.

COUNTRY	Location	ARGENTINA Perico	CANADA Saskatoon	EGYPT Gemmiza	ETHIOPIA Denbi	FRANCE Dijon	FRANCE Le Rhue	IRAN Gorgan	IRAQ Baghdad	ITALY Catania
CANADA	Saskatoon	-0.119								
EGYPT	Gemmiza	0.528	-0.036							
ETHIOPIA	Denbi	0.356	0.129	0.336						
FRANCE	Dijon	-0.022	0.541	0.098	-0.087					
FRANCE	Le Rhue	0.102	-0.014	-0.001	-0.382	0.135				
IRAN	Gorgan	0.188	-0.026	0.352	0.051	-0.007	-0.100			
IRAQ	Baghdad	0.025	0.308	0.141	-0.191	0.240	0.157	-0.265		
ITALY	Catania	0.209	-0.444	0.108	-0.160	0.154	0.375	0.232	-0.184	
LEBANON	Terbol	-0.073	-0.143	-0.029	-0.244	-0.213	-0.007	0.348	-0.351	0.226
PAKISTAN	Peshawar	0.298	-0.153	0.353	0.282	-0.127	-0.151	0.038	-0.136	0.061
PAKISTAN	Quetta	-0.237	-0.072	0.026	0.164	0.015	-0.149	0.151	-0.527	-0.183
SAUDI ARABIA	Al Hassa	-0.043	0.021	0.323	-0.007	0.178	-0.028	0.053	0.250	-0.000
SAUDI ARABIA	Riyad	0.167	-0.028	0.019	0.464	-0.414	-0.435	0.124	-0.308	0.072
SPAIN	Toledo	-0.137	0.197	-0.283	-0.236	0.177	0.236	-0.116	0.262	0.115
SUDAN	Shambat	0.344	-0.047	0.591	0.356	-0.020	0.248	-0.106	0.143	-0.142
SUDAN	Wad Medani	0.161	-0.127	0.088	0.346	-0.337	-0.042	-0.197	-0.050	-0.371
SYRIA	Tel Hadya	-0.306	-0.128	-0.084	-0.678	0.026	0.376	-0.066	0.241	0.303
TUNISIA	Beja	0.184	-0.189	0.282	-0.156	-0.084	0.090	0.214	0.031	-0.040
TUNISIA	El Kef	0.035	-0.371	0.034	-0.187	-0.095	0.491	-0.046	-0.051	0.364

Cont'd. ...

Table 4.2.8. Cont'd. ...

COUNTRY	LOCATION	LEBANON	PAKISTAN		SAUDI ARABIA		SPAIN	SUDAN		SYRIA	TUNISIA
		Terbol	Peshawar	Quetta	Al Hassa	Riyad	Toledo	Shambat	Wad-Medani	Tel-Hadya	Beja
PAKISTAN	Peshawar	0.076									
PAKISTAN	Quetta	0.263	-0.134								
SAUDI ARABIA	Al Hassa	-0.056	0.158	-0.159							
SAUDI ARABIA	Riyad	0.090	0.227	-0.220	-0.038						
SPAIN	Toledo	-0.206	-0.255	-0.123	-0.048	-0.134					
SUDAN	Shambat	-0.431	0.123	-0.011	0.124	-0.171	-0.239				
SUDAN	Wad Medani	-0.203	0.208	-0.069	0.265	-0.007	-0.164	0.349			
SYRIA	Tel Hadya	0.340	0.028	-0.181	0.190	-0.270	0.183	-0.378	-0.331		
TUNISIA	Beja	0.475	0.351	0.128	0.127	-0.340	-0.241	0.049	0.104	0.356	
TUNISIA	El Kef	-0.137	-0.283	0.005	0.395	-0.079	0.289	0.148	0.030	0.199	-0.190

The underline values indicate significant correlation values at $P \leq 0.05$

and rank of the common entries during 1983/84 and 1984/85 are given in Table 4.2.7. It was observed that the entry 80S44539 ranked number 1 and was closely followed by Giza 3, 78SA49288, 74TA91, and 74TA95.

Table 4.2.7. The mean yield (Y= kg/ha) and rank (R) of common entries in the FBIYT-S during 1983-1985.

ILB/Cross No.	Pedigree	1983/84		1984/85		Average	
		Y	R	Y	R	Y	R
1819	Giza 3	1821	4	2281	10	2051	2
33	74TA 95	1728	8	2342	3	2035	5
X77Sd 92	80S 46593	1608	22	2212	16	1910	10
X77Sd 13	80S 45727	1660	15	2109	21	1884	11
295	75TA 26467	1652	17	2280	11	1966	6
112	78S 49288	1792	5	2328	6	2060	3
22	FLIP 83-2FB	1666	14	2246	14	1956	7
X77Sd 70	80S 46341	1724	7	2173	18	1949	8
32	74TA 91	1645	18	2430	1	2037	4
X77TA 88	80S 44539	1834	3	2402	2	2118	1
285	78S 48476	1745	6	2131	19	1938	9

The correlations between different locations for seed yields of entries (Table 4.2.8.) revealed that in general the seed yields at Tel Hadya location did not exhibit any significant association with any other location except with Denbi in ETHIOPIA where the association was negative.

4.3. FABA BEAN INTERNATIONAL SCREENING NURSERY-LARGE SEED (FBISN-L)

Material

The Faba Bean International Screening Nursery Large Seed comprised of 48 entries, and three checks two of them were provided (Syrian Local Large and Reina Blanca) and the third was to be supplied by the cooperator. The entries in this nursery were selected on the basis of their performance either in local trials or from the last year's international screening nursery.

Methods and Management

The test entries and the three checks were suggested to be sown in single row plots of 4 m length with inter- and intra-row spacings of 50- and 10 cm, respectively. The whole experimental unit was divided into four blocks each comprising 12 test entries and three checks repeated in each block. The augmented design was followed for analysis. Forty-nine sets of the nursery were distributed to cooperators in 26 countries. The results were, however, received for

Table 4.3.1. Agronomic data for different locations in the FBISN-L during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
CHILE	Graneros	30.04.1985	31.12.1985		108		12	NA	Haba Blanca Aquadulce
CYPRUS	Nicosia	05.12.1984	22.05.1985	21	48		2	Treflan,Benlate,Calixin M Actellic,Pirimor	Cyprus Local
CZECHOSLOVAKIA	Horna Streda	16.04.1985	15.08.1985	100	110		-	Avadax,Topogard,Malathion	Inovac
EGYPT	Sakha	28.10.1984	18.04.1985	36	72		3	Igran	Giza 3
ETHIOPIA	Denbi	28.06.1985	26.11.1985	-			NA	NA	NC58
IRAQ	Baghdad	05.11.1984	26.05.1985	40	40		8	Pirimor	Arbil
JORDAN	Jubeiha	25.12.1984	NA	20	40		NA	NA	NA
LEBANON	Beqa'a	22.12.1984	10.07.1985		50		3	Nogus	NA
LEBANON	Terbol	16.11.1984	28.06.1985		50		2	Igran,Kerb	Lebanese Local
LIBYA	El Marg	23.12.1984	10.05.1985	18	46		-	-	NA
LIBYA	Tripoli	22.10.1984	31.05.1985	30	60		apr.50	Pirimor	Aquadulce
MOROCCO	Douyet	24.11.1984	21.05.1985	30	50		-	Glyphosate,Dimetoate	NA
P.D.R.YEMEN	Seiyun	18.11.1984	30.03.1985	60	60		2	Sevin,Malathion,Nuvacron Dithane M,Dielrin	-
PAKISTAN	Islamabad	30.10.1984	05.1985	-			-	-	Local
PERU	Chiquian	22.11.1984	06.1985	-			1	Pomarsol,Parathion	Verde Anta
PERU	Yanamuclo	20.10.1984	10.05.1985	-			2	Tamaron	Blanco Anta
PERU	Lima	20.01.1984	16.07.1984	-			5	Parathion	Sincos
SAUDI ARABIA	Al Hassa	11.1984	04.1985	80	80		15	Ronilon	NA
SAUDI ARABIA	Riyad	22.10.1984	25.03.1985	74	112		13	Delabone.Novacrone,Pirimor Malathion,Diptrex	Local
SPAIN	Cordoba	17.12.1984	14.06.1985	-			1	Topogard,Roundup,Dafene Rogor	INIA-06(Alameda)
SYRIA	Al Ghab	22.12.1984	NA	-			-	-	NA
SYRIA	Hama	05.12.1984	31.05.1985	33	70		2	-	Local Check
SYRIA	Tel Hadya	01.11.1984	06.1985	30	50		5-6	Kerb,Igran,Fusilade, Thiodan,Pirimor	ILB 1814
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TUNISIA	Mateur	24.11.1984	27.16.1985		100		NA	Decis	ICARDA
TUNISIA	Sejnane	NA	NA	NA			NA	NA	NA
TURKEY	Ankara	30.03.1985	01.07.1985	23	60		-	-	69V1
U. A. EMIRATES	Dhaid	03.11.1984	01.04.1985	427	267		Weekly	Cymbush,Thiodan,Kafil 10 Plictran,Actellic,Kelthane	Aquadulce

NA = not available

Table 4.3.2. Time to flowering (days) of entries at different locations in FBISN-L during 1984/85.

ILB/ CROSS NO.	PEDIGREE	CHILE Graneros	CYPRUS Nicosia	CZECHOSLOVAKIA Horna Streda	EGYPT Sakha	ETHIOPIA Denbi	IRAQ Baghdad	JORDAN Jubeiha
X79S74	FLIP82-25FB	105	101	54	46	55	93	-
X79S101B	FLIP82-26FB	118	101	54	46	59	87	-
X79S131	FLIP82-27FB	120	102	52	84	51	88	119
X79S178	FLIP82-28FB	112	100	53	51	57	86	-
X79L25	FLIP82-29FB	107	105	50	89	47	84	114
X79L130	FLIP82-30FB	120	107	53	62	46	88	112
X75TA209	FLIP82-39FB	120	104	49	84	45	83	116
1817	FLIP82-45FB	114	103	52	64	44	84	116
1817	FLIP82-46FB	120	103	51	69	49	88	-
1817	FLIP82-47FB	112	105	55	66	41	89	116
1817	FLIP82-48FB	118	100	51	76	53	97	-
23	FLIP82-53FB	107	102	53	52	44	87	125
41	FLIP82-54FB	114	103	52	62	49	89	130
X79S12	FLIP83-3FB	105	102	53	56	42	87	116
12	FLIP83-4FB	112	102	53	56	56	85	-
22	FLIP83-5FB	103	103	51	52	62	87	126
29	FLIP83-6FB	114	104	49	62	46	88	111
S81079	FLIP83-12FB	112	103	51	71	57	100	-
S81066	FLIP83-17FB	120	104	53	79	51	94	-
S81055	FLIP83-18FB	120	107	52	57	51	87	130
581062	FLIP83-20FB	114	101	56	69	44	88	114
S81060	FLIP83-21FB	114	104	59	77	53	86	111
S81056	FLIP83-25FB	114	105	51	84	53	88	-
S81060	FLIP83-29FB	118	103	52	81	59	91	116
S81055	FLIP83-32FB	120	104	57	77	52	96	120
S81062	FLIP83-37FB	118	106	53	86	57	94	113
33	FLIP83-41FB	112	101	51	56	49	86	-
80L90222	FLIP83-43FB	105	106	52	66	57	89	107
78S33201	FLIP83-44FB	120	107	53	62	50	90	130
78S33202	FLIP83-45FB	118	102	52	61	44	90	111
24	74TA63	105	100	51	51	52	95	-
37	74TA109	114	102	53	57	46	93	116
371	74TA516	112	101	55	61	42	89	110
41	76TA56297	107	101	50	69	47	88	114
282	76TA56356	118	102	54	61	43	87	114
263	77TA88311	112	102	51	61	57	95	-
X75TA115	78TA33200	101	104	53	61	56	89	-
17	78S49044	120	102	54	69	45	83	112
X75TA116	79S79180	112	103	52	56	56	95	-
X77TA31	80S43587	101	100	51	41	55	83	-
X77TA64	80S44027	114	103	52	62	53	87	135
X77TA72	80S44178	114	106	53	57	47	87	138
X79S70	80S80026	114	100	49	79	51	83	115
X79S103	80S80064	112	104	53	61	58	91	112
X79S171	80S80135	112	102	53	51	40	89	111
4	ILB4	112	103	52	86	58	90	110
1266	AQUADULCE	118	103	57	61	59	91	110
1933	SEVILLA GIANT	120	105	56	64	53	90	115
1814	SYRIAN LOCAL LARGE	116	104	56	91	52	91	112
1270	REINA BLANCA	113	103	52	82	58	92	110
-	LOCAL CHECK	119	92	55	40	51	88	109
LOCATION MEAN		113	102	53	65	51	89	116
C.V.%		1.75	1.03	1.79	5.16	14.33	2.81	5.90
L.S.D. AT 5% FOR:								
CHECKS		3.46	1.84	1.65	5.94	12.81	4.38	8.84
CHECKS VS. TEST ENTRIES		6.31	3.37	3.02	10.85	23.40	8.00	16.15
TEST ENTRIE IN THE SAME BLOCK		6.92	3.69	3.31	11.88	25.63	8.76	17.69
TEST ENTRIE IN DIFFERENT BLOCKS		7.99	4.26	3.82	13.72	29.60	10.12	20.42
S.E.FOR:								
CHECKS		1.41	0.75	0.67	2.42	5.23	1.79	3.61
CHECKS VS TEST ENTRIES		2.58	1.37	1.23	4.43	9.56	3.27	6.61
TEST ENTRIES IN THE SAME BLOCK		2.82	1.50	1.35	4.85	10.47	3.58	7.22
TEST ENTRIES IN DIFFERENT BLOCKS		3.26	1.74	1.56	5.61	12.09	4.13	8.34

Cont'd. ...

Table 4.3.2. Cont'd. ...

ENTRY NAME	LIBYA		LEBANON	PERU			S. ARABIA	SPAIN
	El Marg	Tripoli	Terbol	Lima	Chiquian	Yanamuclo	Riyad	Cordoba
FLIP82-25FB	74	88	120	102	75	105	62	106
FLIP82-26FB	74	75	122	102	75	96	62	106
FLIP82-27FB	75	91	121	107	75	93	65	106
FLIP82-28FB	74	89	122	102	75	86	60	106
FLIP82-29FB	75	76	121	84	75	95	48	106
FLIP82-30FB	76	91	121	87	66	93	68	105
FLIP82-39FB	73	78	121	86	75	90	50	106
FLIP82-45FB	72	72	121	96	75	97	47	106
FLIP82-46FB	77	89	121	91	75	89	56	106
FLIP82-47FB	73	93	121	104	75	91	56	106
FLIP82-48FB	74	91	122	109	75	93	68	106
FLIP82-53FB	73	76	119	79	66	93	66	105
FLIP82-54FB	73	90	121	90	66	100	55	105
FLIP83-3FB	73	78	121	98	75	99	49	106
FLIP83-4FB	71	91	120	108	75	101	66	106
FLIP83-5FB	76	73	121	87	66	123	68	105
FLIP83-6FB	73	76	119	93	102	90	53	105
FLIP83-12FB	75	94	122	113	75	107	61	106
FLIP83-17FB	75	91	121	91	75	88	63	106
FLIP83-18FB	76	85	121	87	66	113	67	105
FLIP83-20FB	75	89	121	86	75	87	51	106
FLIP83-21FB	75	97	119	90	66	100	55	105
FLIP83-25FB	75	94	121	81	75	93	55	106
FLIP83-29FB	73	90	121	76	75	101	57	106
FLIP83-32FB	76	98	121	93	66	96	56	105
FLIP83-37FB	74	104	124	107	75	112	61	106
FLIP83-41FB	74	91	120	95	75	101	61	106
FLIP83-43FB	73	79	121	96	75	94	58	106
FLIP83-44FB	76	88	119	95	66	105	57	105
FLIP83-45FB	73	93	119	114	75	97	64	106
74TA63	74	90	122	104	75	94	58	106
74TA109	76	80	121	97	66	100	64	105
74TA516	74	85	121	107	75	99	52	106
76TA56297	75	88	121	96	75	93	47	106
76TA56356	73	85	121	78	75	97	48	106
77TA88311	72	98	122	102	75	100	67	106
78TA33200	74	93	122	94	75	101	53	106
78S49044	75	90	121	95	75	101	53	106
79S79180	72	77	122	99	75	86	60	106
80S43587	75	75	120	98	75	98	57	106
80S44027	75	77	119	91	66	96	54	105
80S44178	76	79	119	97	66	87	54	105
80S80026	75	93	121	104	75	93	64	106
80S80064	73	93	121	99	75	97	61	106
80S80135	71	85	121	102	75	92	61	106
ILB 4	73	93	119	92	75	95	65	106
ILB 1266	73	98	121	89	75	95	58	106
ILB 1933	75	94	121	86	75	93	50	106
SYRIAN LOCAL LARGE	75	100	122	102	79	103	60	106
ILB 1270	75	94	122	91	73	96	59	106
LOCAL CHECK	67	76	121	115	73	100	65	106
LOCATION MEAN	74	87	120	95	73	96	58	105
C.V.%	2.11	1.84	0.47	12.10	10.53	7.26	8.37	0.00
L.S.D. AT 5% FOR:								
CHECKS	2.72	2.81	0.99	20.34	13.49	12.29	8.55	0.00
CHECKS VS TEST ENTRIES	4.96	5.13	1.82	37.14	24.63	22.44	15.62	0.00
TEST ENTRIES IN THE SAME BLOCK	5.44	5.62	1.99	40.68	26.98	24.58	17.11	0.00
TEST ENTRIES IN DIFFERENT BLOCKS	6.28	6.49	2.30	46.97	31.16	28.38	19.76	0.00
S.E. FOR:								
CHECKS	1.11	1.14	0.40	8.31	5.51	5.02	3.49	0.00
CHECKS VS TEST ENTRIES	2.02	2.09	0.74	15.17	10.06	9.17	6.38	0.00
TEST ENTRIES IN THE SAME BLOCK	2.22	2.29	0.81	16.62	11.02	10.04	6.99	0.00
TEST ENTRIES IN DIFFERENT BLOCKS	2.56	2.65	0.94	19.19	12.73	11.59	8.07	0.00

Cont'd. ...

Table 4.3.2. Cont'd. ...

ENTRY NAME	SYRIA			TURKEY	P.D.R.YEMEN	U.A.EMIRATES	(1) Overall Mean
	Al Ghab	Hama	Tel Hadya	Ankara	Seiyun	Dhaid	
FLIP82-25FB	96	112	119	47	61	58	83
FLIP82-26FB	-	112	123	48	45	57	82
FLIP82-27FB	97	109	119	47	52	64	85
FLIP82-28FB	96	110	123	48	50	59	82
FLIP82-29FB	97	111	121	46	52	56	81
FLIP82-30FB	97	111	122	50	52	66	83
FLIP82-39FB	96	111	119	47	47	56	81
FLIP82-45FB	96	111	121	47	52	56	80
FLIP82-46FB	98	111	123	48	57	61	83
FLIP82-47FB	97	112	118	50	47	58	82
FLIP82-48FB	-	110	118	48	55	57	85
FLIP82-53FB	94	109	118	48	47	57	79
FLIP82-54FB	96	111	120	50	71	55	82
FLIP83-3FB	96	114	118	50	47	60	80
FLIP83-4FB	96	112	121	46	50	57	83
FLIP83-5FB	95	111	120	49	52	55	82
FLIP83-6FB	95	111	118	50	47	51	81
FLIP83-12FB	-	112	121	47	69	65	87
FLIP83-17FB	-	111	121	48	57	56	84
FLIP83-18FB	95	113	118	52	52	55	83
FLIP83-20FB	96	111	123	48	52	58	81
FLIP83-21FB	98	111	118	49	71	63	84
FLIP83-25FB	98	113	123	49	71	60	84
FLIP83-29FB	98	110	118	50	62	66	84
FLIP83-32FB	95	111	120	50	71	66	86
FLIP83-37FB	99	114	118	49	71	69	89
FLIP83-41FB	96	112	121	47	50	57	82
FLIP83-43FB	96	110	120	49	47	58	82
FLIP83-44FB	96	115	122	50	47	55	83
FLIP83-45FB	96	114	120	48	52	60	84
74TA63	96	110	119	49	50	59	82
74TA109	96	111	122	52	52	55	82
74TA516	97	112	118	48	52	60	82
76TA56297	96	111	119	46	44	58	81
76TA56356	96	112	120	50	62	60	81
77TA88311	97	112	123	47	69	57	85
78TA33200	97	112	121	50	45	59	82
78S49044	96	113	119	47	52	56	82
79S79180	97	112	123	47	69	57	83
80S43587	96	112	123	48	42	53	79
80S44027	97	111	122	49	47	55	80
80S44178	96	111	119	50	63	55	81
80S80026	96	107	119	48	52	58	83
80S80064	96	108	120	50	71	69	85
80S80135	95	108	118	48	47	58	81
ILB4	97	110	122	48	52	60	84
AQUADULCE	98	114	120	50	71	66	85
SEVILLA GIANT	97	109	121	46	71	67	84
SYRIAN LOCAL LARGE	96	110	119	50	65	61	87
REINA BLANCA	96	112	121	48	63	63	85
LOCAL CHECK	97	110	118	52	42	59	
LOCATION MEAN	96	111	120	48	55	59	
C.V.%	0.72	1.19	0.53	1.12	4.11	2.44	
L.S.D. AT 5% FOR:							
CHECKS	1.11	2.30	1.11	0.95	3.99	2.53	
CHECKS VS TEST ENTRIES	2.03	4.21	2.03	1.74	7.29	4.62	
TEST ENTRIES IN THE SAME BLOCK	2.23	4.61	2.23	1.91	7.99	5.06	
TEST ENTRIES IN DIFFERENT BLOCKS	2.57	5.32	2.57	2.20	9.22	5.84	
S.E. FOR:							
CHECKS	0.45	0.94	0.45	0.39	1.63	1.03	
CHECKS VS TEST ENTRIES	0.83	1.72	0.83	0.71	2.98	1.88	
TEST ENTRIES IN THE SAME BLOCK	0.91	1.88	0.91	1.78	3.26	2.06	
TEST ENTREIS IN DIFFERENT BLOCKS	1.05	2.17	1.05	0.90	3.77	2.38	

(1) Jubeiha and Al Ghab were excluded from the overall mean.

Table 4.3.3. Time to maturity (days) of entries at different locations in FBISN-L during 1984/85.

ENTRY NAME	CYPRUS	CZECHO-SLOVAKIA	ETHIOPIA	LIBYA		LEBANON	PERU	
	Nicosia	Horna-Streda	Denbi	El Marg	Tripoli	Terbol	Lima	Chiquian
FLIP82-25FB	154	119	137	132	187	195	169	159
FLIP82-26FB	154	119	138	133	182	195	163	147
FLIP82-27FB	155	119	148	133	184	195	173	189
FLIP82-28FB	154	121	138	134	188	201	169	201
FLIP82-29FB	157	120	150	133	180	197	161	169
FLIP82-30FB	155	117	137	133	184	193	157	160
FLIP82-39FB	154	119	150	132	182	195	160	206
FLIP82-45FB	155	118	150	133	178	199	164	182
FLIP82-46FB	155	120	132	133	181	199	157	184
FLIP82-47FB	155	122	148	134	185	198	166	200
FLIP82-48FB	154	119	137	134	194	197	167	149
FLIP82-53FB	159	117	137	132	179	193	153	187
FLIP82-54FB	155	117	143	136	188	193	159	158
FLIP83-3FB	156	122	130	132	179	198	162	190
FLIP83-4FB	156	119	138	132	183	195	167	183
FLIP83-5FB	159	116	139	132	175	195	162	189
FLIP83-6FB	156	116	139	136	188	195	162	157
FLIP83-12FB	155	119	138	134	189	195	171	157
FLIP83-17FB	160	122	133	133	179	199	159	173
FLIP83-18FB	158	117	140	133	179	195	160	191
FLIP83-20FB	154	122	149	134	178	195	161	199
FLIP83-21FB	155	128	140	135	189	199	158	158
FLIP83-25FB	154	120	135	134	180	195	147	173
FLIP83-29FB	155	121	133	132	180	198	152	187
FLIP83-32FB	158	117	146	135	183	193	164	184
FLIP83-37FB	158	122	146	135	179	196	167	204
FLIP83-41FB	158	119	140	133	188	195	159	152
FLIP83-43FB	155	121	150	133	179	198	164	159
FLIP83-44FB	155	117	138	132	185	193	159	159
FLIP83-45FB	155	123	143	134	179	200	165	161
74TA63	154	119	138	134	184	199	168	155
74TA109	159	117	140	135	179	195	159	166
74TA516	156	123	144	133	180	196	167	195
76TA56297	155	119	148	133	182	199	166	193
76TA56356	155	121	134	132	178	200	153	177
77TA88311	155	119	140	134	182	199	163	176
78TA33200	156	121	137	132	188	197	160	163
78S49044	154	125	148	133	185	197	161	170
79S79180	154	119	140	134	181	195	159	158
80S43587	154	119	138	132	185	201	159	158
80S44027	155	116	138	133	177	195	159	196
80S44178	157	116	137	135	179	195	159	207
80S80026	154	119	148	133	184	197	167	171
80S80064	155	121	153	134	181	198	166	192
80S80135	158	122	150	134	180	198	164	188
ILB 4	156	121	149	134	184	200	162	187
ILB 1266	155	126	152	134	182	198	168	179
ILB 1933	154	128	147	133	184	195	162	166
SYRIAN LOCAL LARGE	158	129	135	134	190	200	161	174
ILB 1270	157	122	140	133	180	195	159	169
LOCAL CHECK	156	126	138	132	183	197	175	167
LOCATION MEAN	155	120	141	133	182	196	162	175
C.V.%	1.45	0.71	5.26	0.85	2.64	0.82	3.33	6.63
L.S.D. AT 5% FOR:								
CHECKS	3.92	1.49	12.85	1.97	8.39	2.82	9.40	20.14
CHECKS VS TEST ENTRIES	7.16	2.73	23.46	3.60	15.32	5.15	17.17	36.79
TEST ENTRIES IN THE SAME BLOCK	7.84	2.99	25.70	3.95	16.78	5.65	18.81	40.29
TEST ENTRIES IN DIFFERENT BLOCKS	9.05	3.46	29.68	4.56	19.37	6.52	21.72	46.53
S.E. FOR:								
CHECKS	1.60	0.61	5.25	0.80	3.42	1.15	3.84	8.23
CHECKS VS TEST ENTRIES	2.92	1.11	9.59	1.47	6.26	2.10	7.01	15.03
TEST ENTRIES IN THE SAME BLOCK	3.20	1.22	10.50	1.61	6.85	2.30	7.68	16.46
TEST ENTRIES IN DIFFERENT BLOCKS	3.70	1.41	12.13	1.86	7.91	2.66	8.87	19.01

Cont'd. ...

Table 4.3.3. Cont'd. ...

ENTRY NAME	S. ARABIA	SYRIA			TURKEY	P.D.R.YEMEN	U.A.EMIRATES	(1) Overall Mean
	Riyad	Al Ghab	Hama	Tel Hadya	Ankara	Seiyun	Dhaid	
FLIP82-25FB	150	151	168	172	84	128	143	149
FLIP82-26FB	145	-	168	174	84	128	140	147
FLIP82-27FB	150	146	166	174	83	133	140	153
FLIP82-28FB	150	149	168	172	86	128	138	153
FLIP82-29FB	147	150	168	172	82	133	145	151
FLIP82-30FB	145	149	168	170	86	133	140	148
FLIP82-39FB	151	147	168	172	84	133	145	153
FLIP82-45FB	145	147	168	171	83	133	142	151
FLIP82-46FB	150	152	168	174	85	133	140	150
FLIP82-47FB	147	150	168	172	87	133	143	154
FLIP82-48FB	150	-	166	172	85	128	138	149
FLIP82-53FB	151	147	169	171	85	133	142	150
FLIP82-54FB	141	147	166	173	86	133	140	149
FLIP83-3FB	137	148	168	171	85	134	140	150
FLIP83-4FB	155	151	168	172	84	128	140	151
FLIP83-5FB	146	149	168	171	86	136	142	151
FLIP83-6FB	149	148	168	171	86	133	142	149
FLIP83-12FB	150	-	166	173	85	128	138	149
FLIP83-17FB	150	-	168	172	84	133	142	150
FLIP83-18FB	151	147	169	171	89	133	145	152
FLIP83-20FB	145	150	168	174	85	133	140	152
FLIP83-21FB	151	147	166	171	84	136	142	150
FLIP83-25FB	150	152	168	173	86	133	142	149
FLIP83-29FB	147	150	168	172	86	136	145	150
FLIP83-32FB	141	149	166	173	86	136	140	151
FLIP83-37FB	147	148	166	174	85	134	140	153
FLIP83-41FB	150	-	168	172	83	128	143	149
FLIP83-43FB	147	150	168	172	85	133	140	150
FLIP83-44FB	149	149	168	170	87	133	142	149
FLIP83-45FB	147	148	168	172	84	133	145	150
74TA63	146	150	168	172	88	128	140	149
74TA109	151	147	168	171	88	133	145	150
74TA516	142	148	168	174	85	134	145	153
76TA56297	145	151	168	175	83	133	140	152
76TA56356	137	148	168	171	87	133	145	149
77TA88311	155	151	168	172	85	128	140	151
78TA33200	145	150	168	171	87	128	140	149
78S49044	145	146	166	172	84	113	142	149
79S79180	155	151	168	172	85	128	138	149
80S43587	145	151	168	172	86	128	143	149
80S44027	141	147	168	173	86	133	145	151
80S44178	141	148	169	174	85	133	142	152
80S80026	150	146	166	172	85	133	140	151
80S80064	147	149	167	171	86	133	140	153
80S80135	147	148	168	172	84	134	140	152
ILB 4	147	150	168	172	86	133	145	153
ILB 1266	147	149	167	171	82	136	145	153
ILB 1933	145	151	168	171	84	133	142	150
SYRIAN LOCAL LARGE	150	149	168	172	86	134	142	152
ILB 1270	147	149	168	171	86	132	143	150
LOCAL CHECK	153	148	168	172	93	120	141	
LOCATION MEAN	147	149	167	172	85	131	141	
C.V %	2.65	0.99	0.56	0.50	0.69	4.08	1.74	
L.S.D AT 5% FOR:								
CHECKS	6.80	2.36	1.65	1.49	1.03	9.31	4.28	
CHECKS VS TEST ENTRIES	12.42	4.30	3.02	2.73	1.89	17.01	7.82	
TEST ENTRIES IN THE SAME BLOCK	13.61	4.72	3.31	2.99	2.07	18.63	8.57	
TEST ENTRIES IN DIFFERENT BLOCKS	15.71	5.45	3.82	3.46	2.40	21.51	9.89	
S.E. FOR:								
CHECKS	2.78	0.96	0.67	0.61	0.42	3.80	1.75	
CHECKS VS TEST ENTRIES	5.07	1.76	1.23	1.11	0.77	6.95	3.19	
TEST ENTRIES IN THE SAME BLOCK	5.56	1.92	1.35	1.22	0.84	7.61	3.50	
TEST ENTRIES IN DIFFERENT BLOCKS	6.42	2.22	1.56	1.41	0.98	8.79	4.04	

(1) Al Ghab was excluded from the overall mean.

Table 4.3.4. Plant height (cm) of entries at different locations in FBISN-L during 1984/85.

ENTRY NAME	CYPRUS	CZECHO-SLOVAKIA	ETHIOPIA	IRAQ	JORDAN	LEBANON		LIBYA	PERU
	Nicosia	Horna-Streda	Denbi	Baghdad	Jubeiha	Beqa'a	Terbol	Tripoli	Lima
FLIP82-25FB	46	67	114	55	-	57	68	92	134
FLIP82-26FB	49	62	109	52	53	52	73	83	148
FLIP82-27FB	55	67	111	86	41	64	65	89	123
FLIP82-28FB	52	72	154	48	-	63	78	83	134
FLIP82-29FB	53	77	121	61	40	57	60	77	136
FLIP82-30FB	51	65	126	70	33	55	62	79	132
FLIP82-39FB	55	67	116	74	37	53	65	84	120
FLIP82-45FB	50	69	111	62	36	61	75	92	138
FLIP82-46FB	50	67	116	68	51	54	70	69	119
FLIP82-47FB	65	63	157	70	48	59	73	82	134
FLIP82-48FB	62	57	144	50	48	58	63	87	147
FLIP82-53FB	55	65	101	74	32	55	52	102	129
FLIP82-54FB	51	70	116	78	57	50	57	86	124
FLIP83-3FB	53	68	112	58	48	58	73	84	121
FLIP83-4FB	49	62	129	61	-	65	58	84	129
FLIP83-5FB	56	60	96	69	26	53	47	84	161
FLIP83-6FB	53	75	96	72	40	55	62	99	150
FLIP83-12FB	51	67	144	46	43	55	63	92	161
FLIP83-17FB	50	72	101	74	55	50	60	72	109
FLIP83-18FB	51	68	106	74	34	50	57	78	149
FLIP83-20FB	48	67	146	74	54	61	70	79	131
FLIP83-21FB	58	65	151	68	39	59	77	78	131
FLIP83-25FB	55	67	131	65	43	58	80	64	116
FLIP83-29FB	42	63	112	53	48	57	63	69	123
FLIP83-32FB	53	70	101	68	44	60	57	78	132
FLIP83-37FB	62	63	132	56	60	61	63	73	122
FLIP83-41FB	59	72	114	67	43	60	68	79	153
FLIP83-43FB	62	68	122	70	55	62	63	91	144
FLIP83-44FB	53	70	106	81	30	52	57	83	149
FLIP83-45FB	42	63	162	53	52	56	73	93	106
74TA63	43	57	129	52	-	56	68	87	162
74TA109	48	60	106	75	33	65	67	89	143
74TA516	55	68	137	60	39	65	68	81	139
76TA56297	70	62	161	74	48	57	65	91	121
76TA56356	55	63	122	60	53	59	68	73	116
77TA88311	52	62	109	47	-	60	73	70	125
78TA33200	59	72	129	63	-	56	68	87	161
78S49044	55	72	126	74	60	72	65	85	133
79S79180	59	67	144	51	-	54	63	73	145
80S43587	54	62	109	68	-	56	73	86	147
80S44027	43	70	96	75	39	57	62	84	130
80S44178	46	73	106	78	41	50	72	94	150
80S80026	60	65	156	77	53	61	60	81	134
80S80064	45	73	132	50	50	71	68	74	145
80S80135	65	68	132	64	59	59	68	91	135
ILB 4	58	63	122	66	44	58	58	74	113
ILB 1266	48	68	132	52	56	57	73	81	125
ILB 1933	63	72	156	57	42	57	60	77	99
SYRIAN LOCAL LARGE	53	66	123	53	41	60	68	84	131
ILB 1270	54	61	118	54	49	53	52	70	126
LOCAL CHECK	56	85	141	64	43	58	70	76	155
LOCATION MEAN	54	67	124	64	45	57	65	82	134
C.V. %	7.56	9.87	14.50	11.02	15.23	12.28	12.75	6.63	5.09
L.S.D. AT 5% FOR:									
CHECKS	7.11	11.65	31.45	12.12	10.40	12.37	14.48	9.39	11.89
CHECKS VS TEST ENTRIES	12.99	21.27	57.43	22.14	18.99	22.59	26.45	17.15	21.72
TEST ENTRIES IN THE SAME BLOCK	14.23	23.30	62.90	24.25	20.80	24.74	28.97	18.78	23.79
TEST ENTRIES IN DIFFERENT BLOCKS	16.43	26.90	72.63	28.00	24.01	28.57	33.46	21.69	27.47
S.E. FOR:									
CHECKS	2.90	4.76	12.85	4.95	4.25	5.05	5.92	3.83	4.86
CHECKS VS TEST ENTRIES	5.30	8.69	23.47	9.04	7.76	9.23	10.81	7.00	8.87
TEST ENTRIES IN THE SAME BLOCK	5.81	9.52	25.70	9.91	8.50	10.11	11.84	7.67	9.72
TEST ENTRIES IN DIFFERENT BLOCKS	6.71	10.99	29.68	11.44	9.81	11.67	13.67	8.86	11.22

Cont'd. ...

Table 4.3.4. Cont'd. ...

ENTRY NAME	PERU		S. ARABIA	SYRIA			TURKEY	P.D.R.YEMEN	U.A.EMIRATES	(1) Overall Mean
	Chiquian	Yanamuclo	Riyad	Al Ghab	Hama	Tel Hadya	Ankara	Seiyun	Dhaid	
FLIP82-25FB	103	73	107	51	65	47	50	91	103	79
FLIP82-26FB	98	61	114	-	60	42	52	68	98	76
FLIP82-27FB	103	64	80	53	67	57	49	96	93	79
FLIP82-28FB	98	59	89	56	70	52	53	61	93	78
FLIP82-29FB	88	54	120	43	67	57	58	92	93	79
FLIP82-30FB	78	70	132	53	69	59	53	86	96	80
FLIP82-39FB	88	54	107	53	72	47	52	92	88	77
FLIP82-45FB	78	54	117	53	67	52	55	97	93	79
FLIP82-46FB	78	44	123	48	72	42	53	89	93	75
FLIP82-47FB	83	78	136	55	72	34	51	100	106	85
FLIP82-48FB	83	63	112	-	65	57	53	105	98	81
FLIP82-53FB	88	67	117	53	79	64	50	96	96	80
FLIP82-54FB	88	77	123	48	74	54	53	87	91	79
FLIP83-3FB	78	57	109	55	72	49	51	88	106	77
FLIP83-4FB	93	68	96	46	60	47	52	102	108	78
FLIP83-5FB	78	73	107	58	64	59	51	82	101	77
FLIP83-6FB	88	75	125	43	69	54	51	86	96	81
FLIP83-12FB	93	59	116	-	70	62	52	68	98	81
FLIP83-17FB	98	54	124	-	72	57	53	83	103	77
FLIP83-18FB	78	65	107	53	69	59	49	93	91	77
FLIP83-20FB	108	46	118	43	62	52	50	91	68	79
FLIP83-21FB	88	55	123	33	69	49	40	81	101	80
FLIP83-25FB	103	29	127	58	67	42	49	97	93	77
FLIP83-29FB	88	43	107	40	67	44	44	62	91	70
FLIP83-32FB	58	65	107	53	69	54	48	73	91	74
FLIP83-37FB	78	68	111	50	67	44	49	107	91	77
FLIP83-41FB	103	71	119	-	65	52	56	87	108	83
FLIP83-43FB	88	75	123	55	77	44	52	113	116	85
FLIP83-44FB	88	73	135	48	74	54	55	88	91	81
FLIP83-45FB	88	93	138	50	62	49	52	108	101	83
74TA63	103	64	95	56	70	57	53	85	98	79
74TA109	68	65	122	48	74	59	51	95	101	80
74TA516	78	83	139	50	62	49	53	110	101	84
76TA56297	78	44	117	48	62	47	52	90	93	80
76TA56356	88	55	122	50	57	44	45	81	101	75
77TA88311	103	69	97	51	70	47	51	97	113	77
78TA33200	93	61	111	46	55	47	51	92	93	81
78S49044	88	49	97	58	57	57	54	95	98	79
79S79180	83	60	116	51	70	42	50	88	103	79
80S43587	73	56	99	46	70	47	51	101	108	78
80S44027	78	55	107	53	64	54	51	106	101	77
80S44178	78	60	107	53	79	64	53	107	106	82
80S80026	98	64	100	48	62	57	51	92	98	82
80S80064	83	73	111	50	67	44	47	97	96	79
80S80135	98	73	135	55	67	39	54	104	101	84
ILB 4	78	67	127	50	77	44	52	99	106	78
ILB 1266	78	53	100	50	72	54	50	89	96	76
ILB 1933	78	59	116	43	62	57	51	104	98	79
SYRIAN LOCAL LARGE	88	55	108	56	75	60	54	85	91	78
ILB 1270	77	61	97	48	63	45	45	85	93	72
LOCAL CHECK	100	74	123	61	63	63	53	75	100	
LOCATION MEAN	87	62	141	50	67	51	51	91	97	
C.V. %	12.61	10.82	10.64	9.81	4.05	4.19	2.33	9.35	7.27	
L.S.D. AT 5% FOR:										
CHECKS	19.18	11.80	20.92	8.09	4.78	3.81	2.08	14.61	12.31	
CHECKS VS TEST ENTRIES	35.02	21.55	38.21	14.78	8.73	6.96	3.80	26.68	22.49	
TEST ENTRIES IN THE SAME BLOCK	38.36	23.60	41.85	16.19	9.56	7.62	4.16	29.22	24.63	
TEST ENTRIES IN DIFFERENT BLOCKS	44.29	27.26	48.33	18.70	11.04	8.80	4.81	33.74	28.44	
S.E. FOR:										
CHECKS	7.83	4.82	8.55	3.30	1:95	1.55	0.85	5.97	5.03	
CHECKS VS TEST ENTRIES	14.31	8.80	15.61	6.04	3.56	2.84	1.55	10.90	9.19	
TEST ENTRIES IN THE SAME BLOCK	15.67	9.64	17.10	6.61	3.90	3.11	1.70	11.94	10.06	
TEST ENTRIES IN DIFFERENT BLOCKS	18.10	11.14	19.75	7.64	4.51	3.59	1.96	13.79	11.62	

(1) Jubeiha and Al Ghab were excluded from the overall mean.

Table 4.3.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in FBISN-L during 1984/85.

ENTRY NAME	CHILE Graneros		CZECHOSLOVAKIA Horna Streda		EGYPT Sakha		ETHIOPIA Denbi		IRAQ Baghdad	
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-25FB	3705	28	2544	26	4537	31	259	38	1435	44
FLIP82-26FB	2105	50	3211	7	4815	23	1217	9	1435	44
FLIP82-27FB	4950	4	2788	19	5648	15	242	39	2075	24
FLIP82-28FB	5372	2	3211	7	9370	1	2675	2	1485	42
FLIP82-29FB	3550	33	2522	29	4593	28	567	29	1325	47
FLIP82-30FB	3794	26	2655	21	3907	38	753	23	2744	7
FLIP82-39FB	4150	19	3322	5	5315	17	317	36	2160	22
FLIP82-45FB	3750	27	2455	31	4926	21	1150	10	1590	39
FLIP82-46FB	3683	29	4455	2	4759	24	0	43	3360	3
FLIP82-47FB	4083	20	3277	6	6685	3	1095	12	2429	18
FLIP82-48FB	3372	36	2877	16	4093	35	175	40	560	51
FLIP82-53FB	4527	9	1988	42	3963	37	553	30	2444	17
FLIP82-54FB	4194	18	2188	39	3352	46	953	16	1464	43
FLIP83-3FB	4083	20	2677	20	4685	25	711	24	2164	21
FLIP83-4FB	4838	6	3077	14	3537	45	125	41	1390	46
FLIP83-5FB	4661	8	2655	21	3241	48	778	21	2939	5
FLIP83-6FB	7527	1	2655	21	4241	34	1278	8	1699	38
FLIP83-12FB	3105	41	3211	7	4593	28	525	33	1790	35
FLIP83-17FB	4683	7	2322	38	6593	4	0	43	3205	4
FLIP83-18FB	3594	32	1322	50	2796	51	903	18	2154	23
FLIP83-20FB	4350	14	3122	12	4926	21	534	32	3655	1
FLIP83-21FB	2927	43	2855	18	2852	50	978	14	2489	15
FLIP83-25FB	4016	24	3455	4	5093	19	0	43	2190	20
FLIP83-29FB	4083	20	1011	51	3741	42	645	27	1964	27
FLIP83-32FB	4527	9	2655	21	3796	41	695	25	2789	6
FLIP83-37FB	3683	29	2344	33	6407	8	2170	5	2519	14
FLIP83-41FB	5172	3	2344	33	4981	20	0	43	3395	2
FLIP83-43FB	4283	17	2344	33	6463	6	2328	3	2549	11
FLIP83-44FB	2861	44	3188	11	3907	38	811	19	1899	30
FLIP83-45FB	3550	33	2077	40	5741	13	1078	13	1274	49
74TA63	3238	39	2544	26	4093	35	0	43	1320	48
74TA109	4861	5	1922	45	3296	47	653	26	2484	16
74TA516	4416	12	1411	49	6519	5	1995	6	2584	10
76TA56297	3683	29	3922	3	3204	49	317	36	2520	13
76TA56356	2550	47	1877	46	5129	18	978	14	1949	28
77TA88311	2238	48	2877	16	4315	32	0	43	1845	33
78TA33200	4505	11	2544	26	6259	9	1317	7	1235	50
78S49044	3550	33	3122	12	4315	32	359	35	1510	41
79S79180	4038	23	1877	46	5648	15	0	43	1840	34
80S43587	3105	41	3211	7	6870	2	17	42	2645	8
80S44027	4327	16	2988	15	4685	25	811	19	2589	9
80S44178	3261	38	1988	42	5741	13	761	22	2524	12
80S80026	2750	45	2655	21	3870	40	0	43	1965	26
80S80064	4016	24	1877	46	4574	30	936	17	1739	36
80S80135	3283	37	2344	33	6185	12	2770	1	1854	32
ILB 4	2216	49	2477	30	4685	25	603	28	2429	18
ILB 1266	1950	51	2344	33	3574	44	478	34	1589	40
ILB 1933	4350	14	2055	41	6204	10	0	43	1895	31
SYRIAN LOCAL LARGE	3200	40	1966	44	3639	43	545	31	1910	29
ILB 1270	2716	46	2416	32	6194	11	1097	11	2043	25
LOCAL CHECK	4400	13	5850	1	6444	7	2250	4	1728	37
LOCATION MEAN	3839		2648		4882		772		2093	
C.V. %	11.50		17.89		11.40		155.20		16.40	
L.S.D. AT 5% FOR:										
CHECKS	756.00		855.56		985.30		2208.90		586.70	
CHECKS VS TEST ENTRIES	1380.50		1562.27		1799.30		4033.50		1071.40	
TEST ENTRIES IN THE SAME BLOCK	1512.10		1711.13		1970.70		4417.80		1173.50	
TEST ENTRIES IN DIFFERENT BLOCKS	1746.00		1975.84		2275.60		5101.20		1355.10	
S.E. FOR:										
CHECKS	308.90		349.63		402.60		902.70		239.70	
CHECKS VS TEST ENTRIES	564.10		638.44		735.30		1648.30		437.80	
TEST ENTRIES IN THE SAME BLOCK	617.90		699.27		805.30		1805.40		479.50	
TEST ENTRIES IN DIFFERENT BLOCKS	713.54		807.45		929.90		2084.70		553.78	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		5	

Cont'd. ...

Table 4.3.5 Cont'd. ...

ENTRY NAME	JORDAN		LEBANON				LIBYA				MOROCCO	
	Jubeiha		Beqa'a		Terbol		El Marg		Tripoli		Douyet	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-25FB	-		1408	36	5200	7	1782	11	686	48	1480	8
FLIP82-26FB	740	24	1488	33	4978	12	1417	31	986	35	580	49
FLIP82-27FB	775	20	1812	12	4842	16	1447	29	1475	15	1126	34
FLIP82-28FB	-		1721	18	7200	1	1657	18	2286	1	1123	35
FLIP82-29FB	825	18	1732	17	4620	22	1617	22	1475	15	1298	31
FLIP82-30FB	1109	12	1270	40	3904	43	1032	48	819	43	991	42
FLIP82-39FB	450	38	2132	6	4212	34	1562	24	1442	18	1473	10
FLIP82-45FB	525	34	1919	11	5509	3	1712	15	1475	15	1312	21
FLIP82-46FB	525	34	1739	16	5842	2	1717	14	1442	18	1341	19
FLIP82-47FB	1575	1	1301	39	4756	20	1410	32	1553	11	1301	27
FLIP82-48FB	940	14	1681	23	5459	4	1792	10	953	37	937	47
FLIP82-53FB	384	41	1930	9	4385	30	1647	20	753	46	1116	36
FLIP82-54FB	1509	5	856	49	4311	33	1932	5	1553	11	1473	10
FLIP83-3FB	1540	2	1648	24	5348	5	1150	44	686	48	1301	27
FLIP83-4FB	-		1621	26	4163	39	1827	8	786	45	1473	10
FLIP83-5FB	234	43	2896	1	4867	15	1362	34	1119	31	1341	19
FLIP83-6FB	1134	11	883	48	4052	41	1757	12	1053	32	1308	23
FLIP83-12FB	665	29	655	51	4459	25	1927	6	1419	21	1651	6
FLIP83-17FB	700	25	1692	20	3916	42	1267	38	1575	10	2051	1
FLIP83-18FB	559	32	1603	27	4385	30	1132	45	519	51	1305	25
FLIP83-20FB	550	33	1745	15	4768	19	1937	4	1175	28	1473	10
FLIP83-21FB	1309	7	776	50	2496	51	1107	46	853	40	1116	36
FLIP83-25FB	475	37	2039	8	4472	24	1302	36	675	50	1348	18
FLIP83-29FB	625	30	1701	19	4200	35	1035	47	853	40	1294	32
FLIP83-32FB	1339	6	2156	5	3459	48	1212	41	1586	9	1473	10
FLIP83-37FB	1275	8	1201	43	4459	25	1015	49	1786	4	1312	21
FLIP83-41FB	440	39	1368	37	5200	7	1967	3	986	35	951	45
FLIP83-43FB	775	20	1235	42	4385	30	1385	33	1686	6	1116	36
FLIP83-44FB	1184	10	1643	25	3089	50	1272	37	919	38	1476	9
FLIP83-45FB	1525	4	955	46	3793	47	1200	42	1486	14	976	43
74TA63	-		1688	21	4756	20	1812	9	1053	32	1837	3
74TA109	1059	13	1576	28	4422	27	1667	17	853	40	937	47
74TA516	1200	9	1335	38	4200	35	1240	39	1919	2	1116	36
76TA56297	400	40	1759	14	5101	9	1512	28	1542	13	1301	27
76TA56356	775	20	2088	7	4200	35	1550	25	886	39	1308	23
77TA88311	-		1435	34	4978	12	1922	7	1286	25	223	51
78TA33200	-		1801	13	5015	11	2012	2	1919	2	401	50
78S49044	575	31	2212	3	4138	40	1752	13	1042	34	1116	36
79S79180	-		1688	21	4830	17	2177	1	1219	26	948	46
80S43587	-		1161	44	4533	23	1697	16	1386	22	955	44
80S44027	759	23	1003	45	3274	49	1167	43	1319	24	1301	27
80S44178	1534	3	2163	4	4200	35	1442	30	1786	4	1294	32
80S80026	825	18	2432	2	4805	18	1642	21	808	44	1305	25
80S80064	675	28	1261	41	4422	27	1325	35	1153	29	1830	4
80S80135	875	16	1568	29	4422	27	970	50	1686	6	1473	10
ILB 4	525	34	901	47	3904	43	1235	40	1353	23	1473	10
ILB 1266	700	25	1528	31	4904	14	685	51	1619	8	2016	2
ILB 1933	375	42	1559	30	3842	46	1617	22	1142	30	1651	6
SYRIAN LOCAL LARGE	693	27	1429	35	5055	10	1544	26	717	47	1071	41
ILB 1270	834	17	1525	32	3851	45	1655	19	1442	18	1792	5
LOCAL CHECK	925	15	1928	10	5250	6	1521	27	1200	27	1391	17
LOCATION MEAN	847		1585		4526		1504		1242		1279	
C.V. %	44.80		24.70		8.69		31.90		36.60		11.80	
L.S.D. AT 5% FOR:												
CHECKS	555.20		682.70		684.88		837.50		777.00		267.50	
CHECKS VS TEST ENTRIES	1013.90		1246.60		1250.61		1529.30		1418.90		488.50	
TEST ENTRIES IN THE SAME BLOCK	1110.50		1365.00		1369.77		1675.00		1554.10		535.00	
TEST ENTRIES IN DIFFERENT BLOCKS	1282.30		1576.00		1581.67		1934.10		1794.60		617.80	
S.E. FOR:												
CHECKS	226.90		279.00		279.88		342.20		317.50		109.30	
CHECKS VS TEST ENTRIES	414.30		509.40		511.07		624.90		579.80		199.60	
TEST ENTRIES IN THE SAME BLOCK	453.80		558.00		559.77		684.50		635.10		218.60	
TEST ENTRIES IN DIFFERENT BLOCKS	524.00		944.30		646.37		790.40		733.30		252.50	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		0		2	

Cont'd. ...

Table 4.3.5. Cont'd. ....

ENTRY NAME	PERU						SAUDI ARABIA				SPAIN	
	Lima		Chiquian		Yanamuclo		Al Hassa		Riyad		Cordoba	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-25FB	0	49	2955	13	157	6	110	24	4308	12	5083	22
FLIP82-26FB	1777	30	2486	24	72	23	20	41	1608	50	4433	42
FLIP82-27FB	2165	26	3059	10	0	48	281	10	4104	16	5900	5
FLIP82-28FB	1054	43	2799	17	88	15	10	42	2408	45	7433	1
FLIP82-29FB	2499	21	2341	29	110	10	929	1	3817	21	5600	11
FLIP82-30FB	3628	3	1841	44	78	20	213	18	5228	4	5083	22
FLIP82-39FB	2943	13	2278	33	47	26	739	2	4004	18	5050	26
FLIP82-45FB	610	45	1184	51	172	4	331	6	3904	19	4900	30
FLIP82-46FB	2999	10	2747	19	47	26	306	9	1837	49	5700	8
FLIP82-47FB	151	48	1893	42	97	13	52	31	3499	27	4583	39
FLIP82-48FB	1554	37	1486	48	22	39	148	21	3648	23	5233	18
FLIP82-53FB	1961	29	2466	25	78	20	0	47	2722	40	5233	18
FLIP82-54FB	3628	3	2247	34	32	37	5	44	4322	11	5033	27
FLIP83-3FB	0	49	2674	20	35	34	59	30	3019	34	4633	38
FLIP83-4FB	2221	24	2330	30	88	15	73	28	3888	20	4333	44
FLIP83-5FB	3239	8	2153	38	110	10	0	47	2588	43	4783	36
FLIP83-6FB	1655	34	4028	3	110	10	255	15	5515	1	5083	22
FLIP83-12FB	2554	20	2643	21	13	46	73	28	3515	26	5133	21
FLIP83-17FB	3443	6	3372	5	47	26	94	26	4437	8	5600	11
FLIP83-18FB	4905	1	2403	28	47	26	0	47	2155	46	5533	13
FLIP83-20FB	2943	13	2903	14	16	43	319	7	2904	36	6500	2
FLIP83-21FB	1128	41	2872	16	47	26	43	36	5055	5	5033	27
FLIP83-25FB	2332	22	3372	5	0	48	269	12	3111	31	6000	4
FLIP83-29FB	1595	36	3299	7	7	47	40	37	2666	41	3283	51
FLIP83-32FB	2961	12	3028	12	188	2	0	47	4188	15	5083	22
FLIP83-37FB	1706	32	1486	48	82	19	102	25	2779	38	4033	46
FLIP83-41FB	1221	39	2643	21	16	43	3	45	2822	37	4383	43
FLIP83-43FB	817	44	2205	37	35	34	364	5	5333	3	3883	48
FLIP83-44FB	4183	2	2247	34	78	20	143	22	4242	14	5533	13
FLIP83-45FB	0	49	1424	50	175	3	177	20	3053	32	4683	37
74TA63	3554	5	3268	9	153	7	260	14	4908	6	4833	34
74TA109	2794	17	1841	44	47	26	230	16	3342	28	5033	27
74TA516	540	46	2049	41	19	40	277	11	3746	22	3733	49
76TA56297	2332	22	2903	14	47	26	601	3	2437	44	5900	5
76TA56356	428	47	3924	4	35	34	40	37	3633	24	4883	31
77TA88311	3443	6	4205	1	60	25	48	35	2942	35	4483	41
78TA33200	2943	13	2799	17	16	43	3	45	1908	48	4833	34
78S49044	1777	30	1497	47	0	48	7	43	2137	47	4850	33
79S79180	2777	18	2330	30	25	38	35	39	4395	9	5783	7
80S43587	1499	38	2330	30	119	9	198	19	2775	39	5383	17
80S44027	2211	25	2091	40	63	24	318	8	5348	2	4883	31
80S44178	1628	35	2247	34	94	14	230	16	4282	13	5183	20
80S80026	2665	19	2122	39	172	4	269	12	4631	7	5400	16
80S80064	1706	32	1893	42	19	40	52	31	4339	10	3933	47
80S80135	1067	42	2424	27	128	8	139	23	3599	25	3533	50
ILB 4	1206	40	1830	46	19	40	52	31	3033	33	4333	44
ILB 1266	2817	16	3299	7	-		52	31	4039	17	4533	40
ILB 1933	2054	28	3059	10	47	26	436	4	2624	42	5700	8
SYRIAN LOCAL LARGE	2055	27	2562	23	83	18	27	40	3300	29	5463	15
ILB 1270	3080	9	2437	26	85	17	92	27	3183	30	5638	10
LOCAL CHECK	2972	11	4179	2	316	1	-		1148	51	6050	3
LOCATION MEAN	2106		2552		73		170		3498		5041	
C.V.%	85.40		12.30		41.80		30.50		32.20		12.10	
L.S.D. AT 5% FOR:												
CHECKS	3234.30		562.30		59.70		77.40		1870.80		1078.90	
CHECKS VS TEST ENTRIES	5906.00		1026.80		109.10		141.40		3416.00		1970.10	
TEST ENTRIES IN THE SAME BLOCK	6468.70		1124.60		119.50		154.80		3741.60		2157.90	
TEST ENTRIES IN DIFFERENT BLOCKS	7469.50		1298.60		138.00		178.80		4321.40		2491.70	
S.E. FOR:												
CHECKS	1321.70		229.80		24.40		31.60		764.50		440.90	
CHECKS VS TEST ENTRIES	2413.50		419.60		44.60		57.70		1396.00		805.10	
TEST ENTRIES IN THE SAME BLOCK	2643.50		459.60		48.80		63.29		1529.00		881.80	
TEST ENTRIES IN DIFFERENT BLOCKS	3052.51		530.72		56.41		73.08		1765.60		1018.20	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		-		7		0	

Cont'd. ...

Table 4.3.5. Cont'd. ...

ENTRY NAME	SYRIA						TUNISIA			
	Al Ghab		Hama		Tel Hadya		Beja		El Kef	
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-25FB	1860	15	3697	37	1382	31	875	31	2233	23
FLIP82-26FB	-		2931	48	11	51	1225	16	583	51
FLIP82-27FB	1695	22	4719	10	1764	16	758	41	2233	23
FLIP82-28FB	1960	7	3131	45	789	43	1825	3	883	48
FLIP82-29FB	1062	41	4853	8	2061	10	658	46	2233	23
FLIP82-30FB	2033	5	4564	14	1468	25	825	33	2383	19
FLIP82-39FB	1928	11	3586	39	1024	38	258	49	2333	20
FLIP82-45FB	1728	20	3819	33	1283	34	-		2933	9
FLIP82-46FB	1328	31	4886	7	764	44	358	48	1683	36
FLIP82-47FB	1311	33	4319	24	1401	28	1142	18	1200	45
FLIP82-48FB	-		4530	16	2382	7	925	28	2233	23
FLIP82-53FB	2433	1	5231	3	1579	22	925	28	3533	4
FLIP82-54FB	1933	9	4364	22	839	41	1225	16	2083	29
FLIP83-3FB	1977	6	4119	29	2661	4	1842	2	2800	13
FLIP83-4FB	1026	42	2964	47	1382	31	1025	22	2633	15
FLIP83-5FB	1933	9	4397	20	2690	3	775	36	2983	7
FLIP83-6FB	1600	25	4597	12	1098	37	1675	5	3733	2
FLIP83-12FB	-		4431	19	1493	24	2125	1	1833	33
FLIP83-17FB	-		5186	4	1690	19	758	41	2533	17
FLIP83-18FB	1400	30	3731	36	1431	26	1025	22	2283	22
FLIP83-20FB	428	45	3819	33	1172	35	758	41	2983	7
FLIP83-21FB	266	46	4097	31	394	50	1625	8	2333	20
FLIP83-25FB	1928	11	4352	23	690	47	1308	15	2483	18
FLIP83-29FB	911	43	4686	11	1957	11	842	32	1650	38
FLIP83-32FB	1500	28	4297	25	1172	35	975	24	2833	12
FLIP83-37FB	1211	35	2553	49	1772	14	441	50	1700	35
FLIP83-41FB	-		3297	42	974	40	1675	5	1933	32
FLIP83-43FB	1144	38	3286	43	1772	14	1492	10	1800	34
FLIP83-44FB	1533	26	2997	46	764	44	775	36	3083	6
FLIP83-45FB	1777	18	2086	50	1661	20	1142	18	2900	10
74TA63	2060	4	4264	26	2567	5	1425	12	3283	5
74TA109	1266	34	4264	26	839	41	825	33	3583	3
74TA516	1211	35	1886	51	2142	9	892	30	1150	46
76TA56297	1495	29	4119	29	1579	22	1108	20	2233	23
76TA56356	1844	16	3653	38	1735	17	1392	13	2150	28
77TA88311	1326	32	4797	9	1641	21	775	36	733	50
78TA33200	1160	37	3964	32	641	48	1375	14	2083	29
78S49044	1728	20	3319	41	1431	26	808	35	1383	43
79S79180	1826	17	4497	17	715	46	675	45	1433	42
80S43587	1526	27	3264	44	530	49	775	36	1483	41
80S44027	1100	39	3364	40	987	39	1075	21	2883	11
80S44178	1066	40	4531	15	1727	18	725	44	3883	1
80S80026	2128	3	5453	2	2394	6	958	25	1683	36
80S80064	777	44	4453	18	1401	28	942	27	1600	39
80S80135	1777	18	4219	28	1401	28	1442	11	2750	14
ILB 4	1911	13	4386	21	1920	13	1642	7	1500	40
ILB 1266	1677	23	4586	13	2809	1	1792	4	810	49
ILB 1933	1895	14	5586	1	1320	33	558	47	1983	31
SYRIAN LOCAL LARGE	1945	8	4942	6	2378	8	1500	9	1288	44
ILB 1270	1666	24	3750	35	1948	12	950	26	2575	16
LOCAL CHECK	2221	2	5100	5	2782	2	775	36	988	47
LOCATION MEAN	1554		4076		1498		1073		2166	
C.V.%	38.82		12.00		63.40		35.00		31.20	
L.S.D AT 5% FOR:										
CHECKS	1008.56		868.90		1788.00		636.90		1128.10	
CHECKS VS TEST ENTRIES	1841.65		1586.60		3264.90		1163.00		2059.90	
TEST ENTRIES IN THE SAME BLOCK	2017.12		1737.80		3576.00		1273.90		2256.20	
TEST ENTRIES IN DIFFERENT BLOCKS	2329.17		2006.60		4129.20		1470.90		2605.20	
S.E. FOR:										
CHECKS	412.16		355.00		730.60		260.30		461.00	
CHECKS VS TEST ENTRIES	752.61		648.30		1334.20		475.30		841.80	
TEST ENTRIES IN THE SAME BLOCK	824.32		710.10		1461.30		520.60		922.00	
TEST ENTRIES IN DIFFERENT BLOCKS	951.84		820.00		1687.46		601.10		1064.60	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		1		6	

Cont'd. ...

Table 4.3.5 Cont'd. ...

ENTRY NAME	TUNISIA Sejnane		TURKEY Ankara		P.D.R. YEMEN Seiyun		U.A. EMIRATES Dhaid		Overall Mean (1)	Rank
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-25FB	780	41	876	34	1946	13	113	51	2520	29
FLIP82-26FB	-		1158	10	3102	4	513	31	2102	50
FLIP82-27FB	1198	17	888	33	802	42	446	36	2782	5
FLIP82-28FB	1380	11	1320	4	2455	9	246	43	3049	1
FLIP82-29FB	1223	15	598	49	750	44	757	19	2541	27
FLIP82-30FB	815	40	713	44	2327	11	543	30	2514	31
FLIP82-39FB	923	33	1314	5	924	39	1335	3	2645	12
FLIP82-45FB	823	39	1214	7	1139	32	802	13	2545	25
FLIP82-46FB	853	37	1043	21	262	49	446	36	2650	11
FLIP82-47FB	337	48	950	28	684	46	209	47	2529	28
FLIP82-48FB	985	28	921	31	1503	23	246	43	2439	36
FLIP82-53FB	-		1076	17	1758	19	765	16	2617	15
FLIP82-54FB	1765	2	931	30	948	38	765	16	2380	40
FLIP83-3FB	1577	6	1077	15	1843	16	498	32	2614	16
FLIP83-4FB	940	31	967	27	3192	3	624	28	2501	33
FLIP83-5FB	1640	4	1112	11	1102	34	898	9	2654	10
FLIP83-6FB	1595	5	1112	11	1136	33	698	24	2898	3
FLIP83-12FB	1105	22	785	41	2733	8	469	35	2546	23
FLIP83-17FB	1198	17	869	35	1780	18	713	23	2971	2
FLIP83-18FB	1815	1	677	45	903	41	498	32	2134	49
FLIP83-20FB	1098	23	997	25	263	48	224	45	2717	7
FLIP83-21FB	1015	27	540	51	754	43	565	29	2173	48
FLIP83-25FB	878	36	771	42	1057	36	313	41	2596	17
FLIP83-29FB	737	43	805	40	1338	28	276	42	2213	46
FLIP83-32FB	1040	25	586	50	1242	30	409	39	2582	19
FLIP83-37FB	707	45	869	35	1148	31	209	47	2293	43
FLIP83-41FB	830	38	1420	2	3271	2	757	19	2659	9
FLIP83-43FB	1207	16	1104	13	1468	25	965	8	2625	13
FLIP83-44FB	1190	19	858	37	1449	26	854	11	2348	41
FLIP83-45FB	387	47	1023	22	1096	35	498	32	2193	47
74TA63	955	30	858	37	2930	6	224	45	2748	6
74TA109	730	44	1076	17	1546	22	676	26	2456	34
74TA516	957	29	1412	3	1795	17	854	11	2417	37
76TA56297	1293	14	1097	14	213	50	757	19	2543	26
76TA56356	1442	8	1050	20	1483	24	1076	6	2506	32
77TA88311	-		1194	9	2186	12	780	14	2448	35
78TA33200	1085	24	895	32	2330	10	691	25	2546	23
78S49044	923	33	1269	6	624	47	1402	2	2259	44
79S79180	1035	26	640	47	1550	21	780	14	2577	20
80S43587	1180	20	2200	1	3494	1	1269	4	2682	8
80S44027	1475	7	1021	23	1943	14	1187	5	2575	22
80S44178	1340	12	813	39	2742	7	1520	1	2851	4
80S80026	938	32	1006	24	0	51	446	36	2520	29
80S80064	1106	21	932	29	729	45	187	49	2314	42
80S80135	742	42	1204	8	3028	5	720	22	2592	18
ILB 4	417	46	1077	15	953	37	409	39	2228	45
ILB 1266	1707	3	969	26	1303	29	676	26	2401	38
ILB 1933	1408	10	761	43	923	40	980	7	2625	13
SYRIAN LOCAL LARGE	888	35	1074	19	1352	27	156	50	2391	39
ILB 1270	1430	9	609	48	1868	15	761	18	2577	20
LOCAL CHECK	1298	13	674	46	1567	20	889	10		
LOCATION MEAN	1091		988		1547		648			
C.V.%	28.80		5.80		30.60		33.60			
L.S.D. AT 5% FOR:										
CHECKS	528.30		97.30		824.00		373.10			
CHECKS VS TEST ENTRIES	964.70		177.70		1504.70		681.30			
TEST ENTRIES IN THE SAME BLOCK	1056.60		194.60		1648.00		746.20			
TEST ENTRIES IN DIFFERENT BLOCKS	1220.10		224.70		1903.00		861.60			
S.E. FOR:										
CHECKS	215.90		39.70		336.70		152.40			
CHECKS VS TEST ENTRIES	394.20		72.60		614.90		278.40			
TEST ENTRIES IN THE SAME BLOCK	431.80		79.50		673.50		304.90			
TEST ENTRIES IN DIFFERENT BLOCKS	498.60		91.80		777.60		352.10			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		38		4		0			

(1) Jubeiha, Denbi, Lima, Yanamuclo, Al Hassa, Al Ghab, Beja and Sejnane were excluded from the overall mean.

Table 4.3.6. The five heaviest seed yielding entries at the individual locations in the FBISN-L during 1984/85.

RANK	CHILE Graneros		EGYPT Sakha		ETHIOPIA Denbi		IRAQ Baghdad	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	29	FLIP 83-6FB	X79S 178	FLIP 82-28FB	X79S 171	80S 80135	S81062	FLIP 83-20FB
2	X79S 178	FLIP 82-28FB	X77TA 31	80S 43587	X79S 178	FLIP 82-28FB	33	FLIP 83-41FB
3	33	FLIP 83-41FB	1817	FLIP 82-47FB	80L 90222	FLIP 83-43FB	1817	FLIP 82-46FB
4	X79S 131	FLIP 82-27FB	581066	FLIP 83-17FB	-	Local check	S81066	FLIP 83-17FB
5	37	74TA 109	371	74TA 516	S81062	FLIP 83-37FB	22	FLIP 83-5FB

Cont'd. ...

RANK	JORDAN Jubeiha		LEBANON Beqa'a		LIBYA El-Marg		LIBYA Tripoli	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	1817	FLIP 82-47FB	22	FLIP 83-5FB	X75TA 116	79S 79180	X79S 178	FLIP 82-28FB
2	X79S 12	FLIP 83-3FB	X79S 70	80S 80026	X75TA 115	78TA 33200	371	74TA 516]
3	X77TA 72	80S 44178	17	78S 49044	33	FLIP 83-41FB	X75TA 115	78TA 33200]
4	78S 33202	FLIP 83-45FB	X77TA 72	80S 44178	S81062	FLIP 83-20FB	S81062	FLIP 83-37FB]
5	41	FLIP 82-54FB	S81055	FLIP 83-32FB	41	FLIP 82-54FB	X77TA 72	80S 44178]

Cont'd. ...

RANK	MOROCCO Douyet		PERU Lima		PERU Chiquian		SAUDI ARABIA Riyad	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	S81066	FLIP 83-17FB	S81055	FLIP 83-18FB	263	77TA 88311	29	FLIP 83-6FB
2	1266	Aquadulce	78S 33201	FLIP 83-44FB	-	Local check	X77TA 64	80S 44027
3	24	74TA 63	X79L 130	FLIP 82-30FB]	29	FLIP 83-6FB	80L 90222	FLIP 83-43FB
4	X79S 103	80S 80064	41	FLIP 82-54FB]	282	76TA 56356	X79L 130	FLIP 82-30FB
5	1270	Reina Blanca	24	74TA 63	S81066	FLIP 83-17FB	S81060	FLIP 83-21FB

Cont'd. ...

Table 4.3.6. Cont'd.

RANK	SPAIN		SYRIA					
	Cordoba		Al-Ghab		Hama		Tel Hadya	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X79S 178	FLIP 82-28FB	24	74TA 63	1933	Sevilla Giant	1266	Aquadulce
2	S81062	FLIP 83-20FB	X79S 178	FLIP 82-28FB	X79S 70	80S 80026	-	Local check
3	-	Local check	X79S 74	FLIP 82-25FB	23	FLIP 82-53FB	22	FLIP 83-5FB
4	S81056	FLIP 83-25FB	X75TA 116	79S 79180	S81066	FLIP 83-17FB	X79S 12	FLIP 83-3FB
5	X79S 131	FLIP 82-27FB	23	FLIP 82-53FB	-	Local check	24	74TA 63
	41	76TA 56297						

Cont'd. ...

RANK	TUNISIA						TURKEY	
	Beja		El-Kef		Sejnane		Ankara	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	S81079	FLIP 83-12FB	X77TA 72	80S 44178	S81055	FLIP 83-18FB	X77TA 31	80S 43587
2	X79S 12	FLIP 83-3FB	29	FLIP 83-6FB	41	FLIP 82-54FB	33	FLIP 83-41FB
3	X79S 178	FLIP 82-28FB	37	74TA 109	1266	Aquadulce	371	74TA 516
4	1266	Aquadulce	23	FLIP 82-53FB	22	FLIP 83-5FB	X79S 178	FLIP 82-28FB
5	29	FLIP 83-6FB	24	74TA 63	29	FLIP 83-6FB	X75TA 209	FLIP 82-39FB
	33	FLIP 83-41FB						

Cont'd. ...

RANK	U.A.EMIRATES		P.D.R.YEMEN	
	Dhaid		Seiyun	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X77TA 72	80S 44178	X77TA 31	80S 43587
2	17	78S 49044	33	FLIP 83-41FB
3	X75TA 209	FLIP 82-39FB	12	FLIP 83-4FB
4	X77TA 31	80S 43587	X79S 1018	FLIP 82-26FB
5	X77TA 64	80S 44027	X79S 171	80S 80135

The brackets indicate entries having the same rank.

30 sets and are reported. The agronomic details for the locations reporting the data are presented in Table 4.3.1.

Results and Discussion

The data pertaining to time to flowering, time to maturity and plant height are given in Tables 4.3.2, 4.3.3, and 4.3.4, respectively. The overall location mean for entries ranged from 79 to 87 days for time to flowering, 147 to 154 days for time to maturity and 70 to 85 cm for plant height. The overall mean of entries at locations, however, ranged from 48 to 120 days for time to flowering, 85 to 196 days for time to maturity, and 45 to 141 cm for plant height.

The adjusted yield performance and ranking of different entries in the nursery at each location are given in Table 4.3.5. The coefficient of variation for the experiment at different locations varied from 5.8 to 155.2 per cent. The ANOVA for the augmented design revealed that 5, 2, 7, 1, 6, 38 and 4 entries exceeded the local check by a significant margin at Baghdad in Iraq, Douyet in Morocco, Riyad in Saudi Arabia, Beja and El-Kef in Tunisia, Ankara in Turkey and Seiyun in PDR Yemen. The five heaviest seed yielders across the locations included FLIP 82-28FB (3049 kg/ha), FLIP 83-17FB (2971 kg/ha), FLIP 83-6FB (2898 kg/ha), 80S44178 (2851 kg/ha), and FLIP 82-27FB (2782 kg/ha) respectively. The five heaviest seed yielding entries at individual locations are given in Table 4.3.6. Except at few locations, namely, Horna Strada in Czechoslovakia, Denbi in Ethiopia, Chiquian and Yanamulco in Peru, Al-Ghab, Hama and Tel Hadya in Syria where the local check ranked 1, 4, 2, 1, 2, 5, and 2 respectively, the top five were the ICARDA supplied materials. The entries, namely, FLIP 82-28FB and FLIP 83-6FB occurred most frequently among the top five yielders and were more adaptable.

4.4. FABA BEAN INTERNATIONAL SCREENING NURSERY-SMALL SEED (FBISN-S)

Material

The Faba Bean International Screening Nursery - Small Seed comprised of 60 test entries and three checks two of them namely Giza 4 (ILB 1820) and F 402 (ILB 1278) were supplied and the third was to be added by the cooperator. The entries in this trial were chosen from the local trials, regional trials and international screening nurseries from 1983/84 on the basis of their superior performance.

Methods and Management

The test entries and three checks were suggested to be sown in single row plots of 4 m length with inter- and intra row spacings of 0.50- and 0.10 m, respectively, in an augmented block design. The whole experimental unit was divided into five blocks. Forty one sets of the nursery were distributed to the cooperators in 23 countries and the

Table 4.4.1. Agronomic data for different locations in the FBISN-S during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Setif	26.12.1984	08.07.1985		46		-	Trifluraline	Seville
CYPRUS	Nicosia	05.12.1984	22.05.1985	21	48		2	Treflan,Pirimor	Cyprus Local
CZECHOSLOVAKIA	Horna Streda	16.04.1985	15.08.1985	100	110		-	Avadax,Topogard,Malathion	Inovec
EGYPT	Gemmiza	20.11.1984	07.05.1985	35	71		3	NA	Geza 402
ETHIOPIA	Denbi	28.06.1985	26.11.1985	-			NA	NA	NC58
FRANCE	Dijon	01.03.1985	12.08.1985		115		-	Metabenzthiazuron,Linuron, Pirimor	Alfred
FRANCE	Le Rheu	05.04.1985	11.08.1985	-			NA	Simazine,Metasystemox, Peltar	Alfred
FRANCE	Montpellier	22.11.1984	-	NA			NA	NA	NA
FRANCE	Coulommiers	NA	NA	NA			NA	Herbalts	NA
GREECE	Larissa	04.12.1984	10.06.1985		60		-	Clorthral,Endosulfan	Polycarpi
IRAQ	Misan	26.11.1984	25.04.1985	135	115		12	Drspan	Cybrian
JORDAN	Jubeiha	25.12.1984	NA	20	40		NA	NA	NA
LEBANON	Terbol	16.11.1984	20.06.1985	-	50		-	Igran,Kerb	Lebanese local Small
PAKISTAN	Bannu	21.10.1984	04.05.1985	20	50		1	-	Mote
PAKISTAN	Islamabad	30.10.1984	04.1985	-			-	-	-
QATAR	Rawdat Harma	30.10.1984	08.04.1985	90	150			NA	Giza 2
SAUDI ARABIA	Al Hassa	11.1984	04.1985	80	80		15	Renilon	NA
SAUDI ARABIA	Riyad	22.10.1984		74	112		13	Delabone,Lancer,Novakrone Malathion,Pirimor Dithane	Local
SPAIN	Cordoba	17.12.1984	15.06.1985	-			1	Topogard,Roundup,Dafene, Rogor	INIA-12
SPAIN	Toledo	NA	NA	NA			NA	NA	NA
SUDAN	Shambat	25.10.1984		-			12	-	H 72
SYRIA	Tel Hadya	01.11.1984	06.1985	30	50		5-6	Kerb,Igran,Fusilade Thiodan,Pirimor	ILB 1814
TUNISIA	BEJA	NA	NA	NA			NA	NA	NA
TUNISIA	Bouficha	20.11.1984	07.06.1985	NA			NA	Decis	ICARDA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TUNISIA	Mateur	24.11.1984	01.07.1985	NA			NA	Decis	ICARDA
TUNISIA	Sejnane	NA	NA	NA			NA	NA	NA
TUNISIA	Menzel Temime	15.11.1984	05.06.1985		100		NA	Decis	ICARDA
TUNISIA	Zaghuan	14.11.1984	12.06.1985	NA			NA	Decis	ICARDA
TURKEY	Ankara	30.03.1985	01.07.1985	23	60		-	-	69 V1

NA = not available.
- At Montpellier the plants killed by frost.
- At Islamabad and Shambat the data not reported.
- At Bouficha, Mateur, Menzel Temime and Zaghuan the data with a lot of missing values.

Table 4.4.2. Time to flowering (days) of entries at different locations in FBISN-S during 1984/85.

ILB/ CROSS NO.	PEDIGREE	ALGERIA Setif	CYPRUS Nicosia	CZECHOSLOVAKIA Horna Streda	EGYPT Gemmiza	ETHIOPIA Denbi	FRANCE Dijon	FRANCE Le Rhue
X75TA14	FLIP82-1FB	124	105	52	62	45	84	59
X75TA43	FLIP82-9FB	123	103	58	60	44	84	57
X77TA51	FLIP82-11FB	125	105	50	73	51	85	58
X75TA105	FLIP82-12FB	126	106	52	60	50	86	58
X75SD48	FLIP82-13FB	124	103	49	68	52	87	59
X75TA16	FLIP82-15FB	124	104	49	60	50	86	57
X77TA72	FLIP82-17FB	124	104	50	63	48	85	58
X77TA81	FLIP82-19FB	126	100	50	60	46	86	57
X77TA81	FLIP82-20FB	123	104	50	76	48	86	58
X77TA85	FLIP82-21FB	125	101	51	62	54	85	59
X77SD100	FLIP82-24FB	124	101	49	69	45	86	58
X75TA8	FLIP82-33FB	120	102	52	64	49	85	58
X75TA14	FLIP82-34FB	126	103	58	63	43	85	57
X75TA14	FLIP82-35FB	126	104	50	62	49	86	57
X75TA20	FLIP82-36FB	125	105	50	62	53	84	59
1816	FLIP82-38FB	125	105	50	69	48	87	59
5	FLIP83-1FB	123	101	55	60	44	86	58
75TA26062	FLIP83-7FB	126	102	54	68	46	84	58
79S33120	FLIP83-9FB	123	105	56	68	49	87	58
S81054	FLIP83-48FB	126	106	55	80	52	87	59
S81047	FLIP83-50FB	123	104	51	63	52	87	59
S81012	FLIP83-58FB	124	102	49	58	46	86	57
S81012	FLIP83-60FB	122	104	51	60	45	87	59
S81065	FLIP83-68FB	123	103	49	77	53	87	60
S81072	FLIP83-75FB	125	103	51	68	47	87	59
S81036	FLIP83-78FB	122	105	51	68	53	85	60
S81211	FLIP83-84FB	126	102	51	63	54	84	59
S81217	FLIP83-85FB	126	103	49	68	47	86	59
S81232	FLIP83-88FB	125	105	49	67	45	84	59
S81056	FLIP83-89FB	126	103	58	69	44	85	59
SD77061	FLIP83-95FB	124	103	50	62	49	85	57
SD77061	FLIP83-96FB	124	103	54	60	56	84	58
SD77061	FLIP83-97FB	124	104	50	67	47	86	58
80S44358	FLIP81-100FB	125	104	55	67	49	85	61
79S30424	FLIP83-101FB	126	102	57	69	48	85	57
79S30403	FLIP83-102FB	124	100	50	58	45	86	58
79S33024	FLIP83-105FB	123	102	52	60	53	84	57
1814	FLIP83-106FB	126	101	51	58	48	84	59
10	FLIP83-107FB	126	106	50	68	50	85	57
S81059	FLIP83-114FB	124	103	60	80	53	87	59
1814	FLIP83-123FB	124	104	49	74	54	85	58
1812	FLIP83-126FB	123	102	51	63	46	85	59
1266	FLIP83-127FB	122	106	56	67	50	84	57
1055	FLIP83-128FB	124	101	55	69	45	86	58
49	74TA133	125	102	52	68	52	86	58
1817	76TA56267	116	106	53	68	54	86	58
352	77MS88158	124	102	49	69	53	85	57
18	77TA80023	125	102	51	76	50	84	59
X75TA7	78S33011	124	103	49	68	49	87	58
320	78S48434	123	104	54	68	48	87	57
1816	78S48561	127	105	52	69	55	86	58
X75TA10	80S43238	126	102	52	58	52	85	58
X77TA48	80S43856	126	105	55	69	51	86	57
X77TA48	80S43859	127	105	49	76	49	86	61
X77TA82	80S44371	125	101	47	69	50	85	57
X77TA86	80S4474	124	103	48	60	51	85	58
ILB 2864	73 RM 70	124	107	48	80	49	88	64
ILB 2863	75 RM 703	125	99	52	80	52	88	66
ILB 2865	OUTLOOK	124	106	58	74	48	89	65
ILB 2858	ILB 2858	124	104	51	62	52	84	59
1820	GIZA 4	124	105	51	61	50	85	59
1278	GIZA 402	125	103	49	57	48	84	58
-	LOCAL CHECK	126	91	55	57	51	92	65
LOCATION MEAN		124	103	51	66	49	85	58
C.V.%		0.20	1.33	3.17	0.39	7.60	0.54	2.31
L.S.D. AT 5% FOR:								
CHECKS		0.37	2.00	2.42	0.37	5.54	0.67	2.01
CHECKS VS TEST ENTRIES		0.75	4.00	4.85	0.75	11.08	1.35	4.02
TEST ENTRIES IN THE SAME BLOCK		0.84	4.47	5.42	0.84	12.38	1.51	4.49
TEST ENTRIES IN DIFFERENT BLOCKS		0.97	5.16	6.26	0.97	14.30	1.75	5.18
S.E. FOR:								
CHECKS		0.16	0.86	1.05	0.16	2.40	0.29	0.87
CHECKS VS TEST ENTRIES		0.32	1.73	2.10	0.32	4.80	0.58	1.74
TEST ENTRIES IN THE SAME BLOCK		0.36	1.94	2.35	0.36	5.37	0.65	1.94
TEST ENTRIES IN DIFFERENT BLOCKS		0.42	2.24	2.71	0.42	6.20	0.76	2.25

Cont'd. ...

Table 4.4.2. Cont'd. ...

ENTRY NAME	FRANCE Coulommiers	GREECE Larissa	IRAQ Misan	JORDAN Jubeiha	LEBANON Terbol	PAKISTAN Bannu	QATAR Rawdat-Harma
FLIP82-1FB	-	132	66	115	122	79	40
FLIP82-9FB	167	132	66	107	119	87	40
FLIP82-11FB	164	133	64	115	121	103	61
FLIP82-12FB	162	132	67	112	121	87	44
FLIP82-13FB	164	133	75	125	121	106	49
FLIP82-15FB	-	133	66	-	121	102	52
FLIP82-17FB	-	132	65	-	121	89	41
FLIP82-19FB	164	133	62	117	122	89	41
FLIP82-20FB	164	133	73	122	121	101	49
FLIP82-21FB	163	132	65	119	122	65	44
FLIP82-24FB	164	133	62	116	120	91	44
FLIP82-33FB	164	133	63	113	122	86	40
FLIP82-34FB	164	133	62	121	122	81	44
FLIP82-35FB	172	132	67	-	121	100	44
FLIP82-36FB	168	132	66	108	122	63	40
FLIP82-38FB	-	133	63	114	121	101	43
FLIP83-1FB	162	132	78	95	119	89	40
FLIP83-7FB	163	132	69	113	122	83	48
FLIP83-9FB	167	132	66	112	121	133	42
FLIP83-48FB	159	133	69	-	123	110	61
FLIP83-50FB	163	132	67	114	122	83	49
FLIP83-58FB	162	132	65	114	121	92	37
FLIP83-60FB	-	132	66	113	120	86	39
FLIP83-68FB	169	133	67	-	121	111	61
FLIP83-75FB	163	132	77	117	122	82	49
FLIP83-78FB	163	133	69	120	122	97	60
FLIP83-84FB	-	132	65	114	120	66	48
FLIP83-85FB	169	133	64	112	121	69	40
FLIP83-88FB	163	132	69	119	120	80	48
FLIP83-89FB	-	133	74	116	122	91	39
FLIP83-95FB	167	132	77	113	121	91	49
FLIP83-96FB	-	133	63	110	121	85	39
FLIP83-97FB	159	133	62	-	121	90	54
FLIP81-100FB	-	133	70	111	121	95	47
FLIP83-101FB	-	133	66	117	121	87	49
FLIP83-102FB	169	133	63	110	119	98	40
FLIP83-105FB	-	133	62	122	122	60	39
FLIP83-106FB	164	133	63	107	121	87	45
FLIP83-107FB	-	133	63	120	121	84	47
FLIP83-114FB	159	133	64	115	121	103	47
FLIP83-123FB	158	132	67	113	122	84	44
FLIP83-126FB	-	132	72	120	122	86	49
FLIP83-127FB	162	132	66	99	121	105	58
FLIP83-128FB	159	133	69	120	122	99	49
74TA133	164	133	-	-	120	106	43
76TA56267	167	132	67	108	121	90	39
77MS88158	159	133	68	127	120	97	42
77TA80023	159	133	63	120	121	66	40
78S33011	-	133	63	118	121	88	43
78S48434	177	132	66	105	121	104	49
78S48561	164	133	66	119	121	89	44
80S43238	174	133	63	111	121	64	39
80S43856	159	133	74	119	122	100	49
80S43859	159	133	62	112	122	95	54
80S44371	169	133	69	108	120	104	47
80S4474	-	133	62	120	121	83	40
73 RM 70	-	133	64	121	123	110	49
75 RM 703	-	133	74	104	123	106	54
ILB 2865	-	133	77	107	123	100	57
ILB 2858	159	134	74	111	123	82	45
ILB 1820	162	133	66	116	122	71	40
ILB 1278	162	133	65	112	121	62	39
LOCAL CHECK	167	136	67	115	121	97	36
LOCATION MEAN	164	132	67	114	121	90	45
C.V.%	2.88	0.00	4.93	4.31	0.56	10.68	3.54
L.S.D.AT 5% FOR:							
CHECKS	5.25	0.00	4.78	6.52	0.99	13.75	2.32
CHECKS VS TEST ENTRIES ENTRIES	10.50	0.01	9.57	13.06	1.99	27.51	4.65
TEST ENTRIES IN THE SAME BLOCK	11.74	0.01	10.70	14.60	2.22	30.75	5.20
TEST ENTRIES IN DIFFERENT BLOCKS	13.55	0.01	12.36	16.85	2.57	35.51	6.01
S.E. FOR:							
CHECKS	2.27	0.00	2.07	2.83	0.43	5.96	1.00
CHECKS VS TEST ENTRIES	4.55	0.00	4.15	5.66	0.86	11.92	2.01
TEST ENTRIES IN THE SAME BLOCK	5.09	0.00	4.64	6.33	0.96	13.33	2.25
TEST ENTRIES IN DFFERENT BLOCKS	5.87	0.00	5.36	7.31	1.11	15.39	2.60

Cont'd. ...

Table 4.4.2. Cont'd. ...

ENTRY NAME	S.ARABIA	SAPIN		SYRIA	TURKEY	(1) Overall
	Riyad	Cordoba	Toledo	Tel Hadya	Ankara	Mean
FLIP82-1FB	55	106	112	123	49	84
FLIP82-9FB	52	106	120	123	49	84
FLIP82-11FB	61	106	112	121	50	88
FLIP82-12FB	61	106	113	123	47	85
FLIP82-13FB	50	106	121	120	49	87
FLIP82-15FB	50	106	112	119	49	85
FLIP82-17FB	53	106	120	123	50	85
FLIP82-19FB	56	105	113	124	47	84
FLIP82-20FB	58	106	112	119	51	87
FLIP82-21FB	56	106	112	119	49	83
FLIP82-24FB	57	105	113	122	47	85
FLIP82-33FB	52	105	113	120	49	84
FLIP82-34FB	51	105	113	124	48	84
FLIP82-35FB	52	106	113	123	49	85
FLIP82-36FB	56	106	112	123	49	83
FLIP82-38FB	58	106	112	121	50	86
FLIP83-1FB	54	106	113	123	48	84
FLIP83-7FB	63	106	112	119	48	85
FLIP83-9FB	65	106	113	123	48	89
FLIP83-48FB	55	106	120	119	50	90
FLIP83-50FB	60	106	112	123	51	86
FLIP83-58FB	59	106	113	119	48	84
FLIP83-60FB	58	106	119	121	49	84
FLIP83-68FB	64	106	121	118	49	89
FLIP83-75FB	64	106	112	121	51	86
FLIP83-78FB	61	106	112	123	49	87
FLIP83-84FB	58	106	112	123	49	84
FLIP83-85FB	51	106	121	118	49	84
FLIP83-88FB	59	106	112	121	50	85
FLIP83-89FB	52	105	113	122	49	85
FLIP83-95FB	52	106	113	121	45	85
FLIP83-96FB	58	106	114	118	47	85
FLIP83-97FB	59	106	112	121	51	86
FLIP81-100FB	57	106	114	120	49	86
FLIP83-101FB	57	106	112	119	48	86
FLIP83-102FB	53	106	114	118	51	84
FLIP83-105FB	51	105	113	120	48	82
FLIP83-106FB	56	106	114	118	46	84
FLIP83-107FB	60	106	112	123	51	86
FLIP83-114FB	59	106	114	118	52	88
FLIP83-123FB	61	106	112	123	49	86
FLIP83-126FB	55	106	119	123	50	85
FLIP83-127FB	53	106	121	123	48	88
FLIP83-128FB	58	105	113	120	47	86
74TA133	62	105	113	122	47	87
76TA56267	61	106	113	121	47	85
77MS88158	60	105	113	120	48	86
77TA80023	60	106	114	120	50	84
78S33011	57	106	112	121	48	85
78S48434	60	106	120	123	51	87
78S48561	58	106	112	121	51	86
80S43238	60	106	114	116	50	83
80S43856	63	105	120	120	49	88
80S43859	65	105	120	122	52	88
80S44371	58	105	113	120	48	86
80S4474	58	106	112	121	49	84
73 RM 70	61	106	138	135	55	91
75 RM 703	63	106	140	127	55	91
ILB 2865	68	106	139	134	48	92
ILB 2858	58	106	114	130	48	86
ILB 1820	55	106	113	123	48	84
ILB 1278	56	106	113	121	50	82
LOCAL CHECK	67	106	137	119	53	
LOCATION MEAN	57	105	115	121	49	
C.V.%	4.91	0.00	1.01	2.08	1.96	
L.S.D AT 5% FOR:						
CHECKS	4.18	0.00	1.72	3.70	1.43	
CHECKS VS TEST ENTRIES	8.36	0.00	3.45	7.41	2.86	
TEST ENTRIES IN THE SAME BLOCK	9.35	0.00	3.85	8.29	3.20	
TEST ENTIRES IN DIFFERENT BLOCKS	10.80	0.00	4.45	9.57	3.70	
S.E.FOR:						
CHECKS	1.81	0.00	0.74	1.60	0.62	
CHECKS VS TEST ENTRIES	3.62	0.00	1.49	3.21	1.24	
TEST ENTRIES IN THE SAME BLOCK	4.05	0.00	1.67	3.59	1.39	
TEST ENTRIES IN DIFFERENT BLOCKS	4.68	0.00	1.93	4.15	1.60	

(1) Jubeiha,Coulommiers and Misan were excluded from the overall mean.

Table 4.4.3. Time to maturity (days) of entries at different location in FBISN-S during 1984/85.

ENTRY NAME	CYPRUS	CZECHOSLOVAKIA	ETHIOPIA	FRANCE		GREECE	IRAQ
	Nicosia	Horna Streda	Denbi	Dijon	Le Rheu	Larissa	Misan
FLIP82-1FB	155	119	132	147	116	177	147
FLIP82-9FB	155	116	134	148	117	176	148
FLIP82-11FB	159	118	128	146	118	177	146
FLIP82-12FB	156	117	131	148	118	176	148
FLIP82-13FB	155	118	131	158	119	175	158
FLIP82-15FB	154	118	129	146	118	176	146
FLIP82-17FB	155	118	127	148	119	176	148
FLIP82-19FB	156	116	131	146	118	177	146
FLIP82-20FB	154	118	127	142	119	174	142
FLIP82-21FB	154	117	132	145	117	176	145
FLIP82-24FB	156	117	127	146	121	177	146
FLIP82-33FB	156	116	130	147	118	177	147
FLIP82-34FB	155	117	137	146	119	177	146
FLIP82-35FB	155	119	127	148	117	176	148
FLIP82-36FB	154	116	131	147	118	177	147
FLIP82-38FB	154	117	133	144	118	174	144
FLIP83-1FB	155	118	128	159	117	176	159
FLIP83-7FB	155	118	130	149	118	177	149
FLIP83-9FB	156	117	134	148	116	176	148
FLIP83-48FB	154	118	131	146	119	177	146
FLIP83-50FB	154	117	130	148	120	177	148
FLIP83-58FB	156	116	134	148	115	176	148
FLIP83-60FB	154	116	132	147	118	177	147
FLIP83-68FB	155	118	135	149	120	175	149
FLIP83-75FB	156	118	127	158	119	177	158
FLIP83-78FB	154	117	130	148	118	176	148
FLIP83-84FB	155	116	133	147	121	176	147
FLIP83-85FB	156	118	136	148	119	172	148
FLIP83-88FB	154	118	129	149	119	177	149
FLIP83-89FB	156	117	136	157	116	174	157
FLIP83-95FB	155	118	132	159	118	173	159
FLIP83-96FB	156	119	135	149	120	174	149
FLIP83-97FB	155	118	128	142	117	174	142
FLIP81-100FB	156	119	132	149	120	175	149
FLIP83-101FB	156	116	133	142	118	176	142
FLIP83-102FB	155	118	133	147	120	174	147
FLIP83-105FB	156	117	128	146	118	174	146
FLIP83-106FB	155	118	135	149	120	175	149
FLIP83-107FB	155	116	134	142	119	174	142
FLIP83-114FB	157	120	133	148	120	175	148
FLIP83-123FB	155	117	128	148	120	177	148
FLIP83-126FB	154	117	130	149	118	176	149
FLIP83-127FB	157	117	132	148	117	176	148
FLIP83-128FB	157	116	134	152	119	174	152
74TA133	155	116	136	-	122	177	-
76TA56267	155	116	133	148	116	176	148
77MS88158	155	116	134	152	116	177	152
77TA80023	161	119	132	147	120	175	147
78S33011	155	116	137	142	119	174	142
78S48434	155	118	128	146	119	176	146
78S48561	159	119	132	144	118	177	144
80S43238	155	119	137	147	121	174	147
80S43856	155	116	138	157	121	174	157
80S43859	160	117	137	146	125	177	146
80S44371	155	119	132	152	120	177	152
80S4474	156	119	126	146	117	176	146
73 RM 70	154	116	135	144	129	177	144
75 RM 703	155	118	136	158	130	176	158
ILB 2865	156	119	130	159	125	179	159
ILB 2858	155	121	134	147	116	172	147
ILB 1820	155	118	131	147	118	176	147
ILB 1278	156	119	132	146	118	177	146
LOCAL CHECK	159	127	129	149	131	175	149
LOCATION MEAN	155	117	129	148	119	175	148
C.V.%	0.61	0.47	2.75	2.24	1.27	0.72	2.24
L.S.D AT 5% FOR:							
CHECKS	1.40	0.82	5.31	4.80	2.23	1.85	4.80
CHECKS VS TEST ENTRIES	2.81	1.64	10.62	9.60	4.47	3.70	9.60
TEST ENTRIES IN THE SAME BLOCK	3.15	1.83	11.87	10.74	4.99	4.14	10.74
TEST ENTRIES IN DIFFERENT BLOCKS	3.63	2.11	13.71	12.40	5.77	4.78	12.40
S.E. FOR:							
CHECKS	0.61	0.35	2.30	2.08	0.96	0.80	2.08
CHECKS VS TEST ENTRIES	1.22	0.71	4.60	4.16	1.93	1.60	4.16
TEST ENTRIES IN THE SAME BLOCK	1.36	0.79	5.15	4.65	2.16	1.79	4.65
TEST ENTRIES IN DIFFERENT BLOCKS	1.57	0.91	5.94	5.37	2.50	2.07	5.37

Cont'd. ...

Table 4.4.3. Cont'd. ...

ENTRY NAME	LEBANON Terbol	PAKISTAN Bannu	S. ARABIA Riyad	SYRIA Tel Hadya	TURKEY Ankara	(1) Overall Mean
FLIP82-1FB	197	173	146	172	85	147
FLIP82-9FB	197	174	139	172	86	146
FLIP82-11FB	200	184	148	172	86	149
FLIP82-12FB	197	178	151	173	83	148
FLIP82-13FB	196	179	136	172	86	146
FLIP82-15FB	196	185	138	171	85	147
FLIP82-17FB	197	181	139	173	86	147
FLIP82-19FB	197	180	145	172	83	147
FLIP82-20FB	198	185	148	172	86	148
FLIP82-21FB	197	179	146	171	86	147
FLIP82-24FB	193	177	145	173	83	146
FLIP82-33FB	197	178	138	173	85	146
FLIP82-34FB	193	176	138	172	84	146
FLIP82-35FB	197	180	141	173	85	147
FLIP82-36FB	197	174	146	173	85	147
FLIP82-38FB	196	180	148	175	86	148
FLIP83-1FB	197	177	141	173	84	146
FLIP83-7FB	195	178	156	176	83	148
FLIP83-9FB	197	184	151	172	84	148
FLIP83-48FB	196	184	143	170	87	147
FLIP83-50FB	195	182	146	173	86	148
FLIP83-58FB	197	177	146	173	84	147
FLIP83-60FB	195	178	144	173	84	147
FLIP83-68FB	200	183	151	171	85	149
FLIP83-75FB	195	183	156	176	85	149
FLIP83-78FB	197	182	151	173	83	148
FLIP83-84FB	197	179	146	173	85	148
FLIP83-85FB	196	178	136	170	85	146
FLIP83-88FB	197	179	154	172	84	148
FLIP83-89FB	195	176	148	171	86	147
FLIP83-95FB	199	178	141	176	82	147
FLIP83-96FB	196	180	146	171	84	148
FLIP83-97FB	200	184	148	175	87	148
FLIP81-100FB	198	180	146	172	84	148
FLIP83-101FB	196	170	143	175	84	146
FLIP83-102FB	196	180	141	170	88	147
FLIP83-105FB	197	169	138	172	84	145
FLIP83-106FB	196	178	144	175	83	147
FLIP83-107FB	196	179	148	175	86	148
FLIP83-114FB	194	184	146	171	90	149
FLIP83-123FB	195	175	154	173	84	147
FLIP83-126FB	197	174	144	173	85	146
FLIP83-127FB	197	181	141	173	85	147
FLIP83-128FB	195	174	145	171	84	146
74TA133	195	183	150	171	83	148
76TA56267	197	175	151	172	83	147
77MS88158	195	179	150	171	85	147
77TA80023	194	183	146	171	87	148
78S33011	198	178	143	175	84	147
78S48434	199	179	151	173	88	148
78S48561	196	182	143	172	87	148
80S43238	198	181	144	170	87	148
80S43856	197	179	150	172	87	148
80S43859	197	182	150	173	89	150
80S44371	197	182	145	172	84	148
80S4474	196	185	148	172	85	148
73 RM 70	206	186	148	175	89	151
75 RM 703	206	185	151	175	90	152
ILB 2865	203	185	156	176	83	151
ILB 2858	194	163	146	170	84	145
ILB 1820	197	176	144	174	85	147
ILB 1278	196	174	145	172	86	147
LOCAL CHECK	195	179	156	171	95	
LOCATION MEAN	196	179	146	172	85	
C.V.%	0.62	1.69	2.59	0.58	0.83	
L.S.D AT 5% FOR:						
CHECKS	1.80	4.42	5.56	1.47	1.04	
CHECKS VS TEST ENTRIES	3.61	8.84	11.12	2.94	2.09	
TEST ENTRIES IN THE SAME BLOCK	4.03	9.89	12.43	3.28	2.34	
TEST ENTRIES IN THE DIFFERENT	4.66	11.42	14.36	3.79	2.70	
S.E. FOR:						
CHECKS	0.78	1.91	2.41	0.63	0.45	
CHECKS VS TEST ENTRIES	1.56	3.83	4.82	1.27	0.90	
TEST ENTRIES IN THE SAME BLOCK	1.75	4.28	5.39	1.42	1.01	
TEST ENTRIES IN DIFFERENT BLOCKS	2.02	4.95	6.22	1.64	1.17	

(1) Dijon and Misan were excluded from the overall mean.

Table 4.4.4. Plant height (cm) of entries at different locations in FBISN-s during 1984/85.

ENTRY NAME	ALGERIA	CYPRUS	CZECHO-SLOVAKIA	ETHIOPIA	FRANCE		GREECE	IRAQ
	Setif	Nicosia	Horna Streda	Denbi	Dijon	Le Rhue	Larissa	Misan
FLIP82-1FB	33	45	68	101	66	37	62	54
FLIP82-9FB	29	52	67	94	61	49	61	71
FLIP82-11FB	31	49	59	91	52	47	76	44
FLIP82-12FB	31	65	62	139	71	44	56	41
FLIP82-13FB	30	49	62	112	86	50	57	54
FLIP82-15FB	31	56	58	76	47	47	56	46
FLIP82-17FB	32	55	70	84	81	44	61	61
FLIP82-19FB	27	54	67	136	64	45	57	55
FLIP82-20FB	34	56	59	136	72	47	51	55
FLIP82-21FB	30	50	73	111	66	37	52	51
FLIP82-24FB	29	54	62	126	74	50	52	55
FLIP82-33FB	29	52	72	96	69	45	57	65
FLIP82-34FB	31	49	62	141	59	45	57	65
FLIP82-35FB	31	57	72	89	66	44	51	54
FLIP82-36FB	31	53	68	86	76	47	57	49
FLIP82-38FB	28	54	64	66	62	42	56	48
FLIP83-1FB	32	52	62	94	61	49	61	61
FLIP83-7FB	30	55	63	131	76	47	57	91
FLIP83-9FB	26	63	70	159	71	44	56	46
FLIP83-48FB	33	48	63	116	42	42	61	45
FLIP83-50FB	30	64	73	96	66	37	42	69
FLIP83-58FB	32	59	67	94	66	54	61	56
FLIP83-60FB	33	63	63	91	56	32	42	59
FLIP83-68FB	29	65	70	147	71	40	62	49
FLIP83-75FB	29	52	73	136	71	32	52	89
FLIP83-78FB	30	62	63	91	56	37	52	41
FLIP83-84FB	32	52	58	121	66	37	62	49
FLIP83-85FB	31	52	62	112	66	40	57	54
FLIP83-88FB	31	54	68	131	66	37	52	87
FLIP83-89FB	33	51	57	121	69	40	51	45
FLIP83-95FB	32	50	67	114	61	49	62	51
FLIP83-96FB	28	55	65	147	61	50	51	46
FLIP83-97FB	31	57	64	111	62	42	67	57
FLIP81-100FB	28	53	60	117	56	40	61	44
FLIP83-101FB	31	45	69	76	52	42	57	47
FLIP83-102FB	28	50	65	117	61	45	57	52
FLIP83-105FB	28	54	72	111	59	50	57	60
FLIP83-106FB	28	56	68	127	46	45	56	44
FLIP83-107FB	34	50	70	161	42	42	62	57
FLIP83-114FB	28	57	58	162	61	40	52	42
FLIP83-123FB	32	49	65	101	66	32	62	69
FLIP83-126FB	32	57	68	96	51	42	61	44
FLIP83-127FB	29	53	72	104	71	54	57	76
FLIP83-128FB	32	46	66	126	59	50	57	55
74TA133	30	49	57	141	69	45	61	-
76TA56267	34	54	70	99	66	46	57	56
77MS88158	29	48	57	161	54	50	67	45
77TA80023	29	55	60	142	56	45	56	50
78S33011	31	49	69	71	42	42	46	54
78S48434	29	51	67	159	66	54	56	51
78S48561	32	45	62	61	62	42	67	49
80S43238	29	57	61	157	76	45	57	48
80S43856	32	49	57	171	54	55	57	45
80S43859	30	49	57	101	59	45	62	45
80S44371	28	61	67	151	64	55	52	55
80S4474	34	51	64	81	72	42	51	59
73 RM 70	28	47	64	141	72	72	56	61
75 RM 703	27	51	75	172	101	60	62	52
ILB 2865	33	64	67	169	96	64	46	66
ILB 2858	28	62	55	87	36	30	42	34
ILB 1820	30	50	65	130	66	49	58	53
ILB 1278	31	52	64	101	57	43	51	54
LOCAL CHECK	31	56	91	137	95	70	44	52
LOCATION MEAN	30	53	65	117	64	45	56	54
C.V.%	4.99	8.37	5.90	15.38	10.39	7.73	16.25	21.27
L.S.D AT 5% FOR:								
CHECKS	2.26	6.55	5.79	26.65	9.96	5.32	13.24	16.82
CHECKS VS TEST ENTRIES	4.53	13.10	11.59	53.32	19.92	10.65	26.49	33.65
TEST ENTRIES IN THE SAME BLOCK	5.06	14.65	12.96	59.60	22.27	11.90	29.61	37.62
TEST ENTRIES IN DIFFERENT BLOCKS	5.85	16.92	14.96	68.82	25.72	13.74	34.19	43.44
S.E. FOR:								
CHECKS	0.98	2.84	2.51	11.55	4.31	2.30	5.74	7.29
CHECKS VS TEST ENTRIES	1.96	5.68	5.02	23.12	8.64	4.61	11.48	14.59
TEST ENTRIES IN THE SAME BLOCK	2.19	6.35	5.62	25.84	9.65	5.16	12.84	16.31
TEST ENTRIES IN DIFFERENT BLOCKS	2.53	7.33	6.49	29.84	11.15	5.96	14.83	18.83

Cont'd. ...

Table 4.4.4. Cont'd. ...

ENTRY NAME	JORDAN Jubeiha	LEBANON Terbol	PAKISTAN Bannu	QATAR Rawdat-Harma	S.ARABIA Riyad	SYRIA Tel Hadya	TURKEY Ankara	(1) Overall Mean
FLIP82-1FB	41	72	76	90	100	36	48	62
FLIP82-9FB	53	64	62	92	102	46	48	62
FLIP82-11FB	47	59	69	104	123	47	54	64
FLIP82-12FB	54	69	69	92	115	46	49	68
FLIP82-13FB	46	76	66	95	105	56	54	67
FLIP82-15FB	44	59	51	99	107	47	47	58
FLIP82-17FB	54	69	66	92	113	51	46	65
FLIP82-19FB	50	67	60	122	114	44	50	68
FLIP82-20FB	44	54	61	94	106	47	53	65
FLIP82-21FB	52	62	74	95	81	41	44	62
FLIP82-24FB	72	62	66	122	92	49	49	68
FLIP82-33FB	47	67	64	82	108	49	46	63
FLIP82-34FB	67	72	65	122	95	44	43	68
FLIP82-35FB	60	79	70	102	125	41	45	66
FLIP82-36FB	45	62	63	100	108	51	45	63
FLIP82-38FB	47	59	65	89	107	47	51	59
FLIP83-1FB	39	74	62	92	107	46	49	62
FLIP83-7FB	57	72	49	110	103	56	53	68
FLIP83-9FB	44	69	75	87	113	46	46	69
FLIP83-48FB	58	54	54	89	112	52	48	62
FLIP83-50FB	48	62	66	105	102	41	47	62
FLIP83-58FB	47	59	70	87	102	51	54	64
FLIP83-60FB	55	72	73	95	90	41	43	60
FLIP83-68FB	52	66	62	65	100	51	50	66
FLIP83-75FB	47	67	72	125	107	46	51	68
FLIP83-78FB	43	52	57	115	88	36	48	59
FLIP83-84FB	46	57	72	100	93	46	46	63
FLIP83-85FB	35	71	63	90	99	56	53	63
FLIP83-88FB	55	67	76	115	110	46	49	68
FLIP83-89FB	41	77	51	102	108	49	45	63
FLIP83-95FB	62	69	54	107	104	36	43	65
FLIP83-96FB	61	76	71	105	94	51	54	69
FLIP83-97FB	56	49	77	99	107	42	54	65
FLIP81-100FB	59	66	60	75	115	41	45	62
FLIP83-101FB	42	64	69	94	119	42	55	61
FLIP83-102FB	51	76	65	105	117	56	53	67
FLIP83-105FB	43	67	60	82	105	54	47	63
FLIP83-106FB	66	86	52	110	112	56	54	68
FLIP83-107FB	33	54	89	94	115	47	56	67
FLIP83-114FB	41	71	65	70	94	56	44	64
FLIP83-123FB	49	67	71	100	115	41	49	64
FLIP83-126FB	43	62	75	95	110	41	49	63
FLIP83-127FB	90	79	70	77	113	56	52	69
FLIP83-128FB	50	72	71	107	108	59	48	67
74TA133	51	82	64	107	111	54	47	69
76TA56267	40	69	70	82	104	46	54	63
77MS88158	44	77	69	107	100	59	53	69
77TA80023	42	76	62	95	112	56	52	67
78S33011	44	64	76	99	116	47	49	60
78S48434	59	84	56	97	106	36	51	69
78S48561	47	59	70	89	107	52	49	60
80S43238	40	71	65	100	128	51	50	70
80S43856	52	72	63	92	100	59	51	68
80S43859	47	72	64	112	114	54	49	65
80S44371	46	77	58	107	100	44	52	68
80S4474	33	59	47	104	92	57	49	59
73 RM 70	60	59	62	94	135	52	58	71
75 RM 703	45	106	90	110	109	56	59	80
ILB 2865	40	59	84	97	123	56	45	74
ILB 2858	49	46	41	60	83	26	30	48
ILB 1820	52	69	66	102	106	44	49	66
ILB 1278	42	69	65	102	108	42	48	62
LOCAL CHECK	53	70	65	103	133	57	55	
LOCATION MEAN	49	67	65	97	107	48	49	
C.V.%	16.80	8.91	13.83	6.67	8.19	7.45	2.38	
L.S.D AT 5% FOR:								
CHECKS	12.22	8.87	13.32	9.59	13.01	5.24	1.74	
CHECKS VS TEST ENTRIES	24.45	17.76	26.66	19.20	26.02	10.48	3.48	
TEST ENTRIES IN THE SAME BLOCK	27.34	19.85	29.80	21.46	29.09	11.71	3.89	
TEST ENTRIES IN DIFFERENT BLOCKS	31.57	22.92	34.41	24.78	33.59	13.53	4.49	
S.E.FOR:								
CHECKS	5.30	3.85	5.77	4.16	5.64	2.27	0.75	
CHECKS VS TEST ENTRIES	10.60	7.70	11.56	8.32	11.28	4.54	1.51	
TEST ENTRIES IN THE SAME BLOCK	11.85	8.61	12.92	9.30	12.61	5.08	1.68	
TEST ENTRIES IN DIFFERENT BLOCKS	13.69	9.94	14.92	10.74	14.56	5.86	1.95	

(1) Misan was excluded from the overall mean.

Table 4.4.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in FBISN-S during 1984/85.

	ALGERIA		CZECHOSLOVAKIA		EGYPT		ETHIOPIA		FRANCE			
	Setif		Horna Streda		Gemmiza		Denbi		Dijon		Le Rhue	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-1FB	1890	25	3271	21	4096	27	2879	8	3569	16	603	48
FLIP82-9FB	1982	8	2626	32	4762	10	3393	4	2412	54	956	30
FLIP82-11FB	1946	15	4293	4	3874	36	1560	36	3455	19	512	53
FLIP82-12FB	1932	17	1960	44	3374	47	4676	1	4228	5	1223	14
FLIP82-13FB	1815	42	2426	36	3244	50	2279	21	3086	36	1088	21
FLIP82-15FB	1987	5	3960	7	4540	16	2510	14	3190	33	665	46
FLIP82-17FB	1823	40	1626	55	3929	33	2476	16	2830	42	736	41
FLIP82-19FB	1807	45	1715	49	5188	5	754	52	2257	56	1185	16
FLIP82-20FB	1896	24	3626	13	2429	58	1693	31	2245	57	785	37
FLIP82-21FB	1682	62	2937	25	4596	14	1146	40	1926	62	463	54
FLIP82-24FB	1948	14	1382	58	5633	2	1062	45	3266	27	1139	18
FLIP82-33FB	1765	53	2715	30	4022	29	1296	39	3417	21	1025	25
FLIP82-34FB	1890	25	1715	49	5633	2	2562	13	3359	23	1412	8
FLIP82-35FB	1823	40	1960	44	3485	45	3368	5	3956	9	990	28
FLIP82-36FB	1807	45	2337	38	4040	28	87	58	2943	39	136	62
FLIP82-38FB	1937	16	3960	7	2040	59	2976	7	3111	35	339	59
FLIP83-1FB	1973	9	1960	44	3929	33	2101	24	3237	30	1056	23
FLIP83-7FB	1682	62	1671	53	3985	30	0	59	3248	29	943	31
FLIP83-9FB	1932	17	1960	44	3929	33	2176	22	3781	10	943	31
FLIP83-48FB	1837	38	3960	7	2485	57	1635	34	2076	58	532	51
FLIP83-50FB	1890	25	3937	11	3762	39	312	56	3585	15	410	55
FLIP83-58FB	1890	25	1626	55	4318	21	2826	9	3638	13	650	47
FLIP83-60FB	1740	58	2604	33	2651	54	0	59	2024	59	263	61
FLIP83-68FB	1840	36	3426	17	5855	1	1462	38	2714	44	-	
FLIP83-75FB	1807	45	3071	24	3985	30	171	57	3569	16	816	34
FLIP83-78FB	1807	45	1337	59	5485	4	979	48	3322	24	530	52
FLIP83-84FB	1740	58	3471	16	5151	7	1146	40	2653	48	816	34
FLIP83-85FB	1882	32	3093	23	762	62	1129	42	4446	3	1541	6
FLIP83-88FB	1740	58	2604	33	3855	37	0	59	2525	51	556	50
FLIP83-89FB	1765	53	2715	30	4262	22	1004	46	2347	55	1199	15
FLIP83-95FB	1907	23	3360	18	3355	48	1485	37	2903	40	1563	5
FLIP83-96FB	1748	57	3360	18	3596	42	2162	23	3206	32	1274	11
FLIP83-97FB	1987	5	3960	7	4688	12	2318	20	2003	60	332	60
FLIP81-100FB	1757	56	2293	39	3818	38	1087	44	2945	38	714	45
FLIP83-101FB	1987	5	4626	3	2522	56	1885	30	2580	49	405	56
FLIP83-102FB	1923	20	2760	26	3429	46	2029	27	2694	47	1421	7
FLIP83-105FB	1973	9	2048	43	4688	12	1904	29	3377	22	1159	17
FLIP83-106FB	1840	36	2426	36	4911	8	654	54	2540	50	1014	27
FLIP83-107FB	1971	13	3626	13	4244	24	2718	10	2789	43	1052	24
FLIP83-114FB	1715	61	2760	26	4374	20	896	49	3136	34	1121	20
FLIP83-123FB	1848	35	2737	28	4188	25	0	59	2703	45	776	39
FLIP83-126FB	1807	45	3271	21	3518	44	3129	6	1941	61	723	43

	ALGERIA		CZECHOSLOVAKIA		EGYPT		ETHIOPIA		FRANCE			
	Setif		Horna Streda		Gemmiza		Denbi		Dijon		Le Rhue	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP83-127FB	1782	51	1626	55	4707	11	1110	43	3546	18	983	29
FLIP83-128FB	1932	17	1715	49	4540	16	1646	33	2472	53	1399	9
74TA133	1765	53	1715	49	5188	5	2487	15	3274	25	1079	22
76TA56267	2015	3	2293	39	3966	32	2601	11	2700	46	1583	4
77MS88158	1973	9	915	60	4874	9	604	55	2480	52	765	40
77TA80023	1798	50	1760	48	4133	26	1004	46	3768	11	1021	26
78S33011	1837	38	4093	6	3355	48	2443	18	3636	14	785	37
78S48434	1973	9	360	63	2707	53	2101	24	3998	8	1130	19
78S48561	1779	52	3293	20	3651	41	2068	26	2891	41	725	42
80S43238	1923	20	3626	13	3762	39	1629	35	4730	2	1728	1
80S43856	1890	25	848	61	3577	43	771	51	3232	31	1599	3
80S43859	1890	25	1648	54	3022	52	837	50	3643	12	805	36
80S44371	2098	1	2182	42	4577	15	754	52	4158	7	592	49
80S4474	1862	33	4293	4	4522	18	2010	28	3252	28	365	57
73 RM 70	2029	2	5693	1	2651	54	3801	3	4366	4	1705	2
75 RM 703	1915	22	3760	12	633	63	2587	12	5512	1	1254	13
ILB 2865	2015	3	2293	39	1207	60	2451	17	3273	26	1336	10
ILB 2858	1815	42	760	62	1022	61	0	59	914	63	354	58
ILB 1820	1808	44	2546	35	4511	19	2421	19	3427	20	840	33
ILB 1278	1888	31	2733	29	4255	23	1680	32	3043	37	717	44
LOCAL CHECK	1850	34	5266	2	3244	50	4578	2	4216	6	1273	12
LOCATION MEAN	1869		2707		3821		1738		3139		921	
C.V.%	4.80		36.59		18.10		48.20		19.50		35.20	
L.S.D AT 5% FOR:												
CHECKS	132.50		1514.07		1026.90		1318.30		912.50		470.20	
CHECKS VS TEST ENTRIES	265.10		3028.61		2054.20		2637.00		1825.30		940.60	
TEST ENTRIES IN THE SAME BLOCK	296.40		3385.57		2296.30		2947.80		2040.40		1051.40	
TEST ENTRIES IN DIFFERENT BLOCKS	342.20		3909.32		2651.60		3403.80		2356.10		1214.10	
S.E. FOR:												
CHECKS	57.40		656.58		445.30		571.60		395.70		203.90	
CHECKS VS TEST ENTRIES	114.90		1313.36		890.80		1143.50		791.50		407.80	
TEST ENTRIES IN THE SAME BLOCK	128.50		1468.16		995.80		1278.30		884.80		455.90	
TEST ENTRIES IN DIFFERENT BLOCKS	148.43		1695.28		1149.80		1476.09		1021.70		526.50	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		4		0		0		0	

Cont'd. ...

Table 4.4.5. Cont'd. ...

ENTRY NAME	FRANCE		GREECE		IRAQ		JORDAN		LEBANON		PAKISTAN	
	Coulommiers		Larissa		Misan		Jubeiha		Terbol		Bannu	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-1FB	-		665	46	2503	12	581	50	5316	15	2611	9
FLIP82-9FB	4742	6	1048	23	2736	9	556	52	4365	48	1972	33
FLIP82-11FB	1735	36	806	39	524	51	815	28	5130	19	2333	19
FLIP82-12FB	3956	9	1198	14	1040	47	756	34	3402	58	2722	8
FLIP82-13FB	157	46	515	53	0	55	706	40	5538	9	1555	46
FLIP82-15FB	-		706	44	0	55	565	51	5279	17	833	59
FLIP82-17FB	-		1298	11	1886	23	606	48	4402	45	1472	50
FLIP82-19FB	2313	26	1365	6	1739	30	765	32	4019	53	1111	57
FLIP82-20FB	2133	28	406	54	1668	37	915	25	4390	46	2500	13
FLIP82-21FB	2347	25	665	46	2003	21	606	48	4723	33	2361	16
FLIP82-24FB	915	42	1115	18	1979	22	1515	6	4093	52	1527	47
FLIP82-33FB	3456	17	1265	12	1780	27	1390	10	4241	49	1611	45
FLIP82-34FB	2119	29	815	37	2020	19	1740	4	5279	17	2111	26
FLIP82-35FB	3691	14	1198	14	2120	16	231	60	4920	28	1722	39
FLIP82-36FB	1551	37	565	50	1659	38	656	43	5575	8	2027	30
FLIP82-38FB	-		406	54	2158	15	790	30	4538	41	1416	53
FLIP83-1FB	5150	5	1598	2	1748	29	556	52	4995	24	1638	44
FLIP83-7FB	3612	15	1515	3	2120	16	1481	7	5316	15	1444	52
FLIP83-9FB	3772	13	1048	23	1398	41	756	34	4217	50	55	63
FLIP83-48FB	3847	11	856	35	0	55	975	20	4612	37	1083	58
FLIP83-50FB	2194	27	1365	6	3393	4	1056	15	3538	57	2277	21
FLIP83-58FB	4701	7	598	49	2015	20	281	59	4995	24	1305	54
FLIP83-60FB	1317	40	1165	17	1537	39	1106	13	4723	33	2027	30
FLIP83-68FB	1106	41	915	30	1146	44	956	23	4612	37	2138	24
FLIP83-75FB	2674	22	1315	9	1303	43	1206	12	3945	54	1861	35
FLIP83-78FB	1878	33	1065	21	520	52	456	57	4945	27	1777	37
FLIP83-84FB	1419	39	1015	25	1726	32	656	43	5056	22	2361	16
FLIP83-85FB	2095	31	965	28	1874	24	806	29	3797	56	2472	14
FLIP83-88FB	1817	35	1665	1	3081	8	1256	11	4649	36	2444	15
FLIP83-89FB	-		715	42	1792	25	1590	5	4982	26	1777	37
FLIP83-95FB	5782	4	1198	14	1672	36	706	40	3846	55	1805	36
FLIP83-96FB	-		815	37	340	54	0	62	4130	51	2555	11
FLIP83-97FB	653	45	406	54	3585	2	975	20	4390	46	3083	4
FLIP81-100FB	-		1365	6	1057	46	856	27	4464	43	3472	2
FLIP83-101FB	-		546	51	2668	10	1465	8	4834	29	2250	22
FLIP83-102FB	2422	23	1065	21	3580	3	656	43	5056	22	1972	33
FLIP83-105FB	-		1015	25	1775	28	890	26	5427	11	1527	47
FLIP83-106FB	2351	24	915	30	2668	10	656	43	5464	10	2138	24
FLIP83-107FB	-		406	54	1358	42	1465	8	4723	33	2750	7
FLIP83-114FB	3014	18	915	30	0	55	756	34	3241	59	2555	11
FLIP83-123FB	7051	3	1465	5	2103	18	1006	18	4834	29	1194	56
FLIP83-126FB	-		1315	9	391	53	681	42	4427	44	3194	3

ENTRY NAME	FRANCE Coulommiers Y	FRANCE Coulommiers R	GREECE Larissa Y	GREECE Larissa R	IRAQ Misan Y	IRAQ Misan R	JORDAN Jubeiha Y	JORDAN Jubeiha R	LEBANON Terbol Y	LEBANON Terbol R	PAKISTAN Bannu Y	PAKISTAN Bannu R
FLIP83-127FB	10895	2	1498	4	2270	14	231	60	4809	31	1472	50
FLIP83-128FB	3466	16	1115	18	1733	31	965	22	6575	1	1694	42
74TA133	2854	20	665	46	-		1790	3	5130	19	527	62
76TA56267	3874	10	848	36	2485	13	731	38	4772	32	2055	29
77MS88158	78	48	915	30	1721	34	1015	16	5797	5	2361	16
77TA80023	3840	12	1015	25	968	49	481	55	5797	5	2222	23
78S33011	755	43	306	58	3724	1	640	47	4612	37	3750	1
78S48434	2089	32	1248	13	1123	45	1081	14	5809	4	1222	55
78S48561	1847	34	706	44	3235	6	790	30	5093	21	2000	32
80S43238	1432	38	715	42	0	55	481	55	4538	41	2805	6
80S43856	4150	8	765	40	1720	35	2215	1	5390	12	2111	26
80S43859	2099	30	865	34	1723	33	2140	2	6241	2	1694	42
80S44371	109	47	1115	18	1788	26	765	32	5760	7	2111	26
80S4474	755	43	546	51	3258	5	540	54	5390	12	1500	49
73 RM 70	-		256	59	0	55	1015	16	2464	60	666	60
75 RM 703	-		165	60	0	55	0	62	2093	61	2888	5
ILB 2865	-		148	61	1015	48	406	58	1365	63	555	61
ILB 2858	-		65	63	0	55	1006	18	1538	62	1722	39
ILB 1820	2732	21	960	29	1519	40	940	24	5325	14	2566	10
ILB 1278	2859	19	750	41	3224	7	745	37	4592	40	2300	20
LOCAL CHECK	12338	1	135	62	562	50	710	39	5955	3	1716	41
LOCATION MEAN	3486		889		1656		875		4658		1951	
C.V.%	90.60		21.20		78.80		27.00		18.08		31.80	
L.S.D AT 5% FOR:												
CHECKS	3736.70		261.00		1857.40		338.90		1255.40		925.30	
CHECKS VS TEST ENTRIES	7474.60		522.10		3715.30		678.00		2511.19		1850.90	
TEST ENTRIES IN THE SAME BLOCK	8355.60		583.60		4153.20		757.90		2807.17		2069.00	
TEST ENTRIES IN DIFFERENT BLOCKS	9648.30		673.90		4795.70		875.10		3241.44		2389.10	
S.E. FOR:												
CHECKS	1620.40		113.10		805.40		146.90		544.40		401.20	
CHECKS VS TEST ENTRIES	3241.40		226.40		1611.10		294.00		1088.98		802.60	
TEST ENTRIES IN THE SAME BLOCK	3623.40		253.10		1801.00		328.60		1217.33		897.20	
TEST ENTRIES IN DIFFERENT BLOCKS	4184.00		292.20		2079.00		379.50		1405.65		1036.07	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		48		0		10		0		1	

Cont'd. ...

Table 4.4.5. Cont'd. ...

ENTRY NAME	QATAR		SAUDI ARABIA				SPAIN				SYRIA	
	Rawdat Harma		Riyad		Al Hassa		Cordoba		Toledo		Tel Hadya	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP82-1FB	1800	17	6342	2	419	33	4720	26	756	4	392	55
FLIP82-9FB	2500	3	3478	38	234	52	5636	1	523	33	207	59
FLIP82-11FB	0	58	2867	47	402	37	4520	32	606	23	1330	24
FLIP82-12FB	2100	8	3471	39	442	28	4936	22	573	26	429	53
FLIP82-13FB	200	56	4371	21	329	44	3486	57	706	11	1281	27
FLIP82-15FB	400	52	3533	37	428	30	4370	36	656	19	1034	28
FLIP82-17FB	2100	8	4604	16	243	50	5186	11	373	55	651	43
FLIP82-19FB	2200	5	3620	35	497	19	4136	41	556	27	985	32
FLIP82-20FB	0	58	3413	40	271	48	4620	29	456	44	1368	22
FLIP82-21FB	700	48	5642	6	419	33	5170	14	556	27	1577	11
FLIP82-24FB	2000	12	3073	45	1139	1	3586	55	706	11	1318	25
FLIP82-33FB	1700	21	3393	41	428	30	2886	59	656	19	1022	29
FLIP82-34FB	1500	25	3560	36	1027	2	3786	51	656	19	800	39
FLIP82-35FB	1800	17	4551	18	217	53	4436	35	423	48	133	61
FLIP82-36FB	2000	12	6176	3	627	9	3320	58	406	49	948	33
FLIP82-38FB	600	50	2227	55	463	24	4470	34	606	23	812	38
FLIP83-1FB	2000	12	4391	19	180	58	5336	6	673	17	1022	29
FLIP83-7FB	1300	30	4889	13	237	51	4970	20	406	49	1614	9
FLIP83-9FB	1500	25	3071	46	486	22	5036	17	773	3	948	33
FLIP83-48FB	0	58	1333	62	445	27	5170	14	756	4	1701	7
FLIP83-50FB	1700	21	6142	4	523	17	4970	20	606	23	651	43
FLIP83-58FB	2800	2	3838	30	0	61	5036	17	473	41	1466	19
FLIP83-60FB	1100	39	4042	27	211	55	3620	54	256	58	318	56
FLIP83-68FB	0	58	1398	60	312	45	3886	49	406	49	1614	9
FLIP83-75FB	1200	34	3749	33	679	7	3520	56	406	49	614	46
FLIP83-78FB	1100	39	3109	44	497	19	4520	32	386	53	170	60
FLIP83-84FB	400	52	6442	1	871	4	5170	14	556	27	429	53
FLIP83-85FB	1300	30	4578	17	416	35	5236	9	706	11	1726	6
FLIP83-88FB	800	45	5309	8	254	49	5220	10	756	4	1577	11
FLIP83-89FB	1500	25	2247	54	584	12	3936	48	456	44	1577	11
FLIP83-95FB	1300	30	4304	23	199	56	5186	11	473	41	614	46
FLIP83-96FB	2100	8	5011	11	937	3	4136	41	756	4	1429	20
FLIP83-97FB	2200	5	2067	57	332	43	4620	29	756	4	701	40
FLIP81-100FB	1100	39	5544	7	78	60	4136	41	806	2	948	33
FLIP83-101FB	800	45	1787	58	376	39	4120	44	506	35	664	42
FLIP83-102FB	1500	25	4224	24	442	28	5186	11	456	44	1651	8
FLIP83-105FB	700	48	2327	53	792	6	4686	27	256	58	1503	16
FLIP83-106FB	800	45	3891	29	512	18	5336	6	706	11	689	41
FLIP83-107FB	2100	8	3660	34	601	11	4770	25	556	27	849	37
FLIP83-114FB	1600	23	4058	26	216	54	4586	31	506	35	1503	16
FLIP83-123FB	1200	34	4742	14	411	36	4170	40	306	57	651	43
FLIP83-126FB	0	58	3836	31	454	26	5020	19	356	56	874	36

ENTRY NAME	QATAR		SAUDI ARABIA				SPAIN				SYRIA	
	Rawdat Harma		Riyad		Al Hassa		Cordoba		Toledo		Tel Hadya	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP83-127FB	1200	34	6104	5	182	57	4286	38	523	33	1355	23
FLIP83-128FB	900	44	2847	48	480	23	4186	39	656	19	2096	1
74TA133	1900	16	3193	43	610	10	4786	24	506	35	1874	4
76TA56267	1800	17	3771	32	277	47	5536	4	673	17	503	52
77MS88158	1500	25	2813	49	341	42	3786	51	856	1	2096	1
77TA80023	1300	30	4004	28	138	59	3986	46	706	11	1577	11
78S33011	1100	39	3333	42	584	12	4920	23	556	27	516	51
78S48434	100	57	2804	50	373	40	5636	1	473	41	540	50
78S48561	1600	23	2467	51	653	8	5270	8	456	44	1293	26
80S43238	1800	17	4391	19	286	46	5436	5	756	4	1429	20
80S43856	300	55	5227	10	489	21	3836	50	556	27	1837	5
80S43859	400	52	2413	52	428	30	4086	45	506	35	1503	16
80S44371	1000	43	5293	9	567	15	4336	37	706	11	1577	11
80S4474	1200	34	4167	25	402	37	3970	47	756	4	997	31
73 RM 70	1200	34	1633	59	567	15	1970	61	256	58	0	62
75 RM 703	2400	4	704	63	460	25	1836	62	256	58	281	57
ILB 2865	500	51	2164	56	0	61	2186	60	73	63	0	62
ILB 2858	0	58	4964	12	364	41	1536	63	106	62	281	57
ILB 1820	1920	15	4361	22	576	14	4680	28	500	39	595	49
ILB 1278	2200	5	4605	15	795	5	3760	53	380	54	602	48
LOCAL CHECK	3080	1	1334	61	-		5620	3	490	40	2054	3
LOCATION MEAN	1287		3760		438		4388		539		1028	
C.V.%	49.20		14.10		64.10		11.10		34.30		35.70	
L.S.D AT 5% FOR:												
CHECKS	1043.40		764.50		405.30		718.80		264.00		540.30	
CHECKS VS TEST ENTRIES	2087.10		1529.30		810.80		1437.80		528.20		1080.90	
TEST ENTRIES IN THE SAME BLOCK	2333.10		1709.50		906.40		1607.30		590.40		1208.30	
TEST ENTRIES IN DIFFERENT BLOCKS	2694.00		1974.00		1046.60		1856.00		681.80		1395.20	
S.E. FOR:												
CHECKS	452.40		331.50		175.70		311.70		114.50		234.30	
CHECKS VS TEST ENTRIES	905.00		663.10		351.60		623.50		229.00		468.70	
TEST ENTRIES IN THE SAME BLOCK	1011.70		741.30		393.00		697.00		256.00		524.00	
TEST ENTRIES IN DIFFERENT BLOCKS	1168.20		856.00		453.86		804.80		295.66		605.07	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		47		-		0		0		0	

Cont'd. ...

Table 4.4.5. Cont'd. ...

ENTRY NAME	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El Kef Y	TUNISIA El Kef R	TUNISIA Sejnane Y	TUNISIA Sejnane R	TURKEY Ankara Y	TURKEY Ankara R	Overall Mean Y	(1) Rank R
FLIP82-1FB	630	45	1390	46	1298	21	705	42	2435	2
FLIP82-9FB	1130	13	1206	55	1162	33	544	56	2202	18
FLIP82-11FB	980	25	1706	34	1002	46	1112	11	2162	27
FLIP82-12FB	1130	13	1406	44	1207	29	725	39	2254	10
FLIP82-13FB	213	58	1923	18	1218	26	1085	13	2032	45
FLIP82-15FB	1130	13	956	61	1287	23	1076	15	2119	35
FLIP82-17FB	780	35	1856	24	1217	28	598	52	2121	34
FLIP82-19FB	1145	10	1623	37	648	58	805	33	1964	51
FLIP82-20FB	1730	2	1256	53	1107	40	721	40	1894	56
FLIP82-21FB	1030	21	1790	29	1148	35	713	41	2188	24
FLIP82-24FB	695	42	1473	41	1063	41	614	51	2085	40
FLIP82-33FB	1095	17	1873	23	673	57	496	61	2010	47
FLIP82-34FB	1145	10	1273	51	1168	32	777	35	2263	9
FLIP82-35FB	-		2106	13	1247	24	907	28	2190	22
FLIP82-36FB	630	45	1440	43	1143	36	704	45	2097	38
FLIP82-38FB	930	28	1156	56	907	49	776	37	1899	55
FLIP83-1FB	930	28	1456	42	872	51	1060	17	2241	13
FLIP83-7FB	430	50	3040	1	1153	34	1049	19	2226	16
FLIP83-9FB	430	50	1756	32	1457	17	617	50	2002	48
FLIP83-48FB	1780	1	1606	38	812	54	1166	8	1864	57
FLIP83-50FB	980	25	2190	10	1423	19	1044	21	2326	7
FLIP83-58FB	780	35	1906	20	997	47	1242	4	2249	11
FLIP83-60FB	330	54	1290	50	643	59	705	42	1740	59
FLIP83-68FB	213	58	2173	11	1643	10	1095	12	2047	43
FLIP83-75FB	1513	5	1940	17	883	50	876	29	1994	49
FLIP83-78FB	780	35	2090	14	1138	37	777	35	1989	50
FLIP83-84FB	1030	21	1490	40	1418	20	1158	9	2339	6
FLIP83-85FB	930	28	1773	30	1218	26	1058	18	2126	32
FLIP83-88FB	0	62	1990	15	-		1194	6	2225	17
FLIP83-89FB	580	48	1323	49	743	56	578	53	1962	52
FLIP83-95FB	295	55	1806	28	1012	45	853	30	2076	41
FLIP83-96FB	1080	18	2473	6	1758	7	1539	1	2350	4
FLIP83-97FB	413	52	1606	38	1222	25	1148	10	2190	22
FLIP81-100FB	1680	3	2523	4	-		832	31	2236	14
FLIP83-101FB	1330	6	1056	57	1597	11	1084	14	1946	53
FLIP83-102FB	263	56	1923	18	2538	1	1258	2	2248	12
FLIP83-105FB	1145	10	2173	11	1563	12	651	48	2113	36
FLIP83-106FB	563	49	1673	36	1838	5	1258	2	2141	30
FLIP83-107FB	780	35	2306	7	2207	2	1193	7	2395	3
FLIP83-114FB	1313	7	2223	9	1838	5	551	55	2093	39
FLIP83-123FB	880	33	1840	25	1963	3	1212	5	2029	46
FLIP83-126FB	1130	13	1240	54	1723	8	1068	16	2125	33

ENTRY NAME	TUNISIA						TURKEY		Overall Mean	(1) Rank
	Beja		El Kef		Sejnane		Ankara			
	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP83-127FB	630	45	1706	34	1172	31	816	32	2173	26
FLIP83-128FB	1245	8	1823	26	1018	44	641	49	2134	31
74TA133	695	42	1373	47	838	53	505	60	2193	21
76TA56267	1030	21	1906	20	1432	18	679	47	2183	25
77MS88158	995	24	1773	30	1023	43	1004	24	2064	42
77TA80023	113	61	2723	2	1513	13	1022	22	2202	18
78S33011	780	35	1406	44	1297	22	930	26	2236	14
78S48434	1230	9	1906	20	1462	16	526	57	1932	54
78S48561	1080	18	1006	58	1112	39	803	34	2107	37
80S43238	363	53	2273	8	1873	4	1049	19	2448	1
80S43856	940	27	2723	2	868	52	705	42	2145	29
80S43859	895	32	2523	4	583	60	759	38	2035	44
80S44371	645	44	1823	26	1493	14	687	46	2324	8
80S4474	1080	18	1006	58	802	55	912	27	2195	20
73 RM 70	730	41	1006	58	927	48	558	54	1772	58
75 RM 703	913	31	1273	51	1053	42	514	59	1604	60
ILB 2865	230	57	706	62	432	61	118	63	1144	61
ILB 2858	163	60	423	63	1468	15	315	62	990	62
ILB 1820	860	34	1730	33	1136	38	1012	23	2345	5
ILB 1278	760	40	1360	48	1199	30	969	25	2156	28
LOCAL CHECK	1521	4	1980	16	1691	9	515	58		
LOCATION MEAN	852		1710		1238		851			
C.V.%	41.70		29.40		38.30		4.00			
L.S.D AT 5% FOR:										
CHECKS	532.00		734.30		684.40		49.80			
CHECKS VS TEST ENTRIES	1064.30		1468.80		1369.00		99.70			
TEST ENTRIES IN THE SAME BLOCK	1189.70		1641.90		1530.40		111.40			
TEST ENTRIES IN DIFFERENT BLOCKS	1373.80		1896.00		1767.20		128.70			
S.E. FOR:										
CHECKS	230.70		318.40		296.80		21.60			
CHECKS VS TEST ENTRIES	461.50		636.90		593.70		43.20			
TEST ENTRIES IN THE SAME BLOCK	515.90		712.00		663.60		48.30			
TEST ENTRIES IN DIFFERENT BLOCKS	595.70		822.20		766.30		55.80			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		51			

(1) Le Rhue, Coulommiers, Misan, Beja and Sejnane were excluded from the overall mean

Table 4.4.6. The five heaviest seed yielding entries at the individual locations in the FBISN-S during 1984/85.

RANK	ALGERIA Setif		EGYPT Gemmiza		ETHIOPIA Denbi		FRANCE Dijon	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X77TA 82	80S 44371	S81065	FLIP 83-68FB	X75TA 105	FLIP 82-12FB	2863	75 RM 703
2	2864	73 RM 70	X77SD 100	FLIP 82-24FB	-	Local check	X75TA 10	80S 43238
3	1817	76TA 56267	X75TA 14	FLIP 82-34FB	2864	73 RM 70	S81217	FLIP 83-85FB
4	2865	Outlook	S81036	FLIP 83-78FB	X75TA 43	FLIP 82-9FB	2864	73 RM 70
5	X75TA 16	FLIP 82-15FB	X77TA 81	FLIP 82-19FB	X75TA 14	FLIP 82-35FB	X75TA 105	FLIP 82-12FB
	SD 77061	FLIP 83-97FB	49	74TA 133				
	79S 30424	FLIP 83-101FB						

Cont'd. ...

RANK	FRANCE Le Rhue		FRANCE Coulommiers		GREECE Larissa		IRAQ Misan	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X75TA 10	80S 43238	-	Local check	S81232	FLIP 83-88FB	X75TA 7	78S 33011
2	2864	73 RM 70	1256	FLIP 83-127FB	5	FLIP 83-1FB	SD77061	FLIP 83-97FB
3	X77TA 48	80S 43856	1814	FLIP 83-123FB	75TA 26062	FLIP 83-7FB	79S 30403	FLIP 83-102FB
4	1817	76TA 56267	SD77061	FLIP 83-95FB	1256	FLIP 83-127FB	S81047	FLIP 83-50FB
5	SD77061	FLIP 83-95FB	5	FLIP 83-1FB	1814	FLIP 83-123FB	X77TA 86	80S 4474

Cont'd. ...

RANK	JORDAN Jubeiha		PAKISTAN Bannu		QATAR Rawdat Harma		SAUDI ARABIA Riyad	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X77TA 48	80S 43856	X75TA 7	78S 33011	-	Local check	S81211	FLIP 83-84FB
2	X77TA 48	80S 43859	80S 44358	FLIP 81-100FB	S81012	FLIP 83-58FB	X75TA 14	FLIP 82-1FB
3	49	74TA 133	1812	FLIP 83-126FB	X75TA 43	FLIP 82-9FB	X75TA 20	FLIP 82-36FB
4	X75TA 14	FLIP 82-34FB	SD77061	FLIP 83-97FB	ILB 2863	75 RM 703	S81047	FLIP 83-50FB
5	S81056	FLIP 83-89FB	ILB 2863	75 RM 703	X77TA 81	FLIP 82-19FB	1266	FLIP 83-127FB
					SD77061	FLIP 83-97FB		
					1278	Giza 402		

Cont'd. ...

Table 4.4.6. Cont'd.

RANK	SAUDI ARABIA		SPAIN				SYRIA	
	Al Hassa		Cordoba		Toledo		Tel Hadya	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	X77SD 100	FLIP 82-24FB	X75TA 43	FLIP 82-9FB	352	77MS 88158	1055	FLIP 83-128FB
2	X75TA 14	FLIP 82-34FB	320	78S 48434	80S 44358	FLIP 81-100FB	352	77MS 88158
3	SD77061	FLIP 83-96FB	-	Local check	79S 33120	FLIP 83-9FB	-	Local check
4	S81211	FLIP 83-84FB	1817	76TA 56267	X75TA 14	FLIP 82-1FB	49	74TA 133
					S81054	FLIP 83-48FB		
5	1278	Giza 402	X75TA 10	80S 43238	S81232	FLIP 83-88FB	X77TA 48	80S 43856
					SD77061	FLIP 83-96FB		
					SD77061	FLIP 83-97FB		
					X75TA 10	80S 43238		
					X77TA 86	80S 4474		

Cont'd. ...

RANK	TUNISIA						TURKEY	
	Beja		El-Kef		Sejnane		Ankara	
	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree	ILB/ Cross No.	Pedigree
1	S81054	FLIP 83-48FB	75TA 26062	FLIP 83-7FB	79S 30403	FLIP 83-102FB	SD77061	FLIP 83-96FB
2	X77TA 81	FLIP 82-20FB	18	77TA 80023	10	FLIP 83-107FB	79S 30403	FLIP 83-102FB
3	80S 44358	FLIP 81-100FB	X77TA 48	80S 43856	1814	FLIP 83-123FB	1814	FLIP 83-106FB
4	-	Local check	X77TA 48	80S 43859	X75TA 10	80S 43238	S81012	FLIP 83-58FB
5	S81072	FLIP 83-75FB	80S 44358	FLIP 81-100FB	1814	FLIP 83-106FB	1814	FLIP 83-123FB
					S81059	FLIP 83-114FB		

The brackets indicate entries having the same rank.

results were received from 30 locations. The agronomic data received from the cooperators are presented in Table 4.4.1.

The nursery at Montpellier in France was killed by frost and at Shambat in Sudan by heavy infestation of leaf roll virus. The data on most of the entries at Bouficha, Mateur, Temime and Zaghouan in Tunisia were missing and at Islamabad in Pakistan were not reported and thus not included here.

Results and Discussion

The entry means over all locations revealed that FLIP 83-105FB and ILB 1278 flowered earliest in 82 days and were followed by FLIP 82-21FB, FLIP 82-36FB, and 80S43238 etc. (Table 4.4.2). Among the locations, the entries flowered earliest (45 days) at Rawdat Harma in Qatar and latest (164 days) at Coulommiers in France. The range in time to maturity (Table 4.4.3) was between 145 to 152 for different entries and, in general, the early flowering lines were also earlier in maturity. The entry means for plant height (Table 4.4.4) ranged from 48 to 80 cm, and Denbi in Ethiopia, Rawdat Harma in Qatar and Riyad in Saudi Arbia were the locations where the expression of plant height was maximum.

The adjusted seed yield for the entries based on augmented design is presented in Table 4.4.5. Seed yields were quite high at Dijon and Coulommiers in France, Terbol in Lebanon, Riyad in Saudi Arabia and Cordoba in Spain and among the entries 80S43238 with seed yield of 2448 kg/ha ranked number one and was followed by FLIP 82-1FB, FLIP 83-107FB, FLIP 83-96FB, and ILB 1820 etc., respectively. The LSD estimates at different locations revealed that 4, 48, 10, 1, 47 and 51 entries exceeded the respective local checks by a significant margin at Gemmiza in Egypt, Larissa in Greece, Jubeiha in Jordan, Bannu in Pakistan, Riyad in Saudi Arabia, and Ankara in Turkey. The five heaviest yielders at each locations are presented in Table 4.4.6.

4.5. FABA BEAN INTERNATIONAL F_3 NURSERY ($FBIF_3N$)

Material

The Faba Bean International F_3 Nursery comprised 44 F_3 test populations and three checks, two namely Syrian Local Large and Reina Blanka were supplied and the third to be added by the cooperator. The material should have provided a wide range of intra- and inter population variation. The cooperators were suggested to make single plant selections from the border rows for their use in breeding program.

Methods and Management

The test entries and the three checks were suggested to be sown in four row plots of 4 m length with inter-row spacings of 0.50 m accomodating

Table 4.5.1. Agronomic data for different locations in the FBIF3N during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
CHILE	Graneros	30.04.1985	27.12.1985		108		12	NA	Haba Blanca Aquadulce
CHINA	Hubei	24.10.1984	03.06.1985	19	60		1	Rogor,Carbendazol	H0040
CHINA	Zhejiang	04.11.1984		26	58	22	NA	NA	Cixi Dabaican
CHINA	Wuhan	24.10.1984	05.1985	19	60		1	Rogor,Carbendazol	H0040
EGYPT	Sakha	28.10.1984	18.04.1985	36	72		3	Igran	Giza 3
CZECHOSLOVAKIA	Horna Streda	16.04.1985	15.08.1985	100	110		-	Avadox,Topogard,Malathion	Inovec
ETHIOPIA	Denbi	28.06.1985	30.11.1985	-			NA	NA	NC58
FRANCE	Dijon	01.03.1985	12.08.1985		115		-	Methabenzthiazuron,Linuron Pyrimicarbe	Alfred
FRANCE	Le Rheu	05.04.1985	12.08.1985	-			-	Simazine,Metasystemox, Peltar	Alfred
FRANCE	Coulommiers	NA	NA	NA			NA	Herbalts	NA
ITALY	Salerno	11.1984	25.06.1985		120		-	Trifluralin	Chiaro Torre Lama
ITALY	Viterbo	15.11.1984	30.06.1985		200		-	-	Multilinu VT-1
SAUDI ARABIA	Riyad	23.10.1984	04.04.1985	74	112		13	Delabone,Lancex,Novakrone, Malathion,Pirimor,Diptrex	Local
SPAIN	Cordoba	17.12.1984	12.06.1985				1	Round up,Topogard,Dafene,	INIA-06 (Alameda)
SPAIN	Toledo	NA	NA	NA			NA	NA	NA
SYRIA	Tel Hadya	01.11.1984	06.1985	30	50		5-6	Kerb,Igran,Fusilade, Thiodan,Pirimor	ILB 1814
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA

NA = not available

Table 4.5.2. Time to flowering (days) of entries at different locations in FBIF3N during 1984/85.

CROSS NO.	PARENTS	CHILE		CHINA	CZECHO-SLOVAKIA	EGYPT	ETHIOPIA
		Graneros	Wuhan	Zhejiang	Horna-Streda	Sakha	Denbi
S83063	74TA63, ILB 24; 82 LAT. 3038, BPL 266	119	165	153	53	52	53
S83068	AQUADULCE, ILB 1266; 82 LAT. 3137, ILB 938	117	164	154	55	46	57
S83072	SYR.L.L., ILB 1814; 82LAT. 3099, ILB 438	117	164	155	54	71	52
S83074	SYR.L.L., ILB 1814; 82 LAT. 3137, ILB 938	117	163	157	51	66	59
S83075	F318, ILB 2577; 82LAT. 3038, BPL 266	119	165	154	56	67	55
S83077	F318, ILB 2577; 82 LAT. 3099, ILB 438	119	165	154	54	72	61
S83085	GIZA 3, ILB 1819; 82 LAT. 3032, BPL 261	117	163	156	54	76	63
S83099	5MCI, ILB 1805; F17, ILB 2764	121	160	152	51	-	48
S83101	74TA51, ILB 19; F17, ILB 2764	117	162	153	46	56	64
S83102	BPL 401, ILB 256; F17, ILB 2764	115	162	153	57	-	54
S83103	FH 1047, ILB 2615; F17, ILB 2764	111	161	153	51	56	41
S83104	FH 1049, ILB 2616; F17, ILB 2764	111	160	152	49	81	57
S83106	80L90222, X75TA2, F17, ILB 2764	119	162	152	53	62	52
S83112	F21, ILB 2765; 80 LAT. 14998, ILB 382	119	164	153	48	62	62
S83113	SYR.L.L., ILB 1814; 80 LAT. 14986, ILB 161	117	162	154	48	61	43
S83114	NEW MAMMOTH, ILB 1269; 80 LAT. 14986, ILB 161	121	163	154	54	-	51
S83115	F63, ILB 2773; 80 LAT. 14986, ILB 161	119	163	153	49	57	55
S83118	5MCI,ILB 1805; 80 LAT. 14998, ILB 382	113	162	152	47	52	49
S83157	F6, ILB 2760; 74TA63, ILB 24	111	162	153	52	51	57
S83159	80 LAT. 15563-3; LINE 402, ILB 1278	115	164	155	53	-	50
S83160	80 LAT. 70015, ILB 37; LINE 402, ILB 1278	115	163	154	51	-	54
S83161	80 LAT. 14998, ILB 382; LINE 402, ILB 1278	115	163	155	54	-	54
S83162	80 LAT. 14435,ILB 472; LINE 402, ILB 1278	104	163	152	52	56	49
S83166	5MCI, ILB 1805; F63, ILB 2773	108	162	153	51	-	57
S83167	74TA63, ILB 24; VIOLETTE, ILB 1822	108	161	153	53	-	51
S83168	74TA, ILB 19; VIOLETTE, ILB 1822	115	161	153	50	-	47
S83171	F6, ILB 2760; ILB 1813	117	162	154	57	61	45
S83172	F21, ILB 2765; ILB 1813	111	161	153	51	56	55
S83178	F62, ILB 2772; 5MCI, ILB 1805	104	159	152	48	51	51
S83180	74TA12, ILB 5; 5MCI, ILB 1805	111	160	151	50	81	51
S83193	HUDEIBA 72, ILB 460, BPL 131, ILB 65	100	160	153	47	31	42
S83194	GIZA 3, ILB 1819; BPL 131, ILB 65	113	161	151	49	57	56
S83195	LINE 402; ILB 1278; BPL 131, ILB 65	111	162	153	51	41	43
S83197	HUDEIBA 72, ILB 460; BPL 1429, ILB 1122	100	162	153	47	56	55
S83200	JORDAN L, ILB 1818; BPL 466, ILB 285	100	159	152	51	41	41
S83201	HUDEIBA 72, ILB 460; BPL 466, ILB 285	106	160	152	55	67	47
S83202	GIZA 3, ILB 1819; BPL 466, ILB 285	104	162	152	51	41	45
S83205	5MCI, ILB 1805; HUDEIBA 72, ILB 60	100	159	153	50	36	45
S83211	76TA63, ILB 24; GIZA 3, ILB 1819	104	163	154	53	51	48
S83212	74TA51, ILB 19; GIZA 3, ILB 1819	121	163	154	51	-	54
S83213	76TA63, ILB 24; HUDEIBA 72, ILB 460	104	161	152	49	-	48
S83214	74TA51, ILB 19; HUDEIBA 72, ILB 460	106	161	151	49	57	47
S83231	75TA26062, X75TA29; ILB 33	119	162	152	49	67	47
L82078	GIZA 3, ILB 1819; ILB 18	117	163	152	50	56	51
SYRIAN LOCAL LARGE	-	119	163	154	54	66	59
REINA BLANCA	-	117	163	153	55	76	55
LOCAL CHECK	-	116	163	153	55	40	52
LOCATION MEAN		113	162	153	51	58	52
C.V. %		1.96	0.20	0.35	5.89	19.58	5.11
L.S.D AT 5% FOR:							
CHECKS		3.86	0.57	0.95	5.32	15.96	4.65
CHECKS VS TEST ENTRIES		7.06	1.05	1.74	9.72	29.15	8.50
TEST ENTRIES IN THE SAME BLOCK		7.73	1.15	1.91	10.64	31.93	9.31
TEST ENTRIES IN DIFFERENT BLOCKS		8.93	1.33	2.20	12.29	36.87	10.75
S.E. FOR:							
CHECKS		1.58	0.23	0.39	2.17	6.52	1.90
CHECKS VS TEST ENTRIES		2.88	0.43	0.71	3.97	11.91	3.47
TEST ENTRIES IN THE SAME BLOCK		3.16	0.47	0.78	4.35	13.05	3.80
TEST ENTRIES IN DIFFERENT BLOCKS		3.65	0.54	0.90	5.02	15.07	4.39

Cont'd. ...

Table 4.5.2. Cont'd. ...

CROSS NO.	FRANCE			SAUDI ARABIA	SPAIN		SYRIA	(1) Overall Mean
	Dijon	Le Rheu	Coulommiers	Riyad	Cordoba	Toledo	Tel Hadya	
S83063	86	59	165	62	105	114	151	100
S83068	86	62	160	67	105	128	152	101
S83072	86	58	165	66	105	112	151	100
S83074	85	58	160	63	105	126	152	101
S83075	86	62	165	73	105	114	153	102
S83077	85	62	165	73	105	128	151	102
S83085	84	59	160	61	105	121	152	101
S83099	85	57	160	54	106	114	149	98
S83101	84	59	165	52	105	114	148	99
S83102	85	59	165	55	106	114	149	99
S83103	84	57	165	63	105	112	150	97
S83104	84	59	165	55	105	121	152	98
S83106	85	58	165	56	105	114	153	99
S83112	86	58	165	65	105	114	153	101
S83113	84	57	160	64	105	112	152	98
S83114	86	58	165	64	106	114	149	100
S83115	85	59	160	61	105	114	150	99
S83118	84	57	165	60	105	114	149	97
S83157	84	59	160	59	105	114	148	99
S83159	85	57	165	53	106	114	151	98
S83160	85	59	160	62	106	114	149	99
S83161	90	59	160	58	106	114	153	100
S83162	83	58	165	55	105	114	152	97
S83166	85	58	165	55	106	114	150	98
S83167	84	59	165	56	106	114	149	98
S83168	86	58	165	55	106	114	149	98
S83171	85	58	160	63	105	112	148	99
S83172	85	59	160	63	105	-	148	99
S83178	85	58	160	48	105	114	148	95
S83180	84	58	160	58	105	114	148	97
S83193	84	57	160	57	105	112	151	95
S83194	85	57	160	56	105	114	152	98
S83195	83	55	160	59	106	112	150	97
S83197	85	59	-	55	105	114	159	98
S83200	83	55	170	54	105	112	150	95
S83201	85	58	165	55	105	114	152	97
S83202	84	56	165	57	105	119	152	96
S83205	83	58	165	56	105	112	150	95
S83211	84	58	160	58	105	112	148	97
S83212	85	59	160	54	106	114	149	99
S83213	85	58	165	53	106	114	153	96
S83214	90	58	160	56	105	114	153	97
S83231	85	58	165	58	105	114	152	98
L82078	84	57	160	48	105	114	149	97
SYRIAN LOCAL LARGE	86	59	162	63	106	121	149	101
REINA BLANCA	86	58	165	61	106	115	151	100
LOCAL CHECK	89	65	162	64	106	136	148	
LOCATION MEAN	85	58	163	59	105	116	151	
C.V. %	1.63	0.84	1.80	2.63	0.00	1.72	0.49	
L.S.D. AT 5% FOR:								
CHECKS	2.42	0.86	4.99	2.72	0.01	3.44	1.28	
CHECKS VS TEST ENTRIES	4.43	1.57	9.11	4.96	0.01	6.29	2.35	
TEST ENTRIES IN THE SAME BLOCK	4.85	1.73	9.98	5.44	0.02	6.89	2.57	
TEST ENTRIES IN DIFFERENT BLOCKS	5.61	1.99	11.53	6.28	0.02	7.96	2.97	
S.E. FOR:								
CHECKS	0.99	0.35	2.04	1.11	0.00	1.40	0.52	
CHECKS VS TEST ENTRIES	1.81	0.64	3.72	2.02	0.00	2.57	0.96	
TEST ENTRIES IN THE SAME BLOCK	1.98	0.70	4.08	2.22	0.00	2.81	1.05	
TEST ENTRIES IN DIFFERENT BLOCKS	2.29	0.81	4.71	2.56	0.00	3.25	1.21	

(1) Sakha, Coulommiers and Toledo were excluded from the overall mean.

Table 4.5.3. Time to maturity (days) of entries at different locations in FBIF3N during 1984/85.

CROSS NO.	CHINA	CZECHO-SLOVAKIA	ETHIOPIA	FRANCE			SAUDI ARABIA	SYRIA	Overall Mean
	Wuhan	Horna-Streda	Denbi	Dijon	Le Rheu	Coulom-miers	Riyad	Tel Hadya	
S83063	225	117	131	143	118	263	147	183	152
S83068	224	118	135	144	120	258	148	183	153
S83072	224	117	138	144	120	253	144	182	152
S83074	220	116	135	144	118	246	144	181	151
S83075	222	118	133	143	119	257	153	186	153
S83077	219	118	133	143	120	254	153	182	152
S83085	221	118	134	144	118	264	154	183	153
S83099	219	117	133	144	117	260	148	181	151
S83101	219	115	137	144	118	261	148	182	151
S83102	225	117	133	144	118	254	146	180	151
S83103	226	116	136	144	119	250	147	181	152
S83104	221	115	135	144	117	258	149	182	151
S83106	225	117	133	143	117	263	148	183	152
S83112	222	116	133	143	118	257	146	186	152
S83113	223	116	133	144	117	256	144	182	151
S83114	220	117	135	144	119	250	148	182	152
S83115	221	116	133	143	118	257	146	182	151
S83118	213	116	132	143	115	251	148	181	149
S83157	223	116	135	144	120	261	141	182	151
S83159	219	116	136	144	113	-	147	183	151
S83160	218	117	137	144	118	250	146	182	151
S83161	219	117	133	144	114	254	148	182	151
S83162	222	116	137	144	116	264	148	186	152
S83166	222	116	137	144	117	260	148	182	152
S83167	218	116	132	144	114	254	146	180	150
S83168	221	115	137	144	117	257	149	181	152
S83171	218	118	136	144	117	256	147	180	151
S83172	219	115	134	144	119	258	151	181	151
S83178	225	115	135	144	118	258	154	181	153
S83180	223	116	137	144	118	258	149	180	152
S83193	220	116	136	144	117	256	148	182	151
S83194	219	116	132	143	117	251	152	186	152
S83195	219	117	137	144	117	256	147	185	152
S83197	219	115	134	144	117	-	144	186	151
S83200	219	116	138	144	116	262	149	182	152
S83201	219	117	133	143	117	254	148	183	151
S83202	220	117	136	144	117	256	144	185	151
S83205	218	116	136	144	117	259	147	182	151
S83211	219	120	138	144	117	259	159	181	154
S83212	219	117	138	144	118	260	148	182	152
S83213	219	115	136	144	117	254	148	182	151
S83214	219	117	132	143	115	260	150	183	151
S83231	221	116	135	143	118	254	151	182	152
L82078	224	116	137	144	120	261	141	182	152
SYRIAN LOCAL LARGE	223	117	135	144	120	260	150	181	152
REINA BLANCA	225	118	135	144	118	255	149	181	152
LOCAL CHECK	215	127	134	154	128	263	149	180	
LOCATION MEAN	221	117	135	144	118	257	148	182	
C.V. %	0.47	0.67	0.78	0.00	0.80	1.26	1.58	0.54	
L.S.D AT 5% FOR:									
CHECKS	1.82	1.38	1.84	0.00	1.65	5.43	4.06	1.70	
CHECKS VS TEST ENTRIES	3.32	2.52	3.37	0.01	3.02	9.92	7.42	3.11	
TEST ENTRIES IN THE SAME BLOCK	3.64	2.76	3.69	0.01	3.31	10.86	8.13	3.41	
TEST ENTRIES IN DIFFERENT BLOCKS	4.21	3.19	4.26	0.02	3.82	12.54	9.39	3.93	
S.E. FOR:									
CHECKS	0.74	0.56	0.75	0.00	0.67	2.22	1.66	0.69	
CHECKS VS TEST ENTRIES	1.36	1.03	1.37	0.00	1.23	4.05	3.03	1.27	
TEST ENTRIES IN THE SAME BLOCK	1.49	1.13	1.50	0.00	1.35	4.44	3.32	1.39	
TEST ENTRIES IN DIFFERENT BLOCKS	1.72	1.30	1.74	0.00	1.56	5.12	3.83	1.60	

(1) Coulommiers was excluded from the overall mean.

Table 4.5.4. Plant height (cm) of entries at different locations in FBIF3N during 1984/85.

CROSS NO.	CHINA	CZECHO-SLOVAKIA	ETHIOPIA	FRANCE		ITALY	SAUDI ARABIA	SYRIA	(1) Overall Mean
	Wuhan	Horna - Streda	Denbi	Dijon	Le Rheu	Salerno	Riyad	Tel Hadya	
S83063	94	70	142	58	47	47	94	52	79
S83068	80	61	147	70	51	72	104	52	80
S83072	74	61	154	60	57	54	112	45	80
S83074	70	61	164	60	42	79	98	55	78
S83075	91	65	152	73	42	42	102	47	81
S83077	71	65	127	63	47	-	84	42	71
S83085	84	64	167	65	61	62	87	52	82
S83099	95	68	139	60	47	-	69	55	76
S83101	72	64	157	60	51	72	88	57	78
S83102	83	60	154	60	42	-	62	50	73
S83103	74	66	154	60	52	49	113	45	80
S83104	79	64	147	75	51	52	102	42	80
S83106	93	60	132	73	57	62	118	52	83
S83112	87	65	147	63	47	52	106	62	82
S83113	90	76	159	65	52	69	100	50	84
S83114	78	63	154	55	57	65	74	45	75
S83115	90	65	147	73	57	77	105	62	85
S83118	81	70	117	63	37	57	87	52	72
S83157	101	74	147	65	46	72	80	57	81
S83159	84	68	144	65	32	-	85	50	75
S83160	92	63	174	65	52	-	79	60	83
S83161	83	68	149	60	42	-	94	50	78
S83162	85	69	162	65	41	62	91	52	80
S83166	79	78	154	55	52	-	98	60	82
S83167	83	63	164	60	42	50	90	50	78
S83168	82	63	159	65	37	-	94	55	79
S83171	85	61	144	50	37	74	95	60	76
S83172	81	64	137	65	46	62	102	52	78
S83178	79	74	147	70	46	72	89	62	81
S83180	77	59	137	50	47	-	82	52	72
S83193	82	76	149	60	56	69	100	50	81
S83194	87	75	167	73	47	62	93	52	84
S83195	92	73	164	80	52	69	105	55	88
S83197	76	74	142	70	62	-	110	52	83
S83200	76	61	154	60	41	59	77	55	74
S83201	79	75	152	73	52	-	107	52	84
S83202	87	74	169	75	52	49	100	50	86
S83205	90	61	144	50	47	-	89	45	75
S83211	86	71	139	70	57	39	96	55	82
S83212	94	73	159	70	47	-	94	55	84
S83213	89	78	164	75	47	-	111	50	87
S83214	98	70	137	68	52	62	100	52	82
S83231	83	65	122	63	52	52	83	52	74
L82078	85	69	162	70	51	82	122	62	88
SYRIAN LOCAL LARGE	86	57	150	67	46	61	104	58	81
REINA BLANCA	69	55	147	56	40	60	77	46	70
LOCAL CHECK	98	87	146	97	67	81	129	61	
LOCATION MEAN	84	67	150	65	49	62	95	53	
C.V. %	8.56	7.51	8.17	7.76	7.69	22.31	9.06	8.25	
L.S.D AT 5% FOR:									
CHECKS	12.55	8.80	21.23	9.00	6.60	18.75	15.23	7.62	
CHECKS VS TEST ENTRIES	22.91	16.07	38.77	16.43	12.06	34.25	27.82	13.93	
TEST ENTRIES IN THE SAME BLOCK	25.10	17.60	42.47	18.00	13.21	37.51	30.47	15.25	
TEST ENTRIES IN DIFFERENT BLOCKS	28.98	20.32	49.04	20.78	15.25	43.32	35.18	17.61	
S.E. FOR:									
CHECKS	5.12	3.59	8.67	3.67	2.69	7.66	6.22	3.11	
CHECKS VS TEST ENTRIES	9.36	6.56	15.84	6.71	4.93	13.99	11.36	5.69	
TEST ENTRIES IN THE SAME BLOCK	10.25	7.19	17.35	7.35	5.39	15.33	12.45	6.23	
TEST ENTRIES IN DIFFERENT BLOCKS	11.84	8.30	20.04	8.49	6.23	17.70	14.37	7.19	

(1) Salerno was excluded from the overall mean.

Table 4.5.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in FBIF3 during 1984/85.

CROSS NO.	CHILE Graneros		CHINA Wuhan		CZECHOSLOVAKIA Horna Streda		EGYPT Sakha		ETHIOPIA Denbi	
	Y	R	Y	R	Y	R	Y	R	Y	R
S83063	3250	35	1126	26	2938	22	3083	12	1622	17
S83068	4372	12	684	41	2627	38	3379	7	0	46
S83072	5061	6	2024	2	3616	3	578	36	1276	27
S83074	3194	36	1142	25	3050	19	2662	22	1576	18
S83075	5350	1	1466	13	2772	34	1527	34	3755	3
S83077	5150	4	1961	3	3605	4	3069	14	2643	8
S83085	4038	16	545	42	3261	9	2143	31	1537	19
S83099	4050	15	768	39	2816	27	-		1312	24
S83101	2605	44	1394	17	3194	13	2671	21	25	45
S83102	3150	37	1018	33	3750	2	-		1125	30
S83103	4327	13	1169	23	3550	5	3356	8	3964	2
S83104	3738	25	1054	31	2794	32	3393	6	1008	34
S83106	2983	38	1501	9	2572	40	2236	28	3218	6
S83112	1750	47	1034	32	3372	6	3083	12	1951	12
S83113	2627	43	1452	14	1116	47	3412	5	1414	22
S83114	5283	2	1316	19	2616	39	-		1146	29
S83115	3916	21	1733	4	3105	18	2527	23	1476	21
S83118	2750	40	771	38	3205	12	2930	15	2214	9
S83157	3738	25	1279	20	2861	25	3115	11	1092	32
S83159	5150	4	951	34	2983	21	-		1787	16
S83160	2683	42	1193	22	2116	45	-		675	40
S83161	3793	22	1509	8	2650	37	-		858	36
S83162	3772	23	267	46	2761	35	3921	2	1267	28
S83166	4150	14	1201	21	5083	1	-		525	41
S83167	3683	27	1429	16	2816	27	-		3692	4
S83168	3583	32	1481	12	2816	27	-		767	39
S83171	4594	9	1609	5	2916	24	2898	16	1510	20
S83172	4605	8	1074	30	2794	32	2462	24	112	44
S83178	3405	34	1494	11	3194	13	2449	25	1121	31
S83180	4472	10	1124	27	3261	9	4129	1	1317	23
S83193	3661	29	534	43	2816	27	2800	17	1310	25
S83194	4616	7	876	37	3305	7	2180	30	2035	11
S83195	3494	33	434	45	2850	26	2009	32	889	35
S83197	2172	46	62	47	2227	44	2185	29	0	46
S83200	3961	19	720	40	2816	27	3509	4	818	38
S83201	2850	39	1541	7	3138	17	1472	35	2097	10
S83202	4461	11	1167	24	3183	15	3120	10	1951	12
S83205	5261	3	1434	15	3150	16	2675	20	2922	7
S83211	3594	31	1092	29	3050	19	3189	9	1051	33
S83212	2716	41	1121	28	2250	43	-		1287	26
S83213	3983	17	1501	9	2683	36	-		1917	14
S83214	2183	45	1576	6	3272	8	2347	26	3572	5
S83231	3750	24	1376	18	2938	22	1958	33	1789	15
L82078	3605	30	470	44	2561	41	2337	27	437	42
SYRIAN LOCAL LARGE	3975	18	928	36	1741	46	2731	19	338	43
REINA BLANCA	3675	28	933	35	2391	42	2782	18	842	37
LOCAL CHECK	3933	20	2476	1	3250	11	3763	3	5819	1
LOCATION MEAN	3768		1170		2933		2724		1597	
C.V. %	21.26		21.60		8.42		25.30		53.98	
L.S.D.AT 5% FOR:										
CHECKS	1391.97		455.80		416.40		986.90		1598.38	
CHECKS VS TEST ENTRIES	2541.77		832.40		760.35		1802.10		2918.67	
TEST ENTRIES IN THE SAME BLOCK	2783.95		911.70		832.80		1973.80		3196.76	
TEST ENTRIES IN DIFFERENT BLOCKS	3214.63		1052.70		961.63		2279.20		3691.30	
S.E. FOR:										
CHECKS	568.85		186.20		170.16		403.30		653.20	
CHECKS VS TEST ENTRIES	1038.73		340.10		310.73		736.40		1192.75	
TEST ENTRIES IN THE SAME BLOCK	1137.70		372.50		340.33		806.60		1306.40	
TEST ENTRIES IN DIFFERENT BLOCKS	1313.70		430.20		392.98		931.40		1508.50	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		1		0		0	

Cont'd. ...

Table 4.5.5. Cont'd. ...

CROSS NO.	FRANCE						ITALY		SAUDI ARABIA	
	Dijon		Le Rheu		Coulommiers		Salerno		Riyad	
	Y	R	Y	R	Y	R	Y	R	Y	R
S83063	3386	21	703	38	2017	25	1376	31	5274	15
S83068	3592	12	649	42	1289	31	2575	15	4070	28
S83072	3730	7	1248	7	4313	6	2824	12	7293	2
S83074	3555	15	663	39	471	41	3327	6	2270	46
S83075	2873	36	746	37	2441	20	1536	30	4607	20
S83077	2450	44	1013	21	4643	1	-		2830	43
S83085	3582	13	1151	10	1160	34	2265	20	3182	40
S83099	2515	42	1099	15	2581	17	-		3805	36
S83101	2975	34	1088	17	1270	32	3060	9	4737	18
S83102	3167	31	1431	5	2649	14	-		5583	14
S83103	3023	33	1541	2	4390	4	1964	24	5737	11
S83104	2589	40	886	33	1501	30	3803	2	5626	13
S83106	3360	26	990	23	2494	19	2569	16	6830	6
S83112	2886	35	613	43	1573	29	1706	27	4607	20
S83113	3452	18	1241	8	1844	26	2454	18	3959	31
S83114	3678	9	1875	1	853	36	2043	23	2461	44
S83115	3219	29	1102	14	3070	11	3309	7	4163	27
S83118	3184	30	883	34	2295	22	1899	25	3941	33
S83157	3747	6	1129	13	2185	23	3185	8	4070	28
S83159	3552	16	601	45	-		-		5139	16
S83160	3347	27	1066	20	378	42	-		2361	45
S83161	4056	1	551	46	574	39	-		2983	41
S83162	3556	14	660	40	0	45	2350	19	5848	10
S83166	3770	5	1095	16	1799	27	-		6472	8
S83167	3269	28	986	24	685	37	2243	21	3339	38
S83168	3364	24	655	41	3822	8	-		6916	5
S83171	3433	20	985	25	3939	7	3482	4	4182	25
S83172	2475	43	1075	18	4634	2	3430	5	4737	18
S83178	3382	22	1288	6	3678	9	3590	3	3848	35
S83180	3049	32	1166	9	1585	28	-		4070	28
S83193	3921	3	967	27	2638	15	1642	28	5737	11
S83194	2699	38	985	25	4375	5	2174	22	3941	33
S83195	3631	10	1513	3	589	38	1897	26	5070	17
S83197	2240	46	608	44	-		-		4515	22
S83200	2870	37	521	47	291	44	2637	13	3737	37
S83201	3362	25	944	29	3000	12	-		6607	7
S83202	3379	23	917	31	3089	10	2539	17	3959	31
S83205	3704	8	1130	12	531	40	-		6182	9
S83211	3843	4	1148	11	2548	18	742	33	4182	25
S83212	3480	17	808	36	1156	35	-		3250	39
S83213	2336	45	810	35	327	43	-		7139	3
S83214	3437	19	905	32	2150	24	1141	32	7719	1
S83231	0	47	1011	22	2806	13	1544	29	4507	23
L82078	3604	11	936	30	1267	33	3020	10	6959	4
SYRIAN LOCAL LARGE	2572	41	1071	19	2622	16	2862	11	2954	42
REINA BLANCA	2649	39	957	28	2312	21	4511	1	4494	24
LOCAL CHECK	3955	2	1511	4	4612	3	2627	14	1541	47
LOCATION MEAN	3189		998		2188		2495		4626	
C.V. %	9.20		30.90		71.90		35.65		31.10	
L.S.D.AT 5% FOR:										
CHECKS	504.80		550.00		2796.80		1297.00		2353.80	
CHECKS VS TEST ENTRIES	921.80		1004.30		5107.00		2368.34		4298.20	
TEST ENTRIES IN THE SAME BLOCK	1009.60		1100.00		5593.60		2594.00		4707.70	
TEST ENTRIES IN DIFFERENT BLOCKS	1165.80		1270.20		6459.00		2995.29		5436.00	
S.E. FOR:										
CHECKS	206.30		224.70		1142.90		530.03		961.90	
CHECKS VS TEST ENTRIES	376.70		410.40		2087.00		967.85		1756.50	
TEST ENTRIES IN THE SAME BLOCK	412.60		449.50		2285.90		1060.07		1923.90	
TEST ENTRIES IN DIFFERENT BLOCKS	476.40		519.10		2639.50		1224.06		2221.50	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		10	

Cont'd. ...

Table 4.5.5. Cont'd. ...

CROSS NO.	SPAIN				SYRIA		TUNISIA				Overall Mean (1)	Rank (1)
	Cordoba		Toledo		Tel Hadya		Beja		El Kef			
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
S83063	4880	26	1720	24	1535	21	1531	18	2106	34	2542	20
S83068	5542	8	1820	22	782	36	914	36	2189	32	2277	41
S83072	5484	12	3320	1	1646	18	1231	25	2622	20	3266	2
S83074	4459	37	3320	1	1831	9	706	44	2497	24	2342	37
S83075	4805	30	1920	19	350	45	1131	28	3131	7	2706	11
S83077	5342	16	1020	40	442	44	481	47	2831	15	2448	27
S83085	4655	35	2820	9	782	36	664	45	2789	16	2383	33
S83099	6030	6	1487	32	2091	7	1072	29	1756	41	2458	25
S83101	5442	14	1520	30	1245	28	1839	11	3964	1	2369	35
S83102	4217	43	1537	29	1683	15	772	41	2206	29	2493	22
S83103	6459	2	1920	19	2257	5	2531	3	2497	24	3316	1
S83104	6455	3	0	46	912	35	1214	26	1089	44	2388	32
S83106	5442	14	1520	30	1331	26	2631	2	2906	13	2943	4
S83112	5467	13	2120	16	1498	22	1631	16	2681	18	2448	27
S83113	4759	32	3320	1	1702	14	1756	14	2097	35	2436	30
S83114	5742	7	1987	18	1442	23	1472	20	-	46	2638	15
S83115	5505	11	1320	36	2331	4	1531	18	2856	14	2672	14
S83118	5117	19	1620	27	1220	30	2206	7	1931	37	2464	24
S83157	6067	5	3170	4	1300	27	1439	23	3714	2	2717	9
S83159	4430	38	1487	32	628	40	897	38	2206	29	2509	21
S83160	3942	45	1637	25	1665	17	897	38	1856	40	1962	45
S83161	4992	23	2437	11	554	42	1022	31	2481	26	2309	38
S83162	4855	29	1570	28	449	43	1764	13	2114	33	2433	31
S83166	5342	16	1387	35	1813	10	797	40	2956	11	2875	6
S83167	4905	25	2387	12	1554	20	922	34	2381	28	2634	16
S83168	5317	18	2237	14	1350	25	922	34	2206	29	2673	13
S83171	5521	9	2320	13	2628	1	1981	10	1047	45	2879	5
S83172	6355	4	0	46	1782	11	1139	27	3489	3	2377	34
S83178	4242	42	570	44	2412	3	2039	9	3264	6	2454	26
S83180	5055	21	1470	34	1189	31	714	43	2589	22	2444	29
S83193	4421	39	2720	10	1146	32	956	33	2572	23	2562	19
S83194	4880	26	820	42	220	46	906	37	3056	9	2298	39
S83195	3909	46	3020	6	1720	13	2931	1	1922	38	2678	12
S83197	3630	47	1120	39	41	47	1064	30	2014	36	1607	46
S83200	4334	40	2120	16	1739	12	2281	6	2972	10	2356	36
S83201	4080	44	920	41	609	41	981	32	2931	12	2466	23
S83202	4484	36	3120	5	1091	34	2081	8	2622	20	2708	10
S83205	4296	41	2920	7	1109	33	2406	5	3322	4	3137	3
S83211	5521	9	2870	8	1924	8	2456	4	3297	5	2793	8
S83212	5105	20	2187	15	1424	24	1447	21	1206	43	2279	40
S83213	4792	31	1637	25	776	38	1322	24	-		2626	17
S83214	4867	28	1170	38	646	39	1806	12	2756	17	2832	7
S83231	4917	24	1320	36	1591	19	506	46	3131	7	2155	43
L82078	5030	22	1820	22	1671	16	1539	17	2664	19	2602	18
SYRIAN LOCAL LARGE	4731	33	425	45	2222	6	750	42	1900	39	1973	44
REINA BLANCA	4662	34	725	43	1231	29	1443	22	2456	27	2182	42
LOCAL CHECK	6721	1	1912	21	2615	2	1725	15	1587	42		
LOCATION MEAN	5047		1825		1365		1414		2508			
C.V. %	6.60		30.13		29.78		60.00		24.40			
L.S.D.AT 5% FOR:												
CHECKS	582.90		882.49		758.31		1451.50		980.30			
CHECKS VS TEST ENTRIES	1064.40		1611.45		1384.69		2650.40		1790.10			
TEST ENTRIES IN THE SAME BLOCK	1165.80		1764.99		1516.63		2903.00		1960.70			
TEST ENTRIES IN DIFFERENT BLOCKS	1346.10		2038.04		1751.25		3352.10		2264.00			
S.E. FOR:												
CHECKS	238.20		360.64		309.89		593.10		400.60			
CHECKS VS TEST ENTRIES	434.90		658.54		565.87		1083.10		731.50			
TEST ENTRIES IN THE SAME BLOCK	476.40		721.29		619.79		1186.30		801.20			
TEST ENTRIES IN DIFFERENT BLOCKS	550.10		832.87		715.67		1369.80		925.20			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		3			

(1) Sakha, Coulommiers, Salerno and El Kef were excluded from the overall mean.

Table 4.5.6. The five heaviest seed yielding entries at the individual locations in the $FBIF_3N$ during 1984/85.

RANK	CHILE Graneros Cross No.	CHINA Wuhan Cross No.	EGYPT Sakha Cross No.	ETHIOPIA Denbi Cross No.	FRANCE Dijon Cross No.	FRANCE Le Rhue Cross No.	FRANCE Coulommiers Cross No.
1	S83075	Local check	S83180	Local check	S83161	S83114	S83077
2	S83114	S83072	S83162	S83103	Local check	S83103	S83172
3	S83205	S83077	Local check	S83075	S83193	S83195	Local check
4	S83159	S83115	S83200	S83167	S83211	Local check	S83103
5	S83077	S83171	S83113	S83214	S83166	S83102	S83194

Cont'd. ...

RANK	ITALY Salerno Cross No.	SAUDI ARABIA Riyad Cross No.	SPAIN Cordoba Cross No.	SPAIN Toledo Cross No.	SYRIA Tel Hadya Cross No.	TUNISIA Beja Cross No.	TUNISIA El-Kef Cross No.
1	S83104	S83214	Local check	S83072	S83171	S83195	S83101
2	S83178	S83072	S83103	S83113	Local check	S83106	S83157
3	S83172	S83213	S83104	S83074	S83178	S83103	S83172
4	S83115	L82078	S83172	S83157	S83115	S83211	S83205
5	S83157	S83168	S83157	S83202	S83103	S83205	S83211

The brackets indicate entries having the same rank.

100 plants. The whole experimental unit was divided into four blocks and material was planted using augmented design layout plan. Twenty eight sets of nursery were supplied to cooperators in 17 countries and the results were received from 17 locations from 11 countries. The data on agronomic practices supplied by the cooperators are presented in Table 4.5.1.

Results and Discussion

The population means over all the locations revealed that S83178, S83193, and S83205 were earliest to flower in 95 days, whereas S83075 and S83077 took 102 days and were latest to flower (Table 4.5.2). At all locations except at Sakha in Egypt, a large number of the entries either flowered at the same time or earlier than the respective local checks. The range in time to maturity and plant height for different entries was 149-154 days (Table 4.5.3) and 70 to 88 cms(Table 4.5.4), respectively.

The adjusted seed yields of populations (Table 4.5.5) exhibited that Cardoba in Spain was the highest yielding location (5047 kg/ha) and was closely followed by Riyad in Saudi Arabia, Graneros in Chile, Dijon in France and Horna Strada in Czechoslovakia with seed yields of 4624, 3768, 3189 and 2933 kg/ha, respectively. The LSD estimates based on analysis of variance revealed that 1, 10 and 3 entries at Horna Strada in Czechoslovakia, Riyad in Saudi Arabia, and El-Kef in Tunisia, respectively, outyielded the respective checks by significant margin. The top five heaviest yielders at each location are given in Table 4.5.6. The population S83103 occurred most frequently among the top five and was comparatively more adaptable.

4.6. FABA BEAN INTERNATIONAL F_3 NURSERY - EARLY ($FBIF_3N$-E)

Material

The Faba Bean International F_3 Screening Nursery - Early ($FBIF_3N$-E) comprised 39 test entries and three checks two of them namely Syrian Local Large and Reina Blanca were supplied and the third local check was to be added by the cooperator. The material was supposed to provide a wide range of variability within and between the F_3 populations to allow the cooperators to effect selections under their local conditions. The cooperators were suggested to use border rows for single plant selections for their use in breeding program.

Methods and Management

The test entries and three checks were suggested to be sown in 4 row plots of 4 m length with inter row spacings of 0.50 m accomodating 100 plants per plot. The whole experimental unit was divided into three blocks each comprising 13 test entries and three checks repeated in each block. The augmented design was followed for analysis. Thirty

Table 4.6.1. Agronomic data for different locations in the FBIF3N-E during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Sidi Bel Abbes	04.12.1985	24.05.1986	15	90		-	Netro Bromuron (Paloran)	Quarantin
CHILE	Graneros	30.04.1985	30.12.1985		108		12	NA	Haba Blanca Aquadulce
CHINA	Zhejiang	04.11.1984		26	57	22	-	-	Shangyu Tianjiging
CHINA	Wuhan	24.10.1984	03.06.1985	19	60		1	Rogor Carbendazol	H0040
CYPRUS	Nicosia	05.12.1984	22.05.1985	21	48		2	Treflan,Pirimor	Cyprus Local
EGYPT	Sids	18.11.1984	26.04.1985	37	75		4	NA	Giza 402
ETHIOPIA	Denbi	25.06.1985	01.12.1985	-			NA	NA	NC58
FRANCE	Dijon	01.03.1985	12.08.1985		115		-	Metabenzthiazuron,Linuron Pyrimicarbe	Alfred
FRANCE	Le Rheu	05.04.1985	12.08.1985	-			-	Simazine,Metasystemox, Peltar	Alfred
ITALY	Salerno	11.1984	25.06.1985		120		-	Trifloralin	Chiaro Torre Lama
LEBANON	Beqa'a	21.12.1984	09.07.1985		50		3	Nogus	NA
PERU	Yanamuclo	20.10.1984	10.05.1985	-			2	Tamaron	Sincos
PERU	Chiquian	22.11.1984	06.1985	-			1	Pomarsol,Semilla,Parathion	Blanco Anta
SAUDI ARABIA	Riyad	21.10.1984		74	112		13	Delabone,Lancer,Novakrone Malathion,Pirimor,Dithane	Local
SPAIN	Cordoba	NA	NA	NA			NA	NA	NA
SPAIN	Cordoba	17.12.1984	12.06.1985				1	Roundup,Topogard,Dafene, Rogor	INIA-06
SUDAN	Shambat	31.10.1984		-			13	-	H 72
SYRIA	Tel Hadya	01.11.1984	06.1985	30	50		5-6	Kerb,Igran,Fusilade, Thiodan,Pirimor	ILB 1814
TURKEY	Ankara	29.03.1985	06.07.1985	23	60		-	-	69 V1
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA

NA = not available

Table 4.6.2. Time to flowering (days) of entries at different locations in FBIF3N-E during 1984/85.

CROSS NO.	PARENTS	ALGERIA	CHILE	CHINA		CYPRUS
		Sidi Bel-Abbes	Graneros	Wuhan	Zhejiang	Nicosia
S83193	HUDEIBA 72, ILB 460; BPL131, ILB 65	99	106	160	152	104
S83196	JORDAN L, ILB 1818; BPL131, ILB 65	99	106	160	152	106
S83199	LINE 402, ILB 1278; BPL466, ILB 285	105	113	164	153	103
S83200	JORDAN L, ILB 1818; BPL466, ILB 285	99	106	160	152	106
S83208	REINA BLANCA, ILB 1270; GIZA 3, ILB 1819	102	106	160	152	106
S83209	SMCI, ILB 1805; BPL465, ILB 285	104	106	160	153	104
S83210	REINA BLANCA, ILB 1270; BPL465, ILB 285	101	119	160	152	103
S83170	F4, ILB 2759; SEVILLA GIANT, ILB 1933	105	111	164	154	102
S83174	F9, ILB 2762; REINA BLANCA, ILB 1270	102	104	161	153	102
S83175	F25, ILB 2767; 5MCI, ILB 1805	105	106	160	152	102
S83176	F56, ILB 2770; 5MCI, ILB 1805	105	106	161	153	105
S83180	74TA12, ILB 5; 5MCI, ILB 1805	101	106	160	151	105
S83181	VIOLETTE, ILB 1822; TUNIS L., ILB 2776	105	111	163	154	102
S83183	F63, ILB 2773; TUNIS L., ILB 2776	101	106	161	152	103
S83184	SYR. L.L., ILB 1814; TUNIS L., ILB 2776	105	111	163	153	104
S83190	FS315, ILB 2611; 5MCI, ILB 1805	104	106	161	152	102
S83191	FH1047, ILB 2615; 5MCI, ILB 1805	105	104	163	154	102
S83192	FH1049, ILB 2616; 5MCI, ILB 1805	102	113	163	153	102
S83215	78S33202, X75TA116; ILB 33	101	119	161	152	101
S83216	78S49048, ILB 29; ILB 33	102	111	161	153	102
S83217	78S33202, X75TA116; 80L90222, X75TA2	105	117	163	154	101
S83218	78S49048, ILB 29; 80L90222, X75TA2	101	113	160	151	101
S83219	78S33202, X75TA116; ILB 269	105	117	163	152	103
S83220	78S49048, ILB 29; ILB 269	101	119	162	153	101
S83221	78S33202, X75TA116; 78S49395, ILB 407	105	117	161	152	105
S83222	78S33202, X75TA116; 78S48897	104	106	162	152	104
S83223	78S49048, ILB 29; 78S49897	101	113	160	154	105
S83224	78S33202, X75TA116; 78S48821, ILB 269	99	113	163	153	103
S83225	78S33202, X75TA116; 78S48821, ILB 269	102	104	164	153	101
S83226	78S49048, ILB 29; 78S48821, ILB 269	105	117	163	152	102
S83227	78S33202, X75TA116; 78S49048, ILB 29	104	113	160	154	105
S83228	78S49395, X75TA407; 78S49048, ILB 29	101	113	159	153	103
S83229	78S48428, X75TA277; ILB 33	102	106	161	152	104
S83230	78S49895; ILB 33	105	117	160	152	100
S83232	74TA87, X75TA31; ILB 33	105	113	160	153	104
S83233	80S50088, X75TA150; 80L90222, X75TA2	104	113	162	153	102
S83234	74TA133, X75TA49; 80L90222, X75TA2	102	117	164	154	102
S83092	F6, ILB 2760; 82LAT. 3137, ILB 938	105	119	164	154	106
S83101	74TA51, ILB 19; F17, ILB 2764	105	113	163	153	102
SYRIAN LOCAL LARGE	-	105	117	164	154	104
REINA BLANCA	-	105	119	163	153	103
LOCAL CHECK	-	102	117	164	153	91
LOCATION MEAN		102	111	161	152	102
C.V.%		0.00	2.80	0.20	0.34	0.75
L.S.D. AT 5% FOR:	CHECKS	0.00	7.16	0.75	1.19	1.77
L.S.D. AT 5% FOR:	CHECKS VS. TEST ENTRIES	0.00	11.70	1.23	1.95	2.89
L.S.D. AT 5% FOR:	TEST ENTRIES IN THE SAME BLOCK	0.00	12.41	1.30	2.06	3.06
L.S.D. AT 5% FOR:	TEST ENTRIES IN DIFFERENT BLOCKS	0.00	14.33	1.51	2.38	3.54
S.E. FOR: CHECKS		0.00	2.58	0.27	0.43	0.63
S.E. FOR: CHECKS	VS. TEST ENTRIES	0.00	4.21	0.44	0.70	1.04
S.E. FOR: TEST ENTRIES IN THE SAME BLOCK		0.00	4.47	0.47	0.74	1.10
S.E. FOR: TEST ENTRIES IN DIFFERENT BLOCKS		0.00	5.16	0.54	0.86	1.27

Cont'd. ...

Table 4.6.2. Cont'd. ...

CROSS NO.	EGYPT	ETHIOPIA	FRANCE		PERU		SAUDI ARABIA
	Sids	Denbi	Dijon	Le Rheu	Yanamuclo	Chiquian	Riyad
S83193	55	45	83	56	95	76	58
S83196	57	47	83	58	105	76	61
S83199	65	59	84	61	97	76	61
S83200	57	44	84	58	96	76	61
S83208	70	46	84	59	97	76	59
S83209	70	53	86	58	102	65	61
S83210	72	65	86	58	102	65	56
S83170	71	59	84	57	95	76	65
S83174	68	51	84	57	91	76	73
S83175	57	53	84	59	97	76	59
S83176	65	54	84	58	103	76	58
S83180	69	48	86	58	104	65	59
S83181	72	49	85	60	90	76	65
S83183	69	53	86	56	98	65	62
S83184	70	66	84	59	95	76	65
S83190	68	50	86	58	100	65	60
S83191	70	62	84	58	100	76	58
S83192	60	46	85	60	103	76	55
S83215	69	50	86	56	107	65	67
S83216	70	49	84	58	103	76	65
S83217	71	54	84	58	99	76	61
S83218	64	50	85	57	102	65	67
S83219	72	57	85	59	104	76	63
S83220	71	60	86	58	104	65	58
S83221	72	57	84	57	101	76	60
S83222	69	46	85	57	105	65	65
S83223	71	58	86	59	100	65	57
S83224	70	50	84	59	97	76	60
S83225	71	62	84	55	91	76	66
S83226	70	49	84	57	93	76	73
S83227	70	54	86	57	96	65	56
S83228	71	47	87	58	109	65	60
S83229	68	46	85	59	95	76	61
S83230	68	47	83	57	-	76	73
S83232	62	46	84	59	103	76	58
S83233	69	62	86	57	109	65	57
S83234	70	49	84	58	103	76	63
S83092	75	56	86	60	112	76	64
S83101	70	50	84	58	104	76	59
SYRIAN LOCAL LARGE	72	60	87	59	114	73	67
REINA BLANCA	73	51	86	60	98	73	60
LOCAL CHECK	52	54	87	64	109	84	64
LOCATION MEAN	67	52	84	58	100	72	61
C.V.%	1.30	11.95	1.51	1.12	8.58	14.92	2.74
L.S.D. AT 5% FOR:							
CHECKS	1.99	14.53	2.92	1.51	19.42	24.92	3.88
CHECKS VS TEST ENTRIES	3.26	23.73	4.77	2.46	31.72	40.71	6.35
TEST ENTRIES IN THE SAME BLOCK	3.46	25.16	5.06	2.61	33.63	43.17	6.73
TEST ENTRIES IN DIFFERENT BLOCKS	3.99	29.06	5.85	3.02	38.84	49.85	7.77
S.E. FOR:							
CHECKS	0.72	5.23	1.05	0.54	6.99	8.98	1.40
CHECKS VS TEST ENTRIES	1.17	8.54	1.72	0.88	11.42	14.66	2.28
TEST ENTRIES IN THE SAME BLOCK	1.24	9.06	1.82	0.94	12.11	15.55	2.42
TEST ENTRIES IN DIFFERENT BLOCKS	1.43	10.46	2.10	1.08	13.99	17.96	2.80

Cont'd. ...

Table 4.6.2. Cont'd. ...

CROSS NO.	SPAIN		SUDAN	SYRIA	TURKEY	(1) Overall Mean
	Cordoba-1	Cordoba-2	Shambat	Tel Hadya	Ankara	
S83193	106	110	55	152	47	91
S83196	106	117	50	150	48	92
S83199	106	110	60	150	54	95
S83200	106	110	52	150	49	91
S83208	106	110	64	150	52	93
S83209	105	107	59	148	50	93
S83210	105	107	58	148	49	94
S83170	106	115	62	149	52	95
S83174	106	115	56	151	52	94
S83175	106	110	54	149	52	92
S83176	106	110	57	150	50	93
S83180	105	107	58	147	50	92
S83181	106	115	56	152	51	95
S83183	105	107	52	148	51	92
S83184	106	124	59	149	49	96
S83190	105	107	52	148	49	92
S83191	106	115	59	152	52	95
S83192	106	110	59	149	53	93
S83215	105	114	57	148	51	93
S83216	106	125	61	149	50	95
S83217	106	115	60	149	52	95
S83218	105	114	56	148	50	92
S83219	106	115	59	149	52	95
S83220	105	107	56	149	49	93
S83221	106	116	52	150	50	95
S83222	105	114	52	149	53	93
S83223	105	107	58	149	49	93
S83224	106	117	53	153	48	94
S83225	106	114	60	149	50	94
S83226	106	115	55	151	50	95
S83227	105	115	59	148	51	93
S83228	105	107	47	150	48	92
S83229	106	117	63	149	49	94
S83230	106	115	62	149	50	95
S83232	106	117	56	150	49	93
S83233	105	107	60	148	52	93
S83234	106	115	56	150	52	94
S83092	106	118	55	152	55	96
S83101	106	118	45	150	51	93
SYRIAN LOCAL LARGE	106	120	55	148	51	96
REINA BLANCA	106	113	60	149	51	95
LOCAL CHECK	106	135	48	148	56	
LOCATION MEAN	105	113	56	149	50	
C.V.%	0.00	4.25	9.83	0.58	1.02	
L.S.D. AT 5% FOR:						
CHECKS	0.01	11.12	12.58	1.99	1.19	
CHECKS VS TEST ENTRIES	0.02	18.17	20.55	3.26	1.95	
TEST ENTRIES IN THE SAME BLOCK	0.02	19.27	21.79	3.46	2.06	
TEST ENTRIES IN DIFFERENT BLOCKS	0.02	22.25	25.16	3.99	2.38	
S.E. FOR:	0.00	4.00	4.53	0.72	0.43	
CHECKS VS TEST ENTRIES	0.00	6.54	7.40	1.17	0.70	
TEST ENTRIES IN THE SAME BLOCK	0.00	6.94	7.85	1.24	0.74	
TEST ENTRIES IN DIFFERENT BLOCKS	0.00	8.01	9.06	1.43	0.86	

(1) Yanamuclo was excluded from the overall mean.

Table 4.6.3. Time to maturity (days) of entries at different locations in FBIF3N-E during 1984/95.

CROSS NO.	ALGERIA Sidi Bel-Abbes	CHINA Wuhan	CYPRUS Nicosia	EGYPT Sids	ETHIOPIA Denbi	FRANCE Dijon
S83193	168	224	159	162	137	144
S83196	168	217	156	152	135	144
S83199	168	217	156	152	132	144
S83200	168	217	156	157	136	144
S83208	168	226	159	157	135	144
S83209	167	218	155	157	142	143
S83210	167	223	156	162	139	143
S83170	168	224	156	159	132	144
S83174	168	222	157	164	133	144
S83175	168	214	154	157	135	144
S83176	168	214	155	157	134	144
S83180	167	222	155	152	135	143
S83181	168	228	156	159	139	144
S83183	167	217	161	162	130	143
S83184	168	231	158	164	140	144
S83190	167	225	159	162	142	143
S83191	168	230	156	164	132	144
S83192	168	226	155	162	135	144
S83215	167	217	157	167	135	143
S83216	168	224	160	164	133	144
S83217	168	222	156	164	133	144
S83218	167	217	161	167	133	143
S83219	168	219	156	164	135	144
S83220	167	231	155	162	132	143
S83221	168	223	157	164	134	144
S83222	167	224	161	167	131	143
S83223	167	227	154	157	134	143
S83224	168	232	161	162	142	144
S83225	168	232	157	159	134	144
S83226	168	225	159	164	135	144
S83227	167	232	154	157	144	143
S83228	167	224	154	157	138	143
S83229	168	218	155	157	130	144
S83230	168	230	157	159	135	144
S83232	168	214	154	152	132	144
S83233	167	213	156	167	138	143
S83234	168	224	156	164	130	144
S83092	168	218	155	162	143	144
S83101	168	219	157	162	134	144
SYRIAN LOCAL LARGE	168	226	156	163	135	144
REINA BLANCA	168	224	158	163	132	144
LOCAL CHECK	168	215	158	151	126	154
LOCATION MEAN	167	222	156	160	135	143
C.V.%	0.00	1.83	0.42	1.03	2.52	0.00
L.S.D. AT 5% FOR:						
CHECKS	0.00	9.23	1.51	3.77	7.68	0.00
CHECKS VS TEST ENTRIES	0.00	15.08	2.46	6.16	12.55	0.01
TEST ENTRIES IN THE SAME BLOCK	0.00	15.99	2.61	6.54	13.31	0.01
TEST ENTRIES IN DIFFERENT BLOCKS	0.00	18.47	3.02	7.55	15.37	0.01
S.E. FOR:						
CHECKS	0.00	3.32	0.54	1.36	2.76	0.00
CHECKS VS TEST ENTRIES	0.00	5.43	0.88	2.22	4.52	0.00
TEST ENTRIES IN THE SAME BLOCK	0.00	5.76	0.94	2.35	4.79	0.00
TEST ENTRIES IN DIFFERENT BLOCKS	0.00	6.65	1.08	2.72	5.53	0.00

Cont'd. ...

Table 4.6.3. Cont'd. ...

CROSS NO.	FRANCE Le Rheu	PERU Chiquian	S. ARABIA Riyad	SYRIA Tel Hadya	TURKEY Ankara	Overall Mean
S83193	116	161	149	183	85	153
S83196	114	167	147	183	85	151
S83199	119	196	147	182	91	154
S83200	115	127	144	181	87	148
S83208	117	143	149	180	89	151
S83209	119	140	149	180	86	150
S83210	116	150	146	179	87	151
S83170	118	162	151	182	88	153
S83174	118	152	161	181	89	153
S83175	116	166	149	180	90	152
S83176	117	180	149	180	87	153
S83180	116	157	151	182	87	151
S83181	119	164	151	181	86	154
S83183	118	145	149	181	87	150
S83184	119	160	151	181	85	154
S83190	119	156	151	180	86	153
S83191	117	160	149	181	89	153
S83192	120	170	147	181	89	154
S83215	116	156	151	181	87	152
S83216	119	169	151	181	86	154
S83217	120	185	149	181	88	155
S83218	118	161	151	181	86	153
S83219	118	183	151	180	89	155
S83220	117	167	146	182	87	153
S83221	119	196	149	183	87	156
S83222	119	159	151	182	89	153
S83223	118	168	146	179	87	152
S83224	118	148	144	182	85	153
S83225	116	183	151	181	86	155
S83226	119	155	161	182	87	154
S83227	119	158	147	180	87	153
S83228	117	170	151	182	86	153
S83229	120	153	151	181	87	151
S83230	120	206	161	182	87	159
S83232	115	163	149	181	86	150
S83233	119	150	149	180	88	151
S83234	117	204	149	183	89	157
S83092	119	206	149	183	93	158
S83101	119	148	149	181	88	151
SYRIAN LOCAL LARGE	120	184	151	180	86	155
REINA BLANCA	119	158	150	181	88	153
LOCAL CHECK	129	177	151	180	98	
LOCATION MEAN	118	165	149	181	87	
C.V.%	1.06	10.65	0.76	0.45	0.92	
L.S.D. AT 5% FOR:						
CHECKS	2.87	40.32	2.61	1.85	1.85	
CHECKS VS TEST ENTRIES	4.69	65.86	4.27	3.02	3.02	
TEST ENTRIES IN THE SAME BLOCK	4.98	69.85	4.53	3.20	3.20	
TEST ENTRIES IN DIFFERENT BLOCKS	5.75	80.65	5.23	3.70	3.70	
S.E. FOR:						
CHECKS	1.03	14.52	0.94	0.66	0.66	
CHECKS VS TEST ENTRIES	1.69	23.72	1.53	1.08	1.08	
TEST ENTRIES IN THE SAME BLOCK	1.79	25.16	1.63	1.15	1.15	
TEST ENTRIES IN DIFFERENT BLOCKS	2.07	29.05	1.88	1.33	1.33	

Table 4.6.4. Plant height (cm) of entries at different location in FBIF3N-E during 1984/85.

CROSS NO.	ALGERIA	CHINA	CYPRUS	EGYPT	ETHIOPIA	FRANCE	
	Sidi Bel-Abbes	Wuhan	Nicosia	Sids	Denbi	Dijon	Le Rheu
S83193	84	73	55	161	141	61	57
S83196	94	60	40	131	141	66	42
S83199	74	72	44	151	136	66	47
S83200	69	62	42	151	126	51	52
S83208	84	84	61	131	136	66	52
S83209	67	84	56	134	143	61	34
S83210	67	74	58	124	158	61	29
S83170	77	69	53	119	130	62	42
S83174	72	81	51	99	125	62	32
S83175	79	85	36	146	136	66	57
S83176	74	74	48	131	131	56	57
S83180	77	77	48	124	153	61	39
S83181	73	75	60	119	120	57	42
S83183	77	86	69	134	133	66	54
S83184	72	92	50	99	125	62	37
S83190	77	79	49	139	158	66	39
S83191	87	86	54	109	130	62	47
S83192	74	80	45	136	156	56	57
S83215	72	90	69	139	158	51	39
S83216	72	83	55	124	120	62	42
S83217	57	76	61	119	125	57	47
S83218	77	81	63	119	138	66	44
S83219	57	98	56	124	140	62	32
S83220	62	75	58	144	148	56	44
S83221	77	87	55	129	155	62	42
S83222	72	91	62	134	128	61	54
S83223	77	78	55	134	163	56	39
S83224	84	79	37	146	131	61	52
S83225	77	81	55	119	160	57	42
S83226	67	87	59	109	155	67	37
S83227	67	84	53	129	153	61	29
S83228	87	77	57	124	128	66	39
S83229	94	75	50	141	141	66	57
S83230	87	88	59	114	150	67	57
S83232	74	59	42	126	136	61	42
S83233	72	89	67	139	143	61	59
S83234	62	90	53	119	155	67	37
S83092	69	80	41	156	141	66	67
S83101	79	66	48	131	131	61	47
SYRIAN LOCAL LARGE	68	85	51	135	155	63	48
REINA BLANCA	63	62	49	116	128	55	35
LOCAL CHECK	66	95	54	126	146	100	65
LOCATION MEAN	74	79	53	129	140	62	45
C.V.%	12.87	5.63	9.88	6.44	6.29	5.21	9.47
L.S.D. AT 5% FOR:							
CHECKS	66.78	10.27	11.95	18.88	20.16	7.55	9.99
CHECKS VS TEST ENTRIES	109.07	16.78	19.52	30.84	32.93	12.33	16.32
TEST ENTRIES IN THE SAME BLOCK	115.67	17.80	20.71	32.71	34.92	13.08	17.30
TEST ENTRIES IN DIFFERENT BLOCKS	133.57	20.55	23.91	37.77	40.32	15.10	19.98
S.E. FOR:							
CHECKS	7.75	3.70	4.30	6.80	7.26	2.72	3.59
CHECKS VS TEST ENTRIES	12.66	6.04	7.03	11.11	11.86	4.44	5.87
TEST ENTRIES IN THE SAME BLOCK	13.43	6.41	7.46	11.78	12.58	4.71	6.23
TEST ENTRIES IN DIFFERENT BLOCKS	15.51	7.40	8.61	13.60	14.52	5.44	7.19

Cont'd. ...

Table 4.6.4. Cont'd. ...

CROSS NO.	PERU		S. ARABIA	SYRIA	TURKEY	(1) Overall Mean
	Yanamuclo	Chiquian	Riyad	Tel Hadya	Ankara	
S83193	75	73	101	48	55	69
S83196	62	93	76	48	46	63
S83199	60	103	90	53	49	68
S83200	50	83	77	48	50	62
S83208	50	63	89	43	42	65
S83209	77	100	87	61	50	66
S83210	58	100	91	56	44	64
S83170	58	66	94	45	49	61
S83174	49	76	73	50	44	58
S83175	55	83	74	48	45	65
S83176	60	83	96	43	43	64
S83180	57	100	77	61	50	64
S83181	62	81	63	45	46	60
S83183	52	90	95	51	56	70
S83184	67	96	97	50	51	64
S83190	47	110	87	46	49	67
S83191	52	96	108	50	49	68
S83192	72	103	101	48	53	68
S83215	45	100	101	61	50	70
S83216	64	96	92	50	47	65
S83217	72	96	106	50	53	65
S83218	57	100	94	56	52	68
S83219	72	116	133	60	50	71
S83220	62	110	113	61	52	70
S83221	74	106	106	55	51	70
S83222	72	80	106	51	52	69
S83223	52	100	97	56	49	67
S83224	60	83	91	48	44	65
S83225	65	76	101	45	47	63
S83226	37	86	88	45	53	63
S83227	53	110	92	51	49	65
S83228	62	110	83	51	52	67
S83229	50	73	122	58	53	71
S83230	-	101	94	50	49	69
S83232	40	93	108	48	49	63
S83233	57	80	100	51	57	70
S83234	82	86	114	50	52	66
S83092	66	83	78	48	51	67
S83101	65	63	107	53	43	63
SYRIAN LOCAL LARGE	67	80	105	60	51	67
REINA BLANCA	51	86	91	50	46	59
LOCAL CHECK	83	93	149	60	60	
LOCATION MEAN	60	90	96	51	49	
C.V.%	28.66	14.27	7.22	5.50	2.59	
L.S.D. AT 5% FOR:						
CHECKS	39.13	29.25	16.21	6.54	2.96	
CHECKS VS TEST ENTRIES	63.91	47.78	26.47	10.68	4.84	
TEST ENTRIES IN THE SAME BLOCK	67.77	50.67	28.07	11.33	5.13	
TEST ENTRIES IN DIFFERENT BLOCKS	78.26	58.51	32.42	13.08	5.93	
S.E. FOR:						
CHECKS	14.09	10.53	5.83	2.35	1.06	
CHECKS VS TEST ENTRIES	23.02	17.21	9.53	3.84	1.74	
TEST ENTRIES IN THE SAME BLOCK	24.41	18.25	10.11	4.08	1.85	
TEST ENTRIES IN DIFFERENT BLOCKS	28.19	21.07	11.67	4.71	2.13	

(1) Yanamuclo was excluded from the overall mean.

Table 4.6.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in FBIF3N-E during 1984/85.

CROSS NO.	ALGERIA Sidi Bel Abbes		CHILE Graneros		CHINA Wuhan		EGYPT Sids		ETHIOPIA Denbi	
	Y	R	Y	R	Y	R	Y	R	Y	R
S83193	1697	35	2925	31	742	38	4771	8	238	40
S83196	947	41	1125	42	121	42	4618	11	285	39
S83199	2088	25	2125	41	1292	19	4771	8	802	13
S83200	2526	10	2825	34	759	36	5452	3	794	14
S83208	1963	27	3425	26	976	28	6077	1	933	9
S83209	2114	23	2725	37	1499	12	4174	24	395	32
S83210	2786	6	3425	26	1206	20	4271	21	1069	7
S83170	2171	19	3548	24	1717	7	4248	23	852	11
S83174	2046	26	4948	5	2209	2	4692	10	1404	1
S83175	1963	27	2759	36	1596	10	4271	21	866	10
S83176	1760	33	2225	39	426	40	3785	34	540	21
S83180	1927	30	4525	9	956	30	4007	27	713	17
S83181	2203	16	4714	8	1742	6	4359	16	1071	6
S83183	2552	9	4292	14	692	39	3910	30	296	37
S83184	2828	5	2781	35	1409	14	4304	19	419	29
S83190	3020	2	5392	3	1449	13	4354	17	501	23
S83191	3343	1	4881	6	1134	22	4942	6	1092	5
S83192	2119	22	3425	26	1324	18	5646	2	1227	3
S83215	2130	21	4492	10	789	35	2938	41	168	41
S83216	2203	16	4881	6	1351	16	3970	28	408	31
S83217	2359	12	5081	4	1536	11	3817	33	353	33
S83218	2114	23	4025	18	1397	15	3229	39	419	29
S83219	2234	15	6148	1	1017	27	3929	29	295	38
S83220	630	42	4325	13	1106	23	4410	14	441	27
S83221	2484	11	4381	12	1717	7	3109	40	329	35
S83222	1536	37	3959	19	1081	24	4091	26	463	26
S83223	2973	3	5492	2	937	32	4341	18	663	19
S83224	2197	18	3659	21	1034	26	4410	14	826	12
S83225	2359	12	3081	30	1176	21	3845	32	651	20
S83226	1859	31	4114	17	1076	25	4290	20	758	15
S83227	2708	7	3625	23	826	34	4549	12	734	16
S83228	2270	14	3892	20	947	31	4507	13	701	18
S83229	1760	33	4225	15	1684	9	5271	4	477	24
S83230	2671	8	2214	40	1852	4	3456	37	533	22
S83232	1932	29	2425	38	309	41	4792	7	312	36
S83233	1614	36	2925	31	964	29	3410	38	473	25
S83234	1421	38	4181	16	1926	3	3859	31	1094	4
S83092	1807	32	4392	11	1792	5	3716	35	343	34
S83101	2151	20	3259	29	751	37	4104	25	434	28
SYRIAN LOCAL LARGE	1354	39	2900	33	828	33	2490	42	104	42
LOCAL CHECK	2927	4	3522	25	2663	1	5069	5	1229	2
LOCATION MEAN	2119		3736		1222		4231		637	
C.V.%	23.20		16.41		11.70		11.20		37.43	
L.S.D. AT 5% FOR:										
CHECKS	3404.06		1372.51		338.10		1057.30		558.01	
CHECKS VS TEST ENTRIES	5559.66		2241.64		552.20		1726.80		911.37	
TEST ENTRIES IN THE SAME BLOCK	5896.02		2377.26		585.60		1831.30		966.51	
TEST ENTRIES IN DIFFERENT BLOCKS	6808.13		2745.02		676.20		2114.60		1116.03	
S.E. FOR:										
CHECKS	395.36		494.42		121.80		380.80		201.01	
CHECKS VS TEST ENTRIES	645.72		807.50		198.90		622.00		328.30	
TEST ENTRIES IN THE SAME BLOCK	684.78		856.36		210.90		659.70		348.16	
TEST ENTRIES IN DIFFERENT BLOCKS	790.72		988.84		243.60		761.70		402.03	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		1		0		0		0	

Cont'd. ...

Table 4.6.5. Cont'd. ...

CROSS NO.	FRANCE				ITALY		LEBANON		PERU	
	Dijon		Le Rheu		Salerno		Beqa'a		Yanamuclo	
	Y	R	Y	R	Y	R	Y	R	Y	R
S83193	3393	15	1199	14	-		2488	21	200	3
S83196	3150	23	629	38	-		2108	34	99	20
S83199	2925	24	544	41	2606	17	2031	35	106	14
S83200	2095	38	953	26	-		2424	23	200	3
S83208	4334	2	1436	6	-		2741	10	122	12
S83209	2481	34	712	32	-		2204	31	0	29
S83210	1781	41	634	37	-		1374	42	0	29
S83170	3296	18	1349	10	4023	10	2290	30	86	24
S83174	2288	37	1047	24	2071	21	2767	7	106	14
S83175	2502	33	1162	16	3593	13	2764	8	134	11
S83176	3620	10	1099	21	3511	14	2764	8	161	7
S83180	3165	22	652	36	-		2504	20	0	29
S83181	2645	28	1501	4	4668	2	2890	5	137	10
S83183	1832	40	1299	12	-		1557	40	0	29
S83184	3563	11	669	35	4663	3	2930	4	184	6
S83190	2428	35	788	29	-		2187	33	0	29
S83191	3272	20	625	39	4171	8	2373	24	106	14
S83192	2558	31	1401	8	2066	22	1624	39	110	13
S83215	2008	39	1128	19	-		2350	27	0	29
S83216	3401	14	1054	23	3781	11	2507	19	106	14
S83217	3485	12	812	28	4318	6	2563	14	102	19
S83218	2732	27	1132	18	-		2704	11	0	29
S83219	4028	5	410	42	2401	18	1783	37	141	9
S83220	3385	16	839	27	4445	5	2350	27	0	29
S83221	3893	8	1556	3	1616	25	2363	26	98	22
S83222	1539	42	1047	24	-		2367	25	0	29
S83223	2367	36	712	32	-		2517	18	0	29
S83224	4436	1	1396	9	-		2561	15	185	5
S83225	4173	3	1486	5	4196	7	2297	29	98	22
S83226	3771	9	1154	17	3323	16	1983	36	79	26
S83227	2643	29	691	34	-		3124	3	0	29
S83228	2605	30	578	40	-		2550	16	0	29
S83229	2858	25	1173	15	1888	24	2518	17	99	20
S83230	4173	3	2089	1	3733	12	3523	2	-	
S83232	2534	32	738	31	1988	23	2861	6	83	25
S83233	3432	13	1321	11	-		1434	41	0	29
S83234	3291	19	1243	13	3426	15	2570	13	106	14
S83092	3315	17	1092	22	4468	4	2464	22	142	8
S83101	3956	7	1410	7	2338	19	3658	1	220	2
SYRIAN LOCAL LARGE	3211	21	1100	20	2215	20	2595	12	29	28
REINA BLANCA	2789	26	760	30	5547	1	2193	32	42	27
LOCAL CHECK	4002	6	1579	2	4130	9	1680	38	420	1
LOCATION MEAN	3079		1052		3407		2417		90	
C.V.%	24.80		29.40		12.50		24.50		333.71	
L.S.D. AT 5% FOR:										
CHECKS	1750.90		710.70		654.20		1324.50		542.47	
CHECKS VS TEST ENTRIES	2859.70		1160.70		1068.50		2163.20		542.47	
TEST ENTRIES IN THE SAME BLOCK	3032.70		1231.00		1133.10		2294.10		885.99	
TEST ENTRIES IN DIFFERENT BLOCKS	3501.90		1421.40		1308.40		2649.00		939.59	
S.E. FOR:										
CHECKS	630.70		256.00		235.60		477.10		1084.95	
CHECKS VS TEST ENTRIES	1030.10		418.10		384.90		779.20		195.41	
TEST ENTRIES IN THE SAME BLOCK	1092.50		443.40		408.10		826.40		319.16	
TEST ENTRIES IN DIFFERENT BLOCKS	1261.50		512.00		471.30		954.20		390.83	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		1		0		0	

Cont'd. ...

Table 4.6.5. Cont'd. ...

CROSS NO.	PERU		SAUDI ARABIA		SPAIN				SYRIA	
	Chiquian		Riyad		Cordoba-1		Cordoba-2		Tel Hadya	
	Y	R	Y	R	Y	R	Y	R	Y	R
S83193	2391	18	2743	34	4563	39	572	32	545	40
S83196	2352	19	4157	22	4388	41	1572	9	360	41
S83199	3328	2	5385	8	6388	4	2372	4	1286	23
S83200	2078	24	2552	36	5876	19	322	41	860	36
S83208	1578	32	5718	4	5951	15	1072	15	137	42
S83209	2826	11	4081	24	6009	14	655	28	2298	3
S83210	3115	4	3957	27	3522	42	955	17	2168	6
S83170	1118	41	3870	32	5451	30	772	23	1174	28
S83174	1196	40	718	41	5613	25	772	23	1230	26
S83175	3157	3	6652	2	7188	1	472	33	1526	19
S83176	1336	36	4598	19	5801	20	972	16	1823	13
S83180	2631	12	4124	23	6284	8	2455	3	2057	7
S83181	2407	16	1236	37	6288	7	422	34	674	39
S83183	1576	33	5124	11	4997	34	605	30	1335	21
S83184	2399	17	823	40	5488	28	722	25	1860	11
S83190	2951	7	5957	3	6659	2	1355	11	1705	16
S83191	2914	9	5156	10	6063	12	822	19	1563	18
S83192	3110	5	5718	4	6313	5	2172	6	1137	33
S83215	2232	22	4566	20	4622	38	655	28	1835	12
S83216	2289	20	990	39	5179	33	822	19	1082	35
S83217	2055	25	4941	14	6013	13	422	34	1174	28
S83218	2545	13	5557	7	4772	36	955	17	1909	9
S83219	1977	28	3876	31	5401	31	2172	6	2286	4
S83220	2115	23	3944	30	5934	17	2655	2	1650	17
S83221	1977	28	3946	29	5651	23	422	34	1452	20
S83222	1717	31	4382	21	5484	29	805	21	1205	27
S83223	2537	14	4599	18	5647	24	2355	5	2631	2
S83224	3094	6	5593	6	6301	6	372	39	823	37
S83225	1235	39	4765	16	6238	9	372	39	1248	25
S83226	1493	35	1223	38	6188	11	1172	14	1304	22
S83227	2935	8	5124	11	5659	22	805	21	2261	5
S83228	2896	10	3957	27	5784	21	2855	1	1872	10
S83229	1297	38	5385	8	4713	37	422	34	1119	34
S83230	2016	26	656	42	5526	27	722	25	2045	8
S83232	3360	1	9485	1	5188	32	1522	10	1156	32
S83233	1310	37	4057	26	4559	40	1255	12	1816	14
S83234	1821	30	4081	24	5601	26	722	25	1267	24
S83092	2469	15	5018	13	6601	3	1222	13	730	38
S83101	1102	42	4652	17	6201	10	272	42	1174	28
SYRIAN LOCAL LARGE	1557	34	2725	35	4795	35	383	38	1734	15
REINA BLANCA	1989	27	4811	15	5941	16	583	31	1172	31
LOCAL CHECK	2244	21	3291	33	5879	18	1650	8	2709	1
LOCATION MEAN	2207		4147		5636		1063		1461	
C.V.%	49.97		17.40		10.20		24.73		20.84	
L.S.D. AT 5% FOR:										
CHECKS	2461.70		1614.90		1301.20		582.70		714.82	
CHECKS VS TEST ENTRIES	4020.55		2637.60		2125.20		951.68		1167.47	
TEST ENTRIES IN THE SAME BLOCK	4263.79		2797.20		2253.70		1009.26		1238.10	
TEST ENTRIES IN DIFFERENT BLOCKS	4923.41		3229.90		2602.40		1165.40		1429.63	
S.E. FOR:	886.78		581.70		468.70		209.90		257.50	
CHECKS VS TEST ENTRIES	1448.32		950.10		765.50		342.82		420.55	
TEST ENTRIES IN THE SAME BLOCK	1535.95		1007.60		81.80		363.56		446.00	
TEST ENTRIES IN DIFFERENT BLOCKS	1773.56		1163.50		937.40		419.81		515.00	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		3		0		2		0	

Cont'd. ...

Table 4.6.5 Cont'd. ...

CROSS NO.	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El Kef Y	TUNISIA El Kef R	TURKEY Ankara Y	TURKEY Ankara R	Overall Mean Y (1)	Overall Mean Rank R (1)
S83193	1350	9	2780	13	841	14	2077	39
S83196	1200	12	1680	36	574	39	1829	40
S83199	900	23	2505	20	884	10	2476	12
S83200	1600	5	2130	29	751	28	2124	37
S83208	1450	7	2305	25	656	33	2547	7
S83209	1041	21	2580	18	1104	3	2306	19
S83210	941	22	2655	15	1213	2	2192	31
S83170	1383	8	2188	28	648	34	2254	23
S83174	1083	20	2588	17	943	7	2221	29
S83175	1575	6	2905	8	689	32	2627	3
S83176	1150	14	2380	23	808	20	2192	31
S83180	1341	10	2205	27	861	13	2525	8
S83181	583	31	2413	21	463	40	2225	27
S83183	216	41	3705	3	1523	1	2219	30
S83184	583	31	2413	21	438	41	2101	38
S83190	566	34	2905	8	889	9	2694	1
S83191	1133	15	1938	33	696	31	2621	4
S83192	850	27	2380	23	817	17	2613	5
S83215	1816	4	3255	5	984	6	2248	24
S83216	358	38	3263	4	377	42	2133	35
S83217	308	39	1263	40	643	35	2301	20
S83218	591	30	2580	18	1056	4	2357	16
S83219	258	40	2238	26	767	26	2426	14
S83220	216	41	930	42	756	27	2230	25
S83221	1133	15	2063	30	872	12	2334	18
S83222	1166	13	3930	2	813	19	2224	28
S83223	416	36	2805	11	799	22	2611	6
S83224	2125	2	2955	7	817	17	2662	2
S83225	1133	15	1988	32	739	29	2299	21
S83226	1283	11	1763	35	905	8	2146	34
S83227	1116	18	2605	16	775	25	2511	9
S83228	441	35	3205	6	880	11	2496	11
S83229	900	23	2805	11	808	20	2338	17
S83230	408	37	2738	14	1005	5	2226	26
S83232	1100	19	1555	39	798	23	2504	10
S83233	1841	3	2905	8	822	16	2133	35
S83234	783	28	1638	38	629	36	2257	22
S83092	900	23	2055	31	727	30	2415	15
S83101	575	33	4780	1	827	15	2456	13
SYRIAN LOCAL LARGE	875	26	1650	37	580	38	1805	41
REINA BLANCA	650	29	1916	34	791	24	2149	33
LOCAL CHECK	2300	1	1025	41	605	37		
LOCATION MEAN	991		2442		799			
C.V.%	32.30		18.00		1.80			
L.S.D. AT 5% FOR:								
CHECKS	700.40		950.40		32.30			
CHECKS VS TEST ENTRIES	1143.90		1552.30		52.80			
TEST ENTRIES IN THE SAME BLOCK	1213.10		1646.20		56.00			
TEST ENTRIES IN DIFFERENT BLOCKS	1400.80		1900.90		64.70			
S.E. FOR:								
CHECKS	252.30		342.30		11.60			
CHECKS VS TEST ENTRIES	412.00		559.20		19.00			
TEST ENTRIES IN THE SAME BLOCK	437.00		593.00		20.10			
TEST ENTRIES IN DIFFERENT BLOCKS	504.60		684.70		23.30			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		19		32			

(1) Salerno and Yanamuclo were excluded from the overall mean.

Table 4.6.6. The five heaviest seed yielding entries at the individual locations in the $FBIF_3N$-E during 1984/85.

RANK	ALGERIA	CHILE	CHINA	EGYPT	ETHIOPIA	FRANCE		ITALY	LEBANON
	Sidi Bel Abbes	Graneros	Wuhan	sids	Denbi	Dijon	Le-Rhue	Salerno	Beqa'a
	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.
1	S83191	S83219	Local check	S83208	S83174	S83224	S83230	Reina Blanca	S83101
2	S83190	S83223	S83174	S83192	Local check	S83208	Local check	S83181	S83230
3	S83223	S83190	S83234	S83200	S83192	S83230]	S83221	S83184	S83227
4	Local check	S83217	S83230	S83229	S83234	S83225]	S83181	S83092	S83184
5	S83184	S83174	S83092	Local check	S83191	S83219	S83225	S83220	S83181

Cont'd. ...

RANK	PERU		SAUDI ARABIA	SPAIN		SYRIA	TUNISIA		TURKEY
	Yanamuclo	Chiquian	Riyad	Cordoba-1	Cordoba-2	Tel Hadya	Beja	El-Kef	Ankara
	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.
1	Local check	83232	S83232	S83175	S83228	Local check	Local check	S83101	S83183
2	S83101	S83199	S83175	S83190	S83220	S83223	S83224	S83222	S83210
3	S83193]	S83175	S83190	S83092	S83180	S83209	S83233	S83183	S83209
4	S83200]	S83210	S83208]	S83199	S83199	S83219	S83215	S83216	S83218
5	S83224	S83192	S83192]	S83192	S83223	S83227	S83200	S83215	S83230

The brackets indicate entries having the same rank.

seven sets of nursery were supplied to 20 countries and the results were returned for 21 sets covering 16 countries. The agronomic details of the locations reporting the data are given in Table 4.6.1.

Results and Discussion

At most of the locations a large number of populations flowered or matured earlier or took almost same time to flower or mature as that of respective local checks(Table 4.6.2 and 4.6.3). The population S83200 which flowered earliest was also among the earliest to mature. The plant height data(Table 4.6.4) revealed that the population S83174 had the least plant height, and S83219 and S83229 had the maximum plant height.The adjusted seed yields are given in Table 4.6.5. The ANOVA revealed that 1, 1, 3, 2, 19 and 32 entries, respectively, excelled the respective local checks by a significant margin at Graneros in Chile, Salerno in Italy, Riyad in Saudi Arabia, Cardoba-2 in Spain, Al-Kef in Tunisia, and Ankara in Turkey. The five heaviest seed yielding entries at each location are given in Table 4.6.6.

4.7. FABA BEAN INTERNATIONAL DISEASE SCREENING NURSERIES

Faba bean entries having a moderate to a high level of resistance to ascochyta blight, chocolate spot and rust were identified at ICARDA's research sub-station at Lattakia in Syria. Seeds from these resistant sources were multiplied and used to form the Faba Bean International Ascochyta Blight, Chocolate Spot, and Rust Screening Nurseries.

4.7.1. FABA BEAN INTERNATIONAL ASCOCHYTA BLIGHT NURSERY (FBIABN)

Material

The Faba Bean International Ascochyta Blight Nursery included 20 test entries. These entries were selections from the materials which originated from Greece, Lebanon, U.K., Ethiopia, Syria and ICARDA.

The susceptible check was the local land race from the location where the nursery was to be grown.

Methods and Management

The suggested experimental design was randomised complete block design with two replications. The suggested plot size was one row 1 m long accomodating 10 plants. The susceptible check was repeatedly sown after every four test entries/rows to serve as an indicator cum spreader row. In the absence of natural infestation the cooperators were advised to do the artificial inoculation as detailed in the instruction sheet provided. A 1-9 scale was recommended for scoring the disease severity.

Nine sets of FBIABN were distributed to cooperators in Argentina, France, Poland, Morocco, Spain, Tunisia, Turkey and U.K. The results were, however, received from four cooperators and are presented here.

Results and Discussion

The reaction of entries to ascochyta blight in each location is given in Table 4.7.1.

Table 4.7.1. Reaction of faba bean entries to ascochyta blight in FBIABN at different locations during 1984/85.

Pedigree	Accession	Origin	Disease reaction		
			Poland Strzelce	Turkey Izmir	U.K. Cambridgeshire
80 Lat.14422-1	BPL 460	Lebanon	1	5	2
80 Lat.14422-2	BPL 460	Lebanon	3	3	2
80 Lat.14422-3	BPL 460	Lebanon	1	6	3
80 Lat.14434-1	BPL 471	Lebanon	5	8	5
80 Lat.14434-2	BPL 471	Lebanon	1	7	2
80 Lat.14434-3	BPL 471	Lebanon	1	5	5
80 Lat.14435-7	BPL 472	Lebanon	1	6	6
80 Lat.14998-1	ILB 382	U.K.	1	7	5
80 Lat.14998-2	ILB 382	U.K.	1	7	2
80 Lat.14998-3	ILB 382	U.K.	3	5	2
80 Lat.15035-2	ILB 549	Ethiopia	1	7	4
80 Lat.14986-1	ILB 161	Greece	1	5	3
80 Lat.14986-2	ILB 161	Greece	3	6	4
82 Lat.A2	X75TA 46	ICARDA	3	5	2
83 Lat.30118-1	-	ICARDA	5	-	1
83 Lat.31616-1	-	ICARDA	3	4	1
83 Lat.31818-4	-	ICARDA	3	7	1
83 Lat.32292	-	ICARDA	1	8	1
83 Lat.30322-1	-	ICARDA	1	6	1
Syrian Local Large	ILB 1814	Syria	1	5	2
Susceptible Local Check	-	-	5	8	7

Name of the local check for: Poland = Sansy II, Turkey = Seville, U.K. = Hylon.

Poland: The disease reaction in the trial varied from 1-5. Twelve entries showed rating of 1 and 6 showed rating of 3. All other entries were rated as 5. The local check was rated at 5.

Spain: Ascochyta blight infestation was not recorded.

Turkey: Eight entries namely, 80 Lat. 14422-1, -2, 80 Lat. 14434-3, 80 Lat. 14998-3, 80 Lat. 14986-1, 82 Lat. A2, 83 Lat. 31616-1, and Syrian Local Large were rated as 3, 4 or 5 and were moderately resistant to resistant.

U.K.: The ascochyta blight infestation was recorded at foliage and podding stage. The foliage score was higher than the pod score. Fourteen entries had disease rating between 1 and 3 and had better resistance than others. The susceptible check Hylon was rated 7.

On the basis of data across locations, the entries namely 80 Lat. 14422-1, 80 Lat. 14422-2, 80 Lat. 14998-3, 80 Lat. 14986-1, 82 Lat. A2, 83 Lat. 31616-1, and Syrian Local showed resistant to moderately resistant reaction.

4.7.2. FABA BEAN INTERNATIONAL CHOCOLATE SPOT NURSERY (FBICSN)

Material

The Faba Bean International Chocolate Spot Nursery included 15 test entries. These entries were selections from the materials which originated from Holland, Ecuador, Syria, Egypt and ICARDA.

The susceptible check was the local land race from the location where the nursery was to be grown.

Methods and Management

The suggested experimental design was randomised complete block design with two replications. The suggested plot size was one row 1 m long accomodating 10 plants. The susceptible check was repeatedly sown after every three test entries/rows to serve as an indicator cum spreader row. In the absence of natural infestation, the cooperators were advised to do the artificial inoculation as detailed in the instruction sheet provided. A 1-9 scale was recommended for scoring the disease severity.

Ten sets of FBICSN were distributed to cooperators in Argentina, China, Egypt, Ethiopia, France, Morocco, Qatar, Tunisia and U.K. but the results were received for 5 sets and are reported.

Results and Discussion

The reaction of entries to chocolate spot (Botrytis fabae) is presented in Table 4.7.2. and discussed as under:

China: Out of the 16 entries including check, four entries namely, 81 Lat. 24857-1, Giza-3, Syrian Local Large and Shangyu tianjing (local check) were resistant, and five namely 81 Lat. 24948-2, 81 Lat. 24957, S81064-15, S81062-2 and S81064-8 were moderately resistant. All other

Table 4.7.2. Reaction of faba bean entries to chocolate spot in FBICSN during 1984/85.

Pedigree	Accession	Origin	Disease reaction				
			China	Egypt	Ethiopia	Qatar	U.K.
			Zhejiang	Giza	Holetta	Rawdat Harma	Cambridgeshire
81 Lat.24701-2	BPL 274	Holland	-	9	3	9	8
81 Lat.24948-1	BPL 1179	Ecuador	-	7	3	5	6
81 Lat.24948-2	BPL 1179	Ecuador	MR	9	4	5	6
81 Lat.24857-1	BPL 710	Ecuador	R	9	2	7	5
81 Lat.24957	BPL 1178	Syria	MR	9	5	9	7
83 Lat.5007-1	-	ICARDA	-	9	3	7	7
83 Lat.5121-1	-	ICARDA	-	9	4	5	6
S81062-8	FLIP 83-30FB	ICARDA	-	7	4	3	8
S81064-15	FLIP 83-31FB	ICARDA	MR	9	4	7	7
S81062-2	FLIP 83-37FB	ICARDA	MR	8	3	5	6
S81066-15	FLIP 83-38FB	ICARDA	-	9	3	5	6
S81064-8	FLIP 83-112FB	ICARDA	MR	9	3	9	8
Giza 3	ILB 1819	Egypt	R	9	5	7	8
Giza 4	ILB 1820	Egypt	-	6	3	7	8
Syrian Local Large	ILB 1814	Syria	R	9	4	5	8
Susceptible Local Check	-	-	R	7	6	7	8

Local checks used, China = Shangui Tianjiging, Egypt = Rebaya 40, Ethiopia = CS-20-DK, Qatar = Giza 1, UK = Banner.

lines were susceptible.

Egypt: The reaction of the lines in two replications was quite different. None of the lines scored between 1 and 5.

Ethiopia: The infestation was at low level ranging between 1 and 6 on 1 to 9 scale. Eight lines namely, 81 Lat. 24701-2, 81 Lat. 24948-1, 81 Lat. 24857-1, 83 Lat. 5007-1, S81062-2, S81066-15, S81064-8 and Giza 4, had rating of 2 or 3 and were comparatively better in tolerance than others.

Qatar: Six lines namely, 81 Lat. 24948-1, -2, 83 Lat. 5121-1, S81062-8, S81062-2, and Syrian local large were rated as resistant or moderately resistant.

U.K.: Only one line namely 81 Lat. 24857-1 showed rating of 5 and was moderately resistant. All others had rating of 6 or more.

On the basis of data across locations none of the lines was rated as resistant.

4.7.3. FABA BEAN INTERNATIONAL RUST NURSERY (FBIRN)

Material

The Faba Bean International Rust Nursery included 13 test entries. These entries were selections from the materials which originated from Ethiopia, Greece, Syria, U.K., Turkey and Lebanon.

The susceptible check was the local land race from the location where the nursery was to be grown.

Methods and Management

The suggested experimental design was randomised complete block design with two replications. The suggested plot size was one row 1 m long accomodating 10 plants. The susceptible check was repeatedly sown after every two test entries/rows to serve as an indicator cum spreader row. In the absence of natural infestation the cooperators were advised to do the artificial inoculation as detailed in the instruction sheet provided. A 1-9 scale was recommended for scoring the disease severity.

Nine sets of FBIRN were distributed to cooperators in Argentina, China, Egypt, Ethiopia, France, Morocco, Spain, Tunisia and Turkey. The results were received from 4 locations and are presented.

Results and Discussion

The disease reaction of the entries at different locations is given in Table 4.7.3.

Egypt: All the entries including the susceptible check had rating between 3 to 5 on 1-9 scale.

Ethiopia: Except 82 Lat. 15563-3-B which had 5 rating all other entries were rated between 6 to 8.

Spain: The disease reaction was not reported.

Turkey: The disease reaction was not reported.

In addition some special multilocation disease nurseries were supplied to restricted locations for initial evaluation for disease reaction and the lines found resistant will be added to the respective nurseries for 1986 season.

Table 4.7.3. Rust reaction of faba bean lines at different locations in FBIRN during 1984/85.

Pedigree	Accession	Origin	Disease reaction Egypt Nuberia	Disease reaction Ethiopia Debre Zeit
82 Lat.15563-3-A	-	-	3	6
82 Lat.15563-3-B	-	-	3	5
79 Lat.70015-1	BPL 74	U.K.	5	6
82 Lat.7004(F17)	ILB 2764	Syria	3	6
-	BPL 1752	Ethiopia	5	6
80 Lat.15035-2	BPL 818	Ethiopia	5	8
80 Lat.14336	BPL 365	Greece	5	7
80 Lat.14335-2	BPL 472	Lebanon	3	8
80 Lat.14422-1	BPL 460	Lebanona	5	8
-	BPL 1802	Ethiopia	3	7
-	BPL 1058	Turkey	3	6
80 Lat.15035-1	BPL 818	Ethiopia	5	7
Syrian Local Large	ILB 1814	Syria	3	6
Susceptible Local Check	-	-	5	8

Name of local check: Egypt = Rebaya 40, Ethiopia = CS-20-DK.

4.8. FABA BEAN INTERNATIONAL OROBANCHE NURSERY (FBION)

Material

The material comprised 30 test entries and three checks, two of them one resistant and one susceptible were to be added by the cooperator and the third repeated susceptible check namely, Syrian Local Large was supplied. The test entries have been identified as resistant at ICARDA sites.

Method and Management

The experiment was suggested to be sown in a randomised complete block design with 3 replications in 2 row plots 1 m long. Twenty seeds per plot were suggested for sowing. It was advised to plant the material in an area known to be heavily intested with Orobanche.

Results and Discussion

Eleven sets of FBION were distributed to cooperators in 6 countries, however, the results were received from seven locations. At Shandweel in Egypt the trial failed due to heavy infestation of root rot, wilt and nematodes. At Cordoba in Spain almost all the entries were severely effected with Orobanche and thus the Orobanche number was not recorded. At Hama in Syria and Beja 2 in Tunisia the Orobanche number was not reported by the cooperators. At Tel Hadya in Syria, the crop was severely effected by the frost and the results obtained were not worth considering. The results from two other locations namely Beja-1 in Tunisia and Izmir in Turkey were worth considering and are presented in Table 4.8.1. As is apparent from the table, none of the entries was free from Orobanche infestation and the Orobanche number varied from 1-5.

No conclusive inferences were possible from this year data and also from the data from the previous two years. This trial is thus discontinued till some reliable technique is developed which can generate stable sources of resistance to Orobanche, if any.

Table 4.8.1. Number of Orobanche per plant for the entries in FBION during 1984/85.

Name	Origin	Tunisia Beja	Turkey Izmir
BPL 4	Jordan	2	3.0
BPL 54	Iraq	4	4.3
BPL 375	Turkey	3	2.7
BPL 472	Lebanon	4	3.3
BPL 549	Pakistan	2	3.3
BPL 553	Egypt	2	3.0
BPL 561	Egypt	4	4.0
BPL 582	Egypt	4	4.0
BPL 733	Sweden	2	5.0
BPL 768	Afghanistan	2	5.0
BPL 799	Afghanistan	4	3.3
BPL 1009	Iraq	4	4.7
BPL 1474	Unknown	2	4.7
BPL 1528	Unknown	4	1.7
BPL 1532	Unknown	1	4.3
BPL 1544	Unknown	2	4.7
BPL 1636	Unknown	4	5.0
BPL 1656	Unknown	2	4.3
BPL 1722	Ethiopia	2	4.3
BPL 1776	Ethiopia	4	2.3
BPL 1815	Ethiopia	2	2.7
BPL 2049	Ethiopia	1	3.0
BPL 2062	Ethiopia	4	2.7
BPL 2170	Ethiopia	1	1.3
BPL 2210	Ethiopia	4	2.3
BPL 2244	Ethiopia	3	3.7
BPL 2270	Ethiopia	2	2.7
BPL 2294	Ethiopia	2	4.7
Giza 402	Egypt	4	4.7
F331	Morocco	2	2.3
Local Resistant Check	-	3	4.7
Local Susceptible Check	-	2	4.7
Syrian Local Large (ILB 1814)	Syria	3.4	4.0
Location Mean		2.77	3.65
L.S.D. at 5%		-	2.27
C.V.%		-	38.19

* The data is based on one replication only.

5. LENTIL INTERNATIONAL TRIALS AND NURSERIES

Eleven lentil international trials and nurseries were available to cooperators in the 1984/85 season. These included yield trials, screening nurseries, segregating populations and agronomy trials. Except the agronomy trials all other trials and nurseries are discussed in this section. Cooperators were free to use these materials directly or indirectly for the improvement of lentils in their own national programs.

5.1. LENTIL INTERNATIONAL YIELD TRIAL - LARGE SEED (LIYT-L)

Material

The Lentil International Yield Trial - Large Seed comprised of 23 test entries which were supplied by ICARDA and one local check to be added by the cooperator. The test entries were selections with seed size more than 4.5 g/100 seeds performing well in the Lentil International Nursery.

Methods and Management

The material was suggested to be sown in a randomised complete block design with 3 replications. The recommended plot size was four rows, each 4 m long with inter-row spacing of 25 cm and a planting density of 200 plants/m^2.

Fifty three sets of the trial were distributed to cooperators in 27 countries. The results were returned from 26 locations in 20 countries. The trials at Santa Maria in Brazil, Roma in Italy and Diyarbakir in Turkey failed and thus were not reported. The agronomic data provided by the cooperators are given in Table 5.1.1.

Results and Discussion

The location mean for time to flowering (Table 5.1.2) varied from 53 days at Toshevo in Bulgaria and Karaj in Iran to 158 days at Ankara in Turkey. Across the entries, Precoz (ILL 4605) was the earliest to flower in 93 days and was followed by 78S 26018 (flowering in 97 days), FLIP 84-75L, -78L and -83L (flowering in 98 days). The entry ILL 465 was, however, the latest and took 110 days to flower. Similarly, the data on time to maturity (Table 5.1.3) revealed that Precoz was the earliest to mature in 140 days and was followed by FLIP 84-75L, 78S 26018 (ILL 5590) , FLIP 84-83L, 78S 26002 (ILL 5582) and Nablus (ILL 4606). However, 78s 26032 (ILL 5596) and ILL 465 were latest in maturity taking 151 days. The entry means at different locations revealed that the entries matured earliest in 91 days at Toshevo in Bulgaria and latest in 188 days at Terbol in Lebanon. The location mean for plant height (Table 5.1.4) varied from 19 cm at Ankara in Turkey to 59 cm at Ancash in Peru. The range in plant height for entries varied from 28 cm for FLIP 84-77L to 33 cm for FLIP 84-78L.

The mean seed yield and rank of the entries at different locations are given in Table 5.1.5. The location mean was highest for Temuco in

Table 5.1.1. Agronomic data for different locations in the LIYT-L during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ARGENTINA	Perico	24.05.1985	22.10.1985	-			4	Gesagard,Notcoul,Cypermet.	Precol
BRAZIL	Santa maria	12.06.1985	-	08	60	50	-	-	M3.83
BULGARIA	Toshevo	08.04.1985	16.07.1985	30	60		-	Afalon	Tadjikskaya 95
CHILE	Temuco	24.07.1985	10.01.1986		100	50	-	-	NA
CZECHOSLOVAKIA	Borovce	NA	NA	NA			NA	NA	NA
EGYPT	Sakha	05.12.1984	30.04.1985	36	72		1	Gesagard	Giza 370
ETHIOPIA	Denbi	13.07.1985	23.11.1985	-			NA	NA	NA
IRAN	Karaj	10.12.1984	25.05.1985	25	75		5	Treflan,Metasystox	Ziba
IRAQ	Sulaimaniya	22.10.1984	06.1985	40	40		-	-	American (s)
IRAQ	Dohuk	08.11.1984	02.05.1985	91	100		-	-	Duhok
ITALY	Catania	05.02.1985	20.06.1985	45	90		-	-	Local de altamura
JORDAN	Marow	10.11.1984	11.05.1985	20	40		NA	NA	-
LEBANON	Beqa'a	22.12.1984	11.06.1985		50		-	-	Lebanese local
LEBANON	Terbol	16.11.1984	05.1985		50		NA	Kerb,Bladex	NA
MAURITIUS	Reduit	13.05.1985	10.10.1985	30	30		-	Azodrin,Dithane	Lentil local
MOROCCO	Marchouch	11.12.1984	27.06.1985	150	120		-	-	L56
PERU	Ancash	22.11.1984	05.1985	-			1	Semilla,Parathion	Cheepaea
PERU	Yanamuclo	21.10.1984	30.04.1985	na			MA	Tamaron	Chupaca
SPAIN	Alcala de Henares	18.12.1984	14.07.1985	24	72		-	-	Lec-83
SUDAN	Hudeiba	14.11.1984	03.1985	43			8	NA	Seliam
SYRIA	Tel Hadya	07.12.1984	20.05.1985	30	50		-	-	ILL 4401
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El kef	NA	NA	NA			NA	NA	NA
TURKEY	Ankara	30.11.1984	-	23	60		-	-	Kislik pul-11
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA

NA = not available

Table 5.1.2. Time to flowering (days) of entries at different locations in LIYT-L during 1984/85.

SELECTION	ILL	ORIGIN	ARGENTINA	BULGARIA	CHILE	EGYPT	ETHIOPIA	IRAN	IRAQ	ITALY	JORDAN
			Perico	Toshevo	Temuco	Sakha	Denbi	Karaj	Sulaimaniya	Catania	Marow
-	20	JORDAN	95	50	103	88	59	58	136	99	137
-	465	CHILE	105	57	117	106	85	53	136	99	148
-	707	CYPRUS	104	53	106	105	71	48	131	99	137
-	842	LEBANON	95	50	105	86	61	52	135	99	136
-	857	ALGERIA	99	50	103	86	60	56	130	99	136
LOCAL LARGE	4400	SYRIA	100	54	107	96	77	46	139	99	138
PRECOZ	4605	ARGENTINA	74	52	99	65	55	65	134	99	136
NABLUS	4606	JORDAN	99	51	104	86	66	46	135	99	137
74TA 19	5507	SYRIA	101	55	108	93	67	50	133	99	137
74TA 276	5527	HUNGARY	105	54	105	95	61	54	135	99	136
78S 26002	5582	JORDAN	95	49	103	83	61	70	132	99	135
78S 26018	5590	JORDAN	90	49	101	86	59	41	132	99	136
78S 26032	5596	SYRIA	105	56	108	106	85	53	136	99	138
78S 26033	5597	SYRIA	105	55	108	101	75	50	135	99	142
78S 26038	5599	SYRIA	101	55	106	103	84	55	134	99	137
FLIP84-1L	5674	ICARDA	100	55	113	98	77	58	133	99	138
FLIP84-71L	5741	ICARDA	105	55	108	101	84	53	136	99	138
FLIP84-73L	5743	ICARDA	105	55	108	101	82	51	134	99	139
FLIP84-75L	5745	ICARDA	98	51	104	90	59	53	133	99	135
FLIP84-76L	5746	ICARDA	105	53	105	103	80	56	132	99	135
FLIP84-77L	5747	ICARDA	96	54	105	95	65	48	134	99	137
FLIP84-78L	5748	ICARDA	84	51	104	86	56	53	-	99	134
FLIP84-83L	5753	ICARDA	99	50	104	85	56	43	133	99	135
LOCAL CHECK	-	-	74	53	114	70	57	55	134	99	136
LOCATION MEAN			**97**	**53**	**106**	**92**	**68**	**53**	**134**	**99**	**137**
S.E. OF MEAN			0.85	0.42	One Rep.	2.59	2.09	5.16	1.10	0.00	1.20
L.S.D AT 5%			2.42	1.18		7.37	5.96	-	3.15	-	3.43
C.V. %			1.51	1.36		4.84	5.27	16.82	1.42	0.00	1.52
ERROR DF			46	46		46	46	46	44	46	46
SIGNIFICANCE			*	*		*	*	NS	*	NS	*

Cont'd. ...

Table 5.1.2. Cont'd. ...

SELECTION	ILL	LEBANON		MAURITIUS	MOROCCO	PERU		SPAIN	SYRIA	TURKEY	(1) Overall Mean
		Beqa'a	Terbol	Reduit	Marchouch	Ancash	Yanamuclo	Alcala de-Henares	Tel Hadya	Ankara	
-	20	112	142	76	110	111	111	129	119	158	99
-	465	135	152	83	114	119	135	135	129	-	110
-	707	118	146	83	114	111	123	128	121	157	104
-	842	113	142	76	108	111	112	128	120	158	99
-	857	112	142	76	111	114	116	132	120	157	100
LOCAL LARGE	4400	121	146	76	120	116	123	132	122	-	104
PRECOZ	4605	102	132	71	90	91	113	129	119	158	93
NABLUS	4606	105	143	76	111	108	114	128	121	158	99
74TA 19	5507	120	146	83	111	116	125	130	121	157	103
74TA 276	5527	119	146	82	111	111	117	130	121	158	102
78S 26002	5582	114	144	71	108	100	114	127	119	158	99
78S 26018	5590	114	141	76	106	97	113	127	119	159	97
78S 26032	5596	121	148	83	102	115	122	135	123	-	106
78S 26033	5597	121	147	83	114	106	122	131	124	-	105
78S 26038	5599	120	146	83	114	116	121	135	122	-	106
FLIP84-1L	5674	123	149	83	113	114	130	140	126	163	107
FLIP84-71L	5741	121	146	83	112	116	122	131	123	-	106
FLIP84-73L	5743	121	146	83	112	115	121	130	122	157	105
FLIP84-75L	5745	116	141	76	108	97	110	126	119	158	98
FLIP84-76L	5746	119	145	81	114	113	120	130	121	-	104
FLIP84-77L	5747	119	146	71	110	108	122	130	122	160	101
FLIP84-78L	5748	118	146	71	108	102	111	130	123	-	98
FLIP84-83L	5753	112	141	76	107	106	111	127	119	157	98
LOCAL CHECK	-	117	152	71	112	-	119	139	121	160	
LOCATION MEAN		117	144	78	110	109	119	131	121	158	
S.E. OF MEAN		3.92	0.37	0.01	0.00	4.02	2.82	0.61	0.41	0.46	
L.S.D AT 5%		11.15	1.06	0.02	-	11.78	8.02	1.74	1.17	1.33	
C.V. %		5.78	0.44	0.01	0.00	5.18	4.10	0.81	0.58	0.50	
ERROR DF		46	46	46	46	22	46	46	46	30	
SIGNIFICANCE		*	*	*	NS	*	*	*	*	*	

(1) Sulaimaniya and Ankara were excluded from the overall mean, NS = not significant

* = Significant at $P \leq 0.05$

Table 5.1.3. Time to maturity (days) of entries at different location in LIYT-L during 1984/85.

SELECTION	ILL	ARGENTINA	BULGARIA	CHILE	EGYPT	ETHIOPIA	IRAN	IRAQ	ITALY
		Perico	Toshevo	Temuco	Sakha	Denbi	Karaj	Sulaimaniya	Catania
-	20	141	88	154	140	113	114	176	135
-	465	141	96	157	153	121	108	180	135
-	707	141	91	157	144	115	106	178	135
-	842	141	88	157	140	107	111	178	135
-	857	141	89	154	140	113	115	172	135
LOCAL LARGE	4400	141	94	158	147	128	107	180	135
PRECOZ	4605	125	88	157	120	105	118	177	135
NABLUS	4606	141	89	159	140	107	109	178	135
74TA 19	5507	141	96	157	146	119	111	176	135
74TA 276	5527	141	93	161	140	118	113	187	135
78S 26002	5582	141	88	152	138	106	121	175	135
78S 26018	5590	141	85	152	140	106	106	176	135
78S 26032	5596	141	95	157	148	123	113	179	135
78S 26033	5597	141	93	163	146	119	109	180	135
78S 26038	5599	141	94	157	148	127	112	179	135
FLIP84-1L	5674	142	91	157	142	116	113	177	135
FLIP84-71L	5741	141	94	157	147	116	110	178	135
FLIP84-73L	5743	141	95	157	147	126	110	178	135
FLIP84-75L	5745	141	87	160	138	106	112	175	135
FLIP84-76L	5746	141	92	159	144	118	116	174	135
FLIP84-77L	5747	141	92	157	140	107	108	179	135
FLIP84-78L	5748	141	94	157	146	108	118	-	135
FLIP84-83L	5753	142	87	159	140	107	112	177	135
LOCAL CHECK	-	125	88	157	138	105	115	177	135
LOCATION MEAN		139	91	157	142	114	112	178	135
S.E. OF MEAN		0.14	0.86	0.61	1.00	3.68	3.43	1.85	0.00
L.S.D AT 5%		0.40	2.44	1.72	2.83	10.48	-	5.27	-
C.V. %		0.17	1.63	0.67	1.21	5.57	5.30	1.80	0.00
ERROR DF		46	46	46	46	46	46	44	46
SIGNIFICANCE		*	*	*	*	*	NS	*	NS

Cont'd. ...

Table 5.1.3. Cont'd. ...

SELECTION	ILL	JORDAN Marow	LEBANON Terbol	PERU Ancash	SPAIN Alcala de-Henares	SYRIA Tel Hadya	Overall Mean (1)
-	20	179	184	178	173	152	**145**
-	465	180	192	191	186	162	**151**
-	707	180	186	172	170	155	**146**
-	842	179	186	173	170	154	**145**
-	857	180	186	191	178	155	**148**
LOCAL LARGE	4400	179	192	186	179	157	**150**
PRECOZ	4605	175	179	170	169	150	**140**
NABLUS	4606	179	190	166	172	152	**144**
74TA 19	5507	178	192	186	174	157	**149**
74TA 276	5527	179	188	172	173	156	**147**
78S 26002	5582	179	185	165	169	153	**144**
78S 26018	5590	178	186	172	170	152	**143**
78S 26032	5596	178	191	188	184	159	**151**
78S 26033	5597	176	192	177	178	159	**149**
78S 26038	5599	178	191	182	184	156	**150**
FLIP84-1L	5674	178	190	186	192	157	**149**
FLIP84-71L	5741	178	192	189	176	158	**149**
FLIP84-73L	5743	178	192	186	174	159	**150**
FLIP84-75L	5745	178	183	157	166	152	**142**
FLIP84-76L	5746	181	188	179	177	156	**148**
FLIP84-77L	5747	180	190	165	172	154	**145**
FLIP84-78L	5748	178	192	165	175	166	**147**
FLIP84-83L	5753	179	183	166	167	151	**144**
LOCAL CHECK	-	176	192	0	193	155	
LOCATION MEAN		**178**	**188**	**176**	**176**	**155**	
S.E. OF MEAN		0.37	0.89	8.88	0.96	1.65	
L.S.D AT 5%		1.05	2.54	-	2.74	4.71	
C.V. %		0.36	0.82	7.10	0.95	1.84	
ERROR DF		46	46	22	46	46	
SIGNIFICANCE		*	*	NS	*	*	

(1) Sulaimaniya was excluded from the overall mean , NS = not significant
* = Significant at $P \leq 0.05$

Table 5.1.4. Plant height (cm) of entries at different locations in LIYT-L during 1984/85.

SELECTION	ILL	ARGENTINA	BULGARIA	CHILE	CZECHOSLOVAKIA	ETHIOPIA	IRAN	IRAQ	ITALY	JORDAN
		Perico	Toshevo	Temuco	Borovce	Denbi	Karaj	Sulaimaniya	Catania	Marow
-	20	27	20	28	27	27	20	34	23	27
-	465	27	25	31	26	26	27	42	22	26
-	707	28	23	27	25	31	23	30	18	24
-	842	27	21	30	24	25	21	30	21	25
-	857	27	21	29	25	29	22	27	20	25
LOCAL LARGE	4400	26	26	27	28	26	24	38	19	27
PRECOZ	4605	31	22	28	28	27	23	29	17	21
NABLUS	4606	25	19	28	29	23	24	31	21	26
74TA 19	5507	29	24	31	27	27	22	37	20	24
74TA 276	5527	28	22	26	20	28	23	26	22	22
78S 26002	5582	30	22	28	30	25	19	29	20	25
78S 26018	5590	28	23	34	26	29	20	35	21	24
78S 26032	5596	25	22	30	26	21	27	39	18	22
78S 26033	5597	29	22	30	27	28	22	36	19	27
78S 26038	5599	29	23	31	25	21	21	36	22	23
FLIP84-1L	5674	31	22	25	26	28	22	36	20	25
FLIP84-71L	5741	22	24	31	26	24	25	36	18	25
FLIP84-73L	5743	26	28	30	25	27	22	39	21	26
FLIP84-75L	5745	34	21	29	26	28	22	34	17	27
FLIP84-76L	5746	30	23	30	26	26	21	38	21	27
FLIP84-77L	5747	27	20	27	25	26	22	31	21	24
FLIP84-78L	5748	33	26	32	25	24	27	0	21	27
FLIP84-83L	5753	28	21	29	26	25	22	35	22	25
LOCAL CHECK		28	28	31	37	32	22	37	17	24
LOCATION MEAN		28	23	29	26	26	22	34	20	25
S.E. OF MEAN		0.60	1.35	1.20	0.07	1.94	1.89	1.48	1.84	1.27
L.S.D AT 5%		1.70	3.84	3.41	0.19	5.53	-	4.22	-	3.62
C.V. %		3.65	10.06	7.02	0.44	12.59	14.23	7.45	15.57	8.75
ERROR DF		46	46	46	46	46	46	44	46	46
SIGNIFICANCE		*	*	*	*	*	NS	*	NS	*

Cont'd. ...

Table 5.1.4. Cont'd. ...

SELECTION	ILL	LEBANON		MAURITIUS	PERU		SYRIA	TURKEY	Overall Mean (1)
		Beqa'a	Terbol	Reduit	Ancash	Yanamuclo	Tel Hadya	Ankara	
-	20	21	33	42	69	38	32	19	31
-	465	23	41	46	63	40	32	-	32
-	707	21	33	39	59	43	29	17	30
-	842	21	29	41	59	41	31	19	29
-	857	23	33	39	61	37	31	20	30
LOCAL LARGE	4400	22	36	40	60	41	32	-	31
PRECOZ	4605	24	29	46	54	36	25	16	29
NABLUS	4606	22	31	42	61	39	33	20	30
74TA 19	5507	22	32	39	59	38	32	20	30
74TA 276	5527	21	31	43	52	40	30	17	29
78S 26002	5582	23	31	36	54	39	31	20	29
78S 26018	5590	24	33	43	58	48	32	19	31
78S 26032	5596	22	35	42	58	39	31	-	29
78S 26033	5597	24	35	48	62	36	31	-	31
78S 26038	5599	21	36	39	53	41	32	-	29
FLIP84-1L	5674	22	41	40	58	36	32	19	30
FLIP84-71L	5741	24	38	45	56	40	32	-	30
FLIP84-73L	5743	24	36	44	58	39	32	20	31
FLIP84-75L	5745	22	30	37	54	40	32	18	29
FLIP84-76L	5746	24	34	40	64	39	30	-	31
FLIP84-77L	5747	23	32	33	57	37	31	20	28
FLIP84-78L	5748	24	36	49	67	45	34	-	33
FLIP84-83L	5753	23	32	43	63	40	31	19	30
LOCAL CHECK	-	23	39	48	-	42	29	21	
LOCATION MEAN		22	34	42	59	40	31	19	
S.E. OF MEAN		1.07	1.58	2.13	4.06	2.87	1.06	0.49	
L.S.D AT 5%		-	4.51	6.06	-	-	3.00	1.41	
C.V.%		8.10	7.98	8.75	9.65	12.40	5.80	4.34	
ERROR DF		46	46	46	22	46	46	30	
SIGNIFICANCE		NS	*	*	NS	NS	*	*	

(1) Sulaimaniya and Ankara were excluded from the overall mean, NS = not significant
* = Significant at $P \leq 0.05$

Table 5.1.5. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in LIYT-L during 1984/85.

SELECTION	ILL	ARGENTINA Perico		BULGARIA Toshevo		CHILE Temuco		CZECHOSLOVAKIA Borovce		EGYPT Sakha	
		Y	R	Y	R	Y	R	Y	R	Y	R
-	20	233	11	488	14	1842	20	95	19	1833	5
-	465	88	24	555	13	2778	3	287	3	1055	20
-	707	155	19	800	4	1967	16	254	6	944	23
-	842	211	13	466	16	1854	19	83	22	1481	9
-	857	166	18	600	10	2282	11	116	18	1722	6
LOCAL LARGE	4400	144	22	422	18	2551	8	200	10	1148	17
PRECOZ	4605	584	1	1133	2	1469	24	458	1	1611	7
NABLUS	4606	266	9	488	14	1933	17	125	15	1129	18
74TA 19	5507	211	13	622	9	2138	12	270	5	1277	14
74TA 276	5527	177	16	755	5	1724	23	250	7	1351	11
78S 26002	5582	455	5	600	10	1800	21	120	17	2259	2
78S 26018	5590	222	12	377	21	2061	14	241	9	2203	3
78S 26032	5596	155	19	422	18	3251	1	154	12	981	22
78S 26033	5597	177	16	355	24	1730	22	41	24	888	24
78S 26038	5599	100	23	711	7	2322	10	245	8	1129	18
FLIP84-1L	5674	151	21	600	10	2477	9	150	14	1314	13
FLIP84-71L	5741	377	6	400	20	2765	4	154	12	1166	16
FLIP84-73L	5743	182	15	377	21	2732	6	83	22	1018	21
FLIP84-75L	5745	351	7	377	21	2124	13	87	21	1351	11
FLIP84-76L	5746	266	9	977	3	2735	5	275	4	1444	10
FLIP84-77L	5747	546	2	733	6	1932	18	95	19	1259	15
FLIP84-78L	5748	473	4	688	8	2840	2	187	11	1518	8
FLIP84-83L	5753	511	3	444	17	1992	15	125	15	1944	4
LOCAL CHECK	-	333	8	1244	1	2696	7	395	2	3111	1
LOCATION MEAN		272		610		2250		187		1464	
S.E. OF MEAN		101.70		75.03		163.76		52.45		265.58	
L.S.D AT 5%		289.46		213.55		466.08		149.28		755.86	
C.V. %		64.60		21.30		12.60		48.45		31.41	
ERROR DF		46		46		46		46		46	
SIGNIFICANCE		*		*		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		1		0		0	

Cont'd. ...

Table 5.1.5. Cont'd. ...

SELECTION	ILL	ETHIOPIA Denbi Y	ETHIOPIA Denbi R	IRAN Karaj Y	IRAN Karaj R	IRAQ Sulaimaniya Y	IRAQ Sulaimaniya R	ITALY Catania Y	ITALY Catania R	JORDAN Marow Y	JORDAN Marow R
-	20	104	13	25	20	288	21	143	17	664	8
-	465	77	17	239	2	844	11	360	2	317	22
-	707	206	4	46	16	514	16	378	1	612	10
-	842	80	15	123	6	244	22	247	5	606	11
-	857	140	9	52	15	585	15	184	12	866	2
LOCAL LARGE	4400	177	7	126	5	1255	4	243	8	420	17
PRECOZ	4605	342	2	10	24	370	19	75	24	97	24
NABLUS	4606	126	12	64	13	343	20	154	14	633	9
74TA 19	5507	128	10	119	7	1266	3	151	15	671	7
74TA 276	5527	200	6	65	11	448	17	336	3	440	15
78S 26002	5582	73	19	22	22	940	9	247	5	768	4
78S 26018	5590	55	21	20	23	214	23	175	13	733	5
78S 26032	5596	60	20	38	18	955	8	86	22	397	18
78S 26033	5597	75	18	233	3	911	10	142	18	346	20
78S 26038	5599	28	23	41	17	1433	1	245	7	346	20
FLIP84-1L	5674	40	22	110	8	744	12	188	11	388	19
FLIP84-71L	5741	20	24	91	9	1000	7	139	19	317	22
FLIP84-73L	5743	128	10	75	10	1155	5	287	4	464	14
FLIP84-75L	5745	237	3	25	20	588	13	90	21	771	3
FLIP84-76L	5746	148	8	57	14	1133	6	220	10	1108	1
FLIP84-77L	5747	80	15	65	11	422	18	150	16	586	12
FLIP84-78L	5748	82	14	150	4	-		120	20	428	16
FLIP84-83L	5753	206	4	31	19	588	13	235	9	693	6
LOCAL CHECK	-	553	1	867	1	1288	2	76	23	531	13
LOCATION MEAN		**140**		**112**		**762**		**195**		**550**	
S.E. OF MEAN		67.96		51.45		209.94		84.93		134.98	
L.S.D AT 5%		193.42		146.42		598.28		-		384.17	
C.V. %		83.69		79.06		47.68		75.40		42.46	
ERROR DF		46		46		44		46		46	
SIGNIFICANCE		*		*		*		NS		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		0		-		1	

Cont'd. ...

Table 5.1.5. Cont'd. ...

SELECTION	ILL	LEBANON				MOROCCO		PERU			
		Beqa'a		Terbol		Marchouch		Ancash		Yanamuclo	
		Y	R	Y	R	Y	R	Y	R	Y	R
-	20	222	21	1736	10	329	13	289	13	3	24
-	465	162	23	1379	23	299	16	171	23	7	19
-	707	231	19	1708	11	422	6	226	21	6	22
-	842	207	22	1754	7	244	20	289	13	10	9
-	857	230	20	1842	3	268	19	304	11	9	12
LOCAL LARGE	4400	371	10	1800	4	358	9	250	15	10	9
PRECOZ	4605	145	24	1333	24	649	1	250	15	13	7
NABLUS	4606	341	13	1615	17	347	11	664	1	23	3
74TA 19	5507	516	3	1666	15	345	12	304	11	10	9
74TA 276	5527	341	13	1671	14	358	9	476	4	23	3
78S 26002	5582	263	16	1685	13	321	15	648	2	7	19
78S 26018	5590	419	7	1412	22	406	7	640	3	8	15
78S 26032	5596	349	11	1750	8	322	14	406	6	19	6
78S 26033	5597	463	5	1444	21	126	24	242	19	8	15
78S 26038	5599	253	18	1750	8	275	18	250	15	9	12
FLIP84-1L	5674	423	6	1611	18	406	7	312	10	9	12
FLIP84-71L	5741	374	9	1546	19	203	21	234	20	31	2
FLIP84-73L	5743	487	4	1689	12	160	23	210	22	35	1
FLIP84-75L	5745	518	2	1986	1	445	5	328	8	20	5
FLIP84-76L	5746	328	15	1773	5	564	2	250	15	7	19
FLIP84-77L	5747	345	12	1763	6	553	3	453	5	8	15
FLIP84-78L	5748	258	17	1486	20	501	4	328	8	4	23
FLIP84-83L	5753	556	1	1925	2	293	17	398	7	8	15
LOCAL CHECK	-	392	8	1620	16	196	22	-		13	7
LOCATION MEAN		341		1664		350		344		12	
S.E. OF MEAN		74.43		102.70		100.07		80.49			
L.S.D AT 5%		211.85		292.29		-		236.05			
C.V. %		37.72		10.68		49.51		33.02			
ERROR DF		46		46		46		22			
SIGNIFICANCE		*		*		NS		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		2		-		-			

Cont'd. ...

Table 5.1.5. Cont'd. ...

SELECTION	ILL	SPAIN Alcala de-Henares Y	SPAIN Alcala de-Henares R	SYRIA Tel Hadya Y	SYRIA Tel Hadya R	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El kef Y	TUNISIA El kef R	Overall Mean (1) Y	Overall Rank (1) R
-	20	765	9	1474	8	1566	19	1083	21	1023	16
-	465	1074	3	1066	23	2033	7	975	22	987	20
-	707	835	8	1359	14	2241	4	1816	5	1095	11
-	842	681	14	1151	21	2133	6	1566	11	1035	15
-	857	349	24	1351	15	1716	16	2033	1	1130	9
LOCAL LARGE	4400	569	20	1381	12	1141	23	941	23	945	21
PRECOZ	4605	616	18	588	24	1241	22	891	24	835	22
NABLUS	4606	1019	4	1455	9	2466	2	1791	6	1156	5
74TA 19	5507	899	6	1533	7	1725	15	1141	20	1069	12
74TA 276	5527	759	10	1237	20	1608	17	1275	17	998	19
78S 26002	5582	953	5	1596	3	2016	8	1733	8	1219	2
78S 26018	5590	667	15	1425	11	2366	3	1508	14	1184	3
78S 26032	5596	524	22	1262	19	1975	9	1691	9	1110	10
78S 26033	5597	471	23	1274	18	1083	24	1241	18	804	23
78S 26038	5599	683	13	1551	5	1833	11	1516	12	1051	13
FLIP84-1L	5674	666	16	1285	17	1550	20	1516	12	1044	14
FLIP84-71L	5741	755	11	1362	13	1375	21	1625	10	1009	18
FLIP84-73L	5743	553	21	1548	6	1733	14	1216	19	1014	17
FLIP84-75L	5745	629	17	1740	1	1600	18	1791	6	1137	8
FLIP84-76L	5746	1157	2	1455	9	2625	1	1283	16	1307	1
FLIP84-77L	5747	861	7	1555	4	1775	12	2033	1	1153	6
FLIP84-78L	5748	591	19	1303	16	1766	13	2008	4	1142	7
FLIP84-83L	5753	684	12	1600	2	2241	4	1425	15	1182	4
LOCAL CHECK	-	1177	1	1133	22	1875	10	2016	3		
LOCATION MEAN		747		1362		1820		1505			
S.E. OF MEAN		206.99		84.64		317.20		218.07			
L.S.D AT 5%		-		240.89		-		620.66			
C.V. %		47.93		10.76		30.18		25.09			
ERROR DF		46		46		46		46			
SIGNIFICANCE		NS		*		NS		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		-		12		-		0			

(1)Perico, Toshevo, Denbi, Karaj, Sulaimaniya, Catania and Yanamuclo were excluded from the overall mean. * = Significant at $P \leq 0.05$, NS = not significant.

Table 5.1.6. The five heaviest seed yielding entries at the individual locations in the LIYT-L during 1984/85.

RANK	ARGENTINA Perico	BULGARIA Toshevo	CHILE Temuco	CZECHOSLOVAKIA Borovce	EGYPT Sakha	ETHIOPIA Denbi	IRAN Karaj
1	ILL 4605	Local check	ILL 5596	ILL 4605	Local check	Local check	Local check
2	FLIP 84-77L	ILL 4605	FLIP 84-78L	Local check	ILL 5582	ILL 4605	ILL 465
3	FLIP 84-83L	FLIP 84-76L	ILL 465	ILL 465	ILL 5590	FLIP 84-75L	ILL 5597
4	FLIP 84-78L	ILL 707	FLIP 84-71L	FLIP 84-76L	FLIP 84-83L	ILL 707]	FLIP 84-78L
5	ILL 5582	ILL 5527	FLIP 84-76L	ILL 5507	ILL 20	FLIP 84-83L]	ILL 4400

Cont'd. ...

RANK	IRAQ Sulaimaniya	ITALY Catania	JORDAN Marow	LEBANON Beqa'a	LEBANON Terbol	MOROCCO Marchouch	PERU Ancash
1	ILL 5599	ILL 707	FLIP 84-76L	FLIP 84-83L	FLIP 84-75L	ILL 4605	ILL 4606
2	Local check	ILL 465	ILL 857	FLIP 84-75L	FLIP 84-83L	FLIP 84-76L	ILL 5582
3	ILL 5507	ILL 5527	FLIP 84-75L	ILL 5507	ILL 857	FLIP 84-77L	ILL 5590
4	ILL 4400	FLIP 84-73L	ILL 5582	FLIP 84-73L	ILL 4400	FLIP 84-78L	ILL 5527
5	FLIP 84-73L	ILL 842]	ILL 5590	ILL 5597	FLIP 84-76L	FLIP 84-75L	FLIP 84-77L
		ILL 5582]					

Cont'd. ...

RANK	SPAIN Alcala-de-Henares	SYRIA Tel Hadya	TUNISIA Beja	TUNISIA El-Kef
1	Local check	FLIP 84-75L	FLIP 84-76L	ILL 857
2	FLIP 84-76L	FLIP 84-83L	ILL 4606	FLIP 84-77L
3	ILL 465	ILL 5582	ILL 5590	Local check
4	ILL 4606	FLIP 84-77L	ILL 707	FLIP 84-78L
5	ILL 5582	ILL 5599	FLIP 84-83L	ILL 707

The brackets indicate entries having the same rank.

Chile (2250 kg/ha) and was followed by Beja in Tunisia (1820 kg/ha) and Terbol in Lebanon (1664 kg/ha). However, some of the locations namely, Yanamulco in Peru (12 kg/ha), Karaj in Iran (112 kg/ha), Denbi in Ethiopia (140 kg/ha), Borovce in Czechoslovakia (187 kg/ha), and Perico in Argentina (272 kg/ha), gave extremely poor yields.

The coefficient of variation for the experimental design ranged between 10.68% at Terbol in Lebanon and 83.69% at Denbi in Ethiopia. Out of 18 locations analysed for ANOVA, the differences between the entries were significant at 14 locations. At 4 locations namely Temuco in Chile, Marow in Jordan, Terbol in Lebanon and Tel Hadya in Syria 1, 1, 2 and 12 entries excelled the local check, by a significant margin. The overall entry mean revealed that FLIP 84-76L was the highest yielder with seed yield 1307 kg/ha and was followed by 78S 26002 (1219 kg/ha), 78S 26018 (1184 kg/ha), FLIP 84-83L ad ILL 4606. The top five entries at each location are given in Table 5.1.6. It is apparent that FLIP 84-76L occured most frequently (8 times) among the top five heavy yielders and was followed by FLIP 84-75L, 78S 26002 (5582) and FLIP 84-83L. These entries were comparatively more adaptable than the others.

The mean seed yield and rank of common entries over different years is given in Table 5.1.7. It was observed that ILL 707 had the highest average yield across locations and was closely followed by ILL 857, ILL 4606 and ILL 20.

Table 5.1.7. The mean yield (Y= kg/ha) and rank (R) of the common entries in LIYT-L during 1982-1985.

Entry Name	Selection	1982/83		1983/84		1984/85		Average	
		Y	R	Y	R	Y	R	Y	R
ILL 20	-	1131	3	1026	1	1023	5	1060	4
ILL 707	-	1272	1	979	4	1095	3	1115	1
ILL 842	-	1174	2	966	5	1035	4	1058	5
ILL 857	-	1106	5	1015	2	1130	2	1084	2
ILL 4605	Precoz	1028	7	885	6	835	7	916	7
ILL 4606	Nablus	1051	6	984	3	1156	1	1064	3
ILL 4400	Syrian Local Large	1124	4	778	7	945	6	949	6

The correlations among seed yields at different locations are given in Table 5.1.8. It was observed that seed yields at Tel Hadya-Syria were negatively correlated with those at Toshevo in Bulgaria and Borovce in Czechoslovakia and positively correlated with those at Marow in Jordan and Beqa'a and Terbol in Lebanon. Further seed yields at Terbol in Lebanon showed positive correlation with those at Marow in Jordan and Beqa'a in Lebanon.

Table 5.1.8. Correlation (df=21) among different locations for the seed yield of entries in the LIYT-L during 1984/85.

COUNTRY	LOCATION	ARGENTINA Perico	BULGARIA Toshevo	CHILE Temuco	CZECHO-SLOVAKIA Borovce	EGYPT Sakha	ETHIOPIA Denbi	IRAN Karaj	IRAQ Sulaimaniya	ITALY Catania
BULGARIA	Toshevo	0.304								
CHILE	Temuco	-0.309	-0.225							
CZECHOSLOVAKIA	Borovce	0.056	0.724	-0.033						
EGYPT	Sakha	0.446	0.056	-0.363	0.021					
ETHIOPIA	Denbi	0.330	0.445	-0.427	0.427	0.075				
IRAN	Karaj	-0.338	-0.234	0.241	-0.111	-0.490	-0.336			
IRAQ	Sulaimaniya	-0.297	-0.047	0.562	0.077	-0.397	-0.267	0.274		
ITALY	Catania	-0.449	0.079	-0.010	0.125	-0.135	0.002	0.196	0.112	
JORDAN	Marow	0.016	-0.027	-0.061	-0.272	0.446	0.026	-0.354	-0.119	0.061
LEBANON	Beqa'a	0.024	-0.516	0.090	-0.388	-0.076	-0.016	-0.007	0.245	-0.192
LEBANON	Terbol	-0.033	-0.190	0.048	-0.459	0.049	0.152	-0.421	0.106	0.061
MOROCCO	Marchouch	0.505	0.729	-0.131	0.566	0.218	0.468	-0.357	-0.284	-0.260
PERU	Ancash	0.274	-0.141	-0.314	-0.171	0.518	-0.122	-0.415	-0.405	-0.150
PERU	Yanamuclo	-0.047	-0.292	0.227	-0.150	-0.371	0.058	-0.132	0.135	-0.048
SPAIN	Alcala de Henares	0.077	0.329	-0.042	0.280	0.025	-0.064	0.026	0.025	0.325
SYRIA	Tel Hadya	-0.040	-0.453	0.114	-0.586	0.116	-0.285	-0.243	0.257	0.044
TUNISIA	Beja	-0.038	0.099	0.107	0.051	0.248	-0.120	-0.278	-0.203	0.305
TUNISIA	El Kef	0.234	-0.086	0.091	-0.441	0.091	-0.282	-0.249	-0.239	-0.180

Cont'd. ...

Table 5.1.8.Cont'd. ...

COUNTRY	LOCATION	JORDAN Marow	LEBANON Beqa'a	LEBANON Terbol	MOROCCO Marchouch	PERU Ancash	PERU Yanamuclo	SPAIN Alcala de Henares	SYRIA Tel-Hadya	TUNISIA Beja
LEBANON	Beqa'a	0.195								
LEBANON	Terbol	0.562	0.724							
MOROCCO	Marchouch	0.120	-0.254	-0.081						
PERU	Ancash	0.318	0.142	0.013	0.131					
PERU	Yanamuclo	-0.242	0.341	0.042	-0.327	0.022				
SPAIN	Alcala de Henares	0.311	-0.164	-0.094	0.293	0.201	-0.128			
SYRIA	Tel Hadya	0.604	0.584	0.661	-0.246	0.283	0.064	0.131		
TUNISIA	Beja	0.610	-0.070	0.167	0.156	0.414	-0.149	0.564	0.271	
TUNISIA	El Kef	0.333	-0.008	0.316	0.076	0.394	-0.010	-0.118	0.388	0.317

The underlined correlation values are significant at $P \leq 0.05$

5.2. LENTIL INTERNATIONAL YIELD TRIAL - SMALL SEED (LIYT-S)

Material

The material for the Lentil International Yield Trial - Small Seed comprised 23 test entries which were supplied by ICARDA and one local check to be added by the cooperator. The test entries were selections with a seed size less than 4.5 g/100 seeds performing well in Lentil International Screening Nursery.

Methods and Management

The material was sown in a randomised complete block design with 4 replications. The suggested plot size was 4 rows, 4 m long with 200 plants per row. The spacing between rows was suggested to be 25 cm.

Thirty nine sets of the trial were sent to cooperators in 21 countries and the results were received for 26 sets from 17 countries. The agronomic data received from cooperators are presented in Table 5.2.1. The trials at Santa Maria (Brazil) failed due to heavy infestation of Colletotrichum and at Debre Zeit in Ethiopia due to root rot and wilt, at Diyarbakir in Turkey due to severe cold conditions and at Palermo in Italy due to unfavourable field conditions.

Results and Discussion

The data on time to flowering (Table 5.2.2) showed that the entries flowered earliest at Leonessa in Italy in 51 days and latest at Faisalabad-2 in Pakistan in 164 days. The comparison of location mean with the respective local check values at each location showed that most of the entries supplied by ICARDA were earlier than the local check at Toshevo in Bulgaria, Sulaimaniya in Iraq, Leonessa in Italy, Beqa'a and Terbol in Lebanon, Faisalabad-2 in Pakistan, and Alcala de Henares in Spain. Averaged over locations the entries ranged in time to flowering between 107 days for 76TA 66005 (ILL 5562) and 116 days for ILL 2194, 78S 26009 (ILL 5585), FLIP 84-4L, and FLIP 84-14L. Further the entries matured earliest in 80 days at Leonessa in Italy and latest in 212 days at Sulaimaniya in Iraq (Table 5.2.3.)

The plant height (Table 5.2.4) ranged from 9 cm at Dasht in Pakistan to 39 cm at Faisalabad in Pakistan. At almost all the locations the respective local checks were taller than the location means except at Sulaimaniya in Iraq and Catania in Italy. The entries namely, ILL 1939, 76TA 66005 (ILL 5562), FLIP 84-14L, FLIP 84-29L, FLIP 84-62L and FLIP 84-66L with mean plant height of 28 cm were among the tallest.

The seed yield of the entries at different locations is given in Table 5.2.5. The location means revealed that the seed yield was highest at El-Kef (1923 kg/ha) in Tunisia and was closely followed by

Table 5.2.1. Agronomic data for different locations in the LIYT-S during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
BULGARIA	Toshevo	08.04.1985	20.07.1985	30	60		-	Afalon	Tadjikskaya 95
BANGLADESH	Ishurdi	08.11.1984	03.1985	NA			-	-	L-5
BRAZIL	Santa maria	NA	NA	8	60	50	NA	NA	HL 42.82 (F3)
CZECHOSLOVAKIA	Borovce	NA	NA	-			-		Teebisovska
EGYPT	Sids	20.11.1984	25.04.1985	37	75		3	Gesagard	Giza 370
ETHIOPIA	Denbi	14.07.1985	07.12.1985	-			NA	NA	NA
ETHIOPIA	Debre zeit	09.07.1985	NA	NA			NA		ILL 358
IRAQ	Dohuk	07.11.1984	25.05.1985	91	100		NA	NA	Duhok
IRAQ	Sulaimaniya	07.11.1984	10.06.1985	80	80		NA	NA	Sulaimaniya local
ITALY	Catania	05.02.1985	20.06.1985	45	90		-	-	Loc.di-santa croce
ITALY	Leonessa	13.05.1985	21.08.1985	70	150		-	Metobromuron	Castelluccio
LEBANON	Beqa'a	22.12.1984	11.06.1985		50		-	-	Lebanese local
LEBANON	Terbol	16.11.1984	05.1985		50		NA	Kerb,Bladex	NA
MOROCCO	Jmaat	12.1984	NA	30	50		NA	NA	NA
NEPAL	Khumaltar	08.11.1984	11.04.1985	20	40	20	-	-	P43 sishir
PAKISTAN	Dasht	27.10.1984	26.05.1985	28	72		-	-	Quetta red
PAKISTAN	Faisalabad-1	02.11.1984	16.04.1985	25	50		2	-	9-6
PAKISTAN	Faisalabad-2	04.11.1984	15.04.1985	-			1	-	-
PAKISTAN	Quetta	21.11.1984	29.05.1985	NA			5	-	Local desht
SAUDI ARABIA	Al Hassa	14.11.1984	04.1985	80	80		15	-	NA
SPAIN	Alcala de-Henares	20.12.1984	12.07.1985	24	72		-	-	Lec 83
SYRIA	Tel Hadya	07.12.1984	15.05.1985	30	50		-	-	ILL 4400
TUNISEA	Beja	NA	NA	NA			NA	NA	NA
TUNISEA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA

NA = not available

Table 5.2.2. Time to flowering (days) of entries at different locations in LIYT-S during 1984/85.

SELECTION	ILL	ORIGIN	BULGARIA	EGYPT	ETHIOPIA		IRAQ	ITALY		LEBANON
			Toshevo	Sids	Denbi	Debre Zeit	Sulaimaniya	Catania	Leonessa	Beqa'a
-	40	SYRIA	54	101	71	69	161	99	51	121
-	920	TUNISIA	52	98	72	64	160	99	52	120
-	975	CHILE	50	89	60	55	159	99	50	116
-	1868	SYRIA	51	100	67	62	161	99	51	118
-	1939	MOROCCO	52	97	71	70	161	99	53	119
-	2194	PAKISTAN	54	100	78	73	159	99	52	122
LOCAL SMALL	4401	SYRIA	54	102	74	70	161	99	52	121
76TA 66005	5562	JORDAN	48	84	54	47	160	99	52	112
76TA 66054	5570	MOROCCO	51	94	64	62	160	99	50	119
78S 26004	5584	JORDAN	48	89	61	56	160	99	52	116
78S 26009	5585	JORDAN	51	101	82	83	160	99	50	121
78S 26010	5586	JORDAN	51	96	76	84	160	99	54	111
78S 26013	5588	JORDAN	51	100	76	81	160	99	51	121
FLIP84-3L	5676	ICARDA	54	103	72	70	159	99	52	122
FLIP84-4L	5677	ICARDA	57	104	81	78	160	99	52	121
FLIP84-11L	5684	ICARDA	52	104	76	74	158	99	51	120
FLIP84-14L	5687	ICARDA	54	106	80	84	159	99	53	121
FLIP84-17L	5690	ICARDA	54	106	72	69	160	99	53	121
FLIP84-29L	5700	ICARDA	49	90	61	52	161	99	52	111
FLIP84-62L	5732	ICARDA	51	97	72	71	167	99	53	121
FLIP84-65L	5735	ICARDA	53	92	67	67	160	99	50	122
FLIP84-66L	5736	ICARDA	48	90	61	51	160	99	51	115
FLIP84-67L	5737	ICARDA	51	96	68	64	160	99	51	122
LOCAL CHECK			53	66	63	56	171	99	52	121
LOCATION MEAN			52	96	70	67	161	99	51	119
S.E. OF MEAN			0.56	0.99	2.63	1.67	0.68	0.00	0.50	1.04
L.S.D AT 5%			1.57	2.78	7.41	4.72	1.93	-	1.41	2.94
C.V.%			2.14	2.05	7.46	4.94	0.85	0.00	1.93	1.75
ERROR DF			69	69	69	69	69	69	69	69
SIGNIFICANSE			*	*	*	*	*	NS	*	*

Cont'd. ...

Table 5.2.2. Cont'd. ...

SELECTION	ILL	LEBANON	NEPAL	PAKISTAN				SPAIN	SYRIA	Overall	
		Terbol	Khumaltar	Dasht	Faisal-abad-1	Faisal-abad-2	Quetta	Alcala de Henares	Tel Hadya	Mean	Rank
-	40	146	129	140	128	166	150	128	120	114	12
-	920	148	129	141	123	162	152	128	123	113	9
-	975	142	117	142	116	160	147	125	119	109	2
-	1868	144	129	142	123	167	144	125	119	112	7
-	1939	146	126	142	126	172	157	126	122	114	12
-	2194	149	132	141	125	157	157	137	125	116	20
LOCAL SMALL	4401	145	134	140	124	172	150	126	120	115	15
76TA 66005	5562	141	112	142	109	158	152	123	119	107	1
76TA 66054	5570	146	127	142	117	162	147	126	122	111	6
78S 26004	5584	144	124	143	115	166	146	126	119	110	5
78S 26009	5585	146	133	143	130	163	152	127	121	116	20
78S 26010	5586	142	130	141	124	161	147	126	119	113	9
78S 26013	5588	146	131	141	128	162	148	128	122	115	15
FLIP84-3L	5676	146	128	143	129	166	151	128	122	115	15
FLIP84-4L	5677	148	128	141	134	168	145	126	123	116	20
FLIP84-11L	5684	146	134	141	126	164	153	125	121	115	15
FLIP84-14L	5687	146	130	143	136	162	148	125	121	116	20
FLIP84-17L	5690	148	130	143	133	165	153	126	121	115	15
FLIP84-29L	5700	140	112	142	116	172	157	123	119	109	2
FLIP84-62L	5732	149	113	141	117	164	156	131	127	114	12
FLIP84-65L	5735	142	132	141	114	157	155	128	121	112	7
FLIP84-66L	5736	142	112	141	117	167	150	123	119	109	2
FLIP84-67L	5737	148	129	142	124	163	148	131	123	113	9
LOCAL CHECK	-	150	94	141	104	168	147	146	121		
LOCATION MEAN		145	125	141	122	164	150	128	121		
S.E. OF MEAN		0.35	1.07	1.09	0.65	5.40	2.74	1.22	0.44		
L.S.D AT 5%		0.99	3.01	-	1.84	-	7.73	3.43	1.25		
C.V.%		0.48	1.71	1.53	1.07	6.56	3.63	1.90	0.73		
ERROR DF		69	69	69	69	69	69	69	69		
SIGNIFICANCE		*	*	NS	*	NS	*	*	*		

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.2.3. Time to maturity (days) of entries at different locations in LIYT-S during 1984/85.

		BANGLADESH	BULGARIA	EGYPT	ETHIOPIA	IRAQ	ITALY		LEBANON
SLECTION	ILL	Ishurdi	Toshevo	Sids	Denbi	Sulai-maniya	Catania	Leonessa	Terbol
-	40	137	87	139	123	212	135	80	184
-	920	135	88	139	122	212	135	80	190
-	975	137	86	140	127	212	135	80	183
-	1868	135	84	141	124	211	135	79	181
-	1939	136	87	140	124	213	135	81	188
-	2194	145	88	139	123	214	135	80	190
LOCAL SMALL	4401	145	86	140	126	212	135	80	185
76TA 66005	5562	132	84	140	118	214	135	80	184
76TA 66054	5570	140	87	138	120	212	135	79	185
78S 26004	5584	134	86	142	118	214	135	80	184
78S 26009	5585	144	87	140	121	212	135	80	180
78S 26010	5586	145	87	137	123	212	135	81	179
78S 26013	5588	145	87	142	121	212	135	80	182
FLIP84-3L	5676	145	88	142	125	211	135	80	188
FLIP84-4L	5677	145	92	139	128	212	135	80	187
FLIP84-11L	5684	144	93	140	125	211	135	80	188
FLIP84-14L	5687	145	87	147	121	210	135	80	184
FLIP84-17L	5690	146	85	143	125	211	135	80	184
FLIP84-29L	5700	134	86	139	123	212	135	80	183
FLIP84-62L	5732	137	91	140	125	213	135	80	189
FLIP84-65L	5735	134	87	141	132	213	135	80	187
FLIP84-66L	5736	137	87	141	125	213	135	79	183
FLIP84-67L	5737	138	87	139	123	212	135	79	186
LOCAL CHECK	-	102	88	134	120	211	135	78	190
LOCATION MEAN		138	87	140	123	212	135	80	185
S.E. OF MEAN		2.03	0.87	0.88	1.99	0.48	0.00	0.27	0.75
L.S.D AT 5%		5.72	2.46	2.47	5.60	1.34	-	0.77	2.13
C.V.%		2.92	1.99	1.25	3.21	0.45	0.00	0.68	0.81
ERROR DF		69	69	69	69	69	69	69	69
SIGNIFICANCE		*	*	*	*	*	NS	*	*

Cont'd. ...

Table 5.2.3. Cont'd. ...

SELECTION	ILL	NEPAL	PAKISTAN			SYRIA	Overall	
		Khumaltar	Dasht	Faisalabad-1	Quetta	Tel Hadya	Mean	Rank
-	40	162	197	167	182	152	150	6
-	920	164	201	169	186	156	152	19
-	975	163	192	161	184	153	150	6
-	1868	155	197	165	180	151	149	1
-	1939	160	197	166	186	156	151	11
-	2194	164	197	166	186	157	152	19
LOCAL SMALL	4401	164	196	166	184	151	151	11
76TA 66005	5562	165	200	157	185	154	149	1
76TA 66054	5570	157	191	156	184	154	149	1
78S 26004	5584	160	198	156	183	152	149	1
78S 26009	5585	157	193	170	183	152	150	6
78S 26010	5586	155	200	160	182	152	149	1
78S 26013	5588	164	195	166	182	154	151	11
FLIP84-3L	5676	163	194	169	183	157	152	19
FLIP84-4L	5677	162	198	173	183	155	153	23
FLIP84-11L	5684	164	195	169	183	156	152	19
FLIP84-14L	5687	160	198	170	183	150	151	11
FLIP84-17L	5690	160	201	168	184	150	151	11
FLIP84-29L	5700	165	202	155	186	152	150	6
FLIP84-62L	5732	157	197	160	186	158	151	11
FLIP84-65L	5735	158	196	166	185	156	151	11
FLIP84-66L	5736	162	201	160	183	153	150	6
FLIP84-67L	5737	162	201	166	184	155	151	11
LOCAL CHECK	-	139	195	150	179	158		
LOCATION MEAN		160	197	164	183	154		
S.E. OF MEAN		0.81	3.19	0.94	1.25	0.83		
L.S.D AT 5%		2.28	-	2.65	3.53	2.33		
C.V.%		1.01	3.23	1.15	1.36	1.07		
ERROR DF		69	69	69	69	69		
SIGNIFICANCE		*	NS	*	*	*		

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.2.4. Plant height (cm) of entries at different locations in LIYT-S during 1984/85.

SELECTION	ILL	BULGARIA	CZECHOSLOVAKIA	EGYPT	IRAQ	ITALY		LEBANON	
		Toshevo	Borovce	Sids	Sulaimaniya	Catania	Leonessa	Beqa'a	Terbol
-	40	23	26	37	23	27	19	22	31
-	920	20	25	36	26	24	22	20	30
-	975	22	25	41	25	23	23	24	33
-	1868	22	26	30	20	26	21	23	30
-	1939	23	26	42	23	21	24	25	33
-	2194	22	25	38	29	19	20	22	32
LOCAL SMALL	4401	24	25	38	25	24	20	22	33
76TA 66005	5562	23	29	35	25	23	23	23	35
76TA 66054	5570	23	26	36	20	21	21	23	32
78S 26004	5584	22	27	30	20	23	23	22	32
78S 26009	5585	24	26	32	23	21	20	23	35
78S 26010	5586	23	26	37	25	24	21	23	33
78S 26013	5588	23	26	37	28	22	22	22	33
FLIP84-3L	5676	24	26	36	26	24	22	24	30
FLIP84-4L	5677	24	25	38	25	22	22	22	31
FLIP84-11L	5684	26	26	43	28	22	22	24	37
FLIP84-14L	5687	20	25	36	22	23	19	20	31
FLIP84-17L	5690	21	26	33	26	23	22	21	32
FLIP84-29L	5700	24	25	42	25	22	24	23	31
FLIP84-62L	5732	25	25	41	24	22	23	23	37
FLIP84-65L	5735	21	25	41	27	21	23	23	31
FLIP84-66L	5736	23	25	37	25	23	23	23	33
FLIP84-67L	5737	20	27	28	25	23	19	21	32
LOCAL CHECK	-	29	37	43	24	22	24	23	36
LOCATION MEAN		23	26	37	24	23	22	22	32
S.E. OF MEAN		0.92	0.00	3.11	1.39	1.40	1.11	1.04	1.46
L.S.D AT 5%		2.59	-	8.77	3.93	-	3.13	-	4.10
C.V.%		7.86	0.00	16.63	11.19	12.14	10.02	9.08	8.84
ERROR DF		69	69	69	69	69	69	69	69
SIGNIFICANCE		*	NS	*	*	NS	*	NS	*

Cont'd. ...

Table 5.2.4. Cont'd. ...

SELECTION	ILL	NEPAL	PAKISTAN			SYRIA	(1) Overall	
		Khumaltar	Dasht	Faisalabad	Quetta	Tel Hadya	Mean	Rank
-	40	17	9	35	25	31	26	10
-	920	20	10	39	23	30	26	10
-	975	19	9	41	23	31	27	6
-	1868	19	10	38	23	28	25	18
-	1939	18	11	48	25	32	28	1
-	2194	18	9	36	22	31	26	10
LOCAL SMALL	4401	16	10	38	21	33	26	10
76TA 66005	5562	20	9	49	24	31	28	1
76TA 66054	5570	18	10	46	21	30	26	10
78S 26004	5584	18	10	43	20	31	25	18
78S 26009	5585	18	10	35	23	30	25	18
78S 26010	5586	18	10	41	25	28	27	6
78S 26013	5588	19	9	41	24	31	27	6
FLIP84-3L	5676	16	9	34	23	32	26	10
FLIP84-4L	5677	18	9	33	23	31	26	10
FLIP84-11L	5684	15	9	32	26	33	27	6
FLIP84-14L	5687	17	10	27	17	28	23	23
FLIP84-17L	5690	15	10	29	20	30	24	21
FLIP84-29L	5700	20	10	51	25	31	28	1
FLIP84-62L	5732	19	10	47	29	32	28	1
FLIP84-65L	5735	17	10	32	24	30	26	10
FLIP84-66L	5736	21	8	44	26	33	28	1
FLIP84-67L	5737	17	8	31	21	31	24	21
LOCAL CHECK	-	28	10	52	28	34		
LOCATION MEAN		18	9	39	23	31		
S.E. OF MEAN		1.09	0.51	2.59	1.19	1.00		
L.S.D AT 5%		3.08	1.44	7.30	3.36	2.83		
C.V.%		11.66	10.29	13.08	10.02	6.41		
ERROR DF		69	69	69	69	69		
SIGNIFICANCE		*	*	*	*	*		

(1) Pakistan and Dasht were excluded from the overall mean , NS = not significant
* = significant at $P \leq 0.05$.

Table 5.2.5. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in LIYT-S during 1984/85.

SELECTION	ILL	BANGLADESH Ishurdi		BULGARIA Toshevo		CZECHOSLOVAKIA Borovce		EGYPT Sids		IRAQ Sulaimaniya		ITALY Catania	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
-	40	128	14	483	10	290	5	1059	16	677	8	291	11
-	920	130	13	483	10	240	11	1666	5	729	6	420	2
-	975	381	9	400	15	125	21	1363	9	302	19	241	18
-	1868	556	7	383	18	193	15	785	24	583	9	296	10
-	1939	478	8	650	3	215	13	1357	10	364	18	286	12
-	2194	23	19	350	22	278	7	1208	13	427	16	199	23
LOCAL SMALL	4401	60	15	366	19	206	14	1000	19	562	11	279	14
76TA 66005	5562	1121	2	466	13	118	22	2089	2	214	21	365	5
76TA 66054	5570	684	4	233	24	62	24	1273	12	1483	1	281	13
78S 26004	5584	651	5	533	7	143	18	1309	11	53	24	245	16
78S 26009	5585	57	16	400	15	159	17	952	20	687	7	402	4
78S 26010	5586	32	17	366	19	118	22	1422	7	187	22	242	17
78S 26013	5588	8	21	633	4	231	12	1392	8	458	14	326	9
FLIP84-3L	5676	5	23	516	9	268	9	892	22	885	5	341	6
FLIP84-4L	5677	8	21	316	23	140	19	1029	17	447	15	341	6
FLIP84-11L	5684	14	20	533	7	281	6	845	23	1270	3	223	21
FLIP84-14L	5687	3	24	633	4	309	4	1142	15	927	4	408	3
FLIP84-17L	5690	28	18	583	6	265	10	928	21	1302	2	202	22
FLIP84-29L	5700	280	11	366	19	137	20	1809	4	375	17	341	6
FLIP84-62L	5732	639	6	783	2	737	1	1559	6	156	23	198	24
FLIP84-65L	5735	304	10	433	14	275	8	1023	18	229	20	230	20
FLIP84-66L	5736	194	12	400	15	162	16	2035	3	468	13	454	1
FLIP84-67L	5737	717	3	483	10	312	3	1178	14	510	12	241	18
LOCAL CHECK	-	1826	1	1150	1	400	2	2464	1	583	9	258	15
LOCATION MEAN		347		497		236		1324		578		296	
S.E. OF MEAN		121.83		64.13		58.72		259.92		240.98		67.48	
L.S.D AT 5%		343.61		180.87		165.62		733.08		679.65		190.31	
C.V.%		70.14		25.76		49.67		39.24		83.29		45.48	
ERROR DF		69		69		69		69		69		69	
SIGNIFICANCE		*		*		*		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		1		0		3		1	

Cont'd. ...

Table 5.2.5. Cont'd. ...

SELECTION	ILL	ITALY		LEBANON				MOROCCO		NEPAL	
		Leonessa		Beqa'a		Terbol		Jmaat		Khumaltar	
		Y	R	Y	R	Y	R	Y	R	Y	R
-	40	76	24	421	19	1534	13	1506	20	173	19
-	920	180	6	536	10	1583	9	1651	13	313	4
-	975	151	11	511	13	1697	7	2343	2	265	8
-	1868	91	22	790	1	1270	23	1584	16	180	17
-	1939	118	15	375	22	1540	11	1808	10	253	10
-	2194	174	7	422	18	1539	12	1796	11	346	2
LOCAL SMALL	4401	98	19	425	17	1451	17	1511	19	130	23
76TA 66005	5562	249	2	611	6	2069	2	2098	5	270	6
76TA 66054	5570	196	5	412	20	1216	24	2187	4	156	22
78S 26004	5584	171	8	459	14	1437	18	2053	6	190	15
78S 26009	5585	126	14	272	23	1940	5	1830	9	236	11
78S 26010	5586	135	13	412	20	2156	1	2432	1	188	16
78S 26013	5588	113	16	198	24	1979	4	1997	8	315	3
FLIP84-3L	5676	106	17	643	4	1343	20	1283	23	220	14
FLIP84-4L	5677	80	23	621	5	1274	22	1573	18	266	7
FLIP84-11L	5684	102	18	518	12	1552	10	1781	12	65	24
FLIP84-14L	5687	98	19	567	7	1496	15	1575	17	170	20
FLIP84-17L	5690	93	21	554	8	1479	16	1238	24	160	21
FLIP84-29L	5700	161	9	544	9	2041	3	2212	3	303	5
FLIP84-62L	5732	153	10	428	16	1654	8	1444	21	255	9
FLIP84-65L	5735	208	3	519	11	1340	21	1607	15	236	11
FLIP84-66L	5736	197	4	696	3	1878	6	2008	7	231	13
FLIP84-67L	5737	143	12	452	15	1378	19	1421	22	175	18
LOCAL CHECK	-	275	1	761	2	1500	14	1640	14	486	1
LOCATION MEAN		146		506		1598		1774		232	
S.E. OF MEAN		22.15		106.62		84.25		156.22		47.45	
L.S.D AT 5%		62.47		-		237.62		440.59		133.84	
C.V.%		30.34		42.10		10.54		17.61		40.76	
ERROR DF		69		69		69		69		69	
SIGNIFICANCE		*		NS		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		-		5		7		0	

Cont'd. ...

Table 5.2.5. Cont'd. ...

SELECTION	ILL	PAKISTAN								SAUDI ARABIA	
		Dasht		Faisalabad-1		Faisalabad-2		Quetta		Al Hassa	
		Y	R	Y	R	Y	R	Y	R	Y	R
-	40	71	10	431	14	261	9	625	18	1	19
-	920	51	22	490	12	261	9	1000	4	18	6
-	975	62	19	490	12	246	11	1031	3	26	4
-	1868	88	1	312	20	246	11	718	11	2	16
-	1939	81	4	313	19	156	20	765	9	31	3
-	2194	68	12	431	14	168	18	556	21	4	13
LOCAL SMALL	4401	80	6	431	14	96	23	521	22	1	19
76TA 66005	5562	80	6	575	9	426	3	834	6	58	1
76TA 66054	5570	60	21	617	5	301	6	346	24	37	2
78S 26004	5584	82	3	695	3	438	2	734	10	1	19
78S 26009	5585	67	13	83	24	166	19	827	8	1	19
78S 26010	5586	76	8	561	10	318	5	609	20	6	12
78S 26013	5588	32	24	305	22	176	17	665	14	7	10
FLIP84-3L	5676	85	2	656	4	105	22	646	16	2	16
FLIP84-4L	5677	63	17	281	23	188	16	671	13	3	14
FLIP84-11L	5684	66	14	520	11	51	24	890	5	12	9
FLIP84-14L	5687	70	11	324	18	118	21	509	23	1	19
FLIP84-17L	5690	45	23	307	21	270	8	831	7	3	14
FLIP84-29L	5700	75	9	601	7	221	14	662	15	18	6
FLIP84-62L	5732	64	16	845	2	223	13	625	18	22	5
FLIP84-65L	5735	61	20	378	17	293	7	640	17	7	10
FLIP84-66L	5736	65	15	614	6	420	4	1134	2	16	8
FLIP84-67L	5737	63	17	590	8	210	15	718	11	2	16
LOCAL CHECK	-	81	4	1410	1	683	1	1296	1	-	
LOCATION MEAN		68		511		252		744		12	
S.E. OF MEAN		15.40		86.53		101.46		77.09		6.44	
L.S.D AT 5%		-		244.04		286.16		217.41		18.36	
C.V.%		44.92		33.85		80.48		20.71		89.93	
ERROR DF		69		69		69		69		44	
SIGNIFICANCE		NS		*		*		*		*	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		-		0		0		0		-	

Cont'd. ...

Table 5.2.5. Cont'd. ...

SELECTION	ILL	SPAIN Alcala de-Henares Y	SPAIN Alcala de-Henares R	SYRIA Tel Hadya Y	SYRIA Tel Hadya R	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El Kef Y	TUNISIA El Kef R	Overall Mean (1) Y	Overall Mean (1) Rank R
-	40	1074	17	883	21	1618	16	1900	11	1017	17
-	920	1164	13	1186	9	1787	11	2056	8	1194	8
-	975	1504	2	1138	11	2018	8	1697	22	1207	6
-	1868	1090	14	1163	10	1362	23	1806	17	987	20
-	1939	1427	3	1122	12	2775	1	2156	4	1221	5
-	2194	914	22	1344	4	1525	20	2175	2	1057	15
LOCAL SMALL	4401	1251	6	858	22	1518	21	1618	24	959	21
76TA 66005	5562	1241	7	1336	5	2300	3	2168	3	1333	1
76TA 66054	5570	996	20	1102	13	1675	14	1818	16	1113	13
78S 26004	5584	1076	16	1377	3	2387	2	1718	20	1152	11
78S 26009	5585	1176	11	952	20	2143	5	2118	7	1115	12
78S 26010	5586	1230	8	1086	14	1887	10	2012	9	1196	7
78S 26013	5588	1410	4	1291	7	2231	4	2150	5	1225	4
FLIP84-3L	5676	1054	18	1022	16	1568	18	1681	23	1015	18
FLIP84-4L	5677	914	22	758	23	1550	19	1887	13	943	22
FLIP84-11L	5684	1366	5	1208	8	1712	13	1756	18	1162	9
FLIP84-14L	5687	978	21	975	18	1662	15	1875	14	1055	16
FLIP84-17L	5690	1077	15	955	19	1581	17	1943	10	1064	14
FLIP84-29L	5700	1169	12	1586	2	2068	6	1712	21	1262	3
FLIP84-62L	5732	1582	1	644	24	2068	6	2150	5	1161	10
FLIP84-65L	5735	1031	19	1044	15	1137	24	1831	15	934	23
FLIP84-66L	5736	1228	9	1650	1	1912	9	1756	18	1314	2
FLIP84-67L	5737	825	24	997	17	1456	22	1900	11	992	19
LOCAL CHECK	-	1195	10	1297	6	1787	11	2275	1		
LOCATION MEAN		1166		1124		1822		1923			
S.E. OF MEAN		121.44		134.35		262.12		202.24			
L.S.D AT 5%		342.51		378.92		739.26		-			
C.V.%		20.83		23.90		28.77		21.03			
ERROR DF		69		69		69		69			
SIGNIFICANCE		*		*		*		NS			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		1		0		1		-			

(1) Ishurdi, Borovce, Catania, Leonessa, Khumaltar, Dasht, Faisalabad-2 and Al Hassa were excluded from the overall mean , * = significant at $P \leq 0.05$, NS = not significant.

Table 5.2.6. The five heaviest seed yielding entries at the individual locations in the LIYT-S during 1984/85.

RANK	BANGLADESH	BULGARIA	CZCHOSLAVAKIA	EGYPT	IRAQ	ITALY	
	Ishurdi	Toshevo	Borovce	Sids	Sulaimaniya	Catania	Leonessa
1	Local check	Local check	FLIP 84-62L	Local check	ILL 5570	FLIP 84-66L	Local check
2	ILL 5562	FLIP 84-62L	Local check	ILL 5562	FLIP 84-17L	ILL 920	ILL 5562
3	FLIP 84-67L	ILL 1939	FLIP 84-67L	FLIP 84-66L	FLIP 84-11L	FLIP 84-14L	FLIP 84-65L
4	ILL 5570	ILL 5588]	FLIP 84-14L	FLIP 84-29L	FLIP 84-14L	ILL 5585	FLIP 84-66L
5	ILL 5584	FLIP 84-14L]	ILL 40	ILL 920	FLIP 84-3L	ILL 5562	ILL 5570

Cont'd. ...

RANK	LEBANON		MOROCCO	NEPAL	PAKISTAN		
	Beqa'a	Terbol	Jmaat	Khumaltar	Faisalabad-1	Faisalabad-2	Quette
1	ILL 1868	ILL 5586	ILL 5586	Local check	Local check	Local check	Local check
2	Local check	ILL 5562	ILL 975	ILL 2194	FLIP 84-62L	ILL 5584	FLIP 84-66L
3	FLIP 84-66L	FLIP 84-29L	FLIP 84-29L	ILL 5588	ILL 5584	ILL 5562	ILL 975
4	FLIP 84-3L	ILL 5588	ILL 5570	ILL 920	FLIP 84-3L	FLIP 84-66L	ILL 920
5	FLIP 84-4L	ILL 5585	ILL 5562	FLIP 84-29L	ILL 5570	ILL 5586	FLIP 84-11L

Cont'd. ...

RANK	SPAIN	SYRIA	TUNISIA	
	Alcala de Henares	Tel Hadya	Beja	El-Kef
1	FLIP 84-62L	FLIP 84-66L	ILL 1939	Local check
2	ILL 975	FLIP 84-29L	ILL 5584	ILL 2194
3	ILL 1939	ILL 5584	ILL 5562	ILL 5562
4	ILL 5588	ILL 2194	ILL 5588	ILL 1939
5	FLIP 84-11L	ILL 5562	ILL 5585	ILL 5588]
				FLIP 84-62L]

The brackets indicate entries having the same rank.

Beja (1822 kg/ha) in Tunisia, Jmaat (1774 kg/ha) in Morocco, and Terbol (1598 kg/ha) in Lebanon. The seed yields were, however, less than 350 kg/ha at Ishurdi in Bangladesh, Borovce in Czechoslovakia, Catania and Leonessa in Italy, Khulamatar in Nepal, Dasht and Faisalabad-2 in Pakistan, and Al Hassa in Saudi Arabia. The C.V. for the experimental design ranged from 10.54 to 89.93% with 9 locations exhibiting C.V. more than 40%. The ANOVA for the design revealed that the differences between the entries were significant at 17 out of 20 locations. The LSD estimates showed that some of the test entries exceeded the respective local checks at 7 locations. These included, Borovce (Czechoslovakia), Sulaimaniya (Iraq), Catania (Italy), Terbol (Lebanon), Jmaat (Morocco), Alcala de Henares (Spain) and Beja (Tunisia). The highest seed yield of 1333 kg/ha across locations was reported for 76TA 66005 (ILL 5562) which was closely followed by FLIP 84-66L, FLIP 84-29L, 78S 26013 (ILL 5588) and ILL 1939 with seed yields of 1314, 1262, 1225 and 1221 kg/ha respectively.

The five heaviest seed yielding entries at the individual locations are given in Table 5.2.6. The entry 76TA 66005 (ILL 5562) occurred most frequently among the top five heaviest yielders and was followed by FLIP 84-66L, -62L, 78S 26013 (ILL 5588) and ILL 1939. These entries were thus more adaptable.

The mean seed yield and rank of common entries over 1983/84 and 1984/85 is given in Table 5.2.7. It was observed that ILL 1939 had the highest average rank and was closely followed by ILL 975, FLIP 84-66L and ILL 920.

Table 5.2.7. The mean yield (Y= kg/ha) and rank (R) of the common entries in LIYT-S during 1983-1985.

Entry Name		1983/84		1984/85		Average	
		Y	R	Y	R	Y	R
ILL 40	-	773	8	1017	6	895	7
ILL 920	-	912	4	1194	4	1053	4
ILL 975	-	947	3	1207	3	1077	3
ILL 1939	-	989	1	1221	2	1105	1
FLIP 84-62L	(ILL 5732)	906	5	1161	5	1033	5
FLIP 84-65L	(ILL 5735)	771	9	934	9	853	9
FLIP 84-66L	(ILL 5736)	848	6	1314	1	1081	2
FLIP 84-67L	(ILL 5737)	986	2	992	7	989	6
Syrian Local	(ILL 4401)	798	7	959	8	879	8

The correlations among seed yields of different locations are given in Table 5.2.8. It was observed that seed yields at Tel Hadya-Syria were correlated positively with those of at Sids in Egypt, Leonessa in Italy, Terbol in Lebanon, and Jma'at in Morocco. Further, it was interesting to note that seed yields at Sids in Egypt were

Table 5.2.8. Correlation (df=21) among different locations for the seed yield of entries in the LIYT-S during 1984/85.

COUNTRY	LOCATION	BANGLADESH	BULGARIA	CZECHO-SLOVAKIA	EGYPT	IRAQ	ITALY		LEBANON	
		Ishurdi	Toshevo	Borovce	Sids	Sulai-maniya	Catania	Leonessa	Beqa'a	Terbol
BULGARIA	Toshevo	0.043								
CZECHOSLOVAKIA	Borovce	0.002	0.716							
EGYPT	Sids	0.416	0.036	-0.094						
IRAQ	Sulaimaniya	-0.300	-0.098	-0.085	-0.434					
ITALY	Catania	-0.132	-0.124	-0.329	0.382	0.060				
ITALY	Leonessa	0.584	-0.205	-0.158	0.702	-0.316	0.100			
LEBANON	Beqa'a	0.137	-0.201	-0.102	0.050	0.075	0.235	0.056		
LEBANON	Terbol	-0.024	0.070	-0.146	0.638	-0.387	0.282	0.284	-0.284	
MOROCCO	Jma'at	0.221	-0.386	-0.581	0.541	-0.303	0.092	0.479	-0.207	0.599
NEPAL	Khumaltar	0.030	0.003	0.006	0.514	-0.523	0.244	0.388	-0.134	0.367
PAKISTAN	Dasht	0.286	-0.183	-0.145	-0.062	-0.268	0.025	-0.018	0.392	-0.098
PAKISTAN	Faisalabad-1	0.448	0.124	0.296	0.465	-0.194	-0.222	0.446	0.179	0.046
PAKISTAN	Faisalabad-2	0.551	-0.183	-0.293	0.592	-0.375	0.098	0.652	0.220	0.248
PAKISTAN	Quetta	0.011	0.112	-0.120	0.347	-0.144	0.303	0.182	0.290	0.325
SAUDI ARABIA	Al Hassa	0.663	-0.012	-0.156	0.661	-0.074	0.112	0.646	0.054	0.297
SPAIN	Alcala de-Henares	0.084	0.452	0.258	0.322	-0.253	-0.085	0.032	-0.263	0.484
SYRIA	Tel Hadya	0.132	-0.239	-0.491	0.560	-0.154	0.292	0.512	0.182	0.424
TUNISIA	Beja	0.303	0.378	-0.110	0.531	-0.354	0.182	0.197	-0.388	0.553
TUNISIA	El Kef	0.120	0.358	0.286	0.258	-0.204	0.004	0.173	-0.450	0.369

Cont'd. ...

Table 5.2.8. Cont'd. ...

COUNTRY	LOCATION	MOROCCO Jma'at	NEPAL Khumaltar	PAKISTAN Dasht	PAKISTAN Faisal-abad-1	PAKISTAN Faisal-abad-2	PAKISTAN Quetta	S. ARABIA Al Hassa	SPAIN Alcala de Henares	SYRIA Tel-Hadya	TUNISIA Beja
NEPAL	Khumaltar	0.234									
PAKISTAN	Dasht	0.044	-0.233								
PAKISTAN	Faisalabad-1	0.171	-0.048	0.213							
PAKISTAN	Faisalabad-2	0.429	0.165	0.034	0.351						
PAKISTAN	Quetta	0.130	0.161	-0.158	-0.028	0.275					
SAUDI ARABIA	Al Hassa	0.466	0.241	0.041	0.327	0.374	0.176				
SPAIN	Alcala de-Henares	0.313	0.107	-0.092	0.173	-0.055	0.364	0.409			
SYRIA	Tel Hadya	0.588	0.295	0.058	0.187	0.415	0.384	0.268	0.029		
TUNISIA	Beja	0.498	0.311	0.075	0.101	0.218	0.279	0.487	0.601	0.309	
TUNISIA	El Kef	0.014	0.506	-0.307	-0.235	0.046	-0.008	0.276	0.175	-0.117	0.382

The underlined correlation values are significant at $P \leq 0.05$

positively correlated with Leonessa in Italy, Terbol in Lebanon, Jma'at in Morocco, Khumaltar in Nepal, Faisalabad in Pakistan, Al-Hassa in Saudi Arabia, and Beja in Tunisia.

The correlations among seed yields of different locations are given in Table 5.2.8. It was observed that seed yields at Tel Hadya-Syria were correlated positively with those of at Sids in Egypt, Leonessa in Italy, Terbol in Lebanon, and Jma'at in Morocco. Further, it was interesting to note that seed yields at Sids in Egypt were positively correlated with Leonessa in Italy, Terbol in Lebanon, Jma'at in Morocco, Khumaltar in Nepal, Faisalabad in Pakistan, Al-Hassa in Saudi Arabia, and Beja in Tunisia.

5.3. LENTIL INTERNATIONAL SCREENING NURSERY - LARGE SEED (LISN-L)

Material

The Lentil International Screening Nursery - Large Seed comprised 42 test entries and 3 checks, two of the checks namely Syrian Local Large (ILL 4400) and Precoz (ILL 4605) were supplied, and one local check was to be added by the cooperator. Most of the entries in this nursery were selected from the materials developed and tested at ICARDA sites in Syria and Lebanon.

Methods and Management

The material comprising 42 test entries and three checks was sown in an augmented block design in three blocks comprising 15, 15 and 12 test entries, and 3 checks repeated in every block. The suggested plot size was single row 4 m long accomodating 200 plants with between-row spacing of 25 cm.

Fifty sets of the nursery were supplied to different cooperators in 28 countries but the results were received from 33 locations in 20 countries. The agronomic data received from the cooperators is presented in Table 5.3.1.

Results and Discussion

The data on time to flowering (Table 5.3.2) revealed that flowering was earliest in 54 days at Toshevo in Bulgaria and Valdivia in Chile and latest in 160 days at Ankara-2 in Turkey. Precoz (ILL 4605) was the earliest among all to flower (103 days) and Okula was the latest (119 days). The data on time to maturity (Table 5.3.3) revealed that the lines flowering earlier were, in general, also earlier in maturity and Precoz was the earliest to mature taking 146 days.

The plant height data (Table 5.3.4) revealed that the entry means ranged between 26 and 36 cm, Okula (ILL 5481) being the tallest and Precoz, FLIP 84-155L, FLIP 85-2L being the shortest in plant height. Further the plants were tallest at Chillan in Chile (56 cm) and

Table 5.3.1. Agronomic data for different locations in the LISN-L during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Setif	26.12.1984	29.07.1985		46		-	Trifloraline	L.B.C
ALGERIA	Sidi Bel Abbes	09.01.1985	26.06.1985	15	90		-	-	Lalrd 43
ARGENTINA	Mendoza	10.06.1985	03.12.1985	NA			4	-	Precoz ILL 1605
BRAZIL	Santa Maria	12.06.1985	-	08	60	50	-	-	M3.83 Brazil
BULGARIA	Toshevo	08.04.1985	20.07.1985	30	60		-	Afalon	Tadjikskaya 95
CHILE	Chillan	02.05.1985	NA		90		-	Afalon	Araucana-INIA
CHILE	Temuco	24.07.1985	23.12.1985		100		-	-	Arducana
CHILE	Valdivia	13.09.1985	05.02.1986		100	50	-	-	Line 3074
CZECHOSLOVAKIA	Borovce	NA	NA	NA			NA	NA	Okula
CYPRUS	Oronnda	29.11.1984	20.05.1985	21	48		-	Kerb	AR1 00318
EGYPT	Gemmiza	25.11.1984	10.05.1985	35	71		3	Prometrine	Giza 370
ETHIOPIA	Denbi	14.07.1985	23.11.1985	-			NA	NA	NA
FRANCE	Clermont	20.03.1985	08.08.1985	40	40		-	-	Anicia
JORDAN	Jubeiha	19.12.1984	30.05.1985	20	40		NA	NA	UJL 176
JORDAN	Ramtha	03.11.1984	15.05.1985	20	40		-	-	UJL 176
LEBANON	Beqa'a	22.12.1984	11.06.1985		50		-	-	Lebanese Local
LEBANON	Terbol	22.11.1984	05.1985		50		NA	Kerb,Bladex	NA
MOROCCO	Marchouch	30.11.1984	20.05.1985	150	120		-	-	L 56
PERU	Yanamuclo	21.10.1984	30.04.1985	-			-	Tamaron	Chupaca
PAKISTAN	Islamabad	20.10.1984	05.1985	-			-	-	9-6
PAKISTAN	Quetta	01.11.1984	27.05.1985	28	72		-	-	Red Small
SPAIN	Alcala de-Henares	20.12.1984	13.07.1985	24	72		-	-	LEC-83
SUDAN	Hudeiba	11.11.1984	03.1985	43			8	-	Seliam
SYRIA	Heimo	NA	NA	NA			NA	NA	NA
SYRIA	Tel Hadya	03.12.1984	21.05.1985	30	50		-	Kerb, Bladex	78s 26002
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TUNISIA	Mateur	28.11.1984	11.07.1985	-			-	-	ICARDA
TUNISIA	Menzel Temime	17.11.1984	04.07.1985	NA			NA	NA	Tchron
TURKEY	Ankara-1	27.03.1985	15.07.1985	-			-	Gusathion	Sultani Mercimek
TURKEY	Ankara-2	30.11.1984	NA	23	60		-	-	Kislik Pul-11
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA

NA = not available

Table 5.3.2. Time to flowering (days) of entries at different locations in LISN-L during 1984/85.

SELECTION	ILL	ORIGIN	ALGERIA Sidi Bel-Abbes	ARGENTINA Mendoza	BULGARIA Toshevo	CHILE Temuco	CHILE Valdivia	CHILE Chillan	CYPRUS Orounda	EGYPT Gemmiza
UJL 176	5426	JORDAN	102	106	50	108	56	131	121	97
OKULA	5481	CZECHOSLOVAKIA	108	123	64	121	59	147	136	119
80TER 52428	5667	SYRIA	108	123	54	110	55	147	133	115
81S30935	5668	SYRIA	104	118	52	110	53	147	126	105
81S38291	5670	SYRIA	108	118	55	110	55	151	133	117
81S38326	5671	SYRIA	108	110	54	108	54	148	129	111
81S38342	5672	SYRIA	107	113	56	110	55	150	135	113
FLIP84-74L	5744	ICARDA	108	120	55	109	54	148	128	113
FLIP84-79L	5749	ICARDA	110	118	55	111	53	152	134	110
FLIP84-80L	5750	ICARDA	103	113	56	110	53	134	123	110
FLIP84-81L	5751	ICARDA	103	110	53	110	55	139	123	108
FLIP84-82L	5752	ICARDA	103	110	51	110	57	139	123	106
FLIP84-84L	5754	ICARDA	107	113	53	109	55	139	131	110
FLIP84-85L	5755	ICARDA	108	113	54	110	54	143	126	114
FLIP84-86L	5756	ICARDA	110	121	54	112	53	140	133	112
FLIP84-87L	5757	ICARDA	110	110	54	108	54	131	133	108
FLIP84-90L	5760	ICARDA	107	110	56	110	54	149	128	111
FLIP84-91L	5761	ICARDA	108	118	52	110	55	151	137	110
FLIP84-92L	5762	ICARDA	108	84	52	110	53	152	133	113
FLIP84-93L	5763	ICARDA	105	110	54	110	54	149	124	110
FLIP84-94L	5764	ICARDA	104	114	52	110	53	147	126	110
FLIP84-95L	5765	ICARDA	107	119	56	111	53	146	127	111
FLIP84-96L	5766	ICARDA	108	113	55	110	56	148	133	111
FLIP84-98L	5768	ICARDA	104	110	54	110	56	143	125	111
FLIP84-99L	5769	ICARDA	107	110	55	110	55	150	132	113
FLIP84-100L	5770	ICARDA	107	110	55	109	55	146	134	114
FLIP84-101L	5771	ICARDA	108	110	55	108	56	148	125	113
FLIP84-102L	5772	ICARDA	105	115	55	110	55	134	123	108
FLIP84-103L	5773	ICARDA	108	121	54	110	55	140	129	110
FLIP84-106L	5776	ICARDA	108	110	56	110	54	136	128	110
FLIP84-144L	5814	ICARDA	108	120	56	110	54	147	132	111
FLIP84-145L	5815	ICARDA	108	121	54	110	55	151	129	112
FLIP84-147L	5816	ICARDA	104	110	54	110	56	143	125	110
FLIP84-148L	5817	ICARDA	108	107	53	110	56	148	125	110
FLIP84-149L	5818	ICARDA	103	110	52	111	50	139	126	110
FLIP84-152L	5821	ICARDA	108	118	54	112	51	152	133	110
FLIP84-155L	5824	ICARDA	103	106	53	110	55	139	124	108
FLIP84-156L	5825	ICARDA	104	118	54	110	55	151	130	112
FLIP85-1L	5839	ICARDA	107	110	53	110	53	150	124	110
FLIP85-2L	5840	ICARDA	108	118	52	111	55	152	129	110
FLIP85-3L	5841	ICARDA	108	118	52	110	55	152	129	111
FLIP85-4L	5842	ICARDA	104	110	54	108	56	148	125	110
LOCAL	4400	SYRIA	104	113	54	110	54	139	135	108
PRECOZ	4605	ARGENTINA	99	93	51	112	52	129	113	78
LOCAL CHECK			110	102	54	112	56	146	141	76
LOCATION MEAN			106	112	54	110	54	144	128	109
C.V.%			0.36	7.85	1.22	0.79	1.91	2.72	2.52	2.18
L.S.D.AT 5% FOR:										
CHECKS			0.80	19.88	1.51	1.99	2.38	8.90	7.40	5.28
CHECKS VS TEST ENTRIES			0.12	32.47	2.46	3.26	3.90	14.54	12.08	8.63
TEST ENTRIES IN THE SAME BLOCK			0.13	34.44	2.61	3.46	4.13	15.42	12.81	9.15
TEST ENTRIES IN DIFFERENT BLOCKS			0.15	39.77	3.02	3.99	4.77	17.81	14.80	10.57
S.E.FOR:										
CHECKS			0.32	7.16	0.54	0.72	0.86	3.20	2.66	1.90
CHECKS VS TEST ENTRIES			0.49	11.70	0.88	1.17	1.40	5.23	4.35	3.11
TEST ENTRIES IN THE SAME BLOCK			0.52	12.40	0.94	1.24	1.49	5.55	4.61	3.29
TEST ENTRIES IN DIFFERENT BLOCKS			0.59	14.32	1.08	1.43	1.72	6.41	5.33	3.80

Cont'd. ...

Table 5.3.2. Cont'd. ...

SELECTION	ILL	ETHIOPIA	FRANCE	JORDAN		LEBANON		MOROCCO
		Denbi	Clermont	Ramtha	Jubeiha	Beqa'a	Terbol	Marchouch
UJL 176	5426	66	73	144	113	114	135	116
OKULA	5481	80	82	151	-	-	149	-
80TER 52428	5667	73	77	156	111	121	142	114
81S30935	5668	48	76	147	111	115	138	117
81S38291	5670	82	79	158	111	121	142	110
81S38326	5671	54	76	152	113	117	141	121
81S38342	5672	80	78	152	114	120	142	123
FLIP84-74L	5744	57	76	152	113	120	141	121
FLIP84-79L	5749	72	80	152	111	123	142	110
FLIP84-80L	5750	80	74	143	114	117	136	115
FLIP84-81L	5751	69	73	148	111	117	142	117
FLIP84-82L	5752	67	71	151	119	117	140	115
FLIP84-84L	5754	84	75	154	119	120	146	117
FLIP84-85L	5755	54	73	146	113	117	141	106
FLIP84-86L	5756	49	80	157	111	123	142	114
FLIP84-87L	5757	78	75	143	113	117	139	117
FLIP84-90L	5760	80	77	155	114	122	142	121
FLIP84-91L	5761	62	76	156	111	118	140	110
FLIP84-92L	5762	73	78	158	116	118	142	110
FLIP84-93L	5763	84	76	149	111	120	140	117
FLIP84-94L	5764	49	73	145	111	112	138	114
FLIP84-95L	5765	83	77	150	111	120	142	117
FLIP84-96L	5766	56	76	142	113	117	137	121
FLIP84-98L	5768	78	73	148	113	117	139	121
FLIP84-99L	5769	82	77	148	114	122	142	124
FLIP84-100L	5770	84	77	152	114	122	142	-
FLIP84-101L	5771	80	76	146	113	120	141	124
FLIP84-102L	5772	79	75	142	114	120	138	121
FLIP84-103L	5773	70	77	157	111	118	142	101
FLIP84-106L	5776	55	75	142	113	117	139	117
FLIP84-144L	5814	79	76	152	113	120	141	121
FLIP84-145L	5815	77	79	150	111	121	142	-
FLIP84-147L	5816	69	74	143	113	117	139	121
FLIP84-148L	5817	71	75	144	113	117	139	121
FLIP84-149L	5818	82	71	148	111	120	142	118
FLIP84-152L	5821	76	79	152	111	118	142	114
FLIP84-155L	5824	82	76	154	119	117	140	117
FLIP84-156L	5825	63	74	148	111	121	142	110
FLIP85-1L	5839	84	72	152	114	120	142	121
FLIP85-2L	5840	75	76	157	111	121	142	110
FLIP85-3L	5841	76	78	152	111	118	142	-
FLIP85-4L	5842	51	75	148	113	117	139	121
LOCAL	4400	74	75	148	113	121	141	119
PRECOZ	4605	53	75	144	114	110	127	110
LOCAL CHECK		66	82	149	112	120	146	119
LOCATION MEAN		70	76	149	113	118	140	116
C.V.%		8.69	2.29	0.52	1.54	0.85	1.25	6.20
L.S.D.AT 5% FOR:								
CHECKS		13.92	3.99	1.77	3.88	2.26	3.99	15.10
CHECKS VS TEST ENTRIES		22.74	6.52	2.89	6.35	3.70	6.52	24.67
TEST ENTRIES IN THE SAME BLOCK		24.12	6.92	3.06	6.73	3.92	6.92	26.16
TEST ENTRIES IN DIFFERENT BLOCKS		27.85	7.99	3.54	7.77	4.53	7.99	30.21
S.E.FOR:								
CHECKS		5.01	1.43	0.63	1.40	0.81	1.43	5.44
CHECKS VS TEST ENTRIES		8.19	2.35	1.04	2.28	1.33	2.35	8.88
TEST ENTRIES IN THE SAME BLOCK		8.69	2.49	1.10	2.42	1.41	2.49	9.42
TEST ENTRIES IN DIFFERENT BLOCKS		10.03	2.87	1.27	2.80	1.63	2.87	10.88

Cont'd. ...

Table 5.3.2. Cont'd. ...

SELECTION	ILL	PAKISTAN Islamabad	PAKISTAN Quetta	PERU Yanamuclo	SPAIN Alcala de Henares	SYRIA Tel Hadya	TURKEY Ankara-1	TURKEY Ankara-2	(1) Overall Mean
UJL 176	5426	133	148	114	125	127	63	158	108
OKULA	5481	133	148	132	151	136	-	-	119
80TER 52428	5667	132	147	132	134	133	70	-	115
81S30935	5668	135	147	125	126	128	66	-	110
81S38291	5670	132	147	132	127	133	70	-	116
81S38326	5671	136	148	127	129	132	68	-	112
81S38342	5672	135	147	120	129	133	67	162	115
FLIP84-74L	5744	133	148	130	129	129	68	-	113
FLIP84-79L	5749	137	147	127	132	133	69	166	115
FLIP84-80L	5750	158	147	124	126	132	68	-	113
FLIP84-81L	5751	130	147	118	124	130	68	162	110
FLIP84-82L	5752	155	147	102	128	128	66	158	111
FLIP84-84L	5754	157	147	116	129	132	68	-	115
FLIP84-85L	5755	136	148	120	129	129	68	-	111
FLIP84-86L	5756	137	147	127	135	130	69	-	114
FLIP84-87L	5757	161	148	124	127	129	67	-	113
FLIP84-90L	5760	133	147	124	138	135	68	159	115
FLIP84-91L	5761	135	147	131	128	129	66	162	114
FLIP84-92L	5762	135	147	128	137	133	67	-	113
FLIP84-93L	5763	130	147	120	125	132	65	160	112
FLIP84-94L	5764	132	147	121	127	128	66	162	110
FLIP84-95L	5765	127	147	126	128	130	70	-	114
FLIP84-96L	5766	133	148	126	128	129	67	-	112
FLIP84-98L	5768	133	148	128	126	127	67	160	112
FLIP84-99L	5769	130	147	125	138	133	69	163	114
FLIP84-100L	5770	137	147	126	137	133	70	-	115
FLIP84-101L	5771	136	148	126	134	132	70	-	114
FLIP84-102L	5772	130	147	126	126	130	68	160	111
FLIP84-103L	5773	135	147	133	130	133	67	160	114
FLIP84-106L	5776	136	148	124	128	127	70	159	110
FLIP84-144L	5814	161	148	124	129	132	69	-	116
FLIP84-145L	5815	137	147	122	130	133	68	161	115
FLIP84-147L	5816	136	148	118	125	129	68	159	111
FLIP84-148L	5817	133	148	124	128	129	65	160	112
FLIP84-149L	5818	130	147	124	127	130	68	157	111
FLIP84-152L	5821	135	147	132	135	133	68	-	115
FLIP84-155L	5824	133	147	121	128	132	65	-	112
FLIP84-156L	5825	132	147	131	128	130	68	162	113
FLIP85-1L	5839	133	147	126	128	133	65	158	113
FLIP85-2L	5840	132	147	121	132	133	65	161	114
FLIP85-3L	5841	132	147	131	128	130	69	160	114
FLIP85-4L	5842	136	148	122	125	127	67	159	110
LOCAL	4400	134	148	129	128	131	67	162	113
PRECOZ	4605	114	148	114	125	127	64	158	103
LOCAL CHECK		122	149	116	138	128	70	158	
LOCATION MEAN		135	147	124	130	130	67	160	
C.V.%		1.03	0.59	5.87	1.29	0.98	2.30	1.07	
L.S.D.AT 5% FOR:									
CHECKS		3.16	1.99	16.55	3.81	2.92	3.46	2.44	
CHECKS VS TEST ENTRIES		5.16	3.26	27.03	6.23	4.77	5.65	3.99	
TEST ENTRIES IN THE SAME BLOCK		5.47	3.46	28.66	6.60	5.06	5.99	4.23	
TEST ENTRIES IN DIFFERENT BLOCKS		6.32	3.99	33.10	7.62	5.85	6.92	4.89	
S.E.FOR:									
CHECKS		1.13	0.72	5.96	1.37	1.05	1.24	0.88	
CHECKS VS TEST ENTRIES		1.85	1.17	9.73	2.24	1.72	2.03	1.44	
TEST ENTRIES IN THE SAME BLOCK		1.97	1.24	10.32	2.38	1.82	2.15	1.52	
TEST ENTRIES IN DIFFERENT BLOCKS		2.27	1.43	11.92	2.74	2.10	2.49	1.76	

(1) Jubeiha, Beqa'a, Marchouch, Ankara-1 and Ankara-2 were excluded from the overall mean.

Table 5.3.3. Time to maturity (days) of entries at different locations in LISN-L during 1984/85.

SELECTION	ILL	ALGERIA Sidi Bel-Abbes	ARGENTINA Mendoza	BULGARIA Toshevo	CHILE Temuco	CHILE Valdivia	CHILE Chillan	EGYPT Gemmiza	ETHIOPIA Denbi	FRANCE Clermont
UJL 176	5426	157	173	86	155	135	225	144	113	125
OKULA	5481	164	168	104	170	138	233	157	133	128
80TER 52428	5667	129	172	95	159	135	224	156	136	127
81S30935	5668	147	166	91	159	131	224	150	117	127
81S38291	5670	129	146	96	159	137	224	156	136	128
81S38326	5671	157	168	90	162	131	233	149	128	126
81S38342	5672	157	165	89	163	131	222	154	133	125
FLIP84-74L	5744	157	173	90	162	131	225	150	131	126
FLIP84-79L	5749	160	170	87	159	131	224	152	132	128
FLIP84-80L	5750	157	160	87	161	129	211	149	136	127
FLIP84-81L	5751	155	169	87	163	127	222	149	125	126
FLIP84-82L	5752	155	160	85	157	127	211	148	121	126
FLIP84-84L	5754	155	160	85	157	133	222	149	126	125
FLIP84-85L	5755	155	171	88	150	131	233	149	129	126
FLIP84-86L	5756	160	172	87	159	133	224	152	129	126
FLIP84-87L	5757	157	168	90	162	133	225	149	132	127
FLIP84-90L	5760	155	160	89	161	129	228	149	127	125
FLIP84-91L	5761	157	166	93	159	131	232	151	121	127
FLIP84-92L	5762	157	172	89	159	135	232	156	130	126
FLIP84-93L	5763	155	160	89	163	129	222	149	124	125
FLIP84-94L	5764	151	166	91	159	131	232	151	127	128
FLIP84-95L	5765	155	169	89	160	133	228	154	123	127
FLIP84-96L	5766	155	173	94	157	135	225	154	128	127
FLIP84-98L	5768	158	173	94	162	135	225	154	129	127
FLIP84-99L	5769	157	163	89	156	131	211	152	127	127
FLIP84-100L	5770	157	163	89	157	129	211	153	125	127
FLIP84-101L	5771	157	173	90	162	137	225	154	120	126
FLIP84-102L	5772	157	165	89	154	131	211	149	129	128
FLIP84-103L	5773	129	172	91	159	135	224	151	132	124
FLIP84-106L	5776	152	168	94	156	131	225	146	132	123
FLIP84-144L	5814	157	176	90	162	135	222	153	119	126
FLIP84-145L	5815	157	166	94	159	135	224	151	131	127
FLIP84-147L	5816	155	173	94	162	133	225	150	122	127
FLIP84-148L	5817	155	173	94	156	133	233	149	130	126
FLIP84-149L	5818	155	167	87	160	127	211	149	122	125
FLIP84-152L	5821	160	166	87	159	131	224	151	129	126
FLIP84-155L	5824	155	160	89	166	131	222	149	123	126
FLIP84-156L	5825	157	172	94	159	135	224	152	132	126
FLIP85-1L	5839	157	160	87	157	131	211	154	129	126
FLIP85-2L	5840	157	172	89	159	133	232	151	120	126
FLIP85-3L	5841	160	172	95	159	133	224	151	128	127
FLIP85-4L	5842	158	173	94	162	131	233	149	123	125
LOCAL	4400	158	178	88	159	132	224	151	129	127
PRECOZ	4605	148	163	87	155	131	224	130	117	125
LOCAL CHECK		161	158	87	163	134	225	153	119	126
LOCATION MEAN		154	167	90	159	132	224	150	127	126
C.V.%		0.86	4.29	2.15	2.73	1.33	1.18	1.65	2.32	0.52
L.S.D.AT 5% FOR:										
CHECKS		3.04	16.35	4.40	9.87	3.99	5.99	5.62	6.67	1.51
CHECKS VS TEST ENTRIES		4.96	26.71	7.19	16.13	6.52	9.79	9.19	10.89	2.46
TEST ENTRIES IN THE SAME BLOCK		5.26	28.33	7.62	17.10	6.92	10.38	9.74	11.55	2.61
TEST ENTRIES IN		6.08	32.71	8.80	19.75	7.99	11.99	11.25	13.34	3.02
S.E.FOR:										
CHECKS		1.09	5.89	1.58	3.55	1.43	2.15	2.02	2.40	0.54
CHECKS VS TEST ENTRIES		1.78	9.62	2.59	5.81	2.35	3.52	3.31	3.92	0.88
TEST ENTRIES IN THE SAME BLOCK		1.89	10.20	2.74	6.16	2.49	3.74	3.51	4.16	0.94
TEST ENTRIES IN DIFFERENT BLOCKS		2.19	11.78	3.17	7.11	2.87	4.31	4.05	4.80	1.08

Cont'd. ...

Table 5.3.3. Cont'd. ...

SELECTION	ILL	JORDAN Ramtha	JORDAN Jubeiha	LEBANON Terbol	PAKISTAN Quetta	SPAIN Alcala de-Henares	SYRIA Tel Hadya	TURKEY Ankara-1	(1) Overall Mean
UJL 176	5426	187	156	180	192	165	164	102	150
OKULA	5481	182	156	190	192	199	-	109	159
80TER 52428	5667	186	158	187	189	184	168	107	153
81S30935	5668	176	155	178	193	165	165	101	149
81S38291	5670	184	158	187	189	161	168	107	150
81S38326	5671	185	156	184	192	172	167	106	153
81S38342	5672	181	153	184	194	162	168	107	151
FLIP84-74L	5744	184	156	184	192	176	164	106	153
FLIP84-79L	5749	185	157	185	193	178	168	107	153
FLIP84-80L	5750	184	154	178	194	163	168	106	150
FLIP84-81L	5751	186	154	178	194	153	165	103	149
FLIP84-82L	5752	187	151	178	194	163	165	98	147
FLIP84-84L	5754	179	154	182	194	166	165	107	150
FLIP84-85L	5755	180	156	180	192	174	161	97	151
FLIP84-86L	5756	184	157	185	189	181	168	107	154
FLIP84-87L	5757	187	155	180	192	173	161	100	152
FLIP84-90L	5760	185	151	178	188	175	165	105	151
FLIP84-91L	5761	185	158	181	198	181	165	98	152
FLIP84-92L	5762	184	160	181	189	181	168	101	154
FLIP84-93L	5763	186	148	178	194	154	165	100	148
FLIP84-94L	5764	177	155	178	193	164	165	101	150
FLIP84-95L	5765	186	154	182	194	172	168	107	152
FLIP84-96L	5766	178	158	188	192	177	-	104	153
FLIP84-98L	5768	186	156	180	192	179	164	102	154
FLIP84-99L	5769	183	154	184	194	179	168	107	151
FLIP84-100L	5770	186	154	184	194	176	165	107	151
FLIP84-101L	5771	186	159	186	192	183	167	106	154
FLIP84-102L	5772	183	153	178	198	158	165	100	148
FLIP84-103L	5773	184	157	185	-	172	168	103	151
FLIP84-106L	5776	180	156	180	192	181	164	105	152
FLIP84-144L	5814	183	155	184	192	177	167	106	153
FLIP84-145L	5815	186	158	185	193	173	168	107	153
FLIP84-147L	5816	187	156	180	192	166	164	99	152
FLIP84-148L	5817	180	156	180	192	172	161	102	152
FLIP84-149L	5818	187	154	184	194	163	168	103	149
FLIP84-152L	5821	184	157	181	193	173	165	105	152
FLIP84-155L	5824	188	151	178	188	169	165	100	150
FLIP84-156L	5825	186	158	187	193	180	168	107	154
FLIP85-1L	5839	182	153	178	194	162	165	98	148
FLIP85-2L	5840	184	158	181	193	172	168	100	152
FLIP85-3L	5841	183	157	181	193	173	168	107	153
FLIP85-4L	5842	185	156	180	192	163	164	102	152
LOCAL	4400	186	156	184	193	172	167	107	153
PRECOZ	4605	185	152	173	190	164	164	98	146
LOCAL CHECK		183	155	186	193	190	168	107	
LOCATION MEAN		184	155	182	192	172	166	103	
C.V.%		0.70	1.27	0.36	0.93	3.45	0.99	1.84	
L.S.D.AT 5% FOR:									
CHECKS		2.92	4.50	1.51	3.99	13.50	3.58	4.33	
CHECKS VS TEST ENTRIES		4.77	7.35	2.46	6.52	22.05	5.85	7.08	
TEST ENTRIES IN THE SAME BLOCK		5.06	7.79	2.61	6.92	23.38	6.20	7.51	
TEST ENTRIES IN DIFFERENT BLOCKS		5.85	9.00	3.02	7.99	27.00	7.16	8.67	
S.E.FOR:									
CHECKS		1.05	1.62	0.54	1.43	4.86	1.29	1.56	
CHECKS VS TEST ENTRIES		1.72	2.64	0.88	2.35	7.94	2.10	2.55	
TEST ENTRIES IN THE SAME BLOCK		1.82	2.80	0.94	2.49	8.42	2.23	2.70	
TEST ENTRIES IN DIFFERENT BLOCKS		2.10	3.24	1.08	2.87	9.72	2.58	3.12	

(1) Quetta and Tel Hadya were excluded from the overall mean.

Table 5.3.4. Plant height (cm) of entries at different locations in LISN-L during 1984/85.

SELECTION	ILL	ALGERIA	ARGENTINA	BULGARIA	CHILE			CZECHOSLOVAKIA
		Setif	Mendoza	Toshevo	Temuco	Valdivia	Chillan	Borovce
UJL 176	5426	32	21	25	32	20	63	24
OKULA	5481	26	37	31	27	28	93	36
80TER 52428	5667	26	20	26	26	17	56	28
81S30935	5668	22	23	22	30	18	41	26
81S38291	5670	30	17	25	32	18	56	28
81S38326	5671	29	20	30	32	21	53	29
81S38342	5672	25	23	25	29	16	75	26
FLIP84-74L	5744	26	21	22	30	22	83	24
FLIP84-79L	5749	24	20	24	26	21	61	25
FLIP84-80L	5750	24	23	24	31	18	45	27
FLIP84-81L	5751	24	21	23	30	20	55	30
FLIP84-82L	5752	23	23	25	30	18	35	27
FLIP84-84L	5754	25	21	21	27	18	45	29
FLIP84-85L	5755	26	20	25	28	19	78	27
FLIP84-86L	5756	26	20	22	28	16	66	26
FLIP84-87L	5757	28	22	22	26	15	73	26
FLIP84-90L	5760	24	21	23	29	20	50	28
FLIP84-91L	5761	26	25	20	30	18	41	27
FLIP84-92L	5762	26	23	20	29	18	56	29
FLIP84-93L	5763	25	24	18	28	19	55	31
FLIP84-94L	5764	20	19	24	26	21	31	25
FLIP84-95L	5765	22	22	25	33	17	65	26
FLIP84-96L	5766	29	22	31	27	21	63	25
FLIP84-98L	5768	30	25	24	27	21	73	26
FLIP84-99L	5769	26	19	26	28	19	50	25
FLIP84-100L	5770	27	22	25	28	17	55	26
FLIP84-101L	5771	33	24	28	31	22	63	27
FLIP84-102L	5772	27	23	28	27	20	65	28
FLIP84-103L	5773	30	22	24	33	19	66	28
FLIP84-106L	5776	26	20	26	29	20	78	26
FLIP84-144L	5814	22	22	23	28	20	63	24
FLIP84-145L	5815	25	23	21	31	21	61	28
FLIP84-147L	5816	27	21	25	25	20	48	27
FLIP84-148L	5817	27	23	22	26	22	53	28
FLIP84-149L	5818	29	24	23	30	15	60	25
FLIP84-152L	5821	25	16	21	29	22	56	29
FLIP84-155L	5824	22	19	23	26	19	40	28
FLIP84-156L	5825	25	23	22	33	16	51	27
FLIP85-1L	5839	23	17	21	28	21	55	28
FLIP85-2L	5840	20	23	19	27	17	31	30
FLIP85-3L	5841	24	24	30	33	20	41	27
FLIP85-4L	5842	27	19	21	22	21	48	28
LOCAL	4400	27	16	24	27	16	53	26
PRECOZ	4605	24	20	22	28	19	30	27
LOCAL CHECK		30	20	31	34	24	56	37
LOCATION MEAN		26	21	24	29	19	56	27
C.V.%		7.75	3.63	5.17	4.41	2.67	14.71	5.24
L.S.D.AT 5% FOR:								
CHECKS		4.62	1.79	2.87	2.92	1.19	18.50	3.33
CHECKS VS TEST ENTRIES		7.55	2.92	4.69	4.77	1.95	30.22	5.44
TEST ENTRIES IN THE SAME BLOCK		8.01	3.10	4.98	5.06	2.06	32.04	5.77
TEST ENTRIES IN DIFFERENT BLOCKS		9.25	3.58	5.75	5.85	2.38	37.00	6.67
S.E.FOR:								
CHECKS		1.66	0.64	1.03	1.05	0.43	6.66	1.20
CHECKS VS TEST ENTRIES		2.72	1.05	1.69	1.72	0.70	10.88	1.96
TEST ENTRIES IN THE SAME BLOCK		2.88	1.11	1.79	1.82	0.74	11.54	2.08
TEST ENTRIES IN DIFFERENT BLOCKS		3.33	1.29	2.07	2.10	0.86	13.33	2.40

Cont'd. ...

Table 5.3.4. Cont'd. ...

SELECTION	ILL	CYPRUS	EGYPT	ETHIOPIA	FRANCE	JORDAN		LEBANON
		Orounda	Gemmiza	Denbi	Clermont	Ramtha	Jubeiha	Beqa'a
UJL 176	5426	46	34	24	34	18	29	25
OKULA	5481	39	50	48	45	16	37	31
80TER 52428	5667	47	39	29	31	22	29	19
81S30935	5668	40	49	26	33	22	29	21
81S38291	5670	39	46	26	36	27	34	19
81S38326	5671	43	40	28	32	18	32	25
81S38342	5672	43	49	27	35	23	29	28
FLIP84-74L	5744	47	43	26	34	22	37	23
FLIP84-79L	5749	46	46	25	38	24	26	24
FLIP84-80L	5750	45	42	21	29	27	26	23
FLIP84-81L	5751	40	42	20	33	18	28	19
FLIP84-82L	5752	41	50	24	39	22	35	19
FLIP84-84L	5754	40	45	25	27	22	24	21
FLIP84-85L	5755	39	33	36	39	23	33	21
FLIP84-86L	5756	47	36	23	36	21	33	28
FLIP84-87L	5757	42	42	30	39	25	32	24
FLIP84-90L	5760	38	47	20	37	19	32	22
FLIP84-91L	5761	40	43	24	32	17	31	20
FLIP84-92L	5762	41	45	21	36	25	34	21
FLIP84-93L	5763	35	34	27	28	13	30	21
FLIP84-94L	5764	45	48	23	30	22	30	19
FLIP84-95L	5765	39	47	24	29	25	32	20
FLIP84-96L	5766	43	35	29	38	17	36	20
FLIP84-98L	5768	40	38	27	39	24	30	22
FLIP84-99L	5769	38	45	22	36	26	33	23
FLIP84-100L	5770	39	52	30	33	19	30	26
FLIP84-101L	5771	38	40	25	42	25	30	31
FLIP84-102L	5772	42	40	28	39	22	32	21
FLIP84-103L	5773	42	36	27	35	21	37	19
FLIP84-106L	5776	41	34	24	40	19	29	23
FLIP84-144L	5814	39	44	22	41	23	30	27
FLIP84-145L	5815	44	43	27	37	25	38	23
FLIP84-147L	5816	42	30	31	32	19	32	18
FLIP84-148L	5817	42	37	38	37	24	34	17
FLIP84-149L	5818	43	48	23	35	23	34	20
FLIP84-152L	5821	51	41	29	33	21	30	24
FLIP84-155L	5824	37	47	24	31	19	25	21
FLIP84-156L	5825	42	39	26	37	26	39	24
FLIP85-1L	5839	42	39	32	37	19	26	25
FLIP85-2L	5840	41	43	28	33	20	32	24
FLIP85-3L	5841	44	51	25	35	25	32	21
FLIP85-4L	5842	45	30	35	36	23	31	18
LOCAL	4400	41	40	24	35	23	37	25
PRECOZ	4605	40	34	28	31	18	37	20
LOCAL CHECK		43	47	27	43	21	34	27
LOCATION MEAN		42	42	27	35	21	31	22
C.V.%		6.94	17.81	5.42	10.71	8.40	12.70	13.24
L.S.D.AT 5% FOR:								
CHECKS		6.66	17.07	3.33	8.67	4.20	9.38	6.92
CHECKS VS TEST ENTRIES		10.87	27.88	5.44	14.17	6.86	15.33	11.30
TEST ENTRIES IN THE SAME BLOCK		11.53	29.57	5.77	15.03	7.28	16.26	11.99
TEST ENTRIES IN DIFFERENT BLOCKS		13.32	34.15	6.67	17.35	8.41	18.77	13.84
S.E.FOR:								
CHECKS		2.39	6.15	1.20	3.12	1.51	3.38	2.49
CHECKS VS TEST ENTRIES		3.91	10.04	1.96	5.10	2.47	5.52	4.07
TEST ENTRIES IN THE SAME BLOCKS		4.15	10.65	2.08	5.41	2.62	5.85	4.31
TEST ENTRIES IN DIFFERENT BLOCKS		4.79	12.30	2.40	6.25	3.03	6.76	4.98

Cont'd. ...

Table 5.3.4. Cont'd. ...

SELECTION	ILL	LEBANON	PAKISTAN	PERU	SYRIA	TURKEY		(1) Overall Mean
		Terbol	Quetta	Yanamuclo	Tel Hadya	Ankara-1	Ankara-2	
UJL 176	5426	26	17	34	26	29	16	29
OKULA	5481	24	23	38	35	34	-	36
80TER 52428	5667	37	24	31	33	24	17	29
81S30935	5668	28	15	41	30	24	-	28
81S38291	5670	36	19	43	33	28	-	31
81S38326	5671	33	22	42	31	25	17	30
81S38342	5672	26	18	38	30	25	24	31
FLIP84-74L	5744	30	22	38	24	25	-	31
FLIP84-79L	5749	32	17	40	28	26	16	30
FLIP84-80L	5750	28	19	37	28	22	-	28
FLIP84-81L	5751	25	15	42	26	23	-	28
FLIP84-82L	5752	29	19	34	28	21	17	28
FLIP84-84L	5754	28	17	36	27	24	19	27
FLIP84-85L	5755	32	20	31	31	30	13	31
FLIP84-86L	5756	33	20	34	31	24	-	30
FLIP84-87L	5757	29	21	37	31	23	18	30
FLIP84-90L	5760	24	20	36	28	22	22	28
FLIP84-91L	5761	29	17	26	30	20	18	27
FLIP84-92L	5762	28	20	33	33	22	-	29
FLIP84-93L	5763	28	14	37	23	23	20	27
FLIP84-94L	5764	30	19	30	30	25	18	27
FLIP84-95L	5765	27	18	39	28	24	22	29
FLIP84-96L	5766	25	21	32	31	24	15	29
FLIP84-98L	5768	27	23	35	33	24	15	30
FLIP84-99L	5769	28	22	33	32	25	21	29
FLIP84-100L	5770	29	23	33	29	25	24	29
FLIP84-101L	5771	28	22	46	37	26	-	32
FLIP84-102L	5772	28	17	31	28	21	21	29
FLIP84-103L	5773	36	20	31	35	23	17	30
FLIP84-106L	5776	35	27	31	31	25	13	30
FLIP84-144L	5814	29	20	34	31	28	17	30
FLIP84-145L	5815	30	20	34	33	23	-	30
FLIP84-147L	5816	31	21	38	28	19	-	28
FLIP84-148L	5817	28	23	31	26	21	-	29
FLIP84-149L	5818	32	25	39	32	22	22	30
FLIP84-152L	5821	32	17	39	28	23	17	29
FLIP84-155L	5824	30	16	39	23	20	-	26
FLIP84-156L	5825	31	18	33	35	26	20	30
FLIP85-1L	5839	24	18	32	25	19	21	27
FLIP85-2L	5840	27	16	31	30	20	16	26
FLIP85-3L	5841	34	23	30	35	26	15	30
FLIP85-4L	5842	33	22	28	27	22	16	28
LOCAL	4400	28	21	37	31	25	12	29
PRECOZ	4605	30	17	31	25	21	19	26
LOCAL CHECK		39	20	34	28	26	20	
LOCATION MEAN		29	19	35	29	24	18	
C.V.%		16.98	13.62	10.46	11.19	6.58	47.33	
L.S.D.AT 5% FOR:								
CHECK		11.76	6.18	8.36	7.57	3.66	14.58	
CHECKS VS TEST ENTRIES		19.21	10.10	13.65	12.36	5.98	23.81	
TEST ENTRIES IN THE SAME BLOCK		20.37	10.71	14.48	13.11	6.34	25.25	
TEST ENTRIES IN DIFFERENT BLOCKS		23.52	12.37	16.72	15.14	7.32	29.16	
S.E.FOR:								
CHECKS		4.23	2.22	3.01	2.72	1.31	5.25	
CHECKS VS TEST ENTRIES		6.92	3.64	4.91	4.45	2.15	8.57	
TEST ENTRIES IN THE SAME BLOCK		7.33	3.86	5.21	4.72	2.28	9.09	
TEST ENTRIES IN DIFFERENT BLOCKS		8.47	4.45	6.02	5.45	2.63	10.50	

(1) Ankara-2 was excluded from the overall mean.

Table 5.3.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in LISN-L during 1984/85.

SLECTION	ILL	ALGERIA				ARGENTINA		BULGARIA		CHILE			
		Sidi Bel Abbes		Setif		Mendoza		Toshevo		Temuco		Valdivia	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
UJL 176	5426	1370	19	600	37	2094	6	533	35	2669	20	73	21
OKULA	5481	0	45	537	41	994	43	133	45	2421	26	146	10
80TER 52428	5667	1620	10	720	30	1561	28	756	23	2086	36	21	41
81S30935	5668	1203	31	595	38	1761	19	1422	2	1175	45	101	15
81S38291	5670	1370	19	595	38	611	45	489	37	3679	3	23	40
81S38326	5671	1370	19	850	19	1144	38	400	41	3508	5	153	9
81S38342	5672	1675	8	1116	2	1394	34	711	26	3527	4	53	29
FLIP84-74L	5744	1203	31	787	24	1294	37	400	41	2881	15	75	20
FLIP84-79L	5749	1370	19	408	45	1311	36	1022	10	2111	34	44	31
FLIP84-80L	5750	1842	2	804	23	2144	4	578	32	2855	17	35	36
FLIP84-81L	5751	1425	16	866	15	1994	10	978	12	1737	41	173	6
FLIP84-82L	5752	1842	2	1054	3	2144	4	578	32	2220	31	37	35
FLIP84-84L	5754	1759	7	929	8	2194	3	578	32	3051	9	30	38
FLIP84-85L	5755	953	39	975	6	2094	6	933	15	2481	24	94	16
FLIP84-86L	5756	1203	31	720	30	1111	40	622	29	3031	11	5	45
FLIP84-87L	5757	953	39	787	24	1344	35	800	20	1684	43	25	39
FLIP84-90L	5760	1425	16	929	8	2494	1	1111	9	2405	27	119	14
FLIP84-91L	5761	2453	1	845	21	2011	9	889	17	2094	35	88	17
FLIP84-92L	5762	1370	19	783	27	1961	11	1022	10	2394	28	72	22
FLIP84-93L	5763	1842	2	866	15	2394	2	978	12	1727	42	62	27
FLIP84-94L	5764	953	39	595	38	1761	19	889	17	1363	44	85	18
FLIP84-95L	5765	1009	38	929	8	1894	14	844	19	2993	13	78	19
FLIP84-96L	5766	1537	13	725	29	1594	27	800	20	4098	2	163	7
FLIP84-98L	5768	953	39	537	41	1894	14	800	20	2386	29	201	4
FLIP84-99L	5769	1675	8	616	36	1944	12	311	44	3433	6	42	32
FLIP84-100L	5770	1592	12	866	15	1444	33	444	39	3011	12	70	23
FLIP84-101L	5771	1370	19	662	34	1794	18	533	35	2781	18	70	23
FLIP84-102L	5772	1842	2	866	15	1944	12	444	39	2233	30	135	12
FLIP84-103L	5773	1370	19	533	43	1011	42	1289	5	2590	22	8	44
FLIP84-106L	5776	1370	19	662	34	994	43	667	28	4593	1	65	25
FLIP84-144L	5814	953	39	1012	4	1844	16	400	41	2677	19	57	28
FLIP84-145L	5815	1537	13	533	43	1711	22	622	29	2646	21	33	37
FLIP84-147L	5816	1203	31	850	19	1844	16	933	15	2429	25	154	8
FLIP84-148L	5817	1787	6	912	12	2094	6	1200	6	2958	14	249	3
FLIP84-149L	5818	1175	36	991	5	1046	41	711	26	2492	23	15	42
FLIP84-152L	5821	1620	10	908	13	1761	19	1156	8	2175	33	191	5
FLIP84-155L	5824	1425	16	966	7	1644	24	978	12	1859	39	49	30
FLIP84-156L	5825	1370	19	783	27	1711	22	756	23	3276	8	12	43
FLIP85-1L	5839	1259	30	929	8	1144	38	1378	3	1908	38	299	1
FLIP85-2L	5840	1370	19	845	21	1611	25	622	29	1960	37	120	13
FLIP85-3L	5841	1370	19	720	30	1611	25	756	23	3312	7	39	34
FLIP85-4L	5842	1203	31	787	24	1494	31	1200	6	2193	32	270	2
LOCAL	4400	1444	15	708	33	1500	30	489	37	2867	16	39	33
PRECOZ	4605	1055	37	875	14	1466	32	1378	3	1850	40	64	26
LOCAL CHECK		361	44	1204	1	1516	29	1867	1	3043	10	145	11
LOCATION MEAN		1357		795		1652		809		2597		91	
C.V.%		20.29		15.83		6.69		25.30		10.27		45.90	
L.S.D.AT 5% FOR:													
CHECKS		600.51		291.19		247.68		493.40		604.47		93.90	
CHECKS VS TEST ENTRIES		980.79		475.59		404.52		806.90		987.25		153.40	
TEST ENTRIES IN THE SAME BLOCK		1040.12		504.36		428.99		855.60		1046.98		162.70	
TEST ENTRIES IN DIFFERENT BLOCKS		1201.03		582.39		495.36		987.80		1208.95		187.90	
S.E.FOR:													
CHECKS		216.32		104.89		89.22		178.70		217.75		33.80	
CHECKS VS TEST ENTRIES		353.31		171.32		145.72		290.30		355.64		55.20	
TEST ENTRIES IN THE SAME BLOCK		374.68		181.68		154.53		308.80		377.15		58.60	
TEST ENTRIES IN DIFFERENT BLOCKS		432.65		209.79		178.44		356.50		435.50		67.60	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		29		0		13		0		2		1	

Cont'd. ...

Table 5.3.5. Cont'd. ...

SELECTION	ILL	CHILE		CZECHOSLOVAKIA		CYPRUS		EGYPT		ETHIOPIA		FRANCE	
		Chillan		Borovce		Orounda		Gemmiza		Denbi		Clermont	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
UJL 176	5426	1667	8	322	29	2777	9	1196	29	683	14	481	15
OKULA	5481	1483	10	1622	1	791	45	815	37	866	9	486	12
80TER 52428	5667	1434	14	789	7	1866	29	688	41	383	28	567	7
81S30935	5668	736	23	139	40	2653	10	1164	30	850	10	528	11
81S38291	5670	2905	2	189	37	1693	36	688	41	450	23	534	9
81S38326	5671	674	25	572	15	2817	8	910	35	266	35	483	13
81S38342	5672	427	31	439	20	2355	15	1831	11	716	12	321	38
FLIP84-74L	5744	1116	18	422	22	1377	40	1005	33	233	36	305	40
FLIP84-79L	5749	2941	1	189	37	1453	39	1354	24	316	31	579	6
FLIP84-80L	5750	133	39	289	31	2062	24	2878	3	1216	6	482	14
FLIP84-81L	5751	280	36	539	16	2822	7	1545	19	616	15	435	27
FLIP84-82L	5752	22	44	489	18	2608	12	1164	30	466	21	241	44
FLIP84-84L	5754	206	38	739	8	1715	35	2116	5	283	34	279	42
FLIP84-85L	5755	1336	15	422	22	1324	41	529	45	900	8	654	5
FLIP84-86L	5756	1471	11	0	45	2080	22	1926	8	200	37	270	43
FLIP84-87L	5757	2660	4	272	33	1777	31	815	37	200	37	306	39
FLIP84-90L	5760	1125	17	1289	3	2142	19	1259	28	350	30	455	20
FLIP84-91L	5761	552	28	339	27	1773	33	688	41	1583	4	443	23
FLIP84-92L	5762	1103	19	339	27	1666	37	1450	22	1616	3	404	31
FLIP84-93L	5763	59	43	889	4	1968	27	1450	22	466	21	362	36
FLIP84-94L	5764	515	30	89	42	3440	2	1069	32	700	13	464	18
FLIP84-95L	5765	1493	9	389	25	2088	21	1545	19	400	27	392	34
FLIP84-96L	5766	895	21	1522	2	2457	14	1767	13	416	25	550	8
FLIP84-98L	5768	821	22	422	22	2071	23	1767	13	416	25	462	19
FLIP84-99L	5769	22	44	289	31	2982	5	1926	8	383	28	478	16
FLIP84-100L	5770	96	41	689	10	3075	4	1735	15	300	33	400	32
FLIP84-101L	5771	564	27	322	29	1017	43	1862	10	83	42	280	41
FLIP84-102L	5772	647	26	239	34	4208	1	2116	5	316	31	449	21
FLIP84-103L	5773	2316	6	489	18	2920	6	1831	11	533	16	435	28
FLIP84-106L	5776	1446	13	622	12	1297	42	1005	33	450	23	737	3
FLIP84-144L	5814	2696	3	222	36	1777	31	815	37	116	41	445	22
FLIP84-145L	5815	2390	5	139	40	2120	20	1640	16	-		398	33
FLIP84-147L	5816	380	32	622	12	3164	3	1291	27	1066	7	373	35
FLIP84-148L	5817	380	32	522	17	2577	13	910	35	850	10	693	4
FLIP84-149L	5818	243	37	189	37	2302	16	1354	24	500	18	202	45
FLIP84-152L	5821	1250	16	89	42	2000	26	1640	16	2283	2	437	24
FLIP84-155L	5824	133	39	889	4	2622	11	2021	7	516	17	327	37
FLIP84-156L	5825	1471	11	439	20	2013	25	2212	4	483	20	436	26
FLIP85-1L	5839	316	34	589	14	2235	17	1354	24	500	18	408	29
FLIP85-2L	5840	552	28	389	25	1520	38	4878	1	66	43	790	2
FLIP85-3L	5841	699	24	89	42	1760	34	1640	16	0	44	437	24
FLIP85-4L	5842	307	35	672	11	1897	28	815	37	1516	5	407	30
LOCAL	4400	1029	20	233	35	1826	30	1524	21	177	39	472	17
PRECOZ	4605	75	42	700	9	2155	18	667	44	166	40	532	10
LOCAL CHECK		2242	7	883	6	804	44	2921	2	2955	1	898	1
LOCATION MEAN		1007		489		2134		1506		633		456	
C.V.%		86.27		47.90		8.75		15.80		29.11		13.50	
L.S.D.AT 5% FOR:													
CHECKS		1994.77		544.70		411.17		547.90		445.04		146.90	
CHECKS VS TEST ENTRIES		3257.94		889.60		671.55		894.80		726.86		240.00	
TEST ENTRIES IN THE SAME BLOCK		3455.05		943.50		712.17		949.00		770.84		254.50	
TEST ENTRIES IN DIFFERENT BLOCKS		3989.55		1089.40		822.35		1095.80		890.08		293.90	
S.E.FOR:													
CHECKS		718.57		196.20		148.11		197.30		160.31		52.90	
CHECKS VS TEST ENTRIES		1173.61		320.40		241.91		322.30		261.83		86.40	
TEST ENTRIES IN THE SAME BLOCK		1244.61		340.80		256.54		341.80		277.68		91.60	
TEST ENTRIES IN DIFFERENT BLOCKS		1437.15		392.40		296.23		394.70		320.63		105.80	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		38		0		0		0	

Cont'd. ...

Table 5.3.5. Cont'd. ...

SELECTION	ILL	JORDAN				LEBANON				MOROCCO	
		Ramtha		Jubeiha		Beqa'a		Terbol		Marchouch	
		Y	R	Y	R	Y	R	Y	R	Y	R
UJL 176	5426	561	30	-		326	9	901	40	559	17
OKULA	5481	121	44	0	43	58	41	12	45	96	43
80TER 52428	5667	428	37	753	28	144	35	1846	6	442	28
81S30935	5668	855	15	963	23	239	20	1001	38	434	30
81S38291	5670	641	26	733	30	175	32	1957	4	155	42
81S38326	5671	961	11	1140	14	227	23	1123	35	313	37
81S38342	5672	797	17	397	39	495	5	1753	8	802	5
FLIP84-74L	5744	375	39	400	37	196	28	1290	28	400	33
FLIP84-79L	5749	0	45	473	35	252	16	957	39	338	36
FLIP84-80L	5750	1210	4	1117	15	301	11	1142	34	1098	2
FLIP84-81L	5751	810	16	847	26	647	1	1531	17	589	14
FLIP84-82L	5752	397	38	2047	1	129	36	1198	29	685	9
FLIP84-84L	5754	517	34	1227	10	0	44	1531	17	623	11
FLIP84-85L	5755	975	10	200	42	49	43	679	44	563	16
FLIP84-86L	5756	468	35	1053	17	254	15	1735	11	496	23
FLIP84-87L	5757	695	22	390	40	256	14	1346	26	505	21
FLIP84-90L	5760	530	32	577	33	87	40	864	41	485	24
FLIP84-91L	5761	588	29	-		208	26	1568	14	275	38
FLIP84-92L	5762	455	36	1003	19	187	30	1179	32	259	39
FLIP84-93L	5763	717	20	1247	9	152	34	1198	29	573	15
FLIP84-94L	5764	615	27	1153	12	182	31	1179	32	484	25
FLIP84-95L	5765	597	28	1597	4	375	7	2086	1	602	12
FLIP84-96L	5766	1281	2	880	25	194	29	790	42	425	31
FLIP84-98L	5768	668	24	1110	16	244	18	1123	35	875	3
FLIP84-99L	5769	1050	7	707	31	0	44	1753	8	710	8
FLIP84-100L	5770	664	25	357	41	52	42	1864	5	768	6
FLIP84-101L	5771	1361	1	510	34	292	12	1512	19	217	40
FLIP84-102L	5772	290	42	1257	8	97	39	1753	8	1218	1
FLIP84-103L	5773	268	43	1193	11	607	2	1512	19	413	32
FLIP84-106L	5776	708	21	1540	5	225	24	2046	3	467	26
FLIP84-144L	5814	721	19	400	37	424	6	1401	23	350	35
FLIP84-145L	5815	775	18	833	27	232	22	1568	14	88	44
FLIP84-147L	5816	1095	6	740	29	104	37	1346	26	455	27
FLIP84-148L	5817	881	14	1800	3	101	38	1401	23	550	18
FLIP84-149L	5818	344	40	2007	2	607	3	1031	37	602	12
FLIP84-152L	5821	1041	8	983	21	366	8	1735	11	825	4
FLIP84-155L	5824	557	31	457	36	207	27	1198	29	548	19
FLIP84-156L	5825	1028	9	1333	7	251	17	2068	2	171	41
FLIP85-1L	5839	1250	3	1147	13	318	10	1420	22	652	10
FLIP85-2L	5840	521	33	943	24	216	25	1568	14	21	45
FLIP85-3L	5841	961	11	1003	19	258	13	1846	6	355	34
FLIP85-4L	5842	1161	5	970	22	174	33	1446	21	442	28
LOCAL	4400	951	13	687	32	233	21	1370	25	756	7
PRECOZ	4605	329	41	1027	18	240	19	759	43	497	22
LOCAL CHECK		671	23	1527	6	592	4	1685	13	519	20
LOCATION MEAN		709		947		244		1384		504	
C.V.%		10.30		25.80		95.80		0.00		70.41	
L.S.D.AT 5% FOR:											
CHECKS		163.90		541.40		554.40		883.80		821.96	
CHECKS VS TEST ENTRIES		267.70		884.30		905.50		1443.40		1342.46	
TEST ENTRIES IN THE SAME BLOCK		283.90		937.80		960.30		1531.80		1423.68	
TEST ENTRIES IN DIFFERENT BLOCKS		327.90		1082.90		1108.80		1767.60		1643.93	
S.E.FOR:											
CHECKS		59.00		195.00		199.70		318.30		296.09	
CHECKS VS TEST ENTRIES		96.40		318.50		326.20		519.90		483.59	
TEST ENTRIES IN THE SAME BLOCK		102.30		337.80		345.90		551.40		512.85	
TEST ENTRIES IN DIFFERENT BLOCKS		118.10		390.00		399.40		636.70		592.19	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		13		0		0		0		0	

Cont'd. ...

Table 5.3.5. Cont'd. ...

SELECTION	ILL	PAKISTAN Quetta		PERU Yanamuclo		SPAIN Alcala de Henares		SYRIA Heimo		SYRIA Tel Hadya	
		Y	R	Y	R	Y	R	Y	R	Y	R
UJL 176	5426	140	19	34	20	2100	15	1147	31	811	41
OKULA	5481	133	24	26	30	871	45	330	44	2376	2
80TER 52428	5667	369	2	31	25	1669	29	504	43	1203.	30
81S30935	5668	212	5	23	36	2562	4	1042	33	1670	8
81S38291	5670	186	8	23	36	2176	11	954	34	1270	24
81S38326	5671	128	29	34	20	2478	6	1363	23	1615	9
81S38342	5672	0	38	125	6	2022	16	1717	10	1255	25
FLIP84-74L	5744	132	25	26	30	2445	7	1643	13	1407	17
FLIP84-79L	5749	143	17	48	13	1422	38	681	40	539	45
FLIP84-80L	5750	0	38	83	8	1104	42	1194	30	2620	1
FLIP84-81L	5751	0	38	275	3	1671	28	1896	6	1121	33
FLIP84-82L	5752	178	10	0	44	1584	32	1273	27	1255	25
FLIP84-84L	5754	2107	1	433	2	1429	36	1206	29	1684	7
FLIP84-85L	5755	123	33	43	15	1558	33	1303	25	1474	14
FLIP84-86L	5756	225	4	31	25	1805	23	1788	8	870	39
FLIP84-87L	5757	135	23	34	20	1397	39	1114	32	1341	20
FLIP84-90L	5760	14	37	625	1	2103	14	1280	26	1595	10
FLIP84-91L	5761	248	3	23	36	1503	34	652	41	1470	15
FLIP84-92L	5762	174	11	31	25	1703	25	1568	19	2270	3
FLIP84-93L	5763	0	38	0	44	1672	27	1250	28	855	40
FLIP84-94L	5764	145	16	23	36	1769	24	1634	14	807	42
FLIP84-95L	5765	199	7	25	33	1276	41	1311	24	1255	25
FLIP84-96L	5766	135	22	26	30	1891	21	1711	11	1525	12
FLIP84-98L	5768	125	31	34	20	2438	8	1587	16	1141	32
FLIP84-99L	5769	0	38	108	7	1360	40	863	38	1121	33
FLIP84-100L	5770	0	38	275	3	1923	20	942	35	1863	5
FLIP84-101L	5771	142	18	51	10	2120	13	522	42	1341	20
FLIP84-102L	5772	22	36	25	33	1058	43	1579	17	1388	19
FLIP84-103L	5773	-		31	25	2126	12	924	36	1403	18
FLIP84-106L	5776	132	26	18	41	3041	1	2076	5	1207	28
FLIP84-144L	5814	129	28	51	10	1427	37	1493	22	1079	35
FLIP84-145L	5815	168	12	48	13	1463	35	1504	21	2136	4
FLIP84-147L	5816	138	20	43	15	2556	5	1592	15	941	37
FLIP84-148L	5817	125	31	34	20	2800	2	1545	20	1207	28
FLIP84-149L	5818	0	38	8	43	2301	9	1672	12	1417	16
FLIP84-152L	5821	137	21	23	36	2280	10	1819	7	1736	6
FLIP84-155L	5824	25	35	158	5	1950	19	764	39	970	36
FLIP84-156L	5825	126	30	40	18	1690	26	2524	1	1521	13
FLIP85-1L	5839	0	38	25	33	1021	44	917	37	1188	31
FLIP85-2L	5840	158	15	40	18	1627	30	1770	9	1336	22
FLIP85-3L	5841	183	9	31	25	1962	18	2174	4	1536	11
FLIP85-4L	5842	130	27	59	9	2755	3	2486	2	900	38
LOCAL	4400	165	13	12	42	1993	17	1571	18	1307	23
PRECOZ	4605	159	14	50	12	1612	31	245	45	764	43
LOCAL CHECK		206	6	41	17	1849	22	2474	3	616	44
LOCATION MEAN		168		72		1857		1369		1342	
C.V.%		79.30		29.71		9.50		25.81		29.59	
L.S.D.AT 5% FOR:											
CHECKS		266.20		45.61		399.80		805.30		865.45	
CHECKS VS TEST ENTRIES		434.80		74.49		653.00		1315.30		1413.49	
TEST ENTRIES IN THE SAME BLOCK		461.10		79.00		692.50		1394.90		1499.01	
TEST ENTRIES IN DIFFERENT BLOCKS		532.40		91.22		799.60		1610.70		1730.91	
S.E.FOR:											
CHECKS		95.90		16.43		144.00		290.10		311.76	
CHECKS VS TEST ENTRIES		156.60		26.83		235.20		473.80		509.18	
TEST ENTRIES IN THE SAME BLOCK		166.10		28.45		249.40		502.40		539.99	
TEST ENTRIES IN DIFFERENT BLOCKS		191.80		32.86		288.00		580.20		623.52	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		1		6		5		0		4	

Cont'd. ...

Table 5.3.5. Cont'd. ...

SELECTION	ILL	TUNISIA Beja Y	Beja R	El Kef Y	El Kef R	Mateur Y	Mateur R	TURKEY Ankara-1 Y	Ankara-1 R	Overall Mean (1) Y	Overall Rank (1) R
UJL 176	5426	1600	33	1488	33	878	41	1175	7	1265	26
OKULA	5481	2250	9	1338	36	1028	34	817	23	920	44
80TER 52428	5667	1383	42	1838	13	2211	2	722	34	1164	38
81S30935	5668	1933	17	1588	24	961	37	722	34	1220	31
81S38291	5670	1583	34	2038	6	1711	17	937	14	1287	23
81S38326	5671	2600	7	1188	42	1828	11	746	27	1321	19
81S38342	5672	2016	14	1472	35	811	43	532	39	1376	8
FLIP84-74L	5744	2200	10	1588	24	1528	22	889	15	1211	32
FLIP84-79L	5749	1633	29	1688	19	1811	13	865	21	1097	42
FLIP84-80L	5750	1466	38	1872	10	1011	36	746	27	1395	6
FLIP84-81L	5751	1466	38	1772	17	2011	5	532	39	1263	27
FLIP84-82L	5752	1766	22	3222	1	1161	33	532	39	1277	25
FLIP84-84L	5754	1266	44	1322	39	2161	3	817	23	1261	28
FLIP84-85L	5755	2650	5	1788	14	1428	26	960	12	1244	29
FLIP84-86L	5756	1983	16	2588	3	2011	5	1294	5	1340	18
FLIP84-87L	5757	1300	43	1538	29	1228	31	746	27	1125	41
FLIP84-90L	5760	1616	32	1322	39	1811	13	675	36	1321	19
FLIP84-91L	5761	1583	34	1988	7	1261	30	651	37	1176	36
FLIP84-92L	5762	1433	41	1338	36	1561	21	794	25	1236	30
FLIP84-93L	5763	1816	20	1022	44	1861	9	746	27	1178	35
FLIP84-94L	5764	1633	29	1538	29	961	37	1079	10	1151	39
FLIP84-95L	5765	2166	12	1922	9	1461	25	889	15	1351	14
FLIP84-96L	5766	2600	7	1938	8	1528	22	1103	9	1537	1
FLIP84-98L	5768	2650	5	1538	29	1228	31	746	27	1309	21
FLIP84-99L	5769	1666	28	1872	10	1811	13	746	27	1306	22
FLIP84-100L	5770	1816	20	1622	22	1811	13	746	27	1345	17
FLIP84-101L	5771	2150	13	1588	24	828	42	889	15	1204	33
FLIP84-102L	5772	1566	36	1672	20	2011	5	460	43	1366	12
FLIP84-103L	5773	1733	23	1638	21	2111	4	794	25	1346	16
FLIP84-106L	5776	2200	10	1588	24	2428	1	1460	2	1483	3
FLIP84-144L	5814	2800	3	3038	2	1478	24	889	15	1370	11
FLIP84-145L	5815	1483	37	1488	33	1861	9	1437	3	1351	14
FLIP84-147L	5816	2700	4	1338	36	1828	11	960	12	1372	10
FLIP84-148L	5817	2950	2	1588	24	1028	34	1603	1	1503	2
FLIP84-149L	5818	1866	19	1622	22	811	43	889	15	1181	34
FLIP84-152L	5821	1733	23	1288	41	1661	19	651	37	1375	9
FLIP84-155L	5824	1466	38	872	45	1311	29	532	39	1143	40
FLIP84-156L	5825	1633	29	1788	14	1361	28	1294	5	1483	3
FLIP85-1L	5839	2016	14	1872	10	1911	8	389	45	1170	37
FLIP85-2L	5840	1683	26	2238	5	-		865	21	1377	7
FLIP85-3L	5841	1683	26	1788	14	1711	17	1154	8	1360	13
FLIP85-4L	5842	4250	1	1538	29	1378	27	1389	4	1438	5
LOCAL	4400	1700	25	1750	18	917	39	881	20	1282	24
PRECOZ	4605	1100	45	1050	43	883	40	428	44	922	43
LOCAL CHECK		1900	18	2516	4	1633	20	1000	11		
LOCATION MEAN		1927		1704		1505		870			
C.V.%		23.70		21.80		18.80		35.50			
L.S.D.AT 5% FOR:											
CHECKS		1015.60		847.50		613.10		692.00			
CHECKS VS TEST ENTRIES		1658.70		1384.20		1001.30		1130.20			
TEST ENTRIES IN THE SAME BLOCK		1759.00		1467.90		1061.90		1198.60			
TEST ENTRIES IN DIFFERENT BLOCKS		2031.20		1695.00		1226.20		1384.10			
S.E.FOR:											
CHECKS		365.80		305.30		220.80		249.30			
CHECKS VS TEST ENTRIES		597.50		498.60		360.70		407.10			
TEST ENTRIES IN THE SAME BLOCK		633.60		528.80		382.50		432.80			
TEST ENTRIES IN DIFFERENT BLOCKS		731.70		610.60		441.70		498.60			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		1		0		0		0			

(1) Valdivia, Denbi, Jubeiha, Beqa'a, Yanamuclo, Quetta and Mateur were excluded from the overall mean.

Table 5.3.6. The five heaviest seed yielding entries at the individual locations in the LISN-L during 1984/85.

RANK	ALGERIA		ARGENTINA	BULGARIA	CHILE		
	Sidi Bel Abbes	Setif	Mendoza	Toshevo	Temuco	Valdivia	Chillan
1	FLIP 84-91L	Local check	FLIP 84-90L	Local check	FLIP 84-106L	FLIP 85-1L	FLIP 84-79L
2	FLIP 84-80L	ILL 5672	FLIP 84-93L	ILL 5668	FLIP 84-96L	FLIP 85-4L	ILL 5670
3	FLIP 84-82L	FLIP 84-82L	FLIP 84-84L	FLIP 85-1L	ILL 5670	FLIP 84-148L	FLIP 84-144L
4	FLIP 84-93L	FLIP 84-144L	FLIP 84-80L	ILL 4605	ILL 5672	FLIP 84-98L	FLIP 84-87L
5	FLIP 84-102L	FLIP 84-149L	FLIP 84-82L	FLIP 84-103L	ILL 5671	FLIP 84-152L	FLIP 84-145L

Cont'd. ...

RANK	CZECHOSLOVAKIA	CYPRUS	EGYPT	ETHIOPIA	FRANCE	JORDAN	
	Borovce	Oronnda	Gemmiza	Denbi	Clermont	Ramtha	Jubeiha
1	ILL 5481	FLIP 84-102L	FLIP 85-2L	Local check	Local check	FLIP 84-101L	FLIP 84-82L
2	FLIP 84-96L	FLIP 84-94L	ILL 4605	FLIP 84-152L	FLIP 85-2L	FLIP 84-96L	FLIP 84-149L
3	FLIP 84-90L	FLIP 84-147L	FLIP 84-80L	FLIP 84-92L	FLIP 84-106L	FLIP 85-1L	FLIP 84-148L
4	FLIP 84-93L	FLIP 84-100L	FLIP 84-156L	FLIP 84-91L	FLIP 84-148L	FLIP 84-80L	FLIP 84-95L
5	FLIP 84-155L	FLIP 84-99L	FLIP 84-84L FLIP 84-102L	FLIP 85-4L	FLIP 84-85L	FLIP 85-4L	FLIP 84-106L

Cont'd. ...

RANK	LEBANON		MOROCCO	PAKISTAN	SPAIN	SYRIA	
	Beqa'a	Terbol	Marchouch	Quetta	Alcala de Henares	Heimo	Tel Hadya
1	FLIP 84-81L	FLIP 84-95L	FLIP 84-102L	FLIP 84-84L	FLIP 84-106L	FLIP 84-156L	FLIP 84-80L
2	FLIP 84-103L	FLIP 84-156L	FLIP 84-80L	ILL 5667	FLIP 84-148L	FLIP 85-4L	ILL 5481
3	FLIP 84-149L	FLIP 84-106L	FLIP 84-98L	FLIP 84-91L	FLIP 85-4L	Local check	FLIP 84-92L
4	Local check	ILL 5670	FLIP 84-152L	FLIP 84-86L	ILL 5668	FLIP 85-3L	FLIP 84-145L
5	ILL 5672	FLIP 84-100L	ILL 5672	ILL 5668	FLIP 84-147L	FLIP 84-106L	FLIP 84-100L

Cont'd. ...

RANK	TUNISIA			TURKEY
	Beja	El-Kef	Mateur	Ankara
1	FLIP 85-4L	FLIP 84-82L	FLIP 84-106L	FLIP 84-148L
2	FLIP 84-148L	FLIP 84-144L	ILL 5667	FLIP 84-106L
3	FLIP 84-144L	FLIP 84-86L	FLIP 84-84L	FLIP 84-145L
4	FLIP 84-147L	Local check	FLIP 84-103L	FLIP 85-4L
5	FLIP 84-85L FLIP 84-98L	FLIP 85-2L	FLIP 84-81L FLIP 84-86L FLIP 84-102L	FLIP 84-86L FLIP 84-156L

The brackets endicate entries having the same rank.

shortest at Ankara-2 in Turkey (18 cm).

Out of 33 locations reporting the data, the crop at Santa Maria (Brazil), Islamabad (Pakistan), Hudeiba (Sudan), Mateur and Temime (Tunisia), Ankara-2 and Diyarbakir in Turkey failed.

The results pertaining to the adjusted seed yield at different locations (Table 5.3.5) showed that the performance of entries at Temuco in Chile was the best with average yield of 2597 kg/ha and was followed by Orounda in Cyprus (2134 kg/ha), Beja in Tunisia (1927 kg/ha) and Alcala de Henares in Spain (1857 kg/ha). The ANOVA for the experiment revealed that at some of the locations namely Sidi Bel Abbes in Algeria, Mendoza in Argentina, Temuco and Valdivia in Chile, Orounda in Cyprus, Ramtha in Jordan, Yanamulco in Peru, Alcala de Henares in Spain, Tel Hadya in Syria and Beja in Tunisia, 29, 13, 2, 1, 38, 13, 1, 6, 5, 4, and 1 entries, respectively, outyielded the respective local checks by a significant margin. The entry means over all locations revealed that FLIP 84-96L was the top yielder with an average yield of 1537 kg/ha and was followed by FLIP 84-148L, -106L, -156L, FLIP 85-4L, with seed yields of 1503, 1483, 1483, and 1438 kg/ha, respectively.

The five heaviest seed yielding entries at different locations are given in Table 5.3.6. The entry FLIP 84-106L occurred most frequently among the top five heavy yielders and was followed by FLIP 85-4L, FLIP 84-148L and FLIP 84-80L etc.

5.4. LENTIL INTERNATIONAL SCREENING NURSERY - SMALL SEED (LISN-S)

Material

The material for the Lentil International Screening Nursery - Small Seed comprised of 67 test entries. In addition, there were three checks, two namely Syrian Local Small (ILL 4401) and 78S 26013 (ILL 5588) were supplied and one local check was to be used by the cooperator. These entries were selected from the materials developed and tested at ICARDA sites in Syria and Lebanon.

Methods and Management

The material was sown in an augmented block design. The entries were suggested to be accomodated in five blocks, each block containing 17 test entries and 3 checks except the last one having only 14 test entries and 3 checks. The suggested plot size was single row 4 m long accomodating 200 seeds with inter row spacing of 25 cm. Thirty nine sets of screening nursery were sent to cooperators in 23 countries and the results were received from 28 locations from 15 countries. The agronomic data received from cooperators are given in Table 5.4.1.

Results and Discussion

Table 5.4.1. Agronomic data for different locations in the LISN-S during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
BRAZIL	Santa Maria	12.06.1985	NA	8	60	50	NA	NA	HL 42.82(F3)
BULGARIA	Toshevo	08.04.1985	15.07.1985	30	60		-	Afalon	Tadjikskaya 95
SZECHOSLOVAKIA	Borovce	NA	NA	NA			NA	NA	Trebisovska
EGYPT	Mallawi	23.11.1984	28.04.1985	10	30		2	Prometrine	Giza 370
ETHIOPIA	Debre Zeit	09.07.1985	NA	NA			NA	NA	ILL-358
JORDAN	Jubeiha	19.12.1984	25.05.1985	20	40		NA	NA	UJL 176
JORDAN	Ramtha	03.11.1984	07.05.1985	20	40		NA	NA	UJL 176
LEBANON	Beqa'a	22.12.1984	11.06.1985		50		1	-	Lebanese local
LEBANON	Terbol	22.11.1984	20.05.1985		50		NA	Kerb,Bladex	NA
MOROCCO	Marchouch	29.11.1984	16.05.1985	150	120		-	-	L24
NEPAL	Lalitpur-1	01.11.1984	08.04.1985	20	40	20	-	-	P43 Sishir
NEPAL	Lalitpur-2	04.11.1984	12.04.1985	20	40	20	-	-	P43 Sishir
PAKISTAN	Dasht	31.10.1984	03.06.1985	28	72		-	-	Red Small
PAKISTAN	Faisalabad	10.11.1984	23.04.1985	-			2	-	9-6
PAKISTAN	Islamabad	20.10.1984	04.1985	-			-	-	9-6
PAKISTAN	Kuchlak	01.11.1984	02.06.1985	28	72		-	-	Red Small
PAKISTAN	Quetta	01.11.1984	29.05.1985	28	72		-	-	Red Small
SPAIN	Alcala de Henares	26.12.1984	12.07.1985	24	72		-	-	LEC-83
SYRIA	Tel Hadya	03.12.1984	05.06.1985	30	50		-	Kerb,Bladex	76TA66088
SYRIA	Gelline	NA	NA	NA			NA	NA	NA
SYRIA	Heimo	NA	NA	NA			NA	NA	NA
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TUNISIA	Mateur	NA	NA	NA			NA	NA	NA
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
YEMEN A.R.	Dhmar	13.02.1985	24.06.1985		60		9	-	Dhamari

NA = not available

Table 5.4.2. Time to flowering (days) of entries at different locations in LISN-S during 1984/85.

SELECTION	ILL	ORIGIN	BULGARIA	BRAZIL	EGYPT	ETHIOPIA	JORDAN		LEBANON		MOROCCO
			Toshevo	Chapeco	Mallawi	Debre Zeit	Jubeiha	Ramtha	Beqa'a	Terbol	Marchouch
-	241	SYRIA	54	85	66	78	111	155	124	142	115
TERBISOVSKA	5479	CZECHOSLOVAKIA	58	93	66	83	123	151	-	149	-
LENKA	5480	CZECHOSLOVAKIA	61	-	59	69	123	156	127	146	123
81S 38084	5673	SYRIA	52	81	68	67	111	144	118	134	112
FLIP84-2L	5675	ICARDA	52	86	70	67	122	154	122	147	123
FLIP84-14L	5687	ICARDA	54	-	68	-	111	156	121	142	120
FLIP84-27L	5699	ICARDA	51	78	62	53	110	146	116	140	110
FLIP84-42L	5713	ICARDA	52	88	61	96	110	157	116	140	119
FLIP84-43L	5714	ICARDA	52	87	65	70	109	151	119	143	122
FLIP84-44L	5715	ICARDA	53	-	71	76	119	157	121	145	123
FLIP84-45L	5716	ICARDA	55	89	67	-	111	155	119	143	124
FLIP84-46L	5717	ICARDA	52	85	66	78	111	156	121	140	120
FLIP84-47L	5718	ICARDA	54	85	68	72	110	156	116	140	110
FLIP84-48L	5719	ICARDA	52	76	58	43	110	145	108	136	101
FLIP84-49L	5720	ICARDA	52	81	68	55	110	146	119	136	110
FLIP84-50L	5721	ICARDA	54	89	68	79	111	151	121	142	123
FLIP84-51L	5722	ICARDA	48	78	67	53	111	157	116	145	112
FLIP84-53L	5723	ICARDA	53	96	67	96	110	155	122	144	123
FLIP84-54L	5724	ICARDA	54	87	69	81	111	149	121	149	112
FLIP84-55L	5725	ICARDA	53	84	67	72	111	155	119	143	120
FLIP84-56L	5726	ICARDA	55	83	62	78	113	146	113	138	110
FLIP84-57L	5727	ICARDA	54	80	59	69	111	147	121	140	123
FLIP84-58L	5728	ICARDA	53	85	66	-	109	149	113	139	109
FLIP84-59L	5729	ICARDA	54	87	69	80	111	158	119	147	123
FLIP84-60L	5730	ICARDA	49	76	67	57	111	146	116	139	112
FLIP84-61L	5731	ICARDA	53	85	66	65	109	152	116	141	119
FLIP84-88L	5758	ICARDA	52	85	67	81	111	146	119	139	117
FLIP84-89L	5759	ICARDA	51	88	64	80	110	151	116	140	116
FLIP84-97L	5767	ICARDA	53	82	65	69	111	145	121	138	109
FLIP84-104L	5774	ICARDA	52	85	67	81	111	157	119	141	119
FLIP84-105L	5775	ICARDA	52	87	71	76	111	147	116	143	120
FLIP84-107L	5777	ICARDA	54	78	68	67	111	155	121	140	102
FLIP84-158L	5827	ICARDA	54	92	71	76	119	158	121	147	125
FLIP84-159L	5828	ICARDA	57	89	67	72	111	154	-	147	120
FLIP84-160L	5829	ICARDA	54	88	65	72	123	157	122	146	123
FLIP84-161L	5830	ICARDA	54	81	63	72	116	156	119	141	115
FLIP84-163L	5832	ICARDA	60	94	65	-	128	159	-	148	125
FLIP84-164L	5833	ICARDA	54	80	66	70	111	155	116	141	115
FLIP84-165L	5834	ICARDA	52	77	65	67	110	143	113	140	110
FLIP84-166L	5835	ICARDA	52	87	66	67	109	149	-	139	119
FLIP84-167L	5836	ICARDA	54	84	70	76	111	150	119	141	118
FLIP84-168L	5837	ICARDA	52	75	70	76	111	152	116	143	120

SELECTION	ILL	ORIGIN	BULGARIA	BRAZIL	EGYPT	ETHIOPIA	JORDAN		LEBANON		MOROCCO
			Toshevo	Chapeco	Mallawi	Debre Zeit	Jubeiha	Ramtha	Beqa'a	Terbol	Marchouch
FLIP84-169L	5838	ICARDA	52	92	64	70	109	143	119	143	122
FLIP85-9L	5847	ICARDA	48	77	68	49	111	144	113	134	115
FLIP85-11L	5849	ICARDA	53	84	69	67	111	147	119	137	119
FLIP85-12L	5850	ICARDA	53	81	62	67	113	143	116	140	120
FLIP85-13L	5851	ICARDA	52	85	66	75	111	151	119	141	120
FLIP85-14L	5852	ICARDA	54	88	65	67	109	151	121	141	122
FLIP85-15L	5853	ICARDA	53	83	62	55	108	146	119	136	119
FLIP85-16L	5854	ICARDA	53	86	70	81	122	157	119	147	123
FLIP85-17L	5855	ICARDA	53	84	71	70	114	148	119	141	113
FLIP85-18L	5856	ICARDA	52	88	65	78	109	151	116	139	124
FLIP85-19L	5857	ICARDA	55	85	67	85	111	150	119	143	117
FLIP85-20L	5858	ICARDA	50	77	65	53	111	145	113	135	115
FLIP85-21L	5859	ICARDA	53	82	66	79	111	146	124	140	117
FLIP85-22L	5860	ICARDA	51	85	66	52	109	143	116	139	114
FLIP85-23L	5861	ICARDA	54	83	57	78	111	148	121	142	125
FLIP85-24L	5862	ICARDA	55	93	66	95	123	150	-	147	123
FLIP85-25L	5863	ICARDA	53	87	62	70	109	150	119	141	119
FLIP85-26L	5864	ICARDA	49	81	67	69	116	146	118	134	120
FLIP85-27L	5865	ICARDA	52	86	70	78	111	156	116	143	123
FLIP85-28L	5866	ICARDA	55	92	68	97	110	150	119	140	119
FLIP85-29L	5867	ICARDA	54	86	69	76	111	151	116	145	120
FLIP85-30L	5868	ICARDA	52	84	67	72	122	155	119	147	124
FLIP85-31L	5869	ICARDA	52	78	63	70	111	151	122	143	120
FLIP85-32L	5870	ICARDA	53	82	68	78	111	157	121	140	120
FLIP85-33L	5871	ICARDA	52	85	67	76	111	158	122	145	118
LOCAL	4401	SYRIA	53	87	67	75	111	149	119	140	121
78S26013	5588	JORDAN	52	84	67	81	111	153	119	141	121
LOCAL CHECK			53	104	65	54	110	149	119	147	124
LOCATION MEAN			53	84	66	72	112	151	119	142	118
C.V.%			1.69	1.94	3.31	3.71	1.40	1.82	0.69	1.86	1.54
LSD.AT 5% FOR:											
CHECKS			1.31	5.14	3.21	8.09	2.31	8.78	1.12	3.87	2.64
CHECKS VS TEST ENTRIES			2.63	10.28	6.43	16.19	4.62	17.57	2.25	7.75	5.28
TEST ENTRIES IN THE SAME BLOCK			2.94	11.49	7.19	18.10	5.17	19.65	2.52	8.66	5.90
TEST ENTRIES IN DIFERENT BLOCKS			3.40	13.27	8.30	20.90	5.97	22.69	2.91	10.00	6.82
S.E.FOR:											
CHECKS			0.57	1.01	1.39	1.60	1.00	1.74	0.48	1.68	1.14
CHECKS VS TEST ENTRIES			1.14	2.03	2.79	3.21	2.00	3.48	0.97	3.36	2.29
TEST ENTRIES IN THE SAME BLOCK			1.27	2.28	3.11	3.59	2.24	3.89	1.09	3.75	2.56
TEST ENTRIES IN DIFFERENT BLOCKS			1.47	2.63	3.60	4.14	2.59	4.50	1.26	4.34	2.95

Cont'd. ...

Table 5.4.2. Cont'd. ...

SELECTION	ILL	NEPAL	PAKISTAN					SPAIN	SYRIA	YEMEN A.R.	(1)
		Lalitpur-2	Dasht	Islamabad	Kuchlak	Faisalabad	Quetta	Alcala de-Henares	Tel Hadya	Dhmar	Overall Mean
-	241	129	159	136	146	113	148	132	136	96	122
TERBISOVSKA	5479	133	153	138	149	111	150	138	141	96	124
LENKA	5480	119	159	125	146	105	148	131	142	71	120
81S 38084	5673	125	159	139	146	112	148	123	126	86	119
FLIP84-2L	5675	129	150	134	147	122	148	120	137	86	122
FLIP84-14L	5687	132	159	136	146	132	148	124	131	92	123
FLIP84-27L	5699	121	149	136	149	110	148	127	127	68	117
FLIP84-42L	5713	-	150	136	149	118	148	125	132	89	120
FLIP84-43L	5714	131	153	136	147	125	150	121	136	87	121
FLIP84-44L	5715	133	150	131	147	122	148	129	135	87	122
FLIP84-45L	5716	133	150	135	154	125	148	134	133	89	123
FLIP84-46L	5717	126	159	137	146	129	148	131	132	91	122
FLIP84-47L	5718	131	150	136	149	111	148	128	132	82	120
FLIP84-48L	5719	109	150	121	149	101	148	121	129	61	113
FLIP84-49L	5720	119	150	132	149	112	148	121	129	82	118
FLIP84-50L	5721	128	159	142	146	119	148	132	133	85	122
FLIP84-51L	5722	111	150	127	147	99	148	125	133	60	116
FLIP84-53L	5723	130	150	139	149	132	148	129	131	89	122
FLIP84-54L	5724	133	150	138	147	116	148	138	133	80	121
FLIP84-55L	5725	132	150	135	149	127	148	124	133	84	121
FLIP84-56L	5726	122	150	136	149	114	148	124	129	82	118
FLIP84-57L	5727	128	159	132	146	117	148	128	133	86	120
FLIP84-58L	5728	129	144	161	147	117	145	131	129	86	121
FLIP84-59L	5729	129	150	143	147	120	148	138	135	88	123
FLIP84-60L	5730	119	150	128	149	108	148	131	130	83	118
FLIP84-61L	5731	132	144	136	147	114	145	125	129	84	118
FLIP84-88L	5758	125	150	139	149	119	148	123	130	83	119
FLIP84-89L	5759	127	150	136	149	119	148	126	129	82	119
FLIP84-97L	5767	119	159	132	146	107	148	129	130	85	119
FLIP84-104L	5774	125	150	135	149	128	148	124	132	84	121
FLIP84-105L	5775	130	150	137	147	118	148	122	130	80	119
FLIP84-107L	5777	126	159	136	146	110	148	127	128	83	120
FLIP84-158L	5827	132	150	138	152	120	148	128	136	80	123
FLIP84-159L	5828	129	150	142	149	121	148	141	133	92	124
FLIP84-160L	5829	129	150	139	149	122	148	131	134	91	123
FLIP84-161L	5830	126	150	135	154	117	148	127	135	84	121
FLIP84-163L	5832	131	150	139	149	131	148	135	139	93	126
FLIP84-164L	5833	129	150	160	149	119	148	139	130	84	123
FLIP84-165L	5834	118	150	132	149	109	148	125	129	68	116
FLIP84-166L	5835	129	144	136	147	113	145	119	129	86	118
FLIP84-167L	5836	130	150	134	147	118	148	120	130	80	119
FLIP84-168L	5837	127	150	131	147	133	148	132	131	80	121
FLIP84-169L	5838	133	148	136	147	128	148	135	129	87	120

SELECTION	ILL	NEPAL Lalitpur-2	PAKISTAN Dasht	Islamabad	Kuchlak	Faisalabad	Quetta	SPAIN Alcala de-Henares	SYRIA Tel Hadya	YEMEN A.R. Dhmar	(1) Overall Mean
FLIP85-9L	5847	123	159	133	146	125	148	122	126	93	119
FLIP85-11L	5849	131	150	135	147	118	148	129	130	80	119
FLIP85-12L	5850	128	150	132	149	122	148	124	129	82	119
FLIP85-13L	5851	125	150	135	149	130	148	123	130	84	120
FLIP85-14L	5852	131	144	136	147	131	145	131	132	91	121
FLIP85-15L	5853	124	150	132	149	115	148	126	127	82	118
FLIP85-16L	5854	131	150	131	147	120	148	134	135	91	123
FLIP85-17L	5855	133	150	134	147	122	148	153	130	80	122
FLIP85-18L	5856	130	153	136	147	117	150	122	130	87	119
FLIP85-19L	5857	129	150	142	149	130	148	139	132	90	123
FLIP85-20L	5858	125	150	135	149	131	148	130	126	84	119
FLIP85-21L	5859	126	159	136	146	119	148	128	130	85	120
FLIP85-22L	5860	129	147	136	147	116	147	132	129	84	118
FLIP85-23L	5861	132	159	132	153	131	148	123	130	62	119
FLIP85-24L	5862	-	155	143	152	125	155	130	136	92	125
FLIP85-25L	5863	132	147	136	147	130	147	136	129	86	121
FLIP85-26L	5864	127	159	133	146	133	148	123	130	84	120
FLIP85-27L	5865	133	150	138	147	125	148	136	133	86	122
FLIP85-28L	5866	130	150	136	149	132	148	125	132	91	122
FLIP85-29L	5867	131	150	138	147	132	148	123	130	86	121
FLIP85-30L	5868	128	150	145	149	124	148	124	142	87	124
FLIP85-31L	5869	126	150	139	149	120	148	122	133	84	120
FLIP85-32L	5870	126	159	139	146	115	148	131	133	86	122
FLIP85-33L	5871	125	150	139	149	123	148	121	137	85	121
LOCAL	4401	132	147	138	148	126	149	127	130	88	121
78S26013	5588	131	151	134	148	126	148	128	132	90	121
LOCAL CHECK		106	152	123	152	101	149	140	131	56	
LOCATION MEAN		127	151	136	148	120	148	128	132	83	
C.V.%		0.83	5.05	2.01	1.62	1.72	0.86	2.66	0.92	2.80	
LSD.AT 5% FOR:											
CHECKS		1.50	11.16	3.98	3.51	3.02	1.88	5.02	1.77	3.41	
CHECKS VS TEST ENTRIES		3.01	22.32	7.97	7.04	6.06	3.76	10.04	3.55	6.83	
TEST ENTRIES IN THE SAME BLOCK		3.36	24.96	8.91	7.87	6.77	4.21	11.23	3.97	7.63	
TEST ENTRIES IN DIFFERENT BLOCKS		3.88	28.82	10.29	9.08	7.82	4.86	12.97	4.58	8.81	
S.E.FOR:											
CHECKS		0.65	4.84	1.72	1.52	1.31	0.81	2.17	0.77	1.48	
CHECKS VS TEST ENTRIES		1.30	9.68	3.46	3.05	2.62	1.63	4.35	1.54	2.96	
TEST ENTRIES IN THE SAME BLOCK		1.46	10.82	3.86	3.41	2.93	1.82	4.87	1.72	3.31	
TEST ENTRIES IN DIFFERENT BLOCKS		1.68	12.49	4.46	3.94	3.39	2.10	5.62	1.98	3.82	

(1) Chapeco, Debre Zeit, Beqa'a, Marchouch and Lalitpur-2 were excluded from the overall mean.

Table 5.4.3 Time to maturity (days) of entries at different locations in LISN-S during 1984/85.

SELECTION	ILL	BULGARIA	BRAZIL	EGYPT	JORDAN	LEBANON	MOROCCO	NEPAL
		Toshevo	Chapeco	Mallawi	Jubeiha	Terbol	Marchouch	Lalitpur-2
-	241	85	122	147	157	186	142	165
TERBISOVSKA	5479	90	139	155	-	188	-	168
LENKA	5480	98	-	153	159	182	146	162
81S 38084	5673	86	121	153	153	184	144	162
FLIP84-2L	5675	88	126	154	163	186	148	164
FLIP84-14L	5687	88	-	149	153	180	144	165
FLIP84-27L	5699	87	135	144	156	185	124	165
FLIP84-42L	5713	89	129	143	156	185	147	-
FLIP84-43L	5714	85	125	152	153	184	146	166
FLIP84-44L	5715	86	-	157	159	184	142	171
FLIP84-45L	5716	86	125	150	153	185	149	165
FLIP84-46L	5717	85	122	150	154	177	144	169
FLIP84-47L	5718	87	124	151	156	183	145	168
FLIP84-48L	5719	87	129	137	148	174	138	149
FLIP84-49L	5720	87	119	152	153	185	145	164
FLIP84-50L	5721	88	126	153	156	180	146	171
FLIP84-51L	5722	89	131	152	158	186	140	164
FLIP84-53L	5723	87	136	151	156	185	149	168
FLIP84-54L	5724	88	132	152	163	186	140	164
FLIP84-55L	5725	86	122	154	153	187	144	167
FLIP84-56L	5726	87	122	144	156	179	145	165
FLIP84-57L	5727	88	122	152	154	180	148	164
FLIP84-58L	5728	83	125	143	155	180	144	171
FLIP84-59L	5729	86	127	155	158	184	148	164
FLIP84-60L	5730	86	121	149	-	187	125	168
FLIP84-61L	5731	85	127	152	156	186	142	165
FLIP84-88L	5758	88	124	150	153	187	147	171
FLIP84-89L	5759	87	132	146	156	185	145	169
FLIP84-97L	5767	88	121	152	156	180	144	162
FLIP84-104L	5774	86	123	149	-	187	145	168
FLIP84-105L	5775	87	124	156	158	184	144	161
FLIP84-107L	5777	90	122	154	153	186	144	162
FLIP84-158L	5827	86	127	154	158	182	142	168
FLIP84-159L	5828	88	125	153	153	187	147	165
FLIP84-160L	5829	89	123	147	156	185	149	171
FLIP84-161L	5830	86	121	152	156	185	145	162
FLIP84-163L	5832	89	129	148	161	187	151	172
FLIP84-164L	5833	86	120	155	156	187	146	171
FLIP84-165L	5834	87	129	153	149	185	145	162
FLIP84-166L	5835	87	126	141	153	186	144	166
FLIP84-167L	5836	86	125	156	158	184	144	166
FLIP84-168L	5837	88	125	155	158	184	146	164
FLIP84-169L	5838	83	132	143	155	186	142	168

SELECTION	ILL	BULGARIA	BRAZIL	EGYPT	JORDAN	LEBANON	MOROCCO	NEPAL
		Toshevo	Chapeco	Mallawi	Jubeiha	Terbol	Marchouch	Lalitpur-2
FLIP85-9L	5847	83	117	149	157	180	144	161
FLIP85-11L	5849	86	124	152	150	184	140	147
FLIP85-12L	5850	87	131	144	151	183	145	162
FLIP85-13L	5851	84	122	148	155	187	139	148
FLIP85-14L	5852	85	127	141	153	186	145	105
FLIP85-15L	5853	87	119	144	154	179	149	164
FLIP85-16L	5854	87	127	155	159	182	143	161
FLIP85-17L	5855	86	126	157	158	178	138	161
FLIP85-18L	5856	85	124	152	151	180	146	170
FLIP85-19L	5857	86	120	152	150	187	129	163
FLIP85-20L	5858	86	123	152	150	178	143	171
FLIP85-21L	5859	86	122	151	153	180	144	162
FLIP85-22L	5860	85	125	141	153	180	145	166
FLIP85-23L	5861	88	119	150	151	180	146	164
FLIP85-24L	5862	85	128	154	156	186	144	168
FLIP85-25L	5863	83	127	142	155	184	146	168
FLIP85-26L	5864	86	119	146	151	186	142	165
FLIP85-27L	5865	86	126	153	158	184	148	163
FLIP85-28L	5866	89	128	145	156	179	149	172
FLIP85-29L	5867	86	126	154	155	178	144	161
FLIP85-30L	5868	86	120	154	156	181	147	162
FLIP85-31L	5869	84	121	145	155	187	149	148
FLIP85-32L	5870	87	123	154	156	186	142	167
FLIP85-33L	5871	88	124	148	-	187	147	172
LOCAL	4401	86	126	151	154	182	145	164
78S26013	5588	85	122	152	152	182	143	168
LOCAL CHECK		86	140	147	155	187	147	148
LOCATION	MEAN	86	125	150	155	183	144	163
C.V.%		2.44	3.56	2.96	1.37	1.09	1.31	0.16
LSD.AT 5% FOR:								
CHECKS		3.10	13.81	6.50	2.95	2.94	2.74	0.37
CHECKS VS TEST ENTRIES		6.21	27.63	13.00	5.91	5.88	5.48	0.75
TEST ENTRIES IN THE SAME BLOCK		6.94	30.89	14.53	6.61	6.57	6.12	0.84
TEST ENTRIES IN DIFFERENT BLOCKS		8.01	35.67	16.78	7.63	7.59	7.07	0.97
S.E.FOR:								
CHECKS		1.34	2.74	2.81	1.28	1.27	1.18	0.16
CHECKS VS TEST ENTRIES		2.69	5.48	5.64	2.56	2.55	2.37	0.32
TEST ENTRIES IN THE SAME BLOCK		3.01	6.12	6.30	2.86	2.85	2.65	0.36
TEST ENTRIES IN DIFFERENT BLOCKS		3.47	7.07	7.28	3.31	3.29	3.06	0.42

Cont'd. ...

Table 5.4.3. Cont'd. ...

SELECTION	ILL	PAKISTAN				SPAIN	SYRIA	YEMEN A.R.	(1)
		Dasht	Kuchlak	Faisalabad	Quetta	Alcala de Henares	Tel Hadya	Dhmar	Overall Mean
-	241	200	196	154	195	165	168	141	154
TERBISOVSKA	5479	201	191	151	195	167	183	141	156
LENKA	5480	200	196	155	195	173	184	130	155
81S 38084	5673	195	192	151	188	159	162	117	149
FLIP84-2L	5675	198	191	155	192	164	168	126	153
FLIP84-14L	5687	200	196	160	195	161	162	123	151
FLIP84-27L	5699	193	-	149	185	169	167	128	150
FLIP84-42L	5713	198	187	155	192	166	167	126	151
FLIP84-43L	5714	201	191	155	191	169	167	127	153
FLIP84-44L	5715	198	191	157	192	171	168	121	153
FLIP84-45L	5716	197	194	166	192	171	169	133	155
FLIP84-46L	5717	195	192	155	188	174	165	130	152
FLIP84-47L	5718	198	-	152	192	172	-	127	152
FLIP84-48L	5719	198	194	139	192	162	161	123	145
FLIP84-49L	5720	198	198	150	185	158	164	122	150
FLIP84-50L	5721	195	192	155	188	179	168	119	152
FLIP84-51L	5722	198	191	151	192	169	168	118	151
FLIP84-53L	5723	198	194	157	192	174	167	128	154
FLIP84-54L	5724	198	191	159	192	172	180	134	155
FLIP84-55L	5725	197	194	163	192	167	169	124	154
FLIP84-56L	5726	198	187	155	192	164	165	128	150
FLIP84-57L	5727	200	196	153	195	175	165	121	152
FLIP84-58L	5728	196	191	156	191	171	164	126	150
FLIP84-59L	5729	198	191	160	192	172	168	121	153
FLIP84-60L	5730	197	194	156	192	175	166	125	153
FLIP84-61L	5731	196	191	157	195	174	167	124	153
FLIP84-88L	5758	193	194	162	188	172	169	128	154
FLIP84-89L	5759	198	194	157	192	172	164	128	153
FLIP84-97L	5767	200	192	150	195	168	165	118	150
FLIP84-104L	5774	197	194	153	192	169	169	127	152
FLIP84-105L	5775	198	191	157	192	164	165	122	152
FLIP84-107L	5777	195	192	148	188	165	184	119	151
FLIP84-158L	5827	198	-	159	192	170	-	119	152
FLIP84-159L	5828	197	194	161	-	171	169	128	155
FLIP84-160L	5829	198	194	155	192	178	167	123	153
FLIP84-161L	5830	197	194	155	192	175	169	123	153
FLIP84-163L	5832	198	194	160	192	186	183	125	156
FLIP84-164L	5833	197	194	159	192	179	185	123	155
FLIP84-165L	5834	198	194	147	192	166	164	127	151
FLIP84-166L	5835	196	191	156	191	165	164	124	150
FLIP84-167L	5836	198	191	153	192	161	165	121	151
FLIP84-168L	5837	198	191	157	192	184	168	119	155
FLIP84-169L	5838	199	195	157	191	180	164	141	155

SELECTION	ILL	PAKISTAN Dasht	Kuchlak	Faisalabad	Quetta	SPAIN Alcala de Henares	SYRIA Tel Hadya	YEMEN A.R. Dhmar	(1) Overall Mean
FLIP85-9L	5847	195	-	150	188	161	160	121	148
FLIP85-11L	5849	198	195	153	192	178	165	119	152
FLIP85-12L	5850	198	187	149	192	163	161	127	150
FLIP85-13L	5851	197	194	163	192	173	166	118	152
FLIP85-14L	5852	196	195	160	191	183	164	127	154
FLIP85-15L	5853	198	187	148	192	170	164	128	150
FLIP85-16L	5854	198	191	160	192	176	165	126	154
FLIP85-17L	5855	198	191	160	192	183	165	123	155
FLIP85-18L	5856	201	191	152	191	167	164	129	152
FLIP85-19L	5857	197	194	165	192	177	166	123	155
FLIP85-20L	5858	197	194	160	192	173	163	123	152
FLIP85-21L	5859	195	192	156	188	170	165	119	151
FLIP85-22L	5860	198	191	154	191	175	161	121	150
FLIP85-23L	5861	200	196	157	195	165	164	119	151
FLIP85-24L	5862	201	191	159	-	175	-	141	157
FLIP85-25L	5863	198	195	161	191	173	164	121	151
FLIP85-26L	5864	200	192	162	195	164	165	117	151
FLIP85-27L	5865	198	195	159	192	189	168	119	155
FLIP85-28L	5866	198	187	158	192	165	165	125	151
FLIP85-29L	5867	198	191	157	192	170	165	119	151
FLIP85-30L	5868	197	194	158	192	172	183	132	154
FLIP85-31L	5869	197	194	160	192	170	169	118	151
FLIP85-32L	5870	195	192	159	188	168	168	119	152
FLIP85-33L	5871	197	194	161	192	167	169	124	153
LOCAL	4401	198	193	156	191	167	164	123	151
78S26013	5588	198	194	155	192	171	165	127	152
LOCAL CHECK		198	195	143	194	190	166	120	
LOCATION	MEAN	197	193	156	192	171	167	125	
C.V.%		1.06	0.96	2.46	1.01	1.22	0.64	1.85	
LSD.AT 5% FOR:									
CHECKS		3.07	5.64	5.59	2.78	3.07	1.50	3.37	
CHECKS VS TEST ENTRIES		6.14	11.28	11.18	5.56	6.14	3.01	6.75	
TEST ENTRIES IN THE SAME BLOCK		6.86	12.61	12.50	6.21	6.86	3.36	7.55	
TEST ENTRIES IN DIFFERENT BLOCKS		7.92	14.56	14.44	7.18	7.92	3.88	8.72	
S.E.FOR:									
CHECKS		1.33	1.11	2.42	1.20	1.33	0.65	1.46	
CHECKS VS TEST ENTRIES		2.66	2.23	4.85	2.41	2.66	1.30	2.93	
TEST ENTRIES IN THE SAME BLOCK		2.97	2.50	5.42	2.69	2.97	1.46	3.27	
TEST ENTRIES IN DIFFERENT BLOCKS		3.43	2.89	6.26	3.11	3.43	1.68	3.78	

(1) Chapeco, Jubeiha, Marchouch, Lalitpur, Kuchlak, Quetta and Tel Hadya were excluded from the overall mean .

Table 5.4.4. Plant height(cm) of entries at different locations in LISN-S during 1984/85.

SELECTION	ILL	BULGARIA	BRAZIL	CZECHOSLOVAKIA	EGYPT	JORDAN	LEBANON	
		Toshevo	Chapeco	Borovce	Mallawi	Jubeiha	Beqa'a	Terbol
-	241	23	28	26	38	34	21	25
TERBISOVSKA	5479	26	38	37	42	36	29	33
LENKA	5480	27	-	35	37	39	27	27
81S 38084	5673	21	22	26	42	28	23	18
FLIP84-2L	5675	27	30	24	49	29	26	43
FLIP84-14L	5687	20	-	27	47	25	23	18
FLIP84-27L	5699	27	31	29	55	35	24	30
FLIP84-42L	5713	27	33	28	45	37	27	26
FLIP84-43L	5714	22	26	27	44	30	24	30
FLIP84-44L	5715	22	-	23	40	26	19	29
FLIP84-45L	5716	28	28	24	41	37	22	31
FLIP84-46L	5717	25	30	26	42	29	23	22
FLIP84-47L	5718	24	32	28	38	32	22	26
FLIP84-48L	5719	24	24	24	34	28	17	21
FLIP84-49L	5720	19	28	25	34	31	23	22
FLIP84-50L	5721	24	27	24	39	27	24	21
FLIP84-51L	5722	26	31	24	43	27	26	25
FLIP84-53L	5723	24	31	26	45	29	20	28
FLIP84-54L	5724	25	33	26	39	31	20	26
FLIP84-55L	5725	21	24	26	47	41	22	29
FLIP84-56L	5726	24	32	24	26	34	24	35
FLIP84-57L	5727	21	30	24	39	36	22	22
FLIP84-58L	5728	21	32	26	40	29	26	31
FLIP84-59L	5729	21	32	23	53	30	21	25
FLIP84-60L	5730	26	28	25	35	26	21	21
FLIP84-61L	5731	27	24	26	41	29	23	29
FLIP84-88L	5758	24	27	27	38	37	21	37
FLIP84-89L	5759	29	31	26	46	35	21	28
FLIP84-97L	5767	20	26	25	49	24	23	24
FLIP84-104L	5774	31	31	26	38	38	25	49
FLIP84-105L	5775	26	30	25	35	27	23	24
FLIP84-107L	5777	23	27	27	43	22	24	27
FLIP84-158L	5827	24	33	24	47	31	19	26
FLIP84-159L	5828	24	28	26	46	34	19	26
FLIP84-160L	5829	30	35	26	31	34	21	30
FLIP84-161L	5830	26	24	26	39	30	21	34
FLIP84-163L	5832	23	36	26	37	32	22	38
FLIP84-164L	5833	21	28	26	50	37	22	26
FLIP84-165L	5834	24	27	25	36	26	21	20
FLIP84-166L	5835	22	29	25	45	32	-	29
FLIP84-167L	5836	22	29	25	56	34	24	28
FLIP84-168L	5837	28	30	25	39	36	21	33
FLIP84-169L	5838	22	22	24	39	34	26	32
FLIP85-9L	5847	24	24	26	40	29	19	16

SELECTION	ILL	BULGARIA	BRAZIL	CZECHOSLOVAKIA	EGYPT	JORDAN	LEBANON	
		Toshevo	Chapeco	Borovce	Mallawi	Jubeiha	Beqa'a	Terbol
FLIP85-11L	5849	22	24	28	45	25	24	19
FLIP85-12L	5850	22	24	27	32	26	22	27
FLIP85-13L	5851	25	28	25	31	25	17	31
FLIP85-14L	5852	26	30	25	44	32	25	25
FLIP85-15L	5853	24	28	25	37	35	21	24
FLIP85-16L	5854	21	32	27	43	33	20	34
FLIP85-17L	5855	20	29	24	44	28	20	33
FLIP85-18L	5856	25	24	27	43	32	21	20
FLIP85-19L	5857	21	22	27	42	36	24	28
FLIP85-20L	5858	23	21	26	51	30	22	28
FLIP85-21L	5859	23	22	27	46	34	21	24
FLIP85-22L	5860	25	29	27	43	29	20	24
FLIP85-23L	5861	20	26	25	45	27	19	13
FLIP85-24L	5862	28	24	26	44	32	20	28
FLIP85-25L	5863	21	28	27	41	34	23	27
FLIP85-26L	5864	19	18	24	43	22	22	15
FLIP85-27L	5865	29	34	26	45	31	24	26
FLIP85-28L	5866	29	36	28	36	37	27	36
FLIP85-29L	5867	19	28	25	41	23	22	29
FLIP85-30L	5868	24	23	25	42	32	25	20
FLIP85-31L	5869	22	26	26	45	31	19	43
FLIP85-32L	5870	22	28	24	48	26	22	29
FLIP85-33L	5871	23	31	29	45	29	19	30
LOCAL	4401	25	28	26	42	30	22	32
78S26013	5588	27	27	26	44	31	22	28
LOCAL CHECK		31	34	36	43	28	21	38
LOCATION MEAN		24	28	26	42	31	22	27
C.V.%		8.23	12.74	4.34	8.08	6.31	14.41	16.50
LSD.AT 5% FOR:								
CHECKS		3.00	11.35	1.71	5.00	2.86	4.66	6.93
CHECKS VS TEST ENTRIES		6.00	22.70	3.43	10.00	5.72	9.33	13.87
TEST ENTRIES IN THE SAME BLOCK		6.70	25.38	3.83	11.18	6.39	10.43	15.51
TEST ENTRIES IN DIFFERENT BLOCKS		7.74	29.31	4.42	12.91	7.38	12.04	17.91
S.E.FOR:								
CHECKS		1.30	2.25	0.74	2.16	1.24	2.02	3.00
CHECKS VS TEST ENTRIES		2.60	4.50	1.48	4.33	2.48	4.04	6.01
TEST ENTRIES IN THE SAME BLOCK		2.90	5.03	1.66	4.85	2.77	4.52	6.72
TEST ENTRIES IN DIFFERENT BLOCKS		3.35	5.81	1.92	5.60	3.20	5.22	7.76

Cont'd. ...

Table 5.4.4. Cont'd. ...

SELECTION	ILL	NEPAL	PAKISTAN				SYRIA	YEMEN A.R.	(1) Overall Mean
		Lalitpur-1	Dasht	Kuchlak	Faisalabad	Quetta	Tel Hadya	Dhmar	
-	241	14	14	19	31	13	24	41	25
TERBISOVSKA	5479	27	21	15	29	21	36	66	32
LENKA	5480	32	14	22	41	12	39	47	31
81S 38084	5673	18	17	14	20	16	27	34	23
FLIP84-2L	5675	22	18	17	39	17	35	51	30
FLIP84-14L	5687	21	12	14	23	9	26	40	23
FLIP84-27L	5699	32	17	15	38	17	33	36	30
FLIP84-42L	5713	20	20	17	39	23	34	43	29
FLIP84-43L	5714	25	19	15	30	20	25	41	27
FLIP84-44L	5715	18	22	21	39	22	31	34	27
FLIP84-45L	5716	25	18	19	29	19	29	54	29
FLIP84-46L	5717	21	21	15	29	21	27	37	26
FLIP84-47L	5718	21	16	15	38	16	29	50	27
FLIP84-48L	5719	31	15	15	34	16	22	38	25
FLIP84-49L	5720	24	14	14	32	15	26	44	25
FLIP84-50L	5721	19	26	13	43	27	27	47	28
FLIP84-51L	5722	27	20	17	38	19	39	42	28
FLIP84-53L	5723	22	12	15	30	13	31	60	27
FLIP84-54L	5724	16	19	19	33	17	36	47	27
FLIP84-55L	5725	29	22	15	31	18	32	56	30
FLIP84-56L	5726	26	21	16	36	21	30	40	27
FLIP84-57L	5727	12	15	23	27	13	23	44	24
FLIP84-58L	5728	26	18	16	28	20	29	44	27
FLIP84-59L	5729	21	19	18	23	19	34	46	27
FLIP84-60L	5730	27	21	21	27	22	29	43	26
FLIP84-61L	5731	27	16	15	25	18	30	42	27
FLIP84-88L	5758	25	18	16	20	19	33	45	28
FLIP84-89L	5759	24	22	15	21	23	33	48	29
FLIP84-97L	5767	13	19	11	20	18	25	43	24
FLIP84-104L	5774	22	23	17	26	23	31	49	31
FLIP84-105L	5775	24	16	17	24	14	35	33	25
FLIP84-107L	5777	27	23	18	26	22	22	42	26
FLIP84-158L	5827	19	20	17	38	19	34	37	28
FLIP84-159L	5828	26	18	17	27	23	32	50	29
FLIP84-160L	5829	19	19	15	27	20	36	54	28
FLIP84-161L	5830	21	21	15	27	20	31	43	27
FLIP84-163L	5832	15	10	16	28	13	31	49	26
FLIP84-164L	5833	20	23	18	41	25	27	42	29
FLIP84-165L	5834	21	23	15	25	23	25	41	25
FLIP84-166L	5835	21	20	15	26	21	28	39	26
FLIP84-167L	5836	23	15	15	27	13	34	37	27
FLIP84-168L	5837	28	19	19	24	19	32	44	28
FLIP84-169L	5838	21	21	13	21	22	31	65	28
FLIP85-9L	5847	19	16	18	25	15	25	27	23

SELECTION	ILL	NEPAL	PAKISTAN				SYRIA	YEMEN A.R.	(1) Overall Mean
		Lalitpur-1	Dasht	Kuchlak	Faisalabad	Quetta	Tel Hadya	Dhmar	
FLIP85-11L	5849	22	17	21	39	15	32	46	27
FLIP85-12L	5850	29	17	15	26	16	26	38	25
FLIP85-13L	5851	19	18	12	24	19	31	46	25
FLIP85-14L	5852	28	20	19	25	21	27	41	27
FLIP85-15L	5853	28	17	15	31	19	29	48	27
FLIP85-16L	5854	17	19	19	40	19	33	49	29
FLIP85-17L	5855	15	20	16	21	19	29	56	27
FLIP85-18L	5856	23	25	16	22	25	29	41	27
FLIP85-19L	5857	25	22	11	26	20	29	47	27
FLIP85-20L	5858	25	23	14	23	18	29	41	27
FLIP85-21L	5859	21	26	15	25	25	26	38	27
FLIP85-22L	5860	23	15	16	19	16	24	39	25
FLIP85-23L	5861	20	16	16	22	16	24	42	23
FLIP85-24L	5862	28	19	15	24	21	30	51	28
FLIP85-25L	5863	27	18	13	23	19	29	47	27
FLIP85-26L	5864	12	13	14	29	12	24	40	22
FLIP85-27L	5865	20	19	18	43	17	29	44	28
FLIP85-28L	5866	16	22	17	38	21	30	53	30
FLIP85-29L	5867	22	18	16	21	13	31	32	24
FLIP85-30L	5868	20	19	15	29	25	29	49	27
FLIP85-31L	5869	22	17	18	31	18	26	47	28
FLIP85-32L	5870	14	19	14	39	18	24	40	26
FLIP85-33L	5871	24	20	16	28	21	32	53	29
LOCAL	4401	24	19	16	21	19	30	40	27
78S26013	5588	20	19	16	29	19	30	45	27
LOCAL CHECK		30	18	14	38	18	28	33	
LOCATION MEAN		22	19	16	29	19	29	44	
C.V.%		16.08	23.22	18.04	9.79	25.51	9.14	8,76	
LSD.AT 5% FOR:									
CHECKS		5.46	6.55	4.33	4.23	7.17	3.97	5.62	
CHECKS VS TEST ENTRIES		10.92	13.10	8.66	8.47	14.35	7.95	11.25	
TEST ENTRIES IN THE SAME BLOCK		12.21	14.64	9.68	9.46	16.05	8.89	12.57	
TEST ENTRIES IN DIFFERENT BLOCKS		14.10	16.91	11.18	10.93	18.53	10.26	14.52	
S.E.FOR:									
CHECKS		2.36	2.84	1.87	1.83	3.11	1.72	2.43	
CHECKS VS TEST ENTRIES		4.73	5.68	3.75	3.67	6.22	3.44	4.87	
TEST ENTRIES IN THE SAME BLOCK		5.29	6.35	4.19	4.10	6.96	3.85	5.45	
TEST ENTRIES IN DIFFERENT BLOCKS		6.11	7.33	4.84	4.74	8.03	4.45	6.29	

(1) Chapeco and Beqa'a were excluded from the overall mean.

Table 5.4.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in LISN-S during 1984/85.

SELECTION	ILL	BULGARIA		BRAZIL		CZECHOSLOVAKIA		EGYPT		JORDAN			
		Toshevo		Chapeco		Borovce		Mallawi		Jubeiha		Ramtha	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
-	241	346	60	986	27	616	23	219	41	755	39	363	49
TERBISOVSKA	5479	80	70	652	55	650	17	677	3	45	69	-	59
LENKA	5480	213	68	-	68	1616	1	0	64	615	49	-	59
81S 38084	5673	746	15	536	61	366	49	386	19	905	29	523	44
FLIP84-2L	5675	880	8	1029	23	600	25	233	31	255	63	630	34
FLIP84-14L	5687	480	47	-	68	316	55	177	50	875	32	483	46
FLIP84-27L	5699	302	66	532	63	250	58	677	3	1025	20	905	13
FLIP84-42L	5713	302	66	812	42	150	61	552	10	725	42	545	42
FLIP84-43L	5714	480	47	862	36	0	69	11	60	705	44	608	35
FLIP84-44L	5715	613	29	-	68	550	27	233	31	535	52	576	37
FLIP84-45L	5716	524	43	869	34	433	37	233	31	818	36	-	59
FLIP84-46L	5717	746	15	1796	1	966	5	11	60	955	25	203	57
FLIP84-47L	5718	568	38	932	30	450	34	219	41	695	45	-	59
FLIP84-48L	5719	1235	3	372	65	150	61	136	53	505	54	332	51
FLIP84-49L	5720	1102	4	782	43	550	27	219	41	1225	9	932	11
FLIP84-50L	5721	880	8	876	32	1266	3	0	64	455	55	-	59
FLIP84-51L	5722	746	15	1239	9	200	60	191	45	1115	13	363	49
FLIP84-53L	5723	568	38	602	57	850	9	94	55	335	62	319	52
FLIP84-54L	5724	613	29	1049	19	900	8	191	45	1035	18	576	37
FLIP84-55L	5725	791	13	1179	11	433	37	233	31	1458	4	-	59
FLIP84-56L	5726	835	12	872	33	450	34	844	1	1505	3	719	26
FLIP84-57L	5727	613	29	1486	3	66	66	11	60	205	66	643	31
FLIP84-58L	5728	346	60	1382	6	150	61	427	14	1195	10	661	29
FLIP84-59L	5729	746	15	1039	21	500	31	191	45	445	58	976	7
FLIP84-60L	5730	524	43	939	29	133	64	275	26	708	43	-	59
FLIP84-61L	5731	613	29	622	56	400	40	0	64	765	38	581	36
FLIP84-88L	5758	657	24	989	25	733	15	233	31	1028	19	1052	5
FLIP84-89L	5759	568	38	1032	22	350	52	844	1	1195	10	252	55
FLIP84-97L	5767	746	15	1046	20	966	5	52	58	625	48	110	58
FLIP84-104L	5774	657	24	1079	18	633	18	316	20	728	41	479	47
FLIP84-105L	5775	480	47	729	48	400	40	400	15	775	37	910	12
FLIP84-107L	5777	613	29	576	58	616	23	0	64	245	64	256	54
FLIP84-158L	5827	480	47	779	45	950	7	608	7	635	47	456	48
FLIP84-159L	5828	657	24	989	25	633	18	275	26	1038	17	1012	6
FLIP84-160L	5829	435	56	982	28	550	27	261	28	525	53	559	40
FLIP84-161L	5830	924	7	1169	12	633	18	441	13	828	34	-	59
FLIP84-163L	5832	435	56	682	54	800	12	261	28	595	50	225	56
FLIP84-164L	5833	791	13	889	31	633	18	316	20	1108	14	-	
FLIP84-165L	5834	968	6	862	36	750	13	219	41	1185	12	559	40
FLIP84-166L	5835	613	29	782	43	50	67	469	11	205	66	568	39
FLIP84-167L	5836	880	8	1529	2	400	40	400	15	455	55	963	8
FLIP84-168L	5837	613	29	1149	14	600	25	233	31	415	59	643	31
FLIP84-169L	5838	346	60	712	50	750	13	677	3	175	68	528	43

SELECTION	ILL	BULGARIA Toshevo Y	BULGARIA Toshevo R	BRAZIL Chapeco Y	BRAZIL Chapeco R	CZECHOSLOVAKIA Borovce Y	CZECHOSLOVAKIA Borovce R	EGYPT Mallawi Y	EGYPT Mallawi R	JORDAN Jubeiha Y	JORDAN Jubeiha R	JORDAN Ramtha Y	JORDAN Ramtha R
FLIP85-9L	5847	480	47	776	46	366	49	636	6	1265	7	736	23
FLIP85-11L	5849	480	47	689	52	450	34	191	45	1045	16	643	31
FLIP85-12L	5850	568	38	262	67	350	52	94	55	1255	8	1239	2
FLIP85-13L	5851	524	43	729	48	333	54	233	31	958	24	879	15
FLIP85-14L	5852	480	47	1102	17	850	9	52	58	415	59	741	22
FLIP85-15L	5853	702	22	552	59	500	31	594	8	845	33	732	24
FLIP85-16L	5854	1013	5	1159	13	500	31	400	15	545	51	1336	1
FLIP85-17L	5855	346	60	869	34	400	40	191	45	745	40	1163	3
FLIP85-18L	5856	213	68	772	47	50	67	302	25	945	27	661	29
FLIP85-19L	5857	524	43	549	60	633	18	233	31	1638	2	905	13
FLIP85-21L	5859	746	15	406	64	366	49	0	64	-		856	16
FLIP85-22L	5860	613	29	1452	4	400	40	469	11	955	25	781	21
FLIP85-23L	5861	746	15	846	40	266	57	11	60	915	28	830	19
FLIP85-24L	5862	480	47	302	66	250	58	94	55	235	65	-	
FLIP85-25L	5863	346	60	1192	10	400	40	594	8	365	61	941	9
FLIP85-26L	5864	613	29	536	61	416	39	150	52	455	55	936	10
FLIP85-27L	5865	880	8	1429	5	400	40	0	64	695	45	510	45
FLIP85-28L	5866	568	38	862	36	-		136	53	1715	1	825	20
FLIP85-29L	5867	346	60	1339	7	400	40	400	15	1055	15	843	18
FLIP85-30L	5868	657	24	999	24	383	48	233	31	888	30	-	
FLIP85-31L	5869	391	58	1109	16	833	11	316	20	978	23	705	27
FLIP85-32L	5870	1280	1	826	41	666	16	0	64	1015	22	1163	3
FLIP85-33L	5871	657	24	1249	8	1333	2	233	31	878	31	-	
LOCAL	4401	453	55	710	51	530	30	250	30	826	35	730	25
78S26013	5588	666	23	1120	15	290	56	316	20	1320	6	669	28
LOCAL CHECK		1253	2	848	39	1080	4	175	51	1020	21	850	17
LOCATION MEAN		617		907		522		272		811		681	
C.V. %		39.00		37.71		65.50		71.10		50.30		37.00	
LSD.AT 5% FOR:													
CHECKS		364.60		1046.00		504.10		265.10		611.90		330.90	
CHECKS VS TEST ENTRIES		729.30		2092.33		1008.50		530.40		1224.10		661.90	
TEST ENTRIES IN THE SAME BLOCK		815.20		2338.94		1127.30		592.90		1368.40		739.90	
TEST ENTRIES IN DIFFERENT BLOCKS		941.40		2700.78		1301.70		684.70		1580.10		854.40	
S.E.FOR:													
CHECKS		158.10		207.50		218.60		115.00		265.30		143.50	
CHECKS VS TEST ENTRIES		316.20		415.06		437.30		230.00		560.80		287.00	
TEST ENTRIES IN THE SAME BLOCK		353.50		463.98		488.80		257.10		593.40		320.80	
TEST ENTRIES IN DIFFERENT BLOCKS		408.20		535.76		564.50		296.90		685.20		370.50	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		0		1		0		0	

Cont'd. ...

Table 5.4.5 Cont'd. ...

SELECTION	ILL	LEBANON				MOROCCO		NEPAL				PAKISTAN	
		Beqa'a		Terbol		Marchouch		Lalitpur-1		Lalitpur-2		Dasht	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
-	241	-		737	44	1170	3	732	3	693	5	130	23
TERBISOVSKA	5479	0	63	244	59	348	51	286	44	484	17	163	8
LENKA	5480	597	27	514	54	912	16	362	27	346	37	43	58
81S 38084	5673	643	20	181	60	1137	5	282	47	266	47	167	7
FLIP84-2L	5675	607	25	1735	8	1242	1	696	4	488	16	49	57
FLIP84-14L	5687	586	32	264	58	833	22	242	55	200	57	106	38
FLIP84-27L	5699	756	12	1642	9	915	15	56	66	382	24	125	25
FLIP84-42L	5713	147	54	1142	29	790	28	0	67	-		94	46
FLIP84-43L	5714	1076	3	1777	6	448	45	306	37	591	8	130	23
FLIP84-44L	5715	2	62	1624	10	334	52	346	29	435	21	75	51
FLIP84-45L	5716	824	10	1807	4	69	65	339	30	371	28	113	33
FLIP84-46L	5717	689	18	792	42	874	20	302	38	426	22	194	6
FLIP84-47L	5718	0	63	0	66	556	38	0	67	355	33	110	34
FLIP84-48L	5719	0	63	-		156	63	0	67	382	24	108	36
FLIP84-49L	5720	3	61	998	35	810	25	156	64	355	33	108	36
FLIP84-50L	5721	643	20	781	43	799	26	302	38	533	12	123	27
FLIP84-51L	5722	564	35	1401	17	480	41	496	10	275	45	62	53
FLIP84-53L	5723	0	63	1198	27	290	56	236	57	115	67	144	15
FLIP84-54L	5724	739	13	901	37	530	39	366	24	195	58	102	43
FLIP84-55L	5725	1606	1	807	40	235	60	159	63	377	27	61	54
FLIP84-56L	5726	461	38	1864	3	890	18	256	53	248	51	221	4
FLIP84-57L	5727	597	27	625	50	1095	6	442	13	266	47	163	8
FLIP84-58L	5728	251	51	1300	21	952	12	336	31	551	10	105	39
FLIP84-59L	5729	353	46	1235	25	692	32	246	54	128	65	145	14
FLIP84-60L	5730	421	43	174	61	285	57	259	52	737	4	0	65
FLIP84-61L	5731	596	29	1022	32	1040	8	286	44	351	35	105	39
FLIP84-88L	5758	887	8	1307	20	-		349	28	284	44	54	56
FLIP84-89L	5759	313	47	1253	23	-		436	14	515	13	254	2
FLIP84-97L	5767	595	30	648	49	812	24	302	38	226	56	-	
FLIP84-104L	5774	632	22	1890	2	406	48	179	62	657	6	68	52
FLIP84-105L	5775	147	54	1535	11	767	29	406	17	795	3	-	
FLIP84-107L	5777	649	19	681	48	1199	2	262	50	506	14	158	11
FLIP84-158L	5827	8	60	1335	19	817	23	626	7	502	15	97	44
FLIP84-159L	5828	583	33	307	56	23	66	369	23	364	30	0	65
FLIP84-160L	5829	515	36	1531	12	1060	7	406	17	275	45	148	13
FLIP84-161L	5830	973	6	585	52	394	50	239	56	151	63	1	64
FLIP84-163L	5832	0	63	1781	5	331	53	316	34	182	60	125	25
FLIP84-164L	5833	1043	5	307	56	115	64	429	15	537	11	16	62
FLIP84-165L	5834	127	56	-		719	31	0	67	248	51	94	46
FLIP84-166L	5835	-		377	55	477	42	606	9	457	19	143	16
FLIP84-167L	5836	92	57	1268	22	867	21	326	32	235	53	103	41
FLIP84-168L	5837	202	52	1201	26	751	30	746	2	328	40	95	45
FLIP84-169L	5838	404	44	1022	32	402	49	316	34	297	43	123	27

SELECTION	ILL	LEBANON				MOROCCO		NEPAL				PAKISTAN	
		Beqa'a		Terbol		Marchouch		Lalitpur-1		Lalitpur-2		Dasht	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP85-9L	5847	601	26	98	64	1020	9	262	50	120	66	37	60
FLIP85-11L	5849	771	11	801	41	796	27	366	24	235	53	103	41
FLIP85-12L	5850	701	17	731	45	444	46	206	58	182	60	158	11
FLIP85-13L	5851	426	42	907	36	419	47	309	36	351	35	0	65
FLIP85-14L	5852	162	53	1744	7	319	54	686	5	591	8	139	20
FLIP85-15L	5853	261	48	114	62	623	36	456	12	382	24	133	22
FLIP85-16L	5854	53	59	1346	18	917	14	406	17	395	23	123	27
FLIP85-17L	5855	0	63	1457	14	234	61	396	21	368	29	122	30
FLIP85-18L	5856	733	15	711	46	894	17	486	11	364	30	119	31
FLIP85-19L	5857	969	7	0	66	206	62	279	48	311	42	58	55
FLIP85-20L	5858	1061	4	862	39	0	67	289	43	257	50	14	63
FLIP85-21L	5859	629	23	625	50	920	13	402	20	320	41	-	
FLIP85-22L	5860	404	44	688	47	477	42	366	24	457	19	83	48
FLIP85-23L	5861	589	31	48	65	1008	10	182	61	266	47	78	50
FLIP85-24L	5862	259	49	577	53	652	34	286	44	644	7	201	5
FLIP85-25L	5863	479	37	1188	28	260	58	186	60	-	69	163	8
FLIP85-26L	5864	725	16	114	62	991	11	202	59	160	62	117	32
FLIP85-27L	5865	739	13	1068	31	251	59	806	1	235	53	142	18
FLIP85-28L	5866	258	50	1253	23	477	42	76	65	142	64	110	34
FLIP85-29L	5867	59	58	1001	34	888	19	426	16	195	58	282	1
FLIP85-30L	5868	1501	2	0	66	0	67	609	8	337	38	38	59
FLIP85-31L	5869	449	39	2640	1	660	33	269	49	97	68	249	3
FLIP85-32L	5870	615	24	1125	30	1170	3	322	33	466	18	143	16
FLIP85-33L	5871	446	40	1440	15	306	55	299	41	871	2	34	61
LOCAL	4401	433	41	892	38	577	37	290	42	333	39	81	49
78S26013	5588	565	34	1431	16	644	35	380	22	357	32	136	21
LOCAL CHECK		859	9	1465	13	485	40	668	6	909	1	140	19
LOCATION MEAN		501		972		627		339		374		109	
C.V.%		58.70		28.50		34.51		45.20		26.20		41.80	
LSD.AT 5% FOR:													
CHECKS		417.20		410.10		303.60		233.60		149.70		66.30	
CHECKS VS TEST ENTRIES		834.60		820.30		607.30		467.40		299.40		132.70	
TEST ENTRIES IN THE SAME BLOCK		933.00		917.00		678.89		522.50		334.70		148.40	
TEST ENTRIES IN DIFFERENT BLOCKS		1077.30		1058.90		783.91		603.30		386.50		171.30	
S.E.FOR:													
CHECKS		180.90		177.80		131.66		101.30		64.90		28.70	
CHECKS VS TEST ENTRIES		361.90		355.70		263.36		202.70		129.80		57.50	
TEST ENTRIES IN THE SAME BLOCK		404.60		397.60		294.40		226.60		145.10		64.30	
TEST ENTRIES IN DIFFERENT BLOCKS		467.20		459.20		339.94		261.60		167.60		74.30	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		1		6		0		0		1	

Cont'd. ...

Table 5.4.5. Cont'd. ...

SELECTION	ILL	PAKISTAN						SPAIN		SYRIA			
		Kuchiak		Faisalabad		Quetta		Alcala de - Henares		Gelline		Heimo	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
	241	84	61	347	12	0	60	1542	51	80	68	1422	25
TERBISOVSKA	5479	154	28	0	52	34	49	832	63	1244	10	289	69
LENKA	5480	93	56	258	20	0	60	364	68	280	60	962	54
81S 38084	5673	121	44	158	33	950	3	185	70	630	34	1092	43
FLIP84-2L	5675	192	12	355	10	82	44	3300	7	1054	14	1599	15
FLIP84-14L	5687	108	50	125	41	0	60	534	65	250	63	1232	34
FLIP84-27L	5699	-		282	17	2313	1	1745	38	300	58	1569	16
FLIP84-42L	5713	464	6	105	44	146	35	3671	1	450	48	1009	51
FLIP84-43L	5714	100	51	14	51	504	12	1716	42	1394	5	739	66
FLIP84-44L	5715	180	13	266	19	21	57	1741	39	584	41	919	61
FLIP84-45L	5716	152	31	0	52	141	42	2586	16	730	27	1749	8
FLIP84-46L	5717	109	49	131	39	236	18	1675	45	200	66	1502	18
FLIP84-47L	5718	-		188	31	410	13	3411	4	400	53	1239	33
FLIP84-48L	5719	722	4	1432	2	1545	2	1447	58	420	50	149	70
FLIP84-49L	5720	320	9	160	32	884	4	1539	53	660	33	959	55
FLIP84-50L	5721	133	42	136	38	525	10	851	62	400	53	1192	37
FLIP84-51L	5722	156	26	716	3	34	49	2002	31	1125	12	1059	47
FLIP84-53L	5723	-		99	46	147	33	2712	15	280	60	969	53
FLIP84-54L	5724	174	18	432	6	39	48	1807	36	474	47	1789	6
FLIP84-55L	5725	154	28	0	52	145	38	1277	60	530	43	2029	4
FLIP84-56L	5726	972	2	216	28	156	27	3458	3	620	35	1459	22
FLIP84-57L	5727	100	51	342	13	0	60	2067	29	250	63	922	60
FLIP84-58L	5728	81	62	0	52	313	16	1933	33	1614	3	949	56
FLIP84-59L	5729	141	39	249	22	29	51	1989	32	1054	14	1029	49
FLIP84-60L	5730	157	25	144	35	145	38	2862	13	620	35	1079	46
FLIP84-61L	5731	140	40	0	52	45	47	1661	46	2094	1	1549	17
FLIP84-88L	5758	165	22	0	52	146	35	1610	49	560	42	1689	12
FLIP84-89L	5759	10	63	355	10	646	8	2974	11	20	69	609	68
FLIP84-97L	5767	86	59	470	5	0	60	1560	50	590	40	932	58
FLIP84-104L	5774	180	13	0	52	148	32	2051	30	310	57	2119	3
FLIP84-105L	5775	338	8	255	21	24	55	1700	43	754	25	1399	27
FLIP84-107L	5777	113	46	236	26	839	5	482	67	250	63	1362	30
FLIP84-158L	5827	0	64	321	14	26	53	2585	17	354	55	809	63
FLIP84-159L	5828	153	30	0	52	-		1802	37	850	21	859	62
FLIP84-160L	5829	0	64	205	30	169	22	3333	5	500	45	929	59
FLIP84-161L	5830	146	37	77	47	175	21	2723	14	700	30	1779	7
FLIP84-163L	5832	94	54	105	44	146	35	3019	10	0	70	809	63
FLIP84-164L	5833	159	23	382	8	191	19	2347	21	930	19	1729	10
FLIP84-165L	5834	0	64	294	15	156	27	779	64	290	59	789	65
FLIP84-166L	5835	86	59	114	43	632	9	1466	57	1614	3	1179	38
FLIP84-167L	5836	132	43	244	23	20	58	3185	8	684	31	1399	27
FLIP84-168L	5837	145	38	294	15	28	52	3055	9	404	51	1139	40

SELECTION	ILL	PAKISTAN						SPAIN		SYRIA			
		Kuchlak		Faisalabad		Quetta		Alcala de - Henares		Gelline		Heimo	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP84-169L	5838	90	57	0	52	372	15	1470	56	1314	8	629	67
FLIP85-9L	5847	-		142	36	0	60	1616	48	500	45	1352	31
FLIP85-11L	5849	175	17	382	8	68	46	2109	27	604	38	1019	50
FLIP85-12L	5850	350	7	116	42	180	20	1721	41	770	24	1089	44
FLIP85-13L	5851	151	33	0	52	150	31	1531	54	1180	11	2309	2
FLIP85-14L	5852	121	44	0	52	723	7	2121	26	1324	7	1209	35
FLIP85-15L	5853	497	5	210	29	156	27	2224	24	350	56	1429	24
FLIP85-16L	5854	213	10	244	23	-		3471	2	404	51	1089	44
FLIP85-17L	5855	169	20	271	18	25	54	2904	12	724	29	1139	40
FLIP85-18L	5856	166	21	0	52	522	11	1397	59	1984	2	1659	13
FLIP85-19L	5857	152	31	0	52	147	33	1733	40	680	32	2869	1
FLIP85-20L	5858	149	35	0	52	159	26	1695	44	730	27	1829	5
FLIP85-21L	5859	110	48	236	26	835	6	250	69	900	20	1042	48
FLIP85-22L	5860	96	53	0	52	69	45	1542	51	1264	9	939	57
FLIP85-23L	5861	853	3	147	34	0	60	1099	61	160	67	1372	29
FLIP85-24L	5862	94	54	0	52	-		2098	28	994	18	1499	19
FLIP85-25L	5863	89	58	0	52	153	30	1879	35	1364	6	1419	26
FLIP85-26L	5864	147	36	142	36	0	60	514	66	510	44	1142	39
FLIP85-27L	5865	137	41	399	7	24	55	2329	22	604	38	1289	32
FLIP85-28L	5866	1145	1	127	40	168	24	2413	19	260	62	999	52
FLIP85-29L	5867	180	13	238	25	19	59	1892	34	1034	16	1199	36
FLIP85-30L	5868	155	27	0	52	169	22	1488	55	430	49	1479	20
FLIP85-31L	5869	158	24	32	50	164	25	2561	18	1060	13	1729	10
FLIP85-32L	5870	176	16	486	4	410	13	2301	23	620	35	1462	21
FLIP85-33L	5871	151	33	0	52	144	41	3330	6	740	26	1659	13
LOCAL	4401	111	47	57	49	239	17	1624	47	810	23	1450	23
78S26013	5588	172	19	75	48	85	43	2140	25	814	22	1138	42
LOCAL CHECK		194	11	1532	1	145	38	2407	20	1018	17	1730	9
LOCATION MEAN		194		205		247		1963		710		1273	
C.V.%		39.80		122.45		135.90		40.20		72.60		23.00	
LSD.AT 5% FOR:													
CHECKS		98.40		413.55		417.10		1161.10		801.10		438.30	
CHECKS VS TEST ENTRIES		169.80		827.23		834.50		2322.50		1602.50		876.70	
TEST ENTRIES IN THE SAME BLOCK		220.00		924.73		932.80		2596.30		1791.40		980.10	
TEST ENTRIES IN DIFFERENT BLOCKS		254.10		1067.79		1077.10		2997.90		2068.60		1131.70	
S.E.FOR:													
CHECKS		42.60		179.33		180.90		503.50		347.40		190.00	
CHECKS VS TEST ENTRIES		85.30		358.73		361.80		1007.10		694.90		380.20	
TEST ENTRIES IN THE SAME BLOCK		95.40		401.01		404.50		1125.80		776.80		425.00	
TEST ENTRIES IN DIFFERENT BLOCKS		110.20		463.05		467.10		1300.00		897.00		490.70	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		6		0		2		0		0		1	

Cont'd. ...

Table 5.4.5. Cont'd. ...

SELECTION	ILL	SYRIA				TUNISIA						YEMEN A. R.		Overall (1)	
		Izra'a		Tel Hadya		Beja		El Kef		Mateur		Dhmar		Mean	Rank
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
-	241	773	13	1147	55	2646	12	1586	45	1933	23	4178	6	1080	47
TERBISOVSKA	5479	0	52	521	70	1963	36	953	67	1933	23	2769	42	760	66
LENKA	5480	706	16	1236	48	1446	52	1136	64	1033	61	1645	65	666	68
81S 38084	5673	640	23	1861	17	696	70	1736	33	783	64	2978	35	846	62
FLIP84-2L	5675	684	19	2364	5	3063	5	2453	2	1150	57	2836	40	1738	1
FLIP84-14L	5687	-		2209	10	1246	60	1636	42	1833	27	3178	27	889	60
FLIP84-27L	5699	640	23	1947	15	2696	10	2403	3	1683	35	3423	23	1299	19
FLIP84-42L	5713	-		1360	42	2996	6	1953	19	1833	27	2116	59	1365	10
FLIP84-43L	5714	217	47	968	63	2813	8	1903	22	2383	5	2769	42	1147	40
FLIP84-44L	5715	1084	1	2097	11	1563	49	2003	16	1250	54	1769	62	1122	45
FLIP84-45L	5716	617	25	1954	14	1680	45	1953	19	2650	4	2952	36	1305	18
FLIP84-46L	5717	706	16	1861	17	1446	52	1686	38	1283	52	1805	61	1047	51
FLIP84-47L	5718	-		1411	39	2246	24	1503	51	1933	23	3023	33	1221	28
FLIP84-48L	5719	-		827	68	796	69	353	70	333	69	-		595	69
FLIP84-49L	5720	440	35	965	64	2096	30	1253	60	2383	5	2623	49	994	56
FLIP84-50L	5721	373	39	1009	61	846	68	1536	49	1383	48	2712	45	779	64
FLIP84-51L	5722	-		1214	52	3413	1	2003	16	2750	2	-		1361	13
FLIP84-53L	5723	573	29	1294	46	2646	12	1953	19	1283	52	1809	60	1194	34
FLIP84-54L	5724	-		1749	25	1963	36	1903	22	1700	33	2169	57	1206	31
FLIP84-55L	5725	1017	3	1508	33	1230	61	1853	26	1950	21	2792	41	1067	48
FLIP84-56L	5726	373	39	1054	59	3196	4	1703	34	683	66	3756	13	1491	2
FLIP84-57L	5727	506	32	1142	57	1746	44	1786	29	1733	32	3378	25	997	55
FLIP84-58L	5728	0	52	1682	29	3213	3	2303	4	3083	1	4103	9	1422	7
FLIP84-59L	5729	-	58	897	65	2713	9	2103	12	2000	19	1129	67	1218	29
FLIP84-60L	5730	217	47	2079	12	1680	45	1453	53	1550	39	4618	1	1203	32
FLIP84-61L	5731	0	52	1861	17	2163	27	1653	40	2133	14	3569	19	1320	16
FLIP84-88L	5758	751	14	2974	2	2230	25	2253	7	2300	7	4325	4	1395	9
FLIP84-89L	5759	306	42	1227	51	2596	16	1403	57	1983	20	3156	30	1186	38
FLIP84-97L	5767	-	58	1861	17	1346	58	836	68	2233	10	2312	55	913	59
FLIP84-104L	5774	951	6	2879	3	2330	22	2003	16	1450	47	3752	15	1427	5
FLIP84-105L	5775	817	10	2364	5	1963	36	1553	46	1600	38	2703	46	1224	27
FLIP84-107L	5777	-	58	742	69	996	64	1536	49	1633	37	3712	16	693	67
FLIP84-158L	5827	684	19	1660	31	1863	40	1703	34	1500	44	2743	44	1187	37
FLIP84-159L	5828	417	37	1776	24	2480	20	2203	9	1300	49	4325	4	1252	23
FLIP84-160L	5829	306	42	1144	56	2046	34	1603	43	1533	43	2289	56	1184	39
FLIP84-161L	5830	684	19	1946	16	1080	63	1553	46	1950	21	4592	2	1265	22
FLIP84-163L	5832	240	46	894	66	2696	10	1103	66	2683	3	2649	48	1059	49
FLIP84-164L	5833	284	45	879	67	1980	35	2053	14	1900	26	3392	24	1272	20
FLIP84-165L	5834	373	39	1411	39	1846	41	703	69	1083	60	3756	13	778	65
FLIP84-166L	5835	17	49	1236	48	1463	51	1603	43	-		3703	17	1138	43
FLIP84-167L	5836	884	9	2364	5	2063	31	1753	30	1700	33	3169	28	1450	4
FLIP84-168L	5837	617	25	1214	52	2213	26	1503	51	1150	57	2916	38	1235	25
FLIP84-169L	5838	17	49	1119	58	1963	36	1253	60	2133	14	1169	66	1009	53
FLIP85-9L	5847	-		1475	36	1446	52	1236	62	833	63	712	68	1000	56

SELECTION	ILL	SYRIA				TUNISIA						YEMEN A. R.		Overall (1)	
		Izra'a		Tel Hadya		Beja		El Kef		Mateur		Dhmar		Mean	Rank
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
FLIP85-11L	5849	617	25	1839	23	1413	56	1453	53	1100	59	3449	21	1052	50
FLIP85-12L	5850	-		1679	30	1846	41	1453	53	1833	27	2423	53	1047	51
FLIP85-13L	5851	484	34	1746	26	1680	45	1353	58	1750	31	4125	7	1207	30
FLIP85-14L	5852	0	52	1186	54	2113	28	1903	22	1483	45	2329	54	1230	26
FLIP85-15L	5853	306	42	1322	45	1396	57	1753	30	1233	55	2556	51	1136	44
FLIP85-16L	5854	951	6	1230	50	2563	18	2253	7	1300	49	2876	39	1425	6
FLIP85-17L	5855	-		1697	27	1213	62	1703	34	1200	56	1703	64	1145	41
FLIP85-18L	5856	0	52	2252	8	2513	19	1453	53	2133	14	3143	31	1362	12
FLIP85-19L	5857	817	10	2213	9	980	65	1653	40	1550	39	3258	26	1240	24
FLIP85-20L	5858	684	19	2746	4	2580	17	1553	46	950	62	3818	11	1347	14
FLIP85-21L	5859	973	5	1683	28	1496	50	2286	6	1483	45	3978	10	978	57
FLIP85-22L	5860	0	52	3670	1	2263	23	2203	9	2283	8	3703	17	1484	3
FLIP85-23L	5861	506	32	1342	43	1596	48	1236	62	1783	30	3778	12	860	61
FLIP85-24L	5862	417	37	1852	22	2113	28	1303	59	2033	18	2569	50	1191	36
FLIP85-25L	5863	17	49	1414	37	2863	7	2203	9	2283	8	3169	28	1363	11
FLIP85-26L	5864	-		1861	17	946	66	1136	64	683	66	4578	3	786	63
FLIP85-27L	5865	751	14	1035	60	2063	31	2953	1	1650	36	3436	22	1328	15
FLIP85-28L	5866	706	16	1494	35	3396	2	2103	12	2183	13	2689	47	1271	21
FLIP85-29L	5867	1017	3	1660	31	2063	31	1753	30	550	68	2169	57	1197	33
FLIP85-30L	5868	551	30	972	62	880	67	1853	26	1300	49	2952	36	955	58
FLIP85-31L	5869	551	30	1279	47	1430	55	1703	34	1550	39	4125	7	1193	35
FLIP85-32L	5870	1040	2	1325	44	1296	59	1686	38	733	65	3112	32	1143	42
FLIP85-33L	5871	617	25	1413	38	2430	21	1903	22	2200	12	2992	34	1407	8
LOCAL	4401	426	36	1371	41	1750	43	1830	28	1540	42	2544	52	1092	46
78S26013	5588	893	8	1506	34	2630	14	2290	5	2230	11	3533	20	1320	16
LOCAL CHECK		800	12	1962	13	2610	15	2040	15	2080	17	1725	63		
LOCATION MEAN		526		1588		1984		1709		1662		3003			
C.V.%		59.62		28.77		22.60		23.50		24.10		28.70			
LSD.AT 5% FOR:															
CHECKS		410.72		667.68		677.60		598.20		601.90		1201.80			
CHECKS VS TEST ENTRIES		821.57		1335.57		1355.50		1196.60		1203.90		2404.00			
TEST ENTRIES IN THE SAME BLOCK		918.41		1492.99		1515.20		1337.60		1345.80		2687.30			
TEST ENTRIES IN DIFFERENT BLOCKS		1060.49		1723.95		1749.60		1544.50		1554.10		3103.00			
S.E.FOR:															
CHECKS		178.11		289.54		293.80		259.40		261.00		521.10			
CHECKS VS TEST ENTRIES		356.27		579.17		587.80		518.90		522.10		1042.40			
TEST ENTRIES IN THE SAME BLOCK		398.27		647.43		657.10		580.00		583.60		1165.30			
TEST ENTRIES IN DIFFERENT BLOCKS		459.88		747.59		758.70		669.80		673.90		1345.60			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		1		0		0		0		6			

(1)Chapeco, Borovce, Jubeiha, Ramtha, Beqa'a, Marchouch, Lalitpur-2, Dasht, Kuchlak, Faisalabad, Quetta, Izra'a, Mateur, Dhmar and Terbol were excluded from the overall mean.

Table 5.4.6. The five heaviest seed yielding entries at the individual locations in the LISN-S during 1984/85.

RANK	BULGARIA	BRAZIL	CZECHOSLOVAKIA	EGYPT	JORDAN		LEBANON	
	Toshevo	Chapeco	Borovce	Mallawi	Jubeiha	Ramtha	Beqa'a	Terbol
1	FLIP 85-32L	FLIP 84-46L	ILL 5480	FLIP 84-56L]	FLIP 85-28L	FLIP 85-16L	FLIP 84-55L	FLIP 85-31L
2	Local check	FLIP 84-167L	FLIP 85-33L	FLIP 84-89L]	FLIP 85-19L	FLIP 85-12L	FLIP 85-30L	FLIP 84-104L
3	FLIP 84-48L	FLIP 84-57L	FLIP 84-50L	ILL 5479	FLIP 84-56L	FLIP 85-17L]	FLIP 84-43L	FLIP 84-56L
4	FLIP 84-49L	FLIP 85-22L	Local check	FLIP 84-27L	FLIP 84-55L	FLIP 85-32L]	FLIP 85-20L	FLIP 84-45L
5	FLIP 85-16L	FLIP 85-27L	FLIP 84-46L]	FLIP 84-169L]	FLIP 85-20L	FLIP 84-88L	FLIP 84-164L	FLIP 84-163L
			FLIP 84-97L]					

Cont'd. ...

RANK	MOROCCO	NEPAL		PAKISTAN				SPAIN
	Marchouch	Lalitpur-1	Lalitpur-2	Dasht	Kuchlak	Faisalabad	Quette	Alcala de Henares
1	FLIP 84-2L	FLIP 85-27L	Local check	FLIP 85-29L	FLIP 85-28L	Local check	FLIP 84-27L	FLIP 84-42L
2	FLIP 84-107L	FLIP 84-168L	FLIP 85-33L	FLIP 84-89L	FLIP 84-56L	FLIP 84-48L	FLIP 84-48L	FLIP 85-16L
3	ILL 241	ILL 241	FLIP 84-105L	FLIP 85-31L	FLIP 85-23L	FLIP 84-51L	ILL 5673	FLIP 84-56L
4	FLIP 85-32L	FLIP 84-2L	FLIP 84-60L	FLIP 84-56L	FLIP 84-48L	FLIP 85-32L	FLIP 84-49L	FLIP 84-47L
5	ILL 5673	FLIP 85-14L	ILL 241	FLIP 85-24L	FLIP 85-15L	FLIP 84-97L	FLIP 84-107L	FLIP 84-160L

Cont'd. ...

RANK	SYRIA				TUNISIA			YEMEN A.R.
	Gelline	Heimo	Izra'a	Tel Hadya	Beja	El-Kef	Mateur	Dhmar
1	FLIP 84-61L	FLIP 85-19L	FLIP 84-44L	FLIP 85-22L	FLIP 84-51L	FLIP 85-27L	FLIP 84-58L	FLIP 84-60L
2	FLIP 85-18L	FLIP 85-13L	FLIP 85-32L	FLIP 84-88L	FLIP 85-28L	FLIP 84-2L	FLIP 84-51L	FLIP 84-161L
3	FLIP 84-58L]	FLIP 84-104L	FLIP 84-55L]	FLIP 84-104L	FLIP 84-58L	FLIP 84-27L	FLIP 84-163L	FLIP 85-26L
4	FLIP 84-166L]	FLIP 84-55L	FLIP 85-29L]	FLIP 85-20L	FLIP 84-56L	FLIP 84-58L	FLIP 84-45L	FLIP 84-88L
5	FLIP 84-43L	FLIP 85-20L	FLIP 85-21L	FLIP 84-2L]	FLIP 84-2L	ILL 5588	FLIP 84-43L]	FLIP 84-159L
				FLIP 84-105L]			FLIP 84-49L]	
				FLIP 84-167L]				

The brackets indicate entries having the same rank.

The data on time to flowering (Table 5.4.2) showed that the flowering was earliest at Toshevo in Bulgaria (53 days) and latest at Ramtha in Jordan and Dasht in Pakistan (151 days). The entries, FLIP 84-51L and FLIP 84-165L were the earliest to flower in 116 days,and FLIP 84-163L was the latest to flower in 126 days.

The entry mean for time to maturity ranged from 145 days for FLIP 84-48L to 157 days for FLIP 85-24L (Table 5.4.3). The plant height data (Table 5.4.4) revealed that the entries were tallest at Mallawi in Egypt (42 cm), and Dhamar in Yemen Arab Republic (44 cm). The entry means ranged from 23 cm to 32 cm and the entry Terbisovska (ILL 5479) was the tallest.

Adjusted seed yields of different entries over locations are given in Table 5.4.5. The location mean was highest at Dhamar in Yemen Arab Republic (3003 kg/ha), and was followed by Beja in Tunisia (1984 kg/ha), Alcala de Henares in Spain (1963 kg/ha), El-Kef (1709 kg/ha) and Mateur (1662 kg/ha) in Tunisia and Tel Hadya (1588 kg/ha) in Syria. The ANOVA of the experimental design revealed that at Mallawi (Egypt), Terbol (Lebanon), Merchouch (Morocco), Dasht, Kuchluk and Quetta in Pakistan; Heimo and Tel Hadya in Syria; and Dhamar in Yemen Arab Republic, 1, 1, 6, 1, 6, 2, 1, 1, 8, and 6 entries, respectively, exceeded the local check by a significant margin.

The five heaviest yielders at each location are given in Table 5.4.6. It was noticed that FLIP 84-56L (ILL 5726) occurred most frequently among the top five heaviest yielders and was followed by FLIP 84-2L and FLIP 85-32L.

5.5. LENTIL INTERNATIONAL SCREENING NURSERY - EARLY (LISN-E)

Material

The Lentil International Screening Nursery - Early (LISN-E) comprised of 48 test entries including elite germplasm accessions received from other centres and selections made at ICARDA. In addition, there were three checks, two namely ILL 4354 and ILL 4605 were supplied by ICARDA and the third check, the best local cultivar, was to be added by the cooperator.

Methods and Management

The nursery was grown in an augmented block design. The suggested plot size was a single row plot, 4 m long, with 200 seeds/plot. The cooperators were urged to use the locally recommended agronomic practices for the management of the nursery.

Forty eight sets of nursery were distributed to cooperators in 17 countries. Data were received from 26 sites and were analysable for 18 sites. The details of the agronomic practices supplied by the

Table 5.5.1. Agronomic data for different locations in the LISN-E during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ARGENTINA	Mendoza	10.06.1985	03.12.1985	NA			4	-	Precoz
BANGLADESH	Ishurdi	08.11.1984	03.1985	-			-	-	L-5
BRAZIL	Santa Maria	12.06.1985	NA	08	60	50	-	-	Anicia
EGYPT	Sakha	05.12.1984	30.04.1985	36	72		1	Gesagard	Giza 370
ETHIOPIA	Denbi	14.07.1985	23.11.1985	NA			NA	NA	NA
ETHIOPIA	Debre Zeit	09.07.1985	NA	-			-	-	ILL-358
GREECE	Larissa	26.11.1985	NA		60		-	-	Dimitra
JORDAN	Jubeiha	19.12.1984	25.05.1985	20	40		NA	NA	UJL 176
MOROCCO	Marchouch	05.12.1984	15.06.1985	150	120	120	-	-	NA
NEPAL	Khajura	03.11.1984	18.04.1985	20	40	20	NA	-	Shishir
NEPAL	Parwanipur	05.11.1984	14.03.1985	20	40	20	2	-	Sindoor
PAKISTAN	Chakwal	16.10.1984	02.04.1985	11	25		-	-	9-6
PAKISTAN	Dasht	31.10.1984	23.05.1985	28	72		-	-	Quetta Red
PAKISTAN	Faisalabad	10.11.1984	23.04.1985	-			2	-	9-6
PAKISTAN	Faisalabad	04.11.1984	15.04.1985	-			1	-	
PAKISTAN	Islamabad	20.10.1984	03.1985	-			-	-	9-6
PAKISTAN	Kuchlak	26.10.1984	23.05.1985	28	72		-	-	Quetta Red
PAKISTAN	Lahore	27.10.1984	20.03.1985	10	40	30	2	Basudin	Pak 25
PAKISTAN	Quetta-1	31.10.1984	23.05.1985	28	72		-	-	Quetta Red
PAKISTAN	Quetta-2	21.11.1984	27.05.1985	20	50		4	-	Local Desht
PERU	Ancash	22.11.1984	06.1985	-			1	Pomarsol,Semilla,Parathion	Chupaea
SUDAN	Hudeiba	11.11.1984	03.1985	43			8	NA	Seliam
SYRIA	Gelline	NA	NA	NA			NA	NA	NA
SYRIA	Tel Hadya	03.12.1984	05.06.1985	30	50		-	Kerb, Bladex	ILL 4401
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA

NA - not available

Table 5.5.2. Time to flowering (days) of entries at different locations in LISN-E during 1984/85.

SELECTION	ILL	ORIGIN	ARGENTINA	BANGLADESH	EGYPT	ETHIOPIA		GREECE	JORDAN
			Mendoza	Ishurdi	Sakha	Denbi	Debre Zeit	Larissa	Jubeiha
-	358	MEXICO	112	83	82	66	62	140	111
EL 23	1693	ETHIOPIA	113	77	84	55	52	141	119
EL 42	1712	ETHIOPIA	109	58	79	54	45	141	114
SILIAM	1861	SUDAN	116	82	109	69	82	141	114
-	1866	SYRIA	112	83	-	60	49	140	111
L 528 (75)	1983	ETHIOPIA	112	78	97	50	38	139	111
L 1327	2069	ETHIOPIA	113	91	79	54	48	141	114
-	2149	JORDAN	110	83	87	70	68	139	111
PANT-L406	2501	INDIA	112	86	84	77	47	141	113
T 36	2526	INDIA	112	82	107	64	50	140	111
-	2573	INDIA	113	87	84	76	47	141	113
-	2578	INDIA	103	62	64	75	47	141	113
-	2580	INDIA	113	81	84	54	47	141	113
-	2581	INDIA	113	74	84	75	42	141	119
LL 1	2582	INDIA	113	80	84	50	42	141	114
LWS 3	2590	INDIA	112	82	92	65	42	140	111
B 77	3493	INDIA	110	75	-	54	47	139	111
LG 41	3516	INDIA	115	83	107	76	73	140	111
LG 46	3517	INDIA	112	82	82	48	38	139	116
LL 57	3614	INDIA	116	89	94	75	51	141	113
162	4403	PAKISTAN	112	75	97	52	44	139	111
EL142	5071	ETHIOPIA	102	65	77	58	48	136	111
FAM.370	5486	EGYPT	111	52	77	64	47	140	116
76 TA 66005	5562	JORDAN	112	82	87	55	50	138	111
81 S 38084	5673	SYRIA	112	83	97	67	62	140	111
FLIP84-29L	5700	ICARDA	113	89	89	75	57	141	113
FLIP84-56L	5726	ICARDA	113	89	94	70	74	137	113
FLIP84-58L	5728	ICARDA	112	90	92	69	67	139	116
FLIP84-67L	5737	ICARDA	113	85	94	64	68	142	114
FLIP84-78L	5748	ICARDA	113	62	79	63	57	141	113
FLIP84-108L	5778	ICARDA	113	84	89	54	53	141	114
FLIP84-109L	5779	ICARDA	113	83	109	71	66	141	114
FLIP84-110L	5780	ICARDA	110	82	97	74	68	139	111
FLIP84-111L	5781	ICARDA	112	91	-	70	67	139	116
FLIP84-112L	5782	ICARDA	111	57	72	59	54	140	111
FLIP84-113L	5783	ICARDA	112	85	107	74	79	140	111
FLIP84-114L	5784	ICARDA	103	-	109	53	94	140	114
FLIP84-117L	5787	ICARDA	113	78	84	62	66	140	119
FLIP84-118L	5788	ICARDA	112	83	97	63	50	140	111
FLIP84-119L	5789	ICARDA	112	79	92	62	55	139	111
FLIP84-120L	5790	ICARDA	112	88	104	54	53	140	121
FLIP84-121L	5791	ICARDA	113	61	89	55	50	137	113
FLIP84-133L	5803	ICARDA	110	51	97	51	38	136	111
FLIP84-136L	5806	ICARDA	113	89	94	66	57	141	113
FLIP85-42L	5880	ICARDA	110	74	89	55	54	141	114
FLIP85-36L	5874	ICARDA	112	79	87	63	50	140	111
FLIP85-43L	5881	ICARDA	113	86	104	50	64	141	113
FLIP85-44L	5882	ICARDA	112	74	107	70	56	139	111
LOCAL	4354	JORDAN	112	80	95	64	60	140	114
PRECOZ	4605	ARGENTINA	110	58	65	56	50	138	113
LOCAL CHECK	-	-	101	46	73	69	57	145	112
LOCATION MEAN			111	77	90	63	56	140	113
C.V.%			0.80	6.50	5.50	8.10	8.89	0.56	2.05
L.S.D 5% FOR:									
CHECKS			1.70	8.40	8.00	8.80	20.92	1.38	4.03
CHECK VS TEST ENTRIES			3.10	15.30	14.60	16.20	38.20	2.52	7.37
TEST ENTRIES IN THE SAME BLOCK			3.40	16.80	16.00	17.70	41.84	2.76	8.07
TEST ENTRIES IN DIFFERENT BLOCKS			3.90	19.40	18.50	20.40	48.32	3.19	9.32
S.E.FOR:									
CHECKS			0.70	3.40	3.20	3.60	3.51	0.56	1.64
CHECKS VS TEST ENTRIES			1.20	6.20	5.90	6.60	6.41	1.03	3.01
TEST ENTRIES IN THE SAME BLOCK			1.40	6.80	6.50	7.20	7.02	1.13	3.29
TEST ENTRIES IN DIFFERENT BLOCKS			1.60	7.90	7.50	8.30	8.10	1.30	3.80

Cont'd. ...

Table 5.5.2. Cont'd. ...

ENTRY NAME	MOROCCO	NEPAL		PAKISTAN			
	Marchouch	Parwanipur	Khajura	Faisalabad-1	Faisalabad-2	Quetta-1	Chakwal
ILL 358	112	115	106	117	120	150	108
1693	105	97	96	124	102	147	103
1712	109	91	90	103	96	147	107
1861	-	116	116	155	132	157	97
1866	116	123	104	114	120	160	101
1983	98	114	92	103	102	160	90
2069	113	113	102	100	116	147	96
2149	105	115	95	124	124	160	105
2501	109	87	86	88	96	160	99
2526	113	-	103	122	110	150	105
2573	110	87	85	88	100	150	99
2578	110	76	85	86	83	160	85
2580	109	87	90	108	89	160	99
2581	103	97	87	119	97	147	102
2582	103	91	87	114	99	147	107
2590	117	123	86	87	127	160	85
3493	110	96	95	118	100	160	98
3516	111	109	103	123	117	150	105
3517	106	95	90	109	104	150	101
3614	114	112	104	86	112	160	99
4403	103	90	86	112	100	160	105
5071	103	118	86	118	103	150	94
5486	103	90	86	92	86	160	89
5562	103	96	95	118	103	160	105
5673	106	114	102	109	118	160	101
FLIP84-29L	109	112	104	117	115	160	99
FLIP84-56L	108	121	109	120	117	150	99
FLIP84-58L	114	118	114	116	119	150	90
FLIP84-67L	113	113	102	155	118	157	96
FLIP84-78L	114	87	87	104	93	150	91
FLIP84-108L	109	113	96	123	109	157	96
FLIP84-109L	113	116	110	156	121	147	97
FLIP84-110L	-	118	103	122	117	150	105
FLIP84-111L	114	123	114	112	121	150	90
FLIP84-112L	110	96	86	96	90	160	89
FLIP84-113L	109	118	101	120	119	150	105
FLIP84-114L	107	97	116	151	118	147	96
FLIP84-117L	102	113	96	121	104	147	96
FLIP84-118L	108	114	96	114	112	160	105
FLIP84-119L	108	114	96	109	105	150	101
FLIP84-120L	114	112	96	110	117	150	91
FLIP84-121L	103	76	87	86	91	150	86
FLIP84-133L	109	78	81	109	87	160	85
FLIP84-136L	114	112	96	113	107	150	99
FLIP85-42L	109	113	95	123	107	147	107
FLIP85-36L	112	117	92	109	107	150	96
FLIP85-43L	109	112	96	113	105	150	99
FLIP85-44L	109	118	95	112	104	160	98
LOCAL	112	115	96	108	110	160	97
ILL 4605	98	81	80	89	79	150	93
LOCAL CHECK	-	79	83	108	103	152	103
LOCATION MEAN	108	105	96	113	107	154	98
C.V.%	1.10	3.41	2.40	9.30	1.80	1.80	3.40
L.S.D 5% FOR:							
CHECKS	1.90	6.01	3.90	17.90	3.40	4.90	5.80
CHECK VS TEST ENTRIES	3.60	10.98	7.20	32.80	6.30	9.10	10.70
TEST ENTRIES IN THE SAME BLOCK	3.90	12.02	7.90	35.90	6.90	9.90	11.70
TEST ENTRIES IN DIFFERENT BLOCKS	4.60	13.88	9.10	41.40	7.90	11.50	13.50
S.E.FOR:							
CHECKS	0.80	2.45	1.60	7.30	1.40	2.00	2.40
CHECKS VS TEST ENTRIES	1.40	4.48	2.90	13.40	2.50	3.70	4.30
TEST ENTRIES IN THE SAME BLOCK	1.60	4.90	3.20	14.60	2.80	4.00	4.80
TEST ENTRIES IN DIFFERENT BLOCKS	1.80	5.67	3.70	16.90	3.20	4.70	5.50

Cont'd. ...

Table 5.5.2. Cont'd. ...

ENTRY NAME	PAKISTAN				PERU	SYRIA	(1)
	Dasht	Kuchlak	Islamabad	Quetta-2	Ancash	Tel Hadya	Ovrall Mean
ILL 358	134	147	135	156	103	129	117
1693	141	144	120	150	112	127	114
1712	139	147	120	150	74	127	108
1861	136	145	134	155	102	131	123
1866	134	149	139	148	88	129	115
1983	140	153	121	150	62	129	108
2069	137	146	131	149	85	129	111
2149	140	143	135	150	95	130	117
2501	140	149	121	153	65	127	109
2526	139	143	135	152	90	128	114
2573	142	144	121	153	55	127	107
2578	138	149	114	150	65	127	105
2580	143	150	121	156	55	127	108
2581	142	144	127	150	74	127	111
2582	140	146	120	156	76	127	110
2590	139	148	139	154	88	129	112
3493	134	148	121	155	58	128	109
3516	140	141	135	154	79	130	116
3517	140	138	121	155	73	129	108
3614	143	150	132	157	55	132	112
4403	135	142	128	155	51	128	108
5071	138	149	121	150	64	128	107
5486	139	144	114	156	95	-	108
5562	140	141	128	157	100	128	113
5673	138	139	135	152	88	129	115
FLIP84-29L	137	154	135	155	70	127	115
FLIP84-56L	143	155	132	131	106	129	117
FLIP84-58L	138	138	135	154	103	129	116
FLIP84-67L	136	144	134	157	107	132	120
FLIP84-78L	139	148	121	152	101	132	111
FLIP84-108L	135	150	127	155	107	129	114
FLIP84-109L	139	150	134	156	78	127	119
FLIP84-110L	134	143	132	157	64	126	114
FLIP84-111L	137	138	135	156	108	129	117
FLIP84-112L	138	138	127	149	75	133	108
FLIP84-113L	134	144	132	150	90	128	117
FLIP84-114L	141	149	134	156	122	127	122
FLIP84-117L	140	148	127	149	102	125	114
FLIP84-118L	134	137	135	149	78	129	112
FLIP84-119L	139	141	121	151	93	130	111
FLIP84-120L	140	144	135	151	86	125	112
FLIP84-121L	137	145	121	149	111	130	107
FLIP84-133L	135	147	114	148	88	131	106
FLIP84-136L	142	142	135	153	96	127	114
FLIP85-42L	141	149	127	157	132	129	116
FLIP85-36L	138	143	128	149	93	130	111
FLIP85-43L	141	145	132	155	94	127	113
FLIP85-44L	134	149	135	155	59	130	112
LOCAL	140	146	132	152	95	129	115
ILL 4605	138	149	114	151	92	128	106
LOCAL CHECK	138	145	121	149	92	131	
LOCATION	138	145	128	152	86	128	
C.V.%	0.70	1.20	0.02	1.00	7.90	0.82	
L.S.D 5% FOR:							
CHECKS	1.70	3.20	0.04	2.60	12.00	1.80	
CHECK VS TEST ENTRIES	3.20	5.80	0.09	4.80	22.00	3.20	
TEST ENTRIES IN THE SAME BLOCK	3.50	6.40	0.09	5.30	24.10	3.60	
TEST ENTRIES IN DIFFERENT BLOCKS	4.00	7.40	0.11	6.10	27.80	4.10	
S.E.FOR:							
CHECKS	0.70	1.30	0.02	1.00	4.90	0.73	
CHECKS VS TEST ENTRIES	1.30	2.40	0.03	1.90	9.00	1.30	
TEST ENTRIES IN THE SAME BLOCK	1.40	2.60	0.04	2.10	9.80	1.40	
TEST ENTRIES IN DIFFERENT BLOCKS	1.60	3.00	0.04	2.50	11.30	1.60	

(1) Ishurdi, Sakha, Marchouch, Parwanipur and Tel Hadya were excluded from the overall mean.

Table 5.5.3. Time to maturity (days) of entries at different locations in LISN-E during 1984/85.

ENTRY NAME	ARGENTINA	BANGLADESH	EGYPT	ETHIOPIA	JORDAN	NEPAL	PAKISTAN	
	Mendoza	Ishurdi	Sakha	Denbi	Jubeiha	Khajura	Faisalabad-2	Quetta-1
ILL 358	179	126	135	116	157	132	159	178
1693	154	124	141	119	152	131	143	170
1712	159	110	141	117	153	129	137	170
1861	161	126	141	127	155	140	161	185
1866	173	142	-	119	154	133	159	193
1983	173	128	143	114	157	129	147	193
2069	173	142	-	125	155	132	152	179
2149	176	126	143	125	159	132	149	189
2501	164	120	139	113	155	128	148	191
2526	170	127	151	116	155	134	150	177
2573	164	120	139	115	155	127	143	179
2578	164	117	129	114	153	128	141	191
2580	166	120	139	117	157	129	142	191
2581	160	125	141	-	154	130	141	179
2582	157	117	141	-	155	127	140	170
2590	173	144	143	121	154	129	160	193
3493	170	121	-	123	161	132	151	189
3516	176	144	151	123	159	133	153	179
3517	173	120	135	113	153	129	148	181
3614	166	125	139	114	157	132	150	191
4403	170	121	143	125	159	127	146	189
5071	170	114	143	119	157	126	144	177
5486	176	113	143	123	159	129	142	189
5562	176	127	143	119	159	132	148	189
5673	173	125	148	121	154	132	150	193
FLIP84-29L	170	126	139	116	155	131	156	191
FLIP84-56L	166	142	139	118	157	133	158	181
FLIP84-58L	173	143	-	112	153	137	158	181
FLIP84-67L	184	125	141	119	155	133	158	185
FLIP84-78L	172	102	139	116	151	130	155	181
FLIP84-108L	159	126	141	119	155	132	150	185
FLIP84-109L	159	132	154	122	155	132	156	173
FLIP84-110L	170	142	143	125	161	134	155	177
FLIP84-111L	173	143	-	112	153	137	161	178
FLIP84-112L	176	114	-	123	157	128	150	189
FLIP84-113L	175	146	156	126	159	133	153	177
FLIP84-114L	159	-	-	138	155	140	150	173
FLIP84-117L	163	127	-	119	155	132	152	175
FLIP84-118L	173	125	148	116	149	129	149	193
FLIP84-119L	179	120	135	117	153	129	153	181
FLIP84-120L	152	124	152	115	151	129	151	176
FLIP84-121L	172	125	139	117	151	129	153	181
FLIP84-133L	203	111	143	117	154	129	152	193
FLIP84-136L	168	140	139	113	157	133	157	181
FLIP85-42L	157	126	141	122	155	132	147	170
FLIP85-36L	179	125	135	116	153	129	158	178
FLIP85-43L	166	125	152	114	157	131	148	179
FLIP85-44L	170	127	156	116	159	132	149	189
LOCAL	155	126	144	120	155	132	154	190
ILL 4605	164	117	120	116	152	127	135	178
LOCAL CHECK	164	100	135	120	154	126	149	181
LOCATION MEAN	169	126	139	119	155	131	150	183
C.V.%	6.29	1.49	3.53	2.02	0.94	0.84	1.36	1.84
L.S.D 5% FOR:								
CHECK	18.30	3.15	7.46	4.04	2.53	1.91	3.54	5.85
CHECK VS TEST ENTRIES	33.43	5.76	13.63	7.38	4.62	3.49	6.46	10.70
TEST ENTRIES IN THE DAME BLOCK	36.61	6.30	14.93	8.09	5.06	3.82	7.08	11.71
TEST ENTRIES IN DIFFERENT BLOCKS	42.28	7.29	17.24	9.34	5.84	4.41	8.18	13.53
S.E.FOR:								
CHECKS	7.48	1.29	3.05	1.65	1.03	0.78	1.44	2.39
CHECKS VS TEST ENTRIES	13.66	2.35	5.57	3.02	1.88	1.42	2.64	4.37
TEST ENTRIES IN THE SAME BLOCK	14.96	2.58	6.10	3.30	2.06	1.56	2.89	4.78
TEST ENTRIES IN DIFFERENT BLOCKS	17.27	2.98	7.04	3.81	2.38	1.80	3.34	5.53

Cont'd. ...

Table 5.5.3. Cont'd. ...

ENTRY NAME	PAKISTAN				PERU	SYRIA	OVERALL (1)
	Chakwal	Dasht	Kuchlak	Quetta-2	Ancash	Tel Hadya	Mean
ILL 358	150	189	199	194	163	167	170
1693	145	207	210	193	149	161	165
1712	144	194	195	204	155	164	164
1861	148	193	198	203	161	167	170
1866	146	188	203	197	163	164	170
1983	140	190	198	200	158	161	168
2069	133	194	205	198	164	165	168
2149	146	195	188	197	162	168	169
2501	132	188	199	201	155	165	166
2526	141	193	197	196	164	162	167
2573	143	196	200	200	155	162	166
2578	134	185	201	195	161	168	165
2580	144	198	195	204	161	162	168
2581	144	209	198	196	155	161	166
2582	141	196	194	197	164	161	164
2590	136	203	207	198	163	164	171
3493	141	190	197	204	144	162	167
3516	142	195	191	201	187	165	171
3517	150	194	203	195	169	161	169
3614	146	196	194	202	161	165	169
4403	150	193	192	202	132	162	166
5071	132	192	193	202	157	165	165
5486	134	193	196	197	164	-	167
5562	146	194	183	200	166	168	169
5673	152	188	198	201	163	164	170
FLIP84-29L	143	197	196	202	155	165	169
FLIP84-56L	147	197	197	197	155	165	168
FLIP84-58L	143	193	200	196	163	164	169
FLIP84-67L	140	192	196	202	169	167	171
FLIP84-78L	139	181	198	198	175	184	168
FLIP84-108L	148	199	207	201	169	164	170
FLIP84-109L	148	198	207	199	164	165	169
FLIP84-110L	138	192	199	199	152	165	167
FLIP84-111L	148	192	196	201	169	164	170
FLIP84-112L	142	192	192	204	162	184	169
FLIP84-113L	152	191	197	202	177	165	171
FLIP84-114L	148	211	205	194	164	167	169
FLIP84-117L	145	211	199	195	164	165	169
FLIP84-118L	154	196	202	197	158	164	170
FLIP84-119L	150	195	203	202	163	167	170
FLIP84-120L	132	182	198	201	170	162	164
FLIP84-121L	139	180	197	204	170	168	167
FLIP84-133L	140	188	200	197	158	167	171
FLIP84-136L	147	198	197	201	155	165	169
FLIP85-42L	148	205	208	197	155	167	167
FLIP85-36L	154	196	197	204	163	164	171
FLIP85-43L	145	195	193	203	155	165	167
FLIP85-44L	142	189	198	203	167	168	169
LOCAL	146	193	196	198	164	167	168
ILL 4605	134	189	199	202	160	162	164
LOCAL CHECK	141	193	189	193	181	166	
LOCATION MEAN	143	194	198	199	162	165	
C.V.%	2.75	2.08	2.61	0.80	3.40	1.06	
L.S.D 5% FOR:							
CHECKS	6.82	6.98	8.96	2.78	9.67	2.99	
CHECK VS TEST ENTRIES	12.47	12.75	16.37	5.07	17.65	5.47	
TEST ENTRIES IN THE SAME BLOCK	13.65	13.97	17.93	5.56	19.34	5.99	
TEST ENTRIES IN DIFFERENT BLOCKS	15.77	16.13	20.70	6.42	22.33	6.92	
S.E.FOR:							
CHECKS	2.79	2.85	3.66	1.13	3.95	1.22	
CHECKS VS TEST ENTRIES	5.09	5.20	6.69	2.07	7.21	2.23	
TEST ENTRIES IN THE SAME BLOCK	5.58	5.70	7.32	2.27	7.90	2.44	
TEST ENTRIES IN DIFFERENT BLOCKS	6.44	6.59	8.46	2.62	9.12	2.82	

(1) Ishurdi, Sakha, Denbi and Tel Hadya were excluded from the overall mean.

Table 5.5.4. Plant height (cm) of entries at different locations in LISN-E during 1984/85.

ENTRY NAME	ARGENTINA	ETHIOPIA	JORDAN	NEPAL	PAKISTAN		
	Mendoza	Denbi	Jubeiha	Khajura	Faisalabad-2	Quetta-1	Chakwal
ILL 358	16	30	34	34	35	28	24
1693	19	23	30	24	20	26	24
1712	22	29	26	26	26	24	26
1861	20	18	32	17	26	24	26
1866	13	28	27	24	23	35	27
1983	16	29	20	26	37	30	26
2069	23	24	34	27	42	22	28
2149	22	27	33	37	34	35	22
2501	21	24	22	32	38	24	26
2526	19	31	29	35	33	35	26
2573	23	21	28	33	43	24	27
2578	19	26	26	36	47	21	27
2580	24	18	26	34	45	22	25
2581	27	0	24	36	30	27	26
2582	24	0	24	32	34	27	25
2590	15	19	28	25	16	35	24
3493	18	32	22	33	43	25	26
3516	19	29	24	30	23	28	25
3517	16	24	23	31	27	30	26
3614	20	28	29	30	48	27	26
4403	14	31	19	37	39	28	25
5071	15	25	24	31	27	40	23
5486	21	31	36	35	46	35	26
5562	18	28	29	38	43	35	24
5673	15	33	28	26	19	25	27
FLIP84-29L	24	22	33	33	39	22	25
FLIP84-56L	22	20	36	29	36	23	25
FLIP84-58L	15	27	36	30	38	35	26
FLIP84-67L	20	22	31	20	27	24	25
FLIP84-78L	18	36	34	37	50	19	25
FLIP84-108L	22	22	36	34	26	32	26
FLIP84-109L	22	26	30	31	25	27	26
FLIP84-110L	25	28	41	33	29	35	26
FLIP84-111L	12	21	34	18	33	27	27
FLIP84-112L	23	30	39	31	24	40	24
FLIP84-113L	20	26	32	31	30	28	26
FLIP84-114L	24	28	37	30	22	30	26
FLIP84-117L	23	23	27	32	25	26	26
FLIP84-118L	17	30	24	26	17	30	27
FLIP84-119L	19	31	31	23	23	20	24
FLIP84-120L	20	24	32	30	27	32	26
FLIP84-121L	20	16	36	29	33	29	27
FLIP84-133L	22	29	36	25	39	35	25
FLIP84-136L	23	25	39	31	30	25	27
FLIP85-42L	27	25	33	31	28	32	26
FLIP85-36L	21	23	39	26	35	30	26
FLIP85-43L	23	24	42	28	41	26	25
FLIP85-44L	16	30	32	33	36	30	26
LOCAL	21	33	33	33	36	28	26
ILL 4605	20	24	28	26	27	26	25
LOCAL CHECK	22	31	36	34	36	30	26
LOCATION MEAN	20	26	31	30	32	28	26
C.V.%	14.78	14.90	18.03	7.30	10.17	18.38	3.54
L.S.D AT 5% FOR:							
CHECKS	5.25	6.76	9.79	3.89	5.77	9.12	1.60
CHECK VS TEST ENTRIES	9.60	12.35	17.87	7.10	10.54	16.65	2.93
TEST ENTRIES IN THE SAME BLOCK	10.51	13.53	19.58	7.78	11.54	18.24	3.21
TEST ENTRIES IN DIFFERENT BLOCKS	12.14	15.63	22.61	8.98	13.33	21.06	3.70
S.E.FOR:							
CHECKS	2.14	2.76	4.00	1.59	2.35	3.72	0.65
CHECKS VS TEST ENTIRES	3.92	5.05	7.30	2.90	4.30	6.80	1.19
TEST ENTRIES IN THE SAME BLOCK	4.29	5.53	8.00	3.18	4.71	7.45	1.31
TEST ENTRIES IN DIFFERENT BLOCKS	4.96	6.38	9.24	3.67	5.44	8.60	1.51

Cont'd. ...

Table 5.5.4. Cont'd. ...

ENTRY NAME	PAKISTAN			PERU	SYRIA	(1)
	Dasht	Kuchlak	Quetta-2	Ancash	Tel Hadya	Overall Mean
ILL 358	10	10	8	50	30	31
1693	10	14	7	59	25	28
1712	10	9	10	50	17	28
1861	10	7	8	47	27	27
1866	10	9	7	40	25	27
1983	9	10	8	42	21	28
2069	10	8	9	47	28	31
2149	7	7	10	51	31	33
2501	9	8	7	38	22	28
2526	9	9	9	48	25	32
2573	8	8	9	33	16	30
2578	10	9	8	39	22	30
2580	10	7	8	33	20	29
2581	10	10	8	50	21	31
2582	8	10	8	53	19	31
2590	10	9	9	39	31	26
3493	9	7	10	39	24	29
3516	9	9	9	52	33	28
3517	9	8	9	38	19	27
3614	10	7	10	45	20	32
4403	10	7	8	47	19	29
5071	10	9	9	59	26	31
5486	11	8	9	46	-	35
5562	10	6	10	53	30	34
5673	10	6	8	42	18	26
FLIP84-29L	9	8	8	38	30	30
FLIP84-56L	9	9	8	55	28	32
FLIP84-58L	9	8	8	51	28	33
FLIP84-67L	9	9	10	46	26	27
FLIP84-78L	10	8	10	58	33	34
FLIP84-108L	10	7	9	42	29	31
FLIP84-109L	9	8	8	61	32	31
FLIP84-110L	8	8	10	51	29	34
FLIP84-111L	9	10	9	45	25	28
FLIP84-112L	8	8	10	59	33	34
FLIP84-113L	9	9	10	47	34	30
FLIP84-114L	8	9	9	49	32	31
FLIP84-117L	9	9	8	51	27	30
FLIP84-118L	10	7	7	39	23	25
FLIP84-119L	10	10	9	40	21	25
FLIP84-120L	11	9	8	50	29	31
FLIP84-121L	9	9	9	55	25	32
FLIP84-133L	10	8	8	44	28	32
FLIP84-136L	10	9	8	43	25	31
FLIP85-42L	11	7	9	68	30	35
FLIP85-36L	10	9	9	43	25	31
FLIP85-43L	10	7	9	47	30	33
FLIP85-44L	9	7	10	45	33	31
LOCAL	9	9	9	55	30	33
ILL 4605	10	7	9	50	24	28
LOCAL CHECK	10	9	9	40	28	
LOCATION MEAN	9	8	9	47	26	
C.V.%	6.56	8.43	10.21	9.43	12.04	
L.S.D 5% FOR:						
CHECKS	1.12	1.29	1.63	7.81	5.44	
CHECK VS TEST ENTRIES	2.05	2.37	2.97	14.27	9.93	
TEST ENTRIES IN THE SAME BLOCK	2.25	2.59	3.26	15.63	10.88	
TEST ENTRIES IN DIFFERENT BLOCKS	2.60	3.00	3.76	18.05	12.56	
S.E.FOR:						
CHECK	0.46	0.53	0.66	3.19	2.22	
CHECKS VS TEST ENTRIES	0.84	0.96	1.21	5.83	4.05	
TEST ENTRIES IN THE SAME BLOCK	0.92	1.06	1.33	6.38	4.44	
TEST ENTRIES IN DIFFERENT BLOCKS	1.06	1.22	1.53	7.37	5.13	

(1) Denbi, Dasht, Kuchlak, Quetta-2 and Tel Hadya were excluded from the overall mean.

Table 5.5.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in LISN-E during 1984/85.

ENTRY NAME	ARGENTINA Mendoza		BANGLADESH Ishurdi		EGYPT Sakha		ETHIOPIA Denbi		JORDAN Jubeiha		MOROCCO Marchouch	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILL 358	5550	1	438	35	305	39	1365	6	377	34	1652	9
1693	1283	28	632	28	1135	15	631	16	0	40	106	51
1712	1683	16	0	48	935	19	231	25	0	40	927	28
1861	1133	31	1372	18	1957	4	98	31	520	24	594	41
1866	0	47	362	39	0	47	0	38	427	32	639	38
1983	0	47	46	47	461	37	0	38	387	33	319	48
2069	983	37	178	41	246	42	265	24	280	36	544	47
2149	1016	35	762	26	927	20	854	12	1157	4	1807	4
2501	1500	23	1319	19	964	18	198	26	0	40	582	44
2526	0	47	588	30	616	29	1004	9	717	18	1037	23
2573	1600	20	1684	8	598	31	65	34	44	39	878	30
2578	1400	25	2199	3	1231	14	48	36	0	40	245	49
2580	1600	20	1834	6	620	28	65	34	0	40	762	34
2581	1633	19	1871	5	1012	17	-		0	40	923	29
2582	1383	26	1749	7	2212	1	-		0	40	577	45
2590	0	47	144	42	38	46	0	38	577	23	585	43
3493	1166	30	1618	12	0	47	770	14	717	18	716	35
3516	1666	18	372	38	1338	12	1387	5	927	10	1399	12
3517	1100	33	1623	11	272	41	0	38	367	35	669	36
3614	1850	12	1391	17	809	21	315	22	0	40	1070	22
4403	966	38	2190	4	1272	13	704	15	707	20	587	42
5071	41	45	1405	16	761	22	1620	3	707	20	766	33
5486	36	46	1006	21	1616	9	1120	7	747	16	1024	24
5562	56	44	915	22	1383	11	904	11	977	9	966	26
5673	1000	36	437	36	283	40	465	19	437	28	1323	17
FLIP84-29L	2450	5	117	43	1731	6	115	29	1484	2	1724	8
FLIP84-56L	1700	15	318	40	1075	16	98	31	0	40	632	39
FLIP84-58L	950	40	52	45	0	47	0	38	1077	5	614	40
FLIP84-67L	1133	31	0	48	579	33	0	38	80	38	944	27
FLIP84-78L	2700	3	1635	10	1498	10	131	28	0	40	1378	15
FLIP84-108L	2133	7	440	34	657	27	365	21	90	37	1381	14
FLIP84-109L	733	43	0	48	746	23	548	18	520	24	185	50
FLIP84-110L	966	38	876	24	2138	2	804	13	1047	6	857	31
FLIP84-111L	0	47	51	46	0	47	0	38	807	14	977	25
FLIP84-112L	2016	8	2466	2	0	47	2754	1	997	8	1782	5
FLIP84-113L	1366	27	578	31	1994	3	920	10	2157	1	2174	1
FLIP84-114L	1833	13	-		246	42	1048	8	690	22	1352	16
FLIP84-117L	1683	16	405	37	246	42	-		470	27	1394	13
FLIP84-118L	750	42	618	29	416	38	0	38	437	28	1198	18
FLIP84-119L	1100	33	1521	14	738	24	0	38	737	17	1898	3
FLIP84-120L	1200	29	729	27	698	26	81	33	434	30	645	37
FLIP84-121L	2600	4	883	23	1953	5	165	27	434	30	1074	21
FLIP84-133L	1500	23	115	44	594	32	0	38	1027	7	773	32
FLIP84-136L	1800	14	529	32	464	36	115	29	0	40	1603	10
FLIP85-42L	1933	9	872	25	612	30	281	23	870	11	1198	18
FLIP85-36L	900	41	1038	20	227	45	0	38	807	14	1752	7
FLIP85-43L	2200	6	1484	15	709	25	48	36	0	40	2095	2
FLIP85-44L	1516	22	1564	13	1650	8	1454	4	837	13	1762	6
LOCAL	1887	10	482	33	513	35	558	17	840	12	1564	11
ILL 4605	1862	11	1665	9	527	34	416	20	505	26	1185	20
LOCAL CHECK	2850	2	2529	1	1719	7	2104	2	1227	3	548	46
LOCATION MEAN	1381		942		838		502		542		1047	
C.V.%	32.50		42.60		53.50		137.90		57.30		52.50	
L.S.D 5% FOR:												
CHECKS	845.00		735.60		766.60		1199.00		533.70		958.00	
CHECK VS TEST ENTRIES	1543.00		1343.20		1399.83		2191.00		974.60		1750.00	
TEST ENTRIES IN THE SAME BLOCK	1690.00		1471.20		1533.20		2399.00		1067.40		1916.00	
TEST ENTRIES IN DIFFERENT BLOCKS	1951.00		1698.80		1770.30		2771.00		1232.60		2213.00	
S.E.FOR:												
CHECKS	345.00		300.60		313.20		490.00		218.10		391.00	
CHECKS VS TEST ENTRIES	630.00		548.90		572.10		895.00		398.20		715.00	
TEST ENTRIES IN THE SAME BLOCK	690.00		601.20		626.50		980.00		436.20		783.00	
TEST ENTRIES IN DIFFERENT BLOCKS	797.00		694.20		723.40		1132.00		503.70		904.00	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	1		0		0		0		0		0	

Cont'd. ...

Table 5.5.5. Cont'd. ...

ENTRY NAME	NEPAL		PAKISTAN									
	Khajura		Faisalabad-1		Faisalabad-2		Quetta-1		Chakwal		Dasht	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
ILL 358	181	44	454	32	100	44	983	36	187	25	268	16
1693	521	29	218	39	187	35	1666	5	187	25	146	34
1712	721	23	418	33	281	28	1016	31	137	45	96	45
1861	171	48	685	26	148	38	1166	25	337	2	540	1
1866	281	42	54	43	66	47	1133	26	287	5	110	38
1983	1531	10	494	31	2377	2	733	43	187	25	97	43
2069	471	33	18	44	1125	12	916	38	237	9	402	7
2149	565	27	752	17	238	31	1183	23	170	37	334	10
2501	1631	8	2374	2	1901	6	1516	9	204	15	0	48
2526	415	37	752	17	483	21	1433	11	170	37	246	17
2573	1931	5	374	34	1435	10	1016	31	204	15	0	48
2578	1381	12	1707	7	1979	5	1116	29	204	15	93	46
2580	1381	12	1774	6	1024	14	1016	31	204	15	106	40
2581	2771	3	2018	4	1820	8	2166	2	237	9	153	33
2582	2341	4	2418	1	1981	4	1416	15	237	9	536	2
2590	181	44	0	45	44	50	383	50	287	5	192	29
3493	1915	7	752	17	2627	1	1183	23	170	37	246	17
3516	315	41	752	17	150	37	1433	11	170	37	243	20
3517	1931	5	2321	3	1750	9	883	39	187	25	448	5
3614	981	14	1574	8	1879	7	1266	20	204	15	205	27
4403	3115	1	752	17	1077	13	1133	26	170	37	320	12
5071	815	20	752	17	116	41	683	46	70	50	246	17
5486	1415	11	-		1172	11	283	51	70	50	219	25
5562	815	20	752	17	877	15	933	37	170	37	232	22
5673	631	25	121	42	77	46	1483	10	187	25	164	30
FLIP84-29L	331	40	907	14	262	29	1116	29	204	15	106	40
FLIP84-56L	81	49	374	34	107	42	1266	20	204	15	162	32
FLIP84-58L	31	50	321	37	66	47	1383	18	287	5	234	21
FLIP84-67L	411	39	552	30	231	32	1416	15	237	9	269	15
FLIP84-78L	831	18	1841	5	518	19	1766	3	304	4	0	48
FLIP84-108L	721	23	1152	12	570	18	1666	5	187	25	109	39
FLIP84-109L	471	33	1085	13	303	25	1666	5	187	25	465	3
FLIP84-110L	415	37	752	17	138	39	1433	11	120	46	355	9
FLIP84-111L	0	51	0	45	66	47	633	47	187	25	212	26
FLIP84-112L	465	35	-		388	22	1283	19	170	37	232	22
FLIP84-113L	265	43	752	17	105	43	533	48	120	46	232	22
FLIP84-114L	1621	9	218	39	192	34	1666	5	337	2	146	34
FLIP84-117L	921	17	618	29	514	20	1416	15	237	9	122	37
FLIP84-118L	631	25	0	45	44	50	733	43	187	25	317	13
FLIP84-119L	481	31	0	45	366	23	883	39	187	25	137	36
FLIP84-120L	981	14	774	15	96	45	1016	31	154	44	98	42
FLIP84-121L	181	44	1441	9	201	33	1016	31	204	15	0	48
FLIP84-133L	831	18	254	38	788	16	1133	26	187	25	97	43
FLIP84-136L	181	44	641	27	135	40	766	42	204	15	164	30
FLIP85-42L	971	16	1218	11	648	17	2416	1	237	9	442	6
FLIP85-36L	531	28	187	41	250	30	483	49	187	25	453	4
FLIP85-43L	481	31	774	15	307	24	1266	20	204	15	30	47
FLIP85-44L	815	20	-		294	27	733	43	120	46	286	14
LOCAL	462	36	633	28	175	36	1425	14	250	8	332	11
ILL 4605	512	30	356	36	301	26	837	41	100	49	205	27
LOCAL CHECK	2920	2	1266	10	2190	3	1737	4	462	1	397	8
LOCATION MEAN	881		800		670		1173		203		220	
C.V.%	28.70		54.20		35.20		34.40		23.10		44.30	
L.S.D 5% FOR:												
CHECKS	470.30		737.00		429.00		714.00		85.00		176.50	
CHECK VS TEST ENTRIES	858.80		1347.00		783.00		1304.00		155.00		322.40	
TEST ENTRIES IN THE SAME BLOCK	940.60		1475.00		858.00		1428.00		170.00		353.10	
TEST ENTRIES IN DIFFERENT BLOCKS	1086.10		1703.00		990.00		1649.00		196.00		407.70	
S.E.FOR:												
CHECKS	192.20		301.00		175.00		291.00		34.00		72.10	
CHECKS VS TEST ENTRIES	350.90		550.00		320.00		533.00		63.00		131.70	
TEST ENTRIES IN THE SAME BLOCK	384.40		602.00		350.00		583.00		69.00		144.30	
TEST ENTRIES IN DIFFERENT BLOCKS	443.80		696.00		404.00		674.00		80.00		166.60	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		0		0	

Cont'd. ...

Table 5.5.5. Cont'd. ...

ENTRY NAME	PAKISTAN Kuchlak Y	PAKISTAN Kuchlak R	PAKISTAN Quetta-2 Y	PAKISTAN Quetta-2 R	PERU Ancash Y	PERU Ancash R	SYRIA Gelline Y	SYRIA Gelline R	SYRIA Tel Hadya Y	SYRIA Tel Hadya R	TUNISIA Beja Y	TUNISIA Beja R	Overall Mean (1) Y	Overall Rank (1) R
ILL 358	340	5	157	19	169	9	1161	18	1080	24	2866	8	1463	1
1693	164	26	129	28	194	3	1355	14	1864	4	1233	36	831	43
1712	237	17	76	41	166	11	975	23	811	33	1033	43	841	42
1861	111	39	213	10	159	16	885	24	1267	18	1133	39	856	38
1866	156	30	79	39	136	36	781	27	1142	22	1016	44	482	50
1983	116	38	92	37	144	28	621	33	809	35	1166	38	843	41
2069	331	7	156	20	158	17	775	28	1178	21	1383	32	747	45
2149	260	13	138	25	155	23	465	43	1067	26	3200	4	1173	11
2501	0	47	0	49	105	45	478	41	512	42	1200	37	1085	19
2526	186	23	165	15	144	28	85	51	484	45	1300	34	676	48
2573	0	47	12	48	90	47	508	38	940	32	550	50	951	30
2578	0	47	92	37	87	48	578	35	413	46	850	47	975	29
2580	62	45	0	49	87	48	528	37	413	46	700	48	847	40
2581	312	9	116	32	166	11	425	46	811	33	933	45	1298	5
2582	405	3	243	7	176	6	225	50	485	44	333	51	1163	15
2590	326	8	39	44	134	38	1051	20	1809	6	1916	23	530	49
3493	210	20	112	33	118	44	485	40	532	41	1250	35	1117	18
3516	158	29	118	31	157	19	585	34	1217	20	3150	5	1218	9
3517	290	12	228	8	132	40	491	39	542	40	866	46	925	32
3614	242	15	19	47	127	42	418	47	512	42	1050	42	1035	25
4403	117	37	125	29	141	32	235	49	344	48	1100	41	1132	17
5071	164	26	134	27	178	5	535	36	344	48	3050	6	830	44
5486	144	33	165	15	138	34	285	48	-		2250	16	980	28
5562	24	46	172	13	161	15	685	31	978	29	2900	7	1065	22
5673	213	19	267	4	144	28	1631	2	272	50	1116	40	886	36
FLIP84-29L	179	24	121	30	105	45	1818	1	1687	7	2250	16	1462	2
FLIP84-56L	376	4	252	5	158	17	1618	3	1354	13	1700	28	908	35
FLIP84-58L	149	32	145	23	173	7	1541	5	1609	9	2866	8	947	31
FLIP84-67L	197	21	103	36	156	21	475	42	999	28	1333	33	733	47
FLIP84-78L	0	47	72	42	166	11	818	25	1048	27	1750	26	1251	7
FLIP84-108L	171	25	172	13	-		1425	7	1267	18	1833	25	1164	14
FLIP84-109L	425	2	213	10	202	2	1375	12	1552	11	1883	24	875	37
FLIP84-110L	164	26	178	12	155	23	465	43	951	31	2050	20	1056	23
FLIP84-111L	76	42	0	49	152	25	1381	11	1342	15	5866	1	1081	20
FLIP84-112L	64	43	165	15	180	4	785	26	1084	23	1750	26	1051	24
FLIP84-113L	144	33	138	25	140	33	765	30	2084	2	3300	2	1406	3
FLIP84-114L	507	1	395	1	165	14	1305	15	2160	1	1633	29	1170	12
FLIP84-117L	333	6	341	3	169	9	1425	7	1352	14	1533	30	1066	21
FLIP84-118L	309	10	227	9	134	38	1461	6	1851	5	1966	22	848	39
FLIP84-119L	232	18	39	44	137	35	1361	13	544	39	1516	31	1008	26
FLIP84-120L	0	47	52	43	143	31	978	21	1315	16	600	49	738	46
FLIP84-121L	131	36	159	18	156	21	768	29	954	30	2300	15	1169	13
FLIP84-133L	156	30	79	39	149	26	1061	19	723	36	2516	13	1135	16
FLIP84-136L	298	11	149	22	121	43	678	32	687	37	2700	11	925	32
FLIP85-42L	64	43	347	2	-		1575	4	1535	12	2383	14	1400	4
FLIP85-36L	142	35	25	46	147	27	1191	17	1609	9	2166	19	923	34
FLIP85-43L	110	40	105	35	131	41	978	21	1315	16	2550	12	1176	10
FLIP85-44L	238	16	141	24	136	36	445	45	1871	3	3300	2	1261	6
LOCAL	252	14	156	20	173	7	1405	9	1659	8	2775	10	1227	8
ILL 4605	79	41	108	34	157	19	1210	16	590	38	2037	21	997	27
LOCAL CHECK	188	22	248	6	280	1	1400	10	1073	25	2237	18		
LOCATION MEAN	187		141		150		901		1081		1889			
C.V.%	64.90		49.00		15.93		27.70		26.10		16.80			
L.S.D 5% FOR:														
CHECKS	204.40		121.00		42.39		464.80		481.10		569.20			
CHECK VS TEST ENTRIES	373.30		221.00		77.40		848.70		878.60		1039.40			
TEST ENTRIES IN THE SAME BLOCK	408.90		242.10		84.78		929.60		962.30		1138.40			
TEST ENTRIES IN DIFFERENT BLOCKS	472.20		279.50		97.89		1073.40		1111.00		1314.60			
S.E.FOR:														
CHECKS	83.50		49.40		17.32		189.90		196.60		232.60			
CHECKS VS TEST ENTRIES	152.50		90.30		31.63		346.80		359.00		424.70			
TEST ENTRIES IN THE SAME BLOCK	167.10		98.90		34.64		379.90		393.20		465.20			
TEST ENTRIES IN DIFFERENT BLOCKS	192.90		114.20		40.00		438.60		454.10		537.20			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	0		0		0		0		2		3			

(1) Ishurdi, Denbi, Faisalabad-1, Chakwal, Dasht, Kuchlak, Quetta-2, Ancash and Tel Hadya were excluded from the overall mean.

Table 5.5.6. The five heaviest seed yielding entries at the individual locations in the LISN-E during 1984/85.

RANK	ARGENTINA	BANGLADESH	EGYPT	ETHIOPIA	JORDAN	MOROCCO	NEPAL
	Mendoza	Ishurdi	Sakha	Denbi	Jubeiha	Marchouch	Khajura
1	ILL 358	Local check	ILL 2582	FLIP 84-112L	FLIP 84-113L	FLIP 84-113L	ILL 4403
2	Local check	FLIP 84-112L	FLIP 84-110L	Local check	FLIP 84-29L	FLIP 85-43L	Local check
3	FLIP 84-78L	ILL 2578	FLIP 84-113L	ILL 5071	Local check	FLIP 84-119L	ILL 2581
4	FLIP 84-121L	ILL 4403	ILL 1861	FLIP 85-44L	ILL 2149	ILL 2149	ILL 2582
5	FLIP 84-29L	ILL 2581	FLIP 84-121L	ILL 3516	FLIP 84-58L	FLIP 84-112L	ILL 2573 ILL 3517

Cont'd. ...

RANK	PAKISTAN						
	Chakwal	Dasht	Faisalabad-1	Faisalabad-2	Kuchlack	Quetta-1	Quetta-2
1	Local check	ILL 1861	ILL 2582	ILL 3493	FLIP 84-114L	FLIP 85-42L	FLIP 84-114L
2	ILL 1861	ILL 2582	ILL 2501	ILL 1983	FLIP 84-109L	ILL 2581	FLIP 85-42L
3	FLIP 84-114L	FLIP 84-109L	ILL 3517	Local check	ILL 2582	FLIP 84-78L	FLIP 84-117L
4	FLIP 84-78L	FLIP 85-36L	ILL 2581	ILL 2582	FLIP 84-56L	Local check	ILL 5673
5	ILL 1866 ILL 2590 FLIP 84-58L	ILL 3517	FLIP 84-78L	ILL 2578	ILL 358	ILL 1693 FLIP 84-108L FLIP 84-109L FLIP 84-114L	FLIP 84-56L

Cont'd. ...

RANK	PERU	SYRIA		TUNISIA
	Ancash	Gelline	Tel Hadya	Beja
1	Local check	FLIP 84-29L	FLIP 84-114L	FLIP 84-111L
2	FLIP 84-109L	ILL 5673	FLIP 84-113L	FLIP 84-113L
3	ILL 1693	FLIP 84-56L	FLIP 85-44L	FLIP 85-44L
4	FLIP 84-112L	FLIP 85-42L	ILL 1693	ILL 2149
5	ILL 5071	FLIP 84-58L	FLIP 84-118L	ILL 3516

The brackets indicate entries having the same rank.

cooperators are given in Table 5.5.1.

Results and Discussion

The overall mean for entries ranged from 105 to 123 days for time to flowering (Table 5.5.2), 164 to 171 days for time to maturity (Table 5.5.3), and 25 to 35 cm for plant height (Table 5.5.4). The entries ILL 2578 and ILL 4605 took less time to flower and mature and were among the earliest lines. Except at Mendoza in Argentina and Ishurdi in Bangladesh, at all other locations some of the entries were earlier in flowering than the respective local checks. With respect to plant height, ILL 5486 and FLIP 85-42L were the tallest (35 cm). Similar was the trend with time to maturity. The entries which are as early as the local or earlier than the local need special consideration in breeding program.

The adjusted seed yields based on the augmented design are given in Table 5.5.5. The yield levels at Bahteem in Egypt, Debre Zeit 2 in Ethiopia, Heredia in Costa Rica, Sidi Laidi in Morocco, and Khumaltar in Nepal were very low (ranging from 187 to 311 kg/ha). The highest mean yield was recorded at Beja in Tunisia (1889 kg/ha) and was followed by Mendoza in Argentina (1381 kg/ha), Quetta-1 in Pakistan (1173 kg/ha), Tel Hadya in Syria (1081 kg/ha), and Merchouch in Morocco (1047 kg/ha). The CV ranged from 15.9 per cent for Ancash in Peru to 137.9 per cent for Denbi in Ethiopia. The LSD estimates revealed that at Mendoza in Argentina; Tel Hadya in Syria; and Beja in Tunisia, 1, 2 and 3 entries, respectively, outyielded the local check by a significant margin. The five heaviest yielding entries at individual locations are given in Table 5.5.6. The frequency of occurence of lines among the top five was highest for ILL 2582 (6 times) and was followed by FLIP 84-113L and FLIP 84-114L.

5.6. LENTIL INTERNATIONAL SCREENING NURSERY - TALL (LISN-T) (Mechanical Harvest)

Material

The material for the Lentil International Screening Nursery - Tall (Mechanical Harvest) comprised of 44 test entries and 3 checks, two checks were supplied and one local check was to be added by the cooperator. The entries were selected on the basis of their performance from the germplasm collections and progenies from crosses grown at ICARDA. All the material was tall, considered to be suitable for mechanical harvesting with a cutter bar under normal growing conditions.

Methods and Management

The material comprising 44 test entries and 3 checks was suggested to be planted in augmented block design. In each block 11 test entries

alongwith 3 check entries were sown in single row plots of 4 m length accomodating 200 plants per plot. The spacings between the rows were suggested to be 25 cm.

Forty eight sets of screening nursery were supplied to cooperators in 27 countries and the data were received for 34 sets from 22 countries. The data on agronomic characters received from the cooperators are presented in Table 5.6.1. The nursery at Santa Maria (Brazil) failed due to Botrytis attack, at Abu Ghraib in Iraq due to poor germination, at Palermo in Italy due to poor field conditions, at Parwanipur in Nepal due to wilt, at Islamabad in Pakistan due to unknown reason, at Diyarbakir and Ankara-2 in Turkey due to severe cold, and at Hudeiba in Sudan due to erratic stand in the experimental plots.

Results and Discussion

The location mean for time to flowering ranged from 51 days for Karaj in Iran to 159 days for Ankara-2 in Turkey. At 12 locations the mean for time to flowering was less than the respective check. This revealed that most of the lines supplied by ICARDA were earlier in flowering. Among the entries Precoz (ILL 4605) and FAM/370 (ILL 5486) were the earliest in flowering (97 days) and ILL 813 was the latest (111 days).

The location means for time to maturity (Table 5.6.3) ranged from 80 days at Leonessa in Italy to 199 days at Dasht in Pakistan. The overall entry means for time to maturity revealed that the entry FLIP 85-37L was the earliest in maturity (183 days) and was closely followed by Precoz and FLIP 84-48L maturing in 184 days.

The plant height of entries at different locations is given in Table 5.6.4. Except at Borovce in Czechoslovakia and Pulawy in Poland and at all other locations a large number of lines were equal or more in plant height as compared to that of the local check. The plant height was tallest for ILL 4349 (34 cm) and was closely followed by ILL 813 (33 cm) and FLIP 84-78L (32 cm).

The adjusted seed yield and rank of entries is given in Table 5.6.5. The highest location mean for seed yield was recorded at Temuco in Chile (2813 kg/ha) and was followed by Mateur (1764 kg/ha), Beja (1705 kg/ha) and El-Kef (1505 kg/ha) in Tunisia, Pulawy in Poland (1324 kg/ha), Tel Hadya in Syria (1280 kg/ha), and Alcala de Henares (1271 kg/ha) in Spain. Among the entries, FLIP 85-35L gave the highest seed yield of 1239 kg/ha which was closely followed by FLIP 84-59L, FLIP 84-26L, FLIP 84-83L, FLIP 84-58L with seed yields of 1230, 1219, 1218 and 1209 kg/ha respectively. The ANOVA for augmented design revealed that at Temuco in Chile, Larissa in Greece, Oroumieh in Iran, Leonessa in Italy, Ramtha in Jordan, Marchouch in Morocco, Alcala de Henares in Spain and Tel Hadya in Syria, 1, 14, 20, 1, 1, 1, 2, 2, 1 entries, respectively, outyielded the respective local checks by a significant

Table 5.6.1. Agronomic data for different locations in the LISN-T during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
BRAZIL	Santa Maria	12.06.1985	-	08	60	50	-	-	HL 42.82 (F3)
BULGARIA	Toshevo	08.04.1985	20.07.1985	30	60		-	Afalon	Tadjikskaya 95
CHILE	Temuco	21.08.1985	20.01.1986		100	50	-	-	Ardocama INIA
CZECHOSLOVAKIA	Borovce	NA	NA	NA			NA	NA	Lemka
EGYPT	Bahteem	NA	NA	NA			NA	NA	NA
EGYPT	Sids	20.11.1984	02.05.1985	37	75		3	Gizagard	Giza 370
GREECE	Larissa	26.11.1984	10.06.1985		60		-	Decamethrin	Family 5/83
IRAN	Karaj	10.12.1984	25.06.1985	25	75		5	Treflan,Metasystox	Ziba
IRAN	Oroumieh	19.12.1984	06.07.1985	27	69		-	Metasystox	Mardum
ITALY	Leonessa	13.05.1985	21.08.1985	70	150		-	Metobromuron	Castelluccio
JORDAN	Jubeiha	19.12.1984	25.05.1985	20	40		NA	NA	UJL 176
JORDAN	Ramtha	03.11.1984	12.05.1985	20	40		NA	NA	UJL 176
LEBANON	Terbol	22.11.1984	20.05.1985		50		NA	Kerb,Bladex	NA
LIBYA	El Marg	22.12.1984	15.05.1985	18	46		-	-	NA
MOROCCO	Marchouch	04.12.1984	20.06.1985	150	120		-	-	NA
NEPAL	Parwanipur	05.11.1984	14.03.1985	20	40	20	1	-	Sindoor
PAKISTAN	Dasht	28.10.1984	23.05.1985	28	72		-	-	Quetta Red
PAKISTAN	Faisalabad	10.11.1984	23.04.1985	-			2	-	9-6
PAKISTAN	Islamabad	20.10.1984	04.1985	-			-	-	9-6
PAKISTAN	Quetta	31.10.1984	14.05.1985	28	72		-	-	Quetta Red
PERU	Yanamuclo	20.10.1984	01.05.1985	-			-	Pomarsol	Chupaca
POLAND	Pulawy	12.04.1985	24.07.1985		110	180	-	Azogard,Funaben	Treleisowska
SPAIN	Alcala de-	26.12.1984	13.07.1985	24	72		-	-	LEC-83
SUDAN	Hudeiba	11.11.1984	03.1985	43			8	-	Seliam
SYRIA	Gelline	NA	NA	NA			NA	NA	NA
SYRIA	Tel Hadya	03.12.1984	05.06.1985	30	50		-	Kerb,Bladex	ILL 4400
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TUNISIA	Mateur	NA	NA	NA			NA	NA	NA
TURKEY	Ankara-1	27.03.1985	15.07.1985	-			-	Gusathion	NA
TURKEY	Ankara-2	30.11.1984	NA	23	60		-	-	Kislik Pul-11
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
TURKEY	Erzurum	02.05.1985	13.08.1985	04	07		-	-	Sultani

NA = not available

Table 5.6.2. Time to flowering (days) of entries at different locations in LISN-T during 1984/85.

SELECTION	ILL	ORIGIN	BULGARIA	CHILE	EGYPT	GREECE	IRAN		ITALY	JORDAN	
			Toshevo	Temuco	Sids	Larissa	Karaj	Oroumieh	Leonessa	Ramtha	Jubeiha
-	20	JORDAN	50	81	86	138	46	144	53	146	115
-	468	CHILE	58	96	100	146	55	145	52	152	126
-	813	EGYPT	68	100	98	146	62	145	53	157	115
-	1939	MOROCCO	53	86	98	142	52	146	52	154	116
LAIRD	4349	CANADA	68	96	101	147	49	146	55	-	100
LOCAL	4354	JORDAN	51	83	85	140	54	145	53	145	121
PRECOZ	4605	ARGENTINA	51	84	69	139	52	145	55	145	119
CHILEAN'78	4711	USA	54	95	89	146	56	142	49	151	128
FAM/370	5486	EGYPT	49	81	66	139	48	142	51	143	114
78S 26002	5582	JORDAN	48	82	87	139	45	147	55	153	114
78S 26003	5583	JORDAN	49	82	85	138	46	145	50	152	119
78S 26052	5604	TURKEY	52	84	99	140	52	142	50	146	115
81S 31368	5669	SYRIA	54	88	101	141	45	145	54	152	114
FLIP84-26L	5698	ICARDA	50	81	91	138	68	145	52	144	115
FLIP84-27L	5699	ICARDA	51	82	84	138	41	142	57	144	116
FLIP84-29L	5700	ICARDA	51	82	84	138	41	145	50	143	114
FLIP84-42L	5713	ICARDA	52	85	97	141	55	144	51	155	115
FLIP84-43L	5714	ICARDA	53	84	96	144	55	145	53	154	119
FLIP84-44L	5715	ICARDA	53	85	105	141	63	143	49	156	115
FLIP84-47L	5718	ICARDA	53	87	93	140	49	144	54	149	112
FLIP84-48L	5719	ICARDA	48	80	81	139	47	144	53	146	115
FLIP84-51L	5722	ICARDA	48	89	80	141	62	144	52	149	115
FLIP84-58L	5728	ICARDA	54	83	93	140	55	143	53	145	128
FLIP84-59L	5729	ICARDA	52	87	100	146	52	145	51	151	115
FLIP84-67L	5737	ICARDA	54	85	96	142	45	143	52	151	124
FLIP84-75L	5745	ICARDA	50	82	96	138	60	142	49	148	115
FLIP84-78L	5748	ICARDA	48	86	79	141	38	146	51	154	114
FLIP84-83L	5753	ICARDA	49	81	85	138	41	142	52	144	112
FLIP84-95L	5765	ICARDA	56	89	106	142	49	146	52	155	115
FLIP84-97L	5767	ICARDA	52	88	96	141	55	145	53	146	115
FLIP84-116L	5786	ICARDA	53	84	104	140	51	142	51	146	114
FLIP84-129L	5799	ICARDA	53	85	89	145	49	146	51	149	114
FLIP84-130L	5800	ICARDA	55	88	99	145	55	147	52	147	115
FLIP84-133L	5803	ICARDA	45	83	72	141	55	145	53	147	115
FLIP84-134L	5804	ICARDA	52	87	95	144	46	144	51	155	115
FLIP84-135L	5805	ICARDA	52	84	102	140	47	146	54	151	115
FLIP84-136L	5806	ICARDA	52	83	85	139	55	147	52	146	115
FLIP84-141L	5811	ICARDA	56	86	93	142	49	146	53	157	115
FLIP85-35L	5873	ICARDA	49	83	92	139	65	144	51	146	115
FLIP85-37L	5875	ICARDA	52	82	88	139	45	144	54	145	114
FLIP85-38L	5876	ICARDA	53	86	95	142	49	146	53	155	115
FLIP85-39L	5877	ICARDA	48	81	81	138	41	142	55	145	116
FLIP85-40L	5878	ICARDA	48	85	87	139	45	146	53	143	114
FLIP85-41L	5879	ICARDA	54	84	91	138	50	142	51	145	114
LOCAL	4401	SYRIA	54	85	100	140	51	143	53	146	115
HURANI 1	2130	SYRIA	54	84	100	140	48	146	53	148	116
LOCAL CHECK			53	90	68	146	49	145	51	146	115
LOCATION MEAN			52	85	91	141	51	144	52	148	116
C.V.%			0.54	0.92	3.42	0.33	6.02	0.70	1.97	1.95	1.74
L.S.D.AT 5% FOR:											
CHECKS			0.49	1.38	5.40	0.81	5.31	0.10	1.80	4.95	3.49
CHECKS VS TEST ENTRIES			0.91	2.52	9.86	1.48	9.70	0.14	3.28	9.04	6.38
TEST ENTRIES IN THE SAME BLOCK			0.99	2.76	10.80	1.63	10.63	0.01	3.60	9.90	6.99
TEST ENTRIES IN DIFFERENT BLOCKS			1.15	3.19	12.47	1.88	12.27	0.01	4.15	11.43	8.07
S.E.FOR:											
CHECKS			0.20	0.56	2.20	0.33	2.17	0.70	0.73	2.02	1.42
CHECKS VS TEST ENTRIES			0.37	1.03	4.03	0.60	3.96	0.80	1.34	3.69	2.60
TEST ENTRIES IN THE SAME BLOCK			0.40	1.13	4.41	0.66	4.34	0.90	1.47	4.04	2.85
TEST ENTRIES IN DIFFERENT BLOCKS			0.47	1.30	5.09	0.76	5.01	0.90	1.69	4.67	3.29

Cont'd. ...

Table 5.6.2. Cont'd. ...

SELECTION	ILL	PERU Yanamuclo	POLAND Pulawy	SPAIN Alcala de-Henares	SYRIA Tel Hadya	TURKEY Ankara-1	TURKEY Erzurum	TURKEY Ankara-2	Overall Mean (1)
-	20	124	54	117	127	62	56	158	101
-	468	131	70	130	141	67	57	-	109
-	813	146	56	138	141	65	61	-	111
-	1939	123	55	124	133	65	55	161	104
LAIRD	4349	137	62	126	142	-	62	-	109
LOCAL	4354	124	53	121	130	62	52	158	103
PRECOZ	4605	112	53	119	128	62	58	158	97
CHILEAN'78	4711	140	56	128	141	69	54	-	107
FAM/370	5486	106	55	120	-	64	57	160	97
78S 26002	5582	112	54	117	130	62	52	160	101
78S 26003	5583	108	54	118	129	64	54	-	101
78S 26052	5604	130	54	122	132	67	56	159	104
81S 31368	5669	116	57	122	131	65	53	166	103
FLIP84-26L	5698	116	54	122	127	69	54	158	104
FLIP84-27L	5699	106	55	117	129	60	55	160	100
FLIP84-29L	5700	116	55	117	127	62	54	-	100
FLIP84-42L	5713	121	55	121	135	62	56	158	104
FLIP84-43L	5714	106	55	126	137	67	55	-	103
FLIP84-44L	5715	128	54	127	134	67	57	-	106
FLIP84-47L	5718	122	62	121	129	67	55	-	103
FLIP84-48L	5719	114	52	117	-	61	55	161	100
FLIP84-51L	5722	117	53	123	135	62	54	163	101
FLIP84-58L	5728	118	57	121	128	67	60	160	105
FLIP84-59L	5729	123	54	128	135	68	57	-	105
FLIP84-67L	5737	114	53	127	133	65	55	159	105
FLIP84-75L	5745	122	54	119	127	62	57	158	103
FLIP84-78L	5748	116	55	124	133	64	55	162	100
FLIP84-83L	5753	108	55	118	129	62	56	-	99
FLIP84-95L	5765	123	70	123	133	65	55	166	106
FLIP84-97L	5767	121	55	121	130	66	54	161	103
FLIP84-116L	5786	116	55	116	127	60	54	159	102
FLIP84-129L	5799	112	57	121	133	63	56	161	102
FLIP84-130L	5800	129	65	124	132	64	57	159	107
FLIP84-133L	5803	117	53	124	130	67	51	158	98
FLIP84-134L	5804	124	54	121	136	65	57	164	104
FLIP84-135L	5805	128	54	120	132	67	57	158	105
FLIP84-136L	5806	115	53	120	128	69	55	157	101
FLIP84-141L	5811	131	57	124	130	67	52	164	105
FLIP85-35L	5873	109	55	115	128	66	55	158	102
FLIP85-37L	5875	112	55	117	128	61	51	159	101
FLIP85-38L	5876	125	57	122	132	68	53	159	104
FLIP85-39L	5877	104	53	119	129	58	54	158	99
FLIP85-40L	5878	114	55	117	128	61	51	159	101
FLIP85-41L	5879	112	55	118	127	66	57	-	103
LOCAL	4401	118	55	121	130	65	58	159	104
HURANI 1	2130	127	55	122	131	67	59	158	105
LOCAL CHECK		113	60	130	132	67	55	162	
LOCATION MEAN		119	56	122	129	64	55	159	
C.V.%		2.14	1.02	1.89	1.29	4.22	2.28	0.64	
L.S.D.AT 5% FOR:									
CHECKS		4.42	0.99	4.02	2.83	4.67	2.21	1.41	
CHECKS VS TEST ENTRIES		8.08	1.82	7.35	5.18	8.53	4.04	2.57	
TEST ENTRIES IN THE SAME BLOCK		8.85	1.99	8.05	5.67	9.35	4.42	2.82	
TEST ENTRIES IN DIFFERENT BLOCKS		10.22	2.30	9.29	6.55	10.79	5.11	3.26	
S.E.FOR:									
CHECKS		1.81	0.40	1.64	1.16	1.91	0.90	0.57	
CHECKS VS TEST ENTRIES		3.30	0.74	3.00	2.11	3.48	1.65	1.05	
TEST ENTRIES IN THE SAME BLOCK		3.62	0.81	3.29	2.32	3.82	1.81	1.15	
TEST ENTRIES IN DIFFERENT BLOCKS		4.18	0.94	3.80	2.68	4.41	2.09	1.33	

(1) Ramtha, Parwanipur, Ankara-1, Ankara-2, Erzurum and Tel Hadya were excluded from the overall mean.

Table 5.6.2. Cont'd. ...

SELECTION	ILL	LIBYA	LEBANON	MOROCCO	NEPAL	PAKISTAN			
		El Marg	Terbol	Marchouch	Parwanipur	Dasht	Islamabad	Faisalabad	Quetta
-	20	96	139	111	113	141	133	112	155
-	468	99	149	118	113	140	140	129	148
-	813	102	149	128	113	144	141	122	149
-	1939	96	143	114	116	145	119	124	158
LAIRD	4349	100	149	125	116	141	144	121	153
LOCAL	4354	100	143	110	99	141	133	119	156
PRECOZ	4605	87	127	99	83	145	112	78	157
CHILEAN'78	4711	104	145	123	113	145	133	110	155
FAM/370	5486	101	135	107	121	140	114	86	147
78S 26002	5582	95	141	110	100	144	130	115	157
78S 26003	5583	92	143	115	109	138	135	118	150
78S 26052	5604	96	141	117	118	140	133	120	156
81S 31368	5669	95	141	110	116	140	133	120	156
FLIP84-26L	5698	95	139	115	113	146	133	113	156
FLIP84-27L	5699	92	137	122	109	143	132	114	151
FLIP84-29L	5700	92	137	121	109	138	135	117	149
FLIP84-42L	5713	97	141	116	-	144	134	127	151
FLIP84-43L	5714	92	139	105	113	138	135	124	149
FLIP84-44L	5715	96	143	122	116	142	136	122	153
FLIP84-47L	5718	92	141	111	114	142	132	118	155
FLIP84-48L	5719	96	137	117	96	140	129	99	151
FLIP84-51L	5722	96	143	113	92	143	120	91	150
FLIP84-58L	5728	99	139	113	121	141	134	118	150
FLIP84-59L	5729	96	143	123	118	142	136	122	151
FLIP84-67L	5737	97	141	118	100	144	137	133	158
FLIP84-75L	5745	96	139	117	116	139	133	114	154
FLIP84-78L	5748	100	143	106	94	144	119	99	152
FLIP84-83L	5753	92	137	100	109	144	132	116	152
FLIP84-95L	5765	102	141	116	-	140	134	118	151
FLIP84-97L	5767	96	137	113	109	144	127	107	156
FLIP84-116L	5786	99	139	100	121	139	135	121	147
FLIP84-129L	5799	100	143	110	116	141	133	108	151
FLIP84-130L	5800	103	141	119	121	140	134	118	158
FLIP84-133L	5803	97	125	109	87	139	113	89	154
FLIP84-134L	5804	102	143	102	113	145	141	121	149
FLIP84-135L	5805	96	141	124	-	144	141	120	150
FLIP84-136L	5806	96	129	111	109	138	127	117	154
FLIP84-141L	5811	97	141	111	121	143	134	121	155
FLIP85-35L	5873	97	135	109	109	144	131	112	153
FLIP85-37L	5875	95	141	111	100	143	130	116	155
FLIP85-38L	5876	102	141	113	96	142	131	110	157
FLIP85-39L	5877	92	139	119	109	143	128	105	153
FLIP85-40L	5878	100	141	112	116	145	130	117	153
FLIP85-41L	5879	101	139	115	123	140	135	145	151
LOCAL	4401	96	140	120	121	141	137	128	153
HURANI 1	2130	97	142	119	121	142	136	121	153
LOCAL CHECK		-	146	117	87	139	121	102	149
LOCATION MEAN		**97**	**140**	**114**	**110**	**142**	**131**	**115**	**153**
C.V.%		2.58	1.22	4.30	4.68	0.66	1.17	0.77	1.54
L.S.D.AT 5% FOR:									
CHECKS		4.02	2.99	8.57	8.43	1.63	2.68	1.55	4.08
CHECKS VS TEST ENTRIES		7.35	5.47	15.65	15.39	2.97	4.91	2.83	7.46
TEST ENTRIES IN THE SAME BLOCK		8.05	5.99	17.14	16.86	3.26	5.37	3.10	8.17
TEST ENTRIES IN DIFFERENT BLOCKS		9.29	6.92	19.79	19.47	3.76	6.21	3.58	9.44
S.E.FOR:									
CHECKS		1.64	1.22	3.50	3.44	0.66	1.09	0.63	1.67
CHECKS VS TEST ENTRIES		3.00	2.23	6.39	6.29	1.21	2.00	1.15	3.05
TEST ENTRIES IN THE SAME BLOCK		3.29	2.44	7.00	6.89	1.33	2.19	1.26	3.34
TEST ENTRIES IN DIFFERENT BLOCKS		3.80	2.82	8.09	7.95	1.53	2.53	1.46	3.85

Cont'd. ...

Table 5.6.3. Time to maturity (days) of entries at different locations in LISN-T during 1984/85.

SELECTION	ILL	BULGARIA	CHILE	EGYPT	GREECE	IRAN		ITALY	JORDAN		LIBYA
		Toshevo	Temuco	Sids	Larissa	Karaj	Oroumieh	Leonessa	Ramtha	Jubeiha	El Marg
	20	87	129	138	190	105	172	80	189	155	136
-	468	95	136	138	191	111	179	80	188	156	141
-	813	90	144	138	194	120	188	80	191	155	142
-	1939	87	137	147	189	116	172	81	189	154	136
LAIRD	4349	101	146	147	189	115	188	82	189	154	143
LOCAL	4354	87	135	147	189	112	172	82	184	154	135
PRECOZ	4605	85	129	129	189	112	172	81	189	154	131
CHILEAN'78	4711	89	136	138	189	120	176	79	186	158	138
FAM/370	5486	86	132	138	190	113	176	80	185	152	135
78S 26002	5582	85	135	132	188	108	172	81	180	154	135
78S 26003	5583	86	128	141	190	108	179	80	186	152	135
78S 26052	5604	89	129	138	190	120	179	80	189	156	136
81S 31368	5669	89	135	142	189	110	172	79	179	154	135
FLIP84-26L	5698	89	134	133	189	120	172	80	187	155	136
FLIP84-27L	5699	86	126	135	190	108	176	83	185	150	135
FLIP84-29L	5700	86	129	151	190	108	179	80	185	150	135
FLIP84-42L	5713	85	131	135	190	108	175	80	187	158	135
FLIP84-43L	5714	87	129	135	190	111	179	80	186	152	135
FLIP84-44L	5715	87	129	146	190	120	176	79	182	155	136
FLIP84-47L	5718	86	132	143	189	106	179	81	182	154	135
FLIP84-48L	5719	87	127	133	190	105	172	80	189	151	128
FLIP84-51L	5722	89	131	145	189	113	175	81	189	158	135
FLIP84-58L	5728	89	131	140	190	110	175	81	182	153	135
FLIP84-59L	5729	89	131	138	189	120	179	80	189	155	136
FLIP84-67L	5737	87	137	145	189	112	172	80	189	154	137
FLIP84-75L	5745	87	130	146	191	113	176	79	179	158	136
FLIP84-78L	5748	89	137	129	188	112	179	79	182	154	135
FLIP84-83L	5753	86	129	138	190	106	176	81	179	154	135
FLIP84-95L	5765	93	131	132	189	112	175	81	188	158	135
FLIP84-97L	5767	87	131	148	190	110	171	81	191	154	135
FLIP84-116L	5786	86	132	143	190	113	172	80	185	150	135
FLIP84-129L	5799	87	135	132	189	112	172	79	179	154	135
FLIP84-130L	5800	87	131	150	190	110	175	80	190	158	141
FLIP84-133L	5803	87	130	128	189	108	171	81	188	156	135
FLIP84-134L	5804	85	131	138	189	105	172	79	190	154	136
FLIP84-135L	5805	87	129	143	189	105	176	81	177	153	136
FLIP84-136L	5806	87	130	140	190	110	175	80	187	158	135
FLIP84-141L	5811	89	130	135	189	111	175	81	189	158	135
FLIP85-35L	5873	87	130	145	189	108	171	80	188	155	135
FLIP85-37L	5875	87	135	132	189	108	172	81	178	154	135
FLIP85-38L	5876	89	130	135	189	106	175	81	189	158	135
FLIP85-39L	5877	87	127	135	191	108	176	83	184	150	135
FLIP85-40L	5878	85	136	137	188	108	172	81	176	154	135
FLIP85-41L	5879	88	132	138	190	116	176	80	186	152	135
LOCAL	4401	86	130	142	190	113	173	81	185	153	136
HURANI 1	2130	87	129	140	189	108	176	81	183	155	136
LOCAL CHECK		86	133	130	190	113	186	80	184	155	-
LOCATION MEAN		87	132	138	189	111	175	80	185	154	135
C.V.%		1.13	1.97	2.63	0.17	3.62	0.65	0.68	2.32	0.83	0.60
L.S.D.AT 5% FOR:											
CHECKS		1.73	4.51	6.34	0.57	6.98	1.99	0.95	7.48	2.23	0.13
CHECKS VS TEST ENTRIES		3.15	8.24	11.58	1.05	12.75	3.64	1.74	13.65	4.07	0.01
TEST ENTRIES IN THE SAME BLOCK		3.46	9.02	12.68	1.15	13.97	3.99	1.91	14.96	4.46	0.01
TEST ENTRIES IN DIFFERENT BLOCKS		3.99	10.42	14.64	1.33	16.13	4.61	2.20	17.27	5.15	0.02
S.E.FOR:											
CHECKS		0.70	1.84	2.59	0.23	2.85	0.81	0.39	3.05	0.91	0.80
CHECKS VS TEST ENTRIES		1.29	3.36	4.73	0.43	5.21	1.49	0.71	5.58	1.66	0.11
TEST ENTRIES IN THE SAME BLOCK		1.41	3.68	5.18	0.47	5.70	1.63	0.78	6.11	1.82	0.12
TEST ENTRIES IN DIFFERENT BLOCKS		1.63	4.25	5.98	0.54	6.59	1.88	0.90	7.05	2.10	0.13

Cont'd. ...

Table 5.6.3. Cont'd. ...

SELECTION	ILL	LEBANON Terbol	PAKISTAN Dasht	PAKISTAN Faisalabad	PAKISTAN Quetta	POLAND Pulawy	SPAIN Alcala de-Henares	SYRIA Tel Hadya	TURKEY Ankara-1	TURKEY Erzurum	(1) Overall Mean
-	20	183	193	149	180	100	158	163	103	103	185
-	468	185	206	157	189	106	182	184	105	102	193
-	813	185	201	155	187	109	189	182	110	103	195
-	1939	183	204	156	189	100	177	166	103	103	191
LAIRD	4349	183	192	153	190	107	175	186	117	104	194
LOCAL	4354	183	203	152	192	100	168	169	103	104	189
PRECOZ	4605	174	200	132	193	99	165	169	101	103	184
CHILEAN'78	4711	187	195	149	182	107	176	182	109	103	190
FAM/370	5486	185	194	143	184	103	163	-	101	103	186
78S 26002	5582	179	193	147	189	100	169	166	101	104	186
78S 26003	5583	179	202	154	186	103	160	165	98	102	187
78S 26052	5604	179	198	154	189	102	165	163	103	103	189
81S 31368	5669	179	194	151	188	100	166	166	103	104	187
FLIP84-26L	5698	179	202	152	186	106	163	163	103	103	188
FLIP84-27L	5699	183	196	149	193	102	158	165	99	102	186
FLIP84-29L	5700	179	199	148	191	103	160	165	99	102	187
FLIP84-42L	5713	185	203	152	185	99	167	168	102	102	188
FLIP84-43L	5714	185	204	161	187	100	177	168	99	102	190
FLIP84-44L	5715	179	205	158	185	100	164	166	103	102	189
FLIP84-47L	5718	181	208	158	188	102	165	165	103	101	189
FLIP84-48L	5719	174	208	144	181	100	157	-	100	103	184
FLIP84-51L	5722	185	199	150	188	101	173	168	106	103	190
FLIP84-58L	5728	181	194	151	184	101	166	165	104	103	187
FLIP84-59L	5729	179	198	151	188	102	168	163	103	103	189
FLIP84-67L	5737	183	198	158	189	98	174	169	103	104	190
FLIP84-75L	5745	179	206	148	183	107	160	163	103	103	188
FLIP84-78L	5748	187	189	151	191	100	170	185	105	104	187
FLIP84-83L	5753	179	191	151	187	102	160	165	99	102	185
FLIP84-95L	5765	185	197	151	179	107	167	168	104	100	188
FLIP84-97L	5767	178	211	148	187	101	174	165	100	102	190
FLIP84-116L	5786	179	193	151	184	100	155	165	98	101	185
FLIP84-129L	5799	179	187	150	188	100	167	169	101	104	185
FLIP84-130L	5800	187	209	151	188	101	169	168	108	103	191
FLIP84-133L	5803	181	215	149	184	101	166	168	102	100	188
FLIP84-134L	5804	179	207	150	183	100	163	166	100	103	187
FLIP84-135L	5805	179	199	154	187	102	161	166	101	101	186
FLIP84-136L	5806	181	206	149	183	99	161	165	100	102	187
FLIP84-141L	5811	187	212	152	183	101	169	165	104	102	189
FLIP85-35L	5873	185	201	148	184	101	161	162	102	102	187
FLIP85-37L	5875	176	185	146	187	101	160	166	101	104	183
FLIP85-38L	5876	187	211	156	182	99	167	165	104	102	189
FLIP85-39L	5877	183	193	152	184	102	162	168	98	102	185
FLIP85-40L	5878	179	191	146	190	100	168	166	103	101	185
FLIP85-41L	5879	185	192	156	179	102	159	168	105	103	186
LOCAL	4401	179	197	156	184	100	166	165	101	102	187
HURANI 1	2130	180	200	152	184	100	166	165	103	102	187
LOCAL CHECK		185	190	146	186	107	190	168	106	101	
LOCATION MEAN		181	199	151	186	101	166	164	102	102	
C.V.%		0.41	3.36	1.16	1.65	1.01	1.12	0.61	1.58	0.96	
L.S.D.AT 5% FOR:											
CHECKS		1.32	11.58	3.05	5.32	1.80	3.26	1.73	2.83	1.70	
CHECKS VS TEST ENTRIES		2.41	21.14	5.57	9.72	3.28	5.95	3.15	5.18	3.11	
TEST ENTRIES IN THE SAME BLOCK		2.64	23.16	6.10	10.64	3.60	6.52	3.46	5.67	3.41	
TEST ENTRIES IN DIFFERENT BLOCKS		3.05	26.74	7.04	12.29	4.15	7.53	3.99	6.55	3.93	
S.E.FOR:											
CHECKS		0.53	4.73	1.24	2.17	0.73	1.33	0.70	1.16	0.69	
CHECKS VS TEST ENTRIES		0.98	8.64	2.27	3.97	1.34	2.43	1.29	2.11	1.27	
TEST ENTRIES IN THE SAME BLOCK		1.07	9.46	2.49	4.35	1.47	2.66	1.41	2.32	1.39	
TEST ENTRIES IN DIFFERENT BLOCKS		1.24	10.92	2.87	5.02	1.69	3.07	1.63	2.68	1.60	

(1) Tel Hadya was excluded from the overall mean.

Table 5.6.4. Plant height (cm) of entries at different locations in LISN-T during 1984/85.

SELECTION	ILL	BULGARIA	CHILE	CZECHOSLOVAKIA	EGYPT	GREECE	IRAN		ITALY	JORDAN		LEBANON
		Toshevo	Temuco	Borovce	Sids	Larissa	Karaj	Oroumieh	Leonessa	Ramtha	Jubeiha	Terbol
-	20	20	28	26	34	31	29	17	26	22	32	32
-	468	29	34	26	47	33	40	18	26	27	36	26
-	813	22	44	25	49	31	26	24	30	23	42	36
-	1939	26	25	26	42	35	27	16	22	20	31	33
LAIRD	4349	34	40	26	52	34	47	22	21	22	42	36
LOCAL	4354	25	30	28	37	31	24	17	20	24	32	37
PRECOZ	4605	18	28	28	42	28	23	16	22	22	31	30
CHILEAN'78	4711	34	39	26	39	31	39	20	27	22	38	33
FAM/370	5486	31	28	25	37	28	35	17	21	16	30	25
78S 26002	5582	18	26	30	32	36	24	15	23	24	27	33
78S 26003	5583	25	31	28	37	32	30	17	23	20	32	30
78S 26052	5604	28	26	27	39	28	31	18	21	22	37	34
81S 31368	5669	18	24	25	37	31	27	14	24	27	29	29
FLIP84-26L	5698	23	29	25	24	31	21	17	27	23	35	33
FLIP84-27L	5699	27	32	26	32	30	30	17	27	25	31	27
FLIP84-29L	5700	23	30	26	37	30	30	16	25	23	33	27
FLIP84-42L	5713	24	26	25	50	28	26	18	23	23	28	30
FLIP84-43L	5714	22	28	26	47	28	34	14	19	25	33	18
FLIP84-44L	5715	24	24	25	24	35	31	16	23	21	29	29
FLIP84-47L	5718	27	33	26	37	35	30	16	22	21	35	23
FLIP84-48L	5719	21	26	27	24	34	18	15	21	15	25	23
FLIP84-51L	5722	27	27	27	30	32	28	15	21	16	36	28
FLIP84-58L	5728	31	31	25	30	36	24	14	19	22	29	35
FLIP84-59L	5729	24	30	26	39	31	26	17	24	24	33	33
FLIP84-67L	5737	21	17	26	32	32	29	15	17	20	27	28
FLIP84-75L	5745	25	31	25	24	30	26	17	26	23	36	27
FLIP84-78L	5748	25	33	26	42	35	37	23	25	18	34	40
FLIP84-83L	5753	36	33	27	32	33	35	17	24	24	30	30
FLIP84-95L	5765	25	33	25	40	31	24	19	24	22	30	32
FLIP84-97L	5767	19	23	26	30	27	20	14	21	19	27	31
FLIP84-116L	5786	21	28	26	42	29	18	13	16	26	36	24
FLIP84-129L	5799	23	25	27	32	31	24	17	22	26	30	31
FLIP84-130L	5800	27	27	26	40	30	24	18	26	27	34	39
FLIP84-133L	5803	28	23	26	40	30	32	17	24	21	35	33
FLIP84-134L	5804	25	26	26	24	34	21	16	22	16	30	30
FLIP84-135L	5805	22	31	27	29	34	28	14	21	23	32	30
FLIP84-136L	5806	24	29	25	35	30	10	16	22	15	33	32
FLIP84-141L	5811	22	34	26	35	30	26	17	20	20	26	30
FLIP85-35L	5873	29	28	26	40	35	23	16	25	25	27	30
FLIP85-37L	5875	21	26	26	37	32	22	16	24	26	32	32
FLIP85-38L	5876	30	30	26	35	27	22	19	24	20	32	27
FLIP85-39L	5877	24	32	25	27	29	27	15	23	12	32	26
FLIP85-40L	5878	21	27	26	27	32	24	17	25	29	27	30
FLIP85-41L	5879	27	28	26	37	33	25	18	23	19	34	20
LOCAL	4401	23	24	27	36	31	23	16	18	19	36	31
HURANI 1	2130	22	24	28	32	31	22	15	21	23	30	30
LOCAL CHECK		30	33	35	38	27	26	17	23	23	30	36
LOCATION MEAN		25	29	26	35	31	27	17	23	22	32	30
C.V.%		9.48	8.63	0.00	14.71	10.48	7.49	7.02	6.50	9.69	6.29	9.79
L.S.D.AT 5% FOR:												
CHECKS		4.16	4.32	0.00	9.23	5.71	3.49	2.07	2.56	3.70	3.51	5.28
CHECKS VS TEST ENTRIES		7.61	7.89	0.00	16.85	10.43	6.38	3.79	4.67	6.76	6.42	9.65
TEST ENTRIES IN THE SAME BLOCK		8.33	8.65	0.00	18.46	11.43	6.99	4.15	5.12	7.40	7.03	10.57
TEST ENTRIES IN DIFFERENT BLOCKS		9.62	9.98	0.00	21.31	13.20	8.07	4.80	5.91	8.55	8.12	12.20
S.E.FOR:												
CHECKS		1.70	1.76	0.00	3.77	2.33	1.42	0.84	1.04	1.51	1.43	2.15
CHECKS VS TEST ENTRIES		3.11	3.22	0.00	6.88	4.26	2.60	1.55	1.91	2.76	2.62	3.94
TEST ENTRIES IN THE SAME BLOCK		3.40	3.53	0.00	7.54	4.67	2.85	1.69	2.09	3.02	2.87	4.31
TEST ENTRIES IN DIFFERENT BLOCKS		3.93	4.08	0.00	8.71	5.39	3.29	1.96	2.41	3.49	3.32	4.98

Cont'd. ...

Table 5.6.4. Cont'd. ...

SELECTION	ILL	PAKISTAN			PERU	POLAND	SYRIA	TURKEY			Overall Mean (1)
		Dasht	Faisalabad	Quetta	Yanamuclo	Pulawy	Tel Hadya	Ankara-1	Erzurum	Ankara-2	
-	20	9	27	9	33	35	32	23	20	20	27
-	468	8	32	10	46	39	29	26	18	23	31
-	813	9	42	10	38	48	35	28	23	22	33
-	1939	10	28	11	27	41	33	25	24	21	28
LAIRD	4349	9	34	10	39	42	39	39	24	-	34
LOCAL	4354	10	29	10	39	42	32	24	19	19	28
PRECOZ	4605	10	17	10	30	30	24	24	19	20	25
CHILEAN'78	4711	9	34	9	34	46	35	28	20	-	31
FAM/370	5486	8	42	8	36	39	-	26	17	20	28
78S 26002	5582	11	31	9	33	39	27	20	19	20	26
78S 26003	5583	7	37	8	40	43	30	24	22	18	29
78S 26052	5604	10	41	10	43	34	34	23	20	23	29
81S 31368	5669	11	25	10	36	36	27	21	19	17	26
FLIP84-26L	5698	10	24	9	28	26	33	19	21	18	25
FLIP84-27L	5699	9	31	8	34	42	30	22	19	19	28
FLIP84-29L	5700	10	46	8	38	38	35	23	17	-	28
FLIP84-42L	5713	10	29	9	42	40	34	27	20	20	28
FLIP84-43L	5714	7	31	9	36	43	28	21	21	17	27
FLIP84-44L	5715	7	27	11	30	36	32	23	20	-	26
FLIP84-47L	5718	8	24	10	28	41	35	22	18	-	27
FLIP84-48L	5719	8	30	9	31	39	-	18	18	16	24
FLIP84-51L	5722	9	41	9	39	37	33	27	18	21	28
FLIP84-58L	5728	9	20	9	41	36	32	27	22	23	27
FLIP84-59L	5729	7	37	10	32	36	33	20	22	-	28
FLIP84-67L	5737	8	16	11	23	35	28	21	18	18	23
FLIP84-75L	5745	9	38	10	41	36	34	23	21	20	28
FLIP84-78L	5748	10	46	10	30	48	29	30	20	23	32
FLIP84-83L	5753	9	33	8	37	37	32	24	22	21	29
FLIP84-95L	5765	9	32	9	39	43	30	27	21	19	29
FLIP84-97L	5767	9	29	9	33	43	27	18	16	16	24
FLIP84-116L	5786	8	32	9	34	41	27	23	17	17	26
FLIP84-129L	5799	10	25	8	40	38	33	21	20	21	27
FLIP84-130L	5800	9	32	10	39	43	35	28	19	20	29
FLIP84-133L	5803	9	28	9	45	38	32	22	17	22	28
FLIP84-134L	5804	9	34	10	31	38	25	19	16	17	25
FLIP84-135L	5805	9	33	10	33	45	30	22	18	18	27
FLIP84-136L	5806	8	23	10	35	37	24	26	21	18	25
FLIP84-141L	5811	8	22	9	45	30	30	26	17	17	26
FLIP85-35L	5873	8	33	9	42	39	33	26	19	18	28
FLIP85-37L	5875	10	32	9	39	38	29	24	21	20	28
FLIP85-38L	5876	8	31	10	40	38	30	24	20	17	27
FLIP85-39L	5877	8	41	8	30	42	27	21	21	19	26
FLIP85-40L	5878	9	31	10	33	42	35	24	18	22	27
FLIP85-41L	5879	9	29	9	30	40	30	26	17	18	27
LOCAL	4401	9	25	9	32	41	30	22	20	19	26
HURANI 1	2130	9	25	10	33	40	28	23	19	19	26
LOCAL CHECK		10	37	9	41	54	33	26	17	21	
LOCATION MEAN		9	31	9	36	39	30	24	19	17	
C.V.%		10.35	8.19	9.83	9.51	10.08	8.08	8.41	5.26	6.39	
L.S.D.AT 5% FOR:											
CHECKS		1.68	4.43	1.68	5.94	7.13	4.19	3.51	1.80	1.96	
CHECKS VS TEST ENTRIES		3.07	8.10	3.07	10.85	13.02	7.66	6.42	3.28	3.58	
TEST ENTRIES IN THE SAME BLOCK		3.37	8.87	3.36	11.88	14.26	8.39	7.03	3.60	3.92	
TEST ENTRIES IN DIFFERENT BLOCKS		3.89	10.25	3.88	13.72	16.46	9.69	8.12	4.15	4.53	
S.E.FOR:											
CHECKS		0.68	1.81	0.68	2.42	2.91	1.71	1.43	0.73	0.80	
CHECKS VS TEST ENTRIES		1.25	3.31	1.25	4.43	5.32	3.13	2.62	1.34	1.46	
TEST ENTRIES IN THE SAME BLOCK		1.37	3.62	1.37	4.85	5.82	3.43	2.87	1.47	1.60	
TEST ENTRIES IN DIFFERENT BLOCKS		1.59	4.18	1.58	5.61	6.73	3.96	3.32	1.69	1.85	

(1) Dasht, Quetta, Ankara-2 and Tel Hadya were excluded from the overall mean.

Table 5.6.5. Adjusted seed yield (Y=kg/ha) and rank (R) of entries at different locations in LISN-T during 1984/85.

SELECTION	ILL	BULGARIA Toshevo		CHILE Temuco		CZECHOSLOVAKIA Borovce		EGYPT Sids		GREECE Larissa		IRAN Karaj	
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
-	20	700	18	3136	18	220	37	720	31	468	21	581	16
-	468	611	20	3045	23	1120	3	1042	17	510	18	1176	2
-	813	433	34	3005	24	120	45	425	41	318	36	158	35
-	1939	877	8	2223	38	637	8	985	20	560	16	841	8
LAIRD	4349	77	46	2121	39	637	8	594	38	410	30	0	45
LOCAL	4354	744	13	3069	19	487	18	1142	13	785	4	321	27
PRECOZ	4605	877	8	1938	42	437	20	723	30	310	37	728	12
CHILEAN'78	4711	433	34	2253	37	670	6	215	47	293	39	168	33
FAM/370	5486	744	13	1971	41	470	19	1699	3	0	45	196	32
78S 26002	5582	611	20	2901	27	337	30	685	33	510	18	298	29
78S 26003	5583	477	30	2391	32	570	10	1137	14	435	27	419	23
78S 26052	5604	966	5	2588	31	220	37	977	22	393	33	285	31
81S 31368	5669	477	30	3067	20	1137	2	1471	5	760	5	111	41
FLIP84-26L	5698	433	34	3157	17	720	5	1701	2	368	35	71	43
FLIP84-27L	5699	611	20	3279	11	170	42	1223	7	985	2	73	42
FLIP84-29L	5700	477	30	2837	30	570	10	1147	12	735	7	163	34
FLIP84-42L	5713	344	38	3204	15	170	42	1223	7	685	10	673	14
FLIP84-43L	5714	877	8	3063	21	520	17	1156	11	410	30	563	17
FLIP84-44L	5715	833	11	3195	16	220	37	753	29	643	13	475	21
FLIP84-47L	5718	344	38	3223	14	770	4	1004	19	485	20	53	44
FLIP84-48L	5719	833	11	1617	45	220	37	1115	16	0	45	151	37
FLIP84-51L	5722	611	20	2972	26	370	26	694	32	310	37	959	5
FLIP84-58L	5728	211	44	4600	1	270	34	532	40	460	23	1026	3
FLIP84-59L	5729	966	5	3401	7	320	31	982	21	718	8	441	22
FLIP84-67L	5737	744	13	1518	47	537	15	280	46	235	40	1015	4
FLIP84-75L	5745	300	43	3453	5	420	23	891	26	618	15	138	39
FLIP84-78L	5748	611	20	3062	22	237	36	909	25	635	14	331	25
FLIP84-83L	5753	477	30	3354	9	370	26	1823	1	1060	1	0	45
FLIP84-95L	5765	1277	2	3258	12	670	6	309	44	435	27	733	11
FLIP84-97L	5767	611	20	1821	43	570	10	575	39	185	43	486	20
FLIP84-116L	5786	1011	4	2273	36	270	34	1204	10	0	45	143	38
FLIP84-129L	5799	744	13	1982	40	437	20	328	43	710	9	155	36
FLIP84-130L	5800	211	44	3697	3	370	26	294	45	760	5	843	7
FLIP84-133L	5803	611	20	2305	35	170	42	623	36	460	23	833	9
FLIP84-134L	5804	966	5	2843	29	570	10	786	27	443	26	488	19
FLIP84-135L	5805	566	29	3283	10	420	23	1039	18	468	21	305	28
FLIP84-136L	5806	344	38	1541	46	70	47	651	34	85	44	399	24
FLIP84-141L	5811	1277	2	3426	6	570	10	375	42	460	23	859	6
FLIP85-35L	5873	344	38	2989	25	320	31	1209	9	685	10	533	18
FLIP85-37L	5875	77	46	2883	28	537	15	923	24	660	12	0	45
FLIP85-38L	5876	344	38	3357	8	220	37	780	28	535	17	586	15
FLIP85-39L	5877	611	20	3734	2	420	23	937	23	410	30	329	26
FLIP85-40L	5878	611	20	3509	4	437	20	642	35	910	3	125	40
FLIP85-41L	5879	744	13	2369	33	370	26	1623	4	435	27	286	30
LOCAL	4401	633	19	2306	34	287	33	1120	15	187	41	810	10
HURANI 1	2130	366	37	1776	44	112	46	613	37	187	41	724	13
LOCAL CHECK		1500	1	3225	13	1312	1	1375	6	381	34	2185	1
LOCATION MEAN		629		2813		448		908		479		473	
C.V.%		47.90		13.00		35.30		50.40		17.60		48.10	
L.S.D.AT 5% FOR:													
CHECKS		549.10		619.80		286.80		810.30		135.00		495.10	
CHECKS VS TEST ENTRIES		1002.60		1131.80		523.80		1479.70		246.60		904.00	
TEST ENTRIES IN THE SAME BLOCK		1098.20		1239.60		573.70		1620.70		270.10		990.20	
TEST ENTRIES IN DIFFERENT BLOCKS		1268.10		1431.40		662.50		1871.40		311.80		1143.40	
S.E.FOR:													
CHECKS		224.30		253.30		117.20		331.10		55.20		202.30	
CHECKS VS TEST ENTRIES		409.70		462.50		214.00		604.70		100.70		369.40	
TEST ENTRIES IN THE SAME BLOCK		448.70		506.60		234.40		662.30		110.30		404.70	
TEST ENTRIES IN DIFFERENT BLOCKS		518.20		584.90		270.70		764.80		127.40		467.20	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		1		0		0		14		0	

Cont'd. ...

Table 5.6.5. Cont'd. ...

SELECTION	ILL	IRAN Oroumieh Y	IRAN Oroumieh R	ITALY Leonessa Y	ITALY Leonessa R	JORDAN Ramtha Y	JORDAN Ramtha R	JORDAN Jubeiha Y	JORDAN Jubeiha R	LIBYA El Marg Y	LIBYA El Marg R
-	20	511	23	247	10	833	17	1156	17	968	30
-	468	301	43	90	34	180	40	826	35	371	44
-	813	383	34	517	1	260	37	466	45	118	46
-	1939	307	42	150	24	811	20	816	36	1001	29
LAIRD	4349	126	45	50	43	291	35	6	46	359	45
LOCAL	4354	360	39	80	38	824	18	976	28	1026	27
PRECOZ	4605	391	32	400	2	464	30	1026	26	1476	6
CHILEAN'78	4711	180	44	217	16	-		496	43	418	43
FAM/370	5486	0	47	90	34	553	27	656	39	1077	24
78S 26002	5582	538	22	240	11	904	15	1286	12	2209	1
78S 26003	5583	479	26	100	31	553	27	856	33	755	36
78S 26052	5604	411	29	77	39	1046	8	1276	13	1456	7
81S 31368	5669	751	9	230	12	931	13	616	40	1146	18
FLIP84-26L	5698	628	16	117	30	1406	4	1396	7	1428	8
FLIP84-27L	5699	705	10	200	17	780	21	986	27	913	33
FLIP84-29L	5700	607	20	230	12	713	22	946	30	486	42
FLIP84-42L	5713	792	6	30	47	708	23	1270	14	1134	19
FLIP84-43L	5714	329	41	120	28	820	19	1156	17	930	31
FLIP84-44L	5715	407	30	67	41	126	42	906	32	1102	20
FLIP84-47L	5718	351	40	160	22	366	33	756	37	1039	26
FLIP84-48L	5719	364	37	337	3	2060	1	496	43	593	40
FLIP84-51L	5722	488	25	100	31	2	44	1730	3	1293	12
FLIP84-58L	5728	459	27	40	45	642	24	930	31	1258	14
FLIP84-59L	5729	391	32	87	37	940	12	1076	22	1483	5
FLIP84-67L	5737	362	38	90	34	611	25	1036	25	1534	4
FLIP84-75L	5745	608	19	287	4	1380	5	-		660	37
FLIP84-78L	5748	628	16	190	18	304	34	746	38	926	32
FLIP84-83L	5753	551	21	100	31	1180	7	1436	5	1265	13
FLIP84-95L	5765	639	15	250	9	255	38	1470	4	1398	9
FLIP84-97L	5767	392	31	270	8	548	29	560	42	1091	22
FLIP84-116L	5786	865	5	70	40	406	32	1176	16	605	38
FLIP84-129L	5799	700	12	180	19	837	16	1156	17	1026	27
FLIP84-130L	5800	931	2	280	5	268	36	1850	2	566	41
FLIP84-133L	5803	667	14	150	24	-		960	29	1258	14
FLIP84-134L	5804	702	11	157	23	1686	2	596	41	878	34
FLIP84-135L	5805	491	24	37	46	1513	3	1336	10	844	35
FLIP84-136L	5806	380	35	220	15	148	41	1350	9	1391	11
FLIP84-141L	5811	871	4	50	43	2	44	1390	8	1102	20
FLIP85-35L	5873	895	3	280	5	1255	6	1270	14	1774	2
FLIP85-37L	5875	780	7	170	21	997	10	1406	6	1551	3
FLIP85-38L	5876	693	13	180	19	108	43	1960	1	1041	25
FLIP85-39L	5877	119	46	150	24	460	31	1096	21	1196	17
FLIP85-40L	5878	780	7	230	12	1037	9	1056	23	1231	16
FLIP85-41L	5879	621	18	130	27	246	39	1056	23	1396	10
LOCAL	4401	951	1	65	42	920	14	1105	20	1087	23
HURANI 1	2130	416	28	120	28	603	26	835	34	603	39
LOCAL CHECK		371	36	277	7	976	11	1300	11	-	
LOCATION MEAN		525		168		710		1049		1054	
C.V.%		11.90		32.80		43.30		26.20		21.90	
L.S.D.AT 5% FOR:											
CHECKS		110.10		94.60		527.80		470.30		362.70	
CHECKS VS TEST ENTRIES		201.00		172.78		963.80		858.70		662.30	
TEST ENTRIES IN THE SAME BLOCK		220.20		189.20		1055.60		940.60		725.40	
TEST ENTRIES IN DIFFERENT BLOCKS		254.30		218.50		1219.00		1086.10		837.60	
S.E.FOR:											
CHECKS		45.00		38.60		215.70		192.10		148.20	
CHECKS VS TEST ENTRIES		82.10		70.60		393.80		350.90		270.60	
TEST ENTRIES IN THE SAME BLOCK		90.00		77.30		431.40		384.30		296.40	
TEST ENTRIES IN DIFFERENT BLOCKS		103.90		89.30		498.10		443.80		342.32	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		20		1		1		0		-	

Cont'd. ...

Table 5.6.5. Cont'd. ...

SELECTION	ILL	LEBANON Terbol Y	LEBANON Terbol R	MOROCCO Marchouch Y	MOROCCO Marchouch R	PAKISTAN Dasht Y	PAKISTAN Dasht R	PAKISTAN Faisalabad Y	PAKISTAN Faisalabad R	PAKISTAN Quetta Y	PAKISTAN Quetta R
-	20	1645	10	849	19	199	32	171	23	129	27
-	468	1034	29	643	26	340	13	97	29	188	10
-	813	1089	25	-		420	5	0	42	43	38
-	1939	860	34	240	42	229	29	251	16	50	36
LAIRD	4349	360	44	490	32	165	39	168	24	117	28
LOCAL	4354	1082	26	357	37	298	17	223	18	61	34
PRECOZ	4605	0	47	570	30	230	27	245	17	189	9
CHILEAN'78	4711	700	38	374	35	320	15	0	42	34	41
FAM/370	5486	478	42	985	13	136	42	342	9	156	23
78S 26002	5582	1193	23	1195	9	349	11	1040	3	208	7
78S 26003	5583	2089	2	181	45	270	20	186	20	168	18
78S 26052	5604	1256	19	607	28	225	30	0	42	102	30
81S 31368	5669	1026	31	961	14	305	16	262	14	98	31
FLIP84-26L	5698	1978	4	-		419	6	71	32	238	4
FLIP84-27L	5699	1256	19	577	29	290	18	181	21	164	19
FLIP84-29L	5700	1256	19	793	20	389	8	297	12	173	15
FLIP84-42L	5713	2015	3	786	21	264	21	195	19	2	43
FLIP84-43L	5714	756	36	956	15	249	24	136	25	191	8
FLIP84-44L	5715	1034	29	878	17	241	25	0	42	41	40
FLIP84-47L	5718	756	36	1018	12	176	35	108	27	179	13
FLIP84-48L	5719	256	46	361	36	515	2	1193	2	158	22
FLIP84-51L	5722	1071	27	1665	2	235	26	340	10	0	44
FLIP84-58L	5728	1793	8	611	27	171	36	23	37	65	32
FLIP84-59L	5729	1700	9	474	33	107	44	0	42	135	26
FLIP84-67L	5737	526	40	765	22	170	37	173	22	169	17
FLIP84-75L	5745	1867	6	940	16	108	43	43	36	271	2
FLIP84-78L	5748	360	44	1474	4	230	27	506	4	241	3
FLIP84-83L	5753	1867	6	193	44	165	39	253	15	237	5
FLIP84-95L	5765	1960	5	757	23	161	41	1	41	0	44
FLIP84-97L	5767	1626	12	357	37	347	12	112	26	145	24
FLIP84-116L	5786	1312	18	1293	7	273	19	86	31	171	16
FLIP84-129L	5799	482	41	1428	5	224	31	423	6	317	1
FLIP84-130L	5800	2349	1	270	40	167	38	6	39	159	20
FLIP84-133L	5803	1071	27	1820	1	366	9	429	5	-	
FLIP84-134L	5804	700	38	315	39	85	45	71	32	182	12
FLIP84-135L	5805	367	43	382	34	193	33	0	42	106	29
FLIP84-136L	5806	1237	22	236	43	0	47	106	28	20	42
FLIP84-141L	5811	1015	33	1170	10	84	46	23	37	42	39
FLIP85-35L	5873	1404	17	1528	3	251	23	6	39	44	37
FLIP85-37L	5875	1526	15	670	24	322	14	379	7	57	35
FLIP85-38L	5876	1626	12	1295	6	396	7	340	10	65	32
FLIP85-39L	5877	1589	14	1272	8	260	22	297	12	184	11
FLIP85-40L	5878	1026	31	1140	11	632	1	368	8	-	
FLIP85-41L	5879	1645	10	856	18	449	4	97	29	178	14
LOCAL	4401	1116	24	528	31	191	34	58	35	136	25
HURANI 1	2130	805	35	244	41	358	10	61	34	159	20
LOCAL CHECK		1513	16	658	25	481	3	1823	1	214	6
LOCATION MEAN		1185		781		265		238		130	
C.V.%		40.40		41.79		47.20		73.68		64.20	
L.S.D.AT 5% FOR:											
CHECKS		823.80		504.30		226.80		381.41		148.50	
CHECKS VS TEST ENTRIES		1504.30		920.86		414.20		696.46		271.20	
TEST ENTRIES IN THE SAME BLOCK		1647.70		1008.60		453.70		762.82		297.00	
TEST ENTRIES IN DIFFERENT BLOCKS		1902.60		1164.64		523.90		880.83		343.00	
S.E.FOR:											
CHECKS		336.60		206.09		92.70		155.86		60.60	
CHECKS VS TEST ENTRIES		614.70		376.32		169.20		284.62		110.80	
TEST ENTRIES IN THE SAME BLOCK		673.30		412.18		185.40		311.73		121.30	
TEST ENTRIES IN DIFFERENT BLOCKS		777.50		475.94		214.10		359.96		140.10	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		2		0		0		0	

Cont'd. ...

Table 5.6.5. Cont'd. ...

SELECTION	ILL	PERU Yanamuclo Y	PERU Yanamuclo R	POLAND Pulawy Y	POLAND Pulawy R	SPAIN Alcala de-Henares Y	SPAIN Alcala de-Henares R	SYRIA Gelline Y	SYRIA Gelline R	SYRIA Tel Hadya Y	SYRIA Tel Hadya R
-	20	13	12	1360	23	879	35	1607	2	1097	29
-	468	13	12	2568	1	1486	17	447	44	1195	27
-	813	-		1533	11	1240	24	497	42	829	36
-	1939	8	28	995	41	1971	3	794	29	2043	9
LAIRD	4349	8	28	1715	6	56	46	64	47	130	44
LOCAL	4354	0	39	1035	40	1690	11	864	27	845	34
PRECOZ	4605	8	28	1408	19	1841	7	774	31	0	46
CHILEAN'78	4711	6	33	1533	11	1681	12	537	40	1008	31
FAM/370	5486	13	12	582	47	189	45	627	37	392	41
78S 26002	5582	16	8	1368	22	691	41	894	23	488	39
78S 26003	5583	22	3	1275	25	1856	6	867	26	1909	11
78S 26052	5604	13	12	1106	35	3208	1	1217	9	1365	22
81S 31368	5669	-		1515	13	878	36	694	35	309	42
FLIP84-26L	5698	13	12	1213	27	1572	14	1487	3	2436	3
FLIP84-27L	5699	13	12	1235	26	1371	20	1317	6	2125	8
FLIP84-29L	5700	13	12	688	44	1738	9	1297	7	2192	5
FLIP84-42L	5713	22	3	1622	9	1021	32	920	20	2521	2
FLIP84-43L	5714	22	3	1128	33	1334	21	477	43	838	35
FLIP84-44L	5715	13	12	1186	30	1898	5	987	18	1271	23
FLIP84-47L	5718	13	12	1195	29	1103	28	697	34	1731	14
FLIP84-48L	5719	13	12	1853	3	708	40	687	36	204	43
FLIP84-51L	5722	0	39	1608	10	1175	26	980	19	1236	24
FLIP84-58L	5728	5	35	1462	15	1564	15	1170	12	1950	10
FLIP84-59L	5729	6	33	986	42	2994	2	1087	15	1738	13
FLIP84-67L	5737	16	8	1475	14	1670	13	524	41	82	45
FLIP84-75L	5745	22	3	640	45	1953	4	1237	8	2169	7
FLIP84-78L	5748	8	28	1088	36	50	47	614	38	0	46
FLIP84-83L	5753	13	12	1128	33	1435	19	1717	1	2177	6
FLIP84-95L	5765	0	39	1382	21	1300	23	1000	16	1772	12
FLIP84-97L	5767	0	39	1822	4	1025	31	920	20	1054	30
FLIP84-116L	5786	13	12	1075	38	474	44	897	22	1374	21
FLIP84-129L	5799	33	2	1435	17	603	43	244	46	464	40
FLIP84-130L	5800	38	1	1462	15	1048	29	300	45	2254	4
FLIP84-133L	5803	5	35	1648	8	1708	10	790	30	1236	24
FLIP84-134L	5804	13	12	1346	24	757	39	587	39	604	38
FLIP84-135L	5805	22	3	1773	5	1501	16	1137	13	871	33
FLIP84-136L	5806	5	35	635	46	1028	30	770	32	780	37
FLIP84-141L	5811	5	35	1208	28	1742	8	1000	16	1521	17
FLIP85-35L	5873	0	39	1702	7	1121	27	1470	4	3111	1
FLIP85-37L	5875	8	28	1088	36	913	34	1194	11	1202	26
FLIP85-38L	5876	-		848	43	806	38	1470	4	1387	19
FLIP85-39L	5877	13	12	1435	17	1460	18	1097	14	1192	28
FLIP85-40L	5878	0	39	1062	39	637	42	874	25	882	32
FLIP85-41L	5879	13	12	1395	20	1332	22	727	33	1731	14
LOCAL	4401	12	27	1166	31	1179	25	820	28	1383	20
HURANI 1	2130	14	10	1143	32	851	37	875	24	1476	18
LOCAL CHECK		14	10	2103	2	998	33	1197	10	1583	16
LOCATION MEAN		12		1324		1271		903		1280	
C.V.%		73.38		14.50		31.40		39.90		33.90	
L.S.D.AT 5% FOR:											
CHECKS		14.66		338.50		668.40		631.70		768.40	
CHECKS VS TEST ENTRIES		26.77		618.20		1220.50		1153.50		1403.20	
TEST ENTRIES IN THE SAME BLOCK		29.32		677.10		1336.80		1263.50		1536.80	
TEST ENTRIES IN DIFFERENT BLOCKS		33.85		781.80		1543.60		1458.90		1774.60	
S.E.FOR:											
CHECKS		5.99		138.30		273.10		258.10		314.00	
CHECKS VS TEST ENTRIES		10.94		252.60		498.80		471.40		573.40	
TEST ENTRIES IN THE SAME BLOCK		11.98		276.70		546.30		516.30		628.00	
TEST ENTRIES IN DIFFERENT BLOCKS		13.83		319.50		630.80		596.20		725.20	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		2		0		1	

Cont'd. ...

Table 5.6.5. Cont'd. ...

SELECTION	ILL	TUNISIA						TURKEY				Overall Mean (1)	Rank (1)
		Beja		El Kef		Mateur		Ankara		Erzurum			
		Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
-	20	3243	1	2129	6	1708	26	666	24	505	5	1004	19
-	468	1818	20	2112	7	2091	12	1047	2	350	30	1086	11
-	813	843	42	529	44	408	43	738	12	438	15	754	38
-	1939	2552	3	929	38	2075	13	428	42	616	1	1009	17
LAIRD	4349	1827	19	179	46	1725	25	571	33	350	30	504	46
LOCAL	4354	2927	2	779	40	2775	3	785	10	416	18	976	22
PRECOZ	4605	1602	30	379	45	1525	33	500	39	483	9	792	36
CHILEAN'78	4711	943	39	1379	28	1258	36	809	9	372	25	751	39
FAM/370	5486	1768	23	862	39	1691	28	547	37	216	40	612	44
78S 26002	5582	1852	18	1829	15	2325	9	571	33	416	18	914	31
78S 26003	5583	843	42	1612	22	1691	28	547	37	216	40	1028	16
78S 26052	5604	2343	5	1729	19	1158	37	595	29	372	25	1094	10
81S 31368	5669	977	38	1229	32	2025	15	571	33	350	30	950	24
FLIP84-26L	5698	2293	9	1679	21	258	44	595	29	505	5	1219	3
FLIP84-27L	5699	2343	5	2162	5	1941	21	761	11	216	40	1082	12
FLIP84-29L	5700	893	41	1762	17	1041	40	690	20	216	40	1006	18
FLIP84-42L	5713	1810	21	2079	8	2325	9	714	14	461	12	1166	6
FLIP84-43L	5714	1443	34	2062	9	2991	2	690	20	216	40	885	32
FLIP84-44L	5715	1743	24	1129	35	1708	26	595	29	438	15	1002	20
FLIP84-47L	5718	743	44	2812	1	1041	40	833	7	216	40	920	30
FLIP84-48L	5719	643	45	629	42	-	46	309	46	238	39	609	45
FLIP84-51L	5722	2410	4	1979	11	3025	1	500	39	327	35	972	23
FLIP84-58L	5728	-	47	1779	16	2375	6	857	6	527	4	1209	5
FLIP84-59L	5729	1893	17	1329	30	1308	35	738	12	505	5	1230	2
FLIP84-67L	5737	1652	27	1229	32	1775	23	714	14	416	18	775	37
FLIP84-75L	5745	1993	14	779	40	1058	39	1095	1	438	15	1099	9
FLIP84-78L	5748	2302	8	1129	35	2675	5	571	33	350	30	691	41
FLIP84-83L	5753	1943	16	2212	3	1741	24	833	7	216	40	1218	4
FLIP84-95L	5765	1610	28	1929	12	1975	19	1000	3	327	35	1164	7
FLIP84-97L	5767	1535	32	-		1825	22	428	42	327	35	862	33
FLIP84-116L	5786	1743	24	1412	27	1541	32	476	41	483	9	830	35
FLIP84-129L	5799	2052	12	629	42	2025	15	357	44	550	2	681	43
FLIP84-130L	5800	1285	36	2179	4	2375	6	714	14	394	21	1079	13
FLIP84-133L	5803	2110	11	1279	31	1075	38	357	44	394	21	942	26
FLIP84-134L	5804	1393	35	1379	28	0	45	595	29	372	25	842	34
FLIP84-135L	5805	2318	7	1479	24	858	42	666	24	372	25	940	27
FLIP84-136L	5806	910	40	1229	32	2025	15	714	14	327	35	690	42
FLIP84-141L	5811	1735	26	1429	25	-		642	26	461	12	1101	8
FLIP85-35L	5873	1810	21	1929	12	2375	6	642	26	394	21	1239	1
FLIP85-37L	5875	2002	13	1429	25	1975	19	285	47	483	9	940	27
FLIP85-38L	5876	1510	33	1879	14	2725	4	714	14	394	21	986	21
FLIP85-39L	5877	1593	31	2462	2	1641	30	690	20	216	40	1029	15
FLIP85-40L	5878	1052	37	1079	37	2125	11	642	26	550	2	927	29
FLIP85-41L	5879	443	46	2062	9	2041	14	904	5	350	30	1061	14
LOCAL	4401	2112	10	1762	17	1587	31	696	19	450	14	946	25
HURANI 1	2130	1606	29	1700	20	1462	34	678	23	366	29	732	40
LOCAL CHECK		1962	15	1575	23	2025	15	910	4	500	8		
LOCATION MEAN		1705		1505		1764		659		385			
C.V.%		41.20		52.10		30.90		25.00		21.60			
L.S.D.AT 5% FOR:													
CHECKS		1218.90		1362.90		896.70		293.40		147.60			
CHECKS VS TEST ENTRIES		2225.80		2488.70		1637.40		535.80		269.60			
TEST ENTRIES IN THE SAME BLOCK		2437.90		2725.80		1793.50		586.80		295.30			
TEST ENTRIES IN DIFFERENT BLOCKS		2815.00		3147.50		2070.90		677.60		340.90			
S.E.FOR:													
CHECKS		498.10		556.90		366.40		119.90		60.30			
CHECKS VS TEST ENTRIES		909.60		1017.00		669.10		218.90		110.10			
TEST ENTRIES IN THE SAME BLOCK		996.20		1113.90		732.90		239.80		120.60			
TEST ENTRIES IN DIFFERENT BLOCKS		1150.40		1286.30		846.30		276.90		139.30			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK		0		0		0		0		0			

(1) Leonessa, Ramtha, Jubeiha, Marchouch, Dasht, Faisalabad, Quetta, Yanamuclo, Beja, El Kef and Mateur were excluded from the overall mean.

Table 5.6.6. The five heaviest seed yielding entries at the individual locations in the LISN-T during 1984/85.

RANK	BULGARIA	CHILE	CZECHOSLOVAKIA	EGYPT	GRRECE	IRAN		ITALY
	Toshevo	Temuco	Borovce	Sids	Larissa	Karaj	Oroumieh	Leonessa
1	Local check	FLIP 84-58L	Local check	FLIP 84-83L	FLIP 84-83L	Local check	ILL 4401	ILL 813
2	FLIP 84-95L	FLIP 85-39L	ILL 5669	FLIP 84-26L	FLIP 84-27L	ILL 468	FLIP 84-130L	ILL 4605
3	FLIP 84-141L	FLIP 84-130L	ILL 468	ILL 5486	FLIP 85-40L	FLIP 84-58L	FLIP 85-35L	FLIP 84-48L
4	FLIP 84-116L	FLIP 85-40L	FLIP 84-47L	FLIP 85-41L	ILL 4354	FLIP 84-67L	FLIP 84-141L	FLIP 84-75L
5	ILL 5604	FLIP 84-75L	FLIP 84-26L	ILL 5669	ILL 5669	FLIP 84-51L	FLIP 84-116L	FLIP 84-130L
	FLIP 84-59L				FLIP 84-130L			FLIP 85-35L
	FLIP 84-134L							

Cont'd. ...

RANK	JORDAN		LEBANON	LIBYA	MOROCCO	PAKISTAN		
	Ramtha	Jubeiha	Terbol	El-Marg	Marchouch	Dasht	Faisalabad	Quetta
1	FLIP 84-48L	FLIP 85-38L	FLIP 84-130L	ILL 5582	FLIP 84-133L	FLIP 85-40L	Local check	FLIP 84-129L
2	FLIP 84-134L	FLIP 84-130L	ILL 5583	FLIP 85-35L	FLIP 84-51L	FLIP 84-48L	FLIP 84-48L	FLIP 84-75L
3	FLIP 84-135L	FLIP 84-51L	FLIP 84-42L	FLIP 85-37L	FLIP 85-35L	Local check	ILL 5582	FLIP 84-78L
4	FLIP 84-26L	FLIP 84-95L	FLIP 84-26L	FLIP 84-67L	FLIP 84-78L	FLIP 85-41L	FLIP 84-78L	FLIP 84-26L
5	FLIP 84-75L	FLIP 84-83L	FLIP 84-95L	FLIP 84-59L	FLIP 84-129L	ILL 813	FLIP 84-133L	FLIP 84-83L

Cont'd. ...

RANK	POLAND	SPAIN	SYRIA		TUNISIA			TURKEY	
	Pulawy	Alcala de Henares	Gelline	Tel Hadya	Beja	El-Kef	Mateur	Ankara-1	Erzurum
1	ILL 468	ILL 5604	FLIP 84-83L	FLIP 85-35L	ILL 20	FLIP 84-47L	FLIP 84-51L	FLIP 84-75L	ILL 1939
2	Local check	FLIP 84-59L	ILL 20	FLIP 84-42L	ILL 4354	FLIP 85-39L	FLIP 84-43L	ILL 468	FLIP 84-129L
3	FLIP 84-48L	ILL 1939	FLIP 84-26L	FLIP 84-26L	ILL 1939	FLIP 84-83L	ILL 4354	FLIP 84-95L	FLIP 85-40L
4	FLIP 84-97L	FLIP 84-75L	FLIP 85-35L	FLIP 84-130L	FLIP 84-51L	FLIP 84-130L	FLIP 85-38L	Local check	FLIP 84-58L
5	FLIP 84-135L	FLIP 84-44L	FLIP 85-38L	FLIP 84-29L	ILL 5604	FLIP 84-27L	FLIP 84-78L	FLIP 85-41L	ILL 20
					FLIP 84-27L				FLIP 84-26L
									FLIP 84-59L

The brackets indicate entries having the same rank.

margin. The list of top five high yielding lines at each location is given in Table 5.6.6. The entry FLIP 84-130L occurred most frequently among the top five heaviest yielders and was closely followed by FLIP 84-26L and FLIP 84-75L.

5.7. LENTIL INTERNATIONAL F_3 TRIAL (LIF_3T)

Material

The material for the Lentil International F_3 Trial comprised of 24 F_3 populations (test entries) and one local check. The test entries were supplied and local check was to be added by the cooperator. These F_3 populations originated from single crosses and were expected to release a wide genetic base upon which the selection can be practiced by the cooperators under their local environmental conditions.

Methods and Management

The randomised complete block design with two replications was suggested. The suggested plot size was four rows 4 m long, spaced 25 cm apart, accommodating 640 seeds/plot.

Nineteen sets of LIF_3T were sent to cooperators in 11 countries and the results were received for 13 sets from 8 countries. At Ankara-2 and Diyarbakir in Turkey, the trials failed and seed yields were not reported by the cooperators. The agronomic data pertaining to different locations are presented in Table 5.7.1.

Results and Discussion

The mean time to flowering (Table 5.8.2) ranged from 50 days at Toshevo in Bulgaria to 159 days at Ankara-2 in Turkey. The mean time taken to flower for each population revealed that the populations X83S 338 was the earliest and was followed by X83S 138, X83S 13 and X83S 335 flowering in 102, 103 and 104 days, respectively. The location means and entry means for time to maturity ranged from 88 to 172 days and 138 to 145 days respectively.

The mean plant height (Table 5.7.4) ranged from 20 cm at Ankara-2 in Turkey to 44 cm at Gemmiza in Egypt and the population X83S 308 was the tallest.

The seed yield and rank of entries at different locations in the trial are given in Table 5.7.5. The highest mean yield was recorded at Beja in Tunisia (1951 kg/ha) and was followed by El-Kef in Tunisia (1718 kg/ha). The ANOVA of the experimental design revealed that 4, 21, 10 entries at Setif in Algeria, Salta in Argentina, and Izra'a in Syria exceeded the respective local check by a significant margin. On the basis of average seed yield over locations the population X83S 46 ranked number 1 (1238 kg/ha) and was followed by X83S 90, X83S 26 and

Table 5.7.1. Agronomic data for different locations in the LIF3T during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
ALGERIA	Setif	02.02.1985	20.06.1985		100		-	Treflan	L.B.C
ALGERIA	Sidi Bel Abbes	04.12.1985	25.05.1986	15	90		-	Petrobromuron	Balcan 755 (T)
ARGENTINA	Salta	14.06.1985	20.11.1985	-			3	Sencorex	Precoz Argentina
BULGARIA	Toshevo	09.04.1985	15.07.1985	30	60		-	Afalon	Tadjikskaya 95
EGYPT	Gemmiza	26.11.1984	13.05.1985	35	71		3	Prometrene (Gezagard)	Giza 370
JORDAN	Mushagar	13.11.1984	02.06.1985	20	40		NA	NA	-
SYRIA	Izra'a	NA	NA	NA			NA	NA	NA
SYRIA	Tel Hadya	07.12.1984	20.05.1985	30	50		-	-	ILL 4400
TURKEY	Ankara-1	27.03.1985	15.07.1985	-			-	Gusathion	Sultani Meraineb
TURKEY	Ankara-2	30.11.1984	-	23	60		-	-	Kislik Pul-11
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA

Note : The trial at Sidi Bel Abbes in Algeria was conducted during 1985/86.
NA = not available.

Table 5.7.2. Time to flowering (days) of entries at different location in LIF3T during 1984/85.

CROSS NO.	FEMALE PARENT SELECTION	ILL	ORIGIN	MALE PARENT SELECTION	ILL	ORIGIN	ALGERIA Sidi Bel-Abbes	ARGENTINA Salta	BULGARIA Toshevo	EGYPT Gemmiza
X83S 1	76TA 66005	5562	JORDAN	78S 26003	5583	JORDAN	123	99	49	96
X83S 3	76TA 66005	5562	JORDAN	78S 26013	5588	JORDAN	123	99	48	97
X83S 5	76TA 66005	5562	JORDAN	76TA 66088	5572	IRAN	123	101	50	101
X83S 13	76TA 66005	5562	JORDAN	76TA 66054	5570	MOROCCO	123	86	48	95
X83S 26	78S 26013	5588	JORDAN	78TA 26018	5590	JORDAN	123	101	49	101
X83S 29	78S 26013	5588	JORDAN	LOCAL	4399	LEBANON	117	99	51	106
X83S 46	76TA 66088	5572	IRAN	76TA 66054	5570	MOROCCO	123	101	51	103
X83S 90	74TA 19	5507	SYRIA	-	842	LEBANON	123	99	50	102
X83S 133	-	4515	SYRIA	-	851	LEBANON	123	99	51	105
X83S 138	PRECOZ	4605	ARGENTINA	78S 26066	5610	SYRIA	123	83	53	78
X83S 140	74TA 20	5508	SYRIA	-	851	LEBANON	126	96	51	102
X83S 154	S 256	2587	INDIA	76TA 66005	5562	JORDAN	128	96	49	100
X83S 155	S 256	2587	INDIA	78S 26013	5588	JORDAN	126	91	50	110
X83S 156	S 256	2587	INDIA	76TA 66088	5572	IRAN	123	101	51	104
X83S 158	S 256	2587	INDIA	GIZA 9	784	EGYPT	128	91	52	110
X83S 160	S 256	2587	INDIA	SILAIM	1861	SUDAN	123	99	49	91
X83S 161	S 256	2587	INDIA	LOCAL	4354	JORDAN	126	104	51	100
X83S 169	LG 112	3527	INDIA	74TA 441	5538	MEXICO	123	101	50	99
X83S 197	LL 116	4225	INDIA	LOCAL	4354	JORDAN	123	96	48	94
X83S 198	LL 116	4225	INDIA	LOCAL	4400	SYRIA	126	101	51	101
X83S 209	340	4404	PAKISTAN	LOCAL	4354	JORDAN	123	101	47	94
X83S 308	78S 26018	5590	JORDAN	F1(78S 26013	(ILL5588)	X ILL 92	126	99	49	102
X83S 335	-	2168	TURKEY	78S 26002	5582	JORDAN	123	91	49	97
X83S 338	JL SN 38	5427	JORDAN	PRECOZ	4605	ARGENTINA	117	83	50	75
LOCAL CHECK		-	-	-	-	-	128	77	52	85
LOCATION MEAN							123	96	50	98
S.E.OF MEAN							≈0.00	3.50	0.88	2.39
L.S.D. AT 5%							≈0.00	10.22	2.58	6.99
C.V. %							≈0.00	5.16	2.49	3.45
ERROR DF							24	24	24	24
SIGNIFICANCE							*	*	*	*

Cont'd. ...

Table 5.7.2. Cont'd. ...

CROSS NO.	JORDAN	SYRIA	TURKEY		Overall Mean
	Mushagar	Tel Hadya	Ankara-1	Ankara-2	
X83S 1	136	119	60	160	**105**
X83S 3	137	119	60	159	**105**
X83S 5	138	119	60	158	**106**
X83S 13	136	119	61	159	**103**
X83S 26	137	120	64	159	**106**
X83S 29	136	121	65	160	**106**
X83S 46	138	121	65	159	**107**
X83S 90	146	120	63	159	**107**
X83S 133	146	122	65	159	**108**
X83S 138	140	121	66	159	**102**
X83S 140	146	121	65	160	**108**
X83S 154	140	121	62	159	**106**
X83S 155	149	128	67	159	**110**
X83S 156	138	119	63	160	**107**
X83S 158	154	122	67	161	**110**
X83S 160	137	119	61	159	**104**
X83S 161	147	123	64	159	**109**
X83S 169	139	119	60	158	**106**
X83S 197	146	119	62	158	**105**
X83S 198	139	119	65	159	**107**
X83S 209	139	120	61	159	**105**
X83S 308	137	123	62	159	**107**
X83S 335	140	119	60	158	**104**
X83S 338	138	121	60	159	**100**
LOCAL CHECK	154	121	69	160	
LOCATION MEAN	**141**	**120**	**63**	**159**	
S.E.OF MEAN	3.72	0.53	One Rep.	0.71	
L.S.D. AT 5%	10.84	1.55		-	
C.V. %	3.72	0.62		0.63	
ERROR DF	24	24		24	
SIGNIFICANCE	*	*		NS	

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.7.3. Time to maturity (days) of entries at different Locations in LIF3T during 1984/85.

CROSS NO.	ALGERIA Sidi Bel-Abbes	ARGENTINA Salta	BULGARIA Toshevo	EGYPT Gemmiza	JORDAN Mushagar	SYRIA Tel Hadya	TURKEY Ankara-1	Overall Mean	Rank
X83S 1	173	139	90	142	187	153	101	140	
X83S 3	168	139	89	147	189	154	99	140	
X83S 5	168	139	82	153	189	154	99	140	
X83S 13	176	126	87	151	188	157	101	140	
X83S 26	168	134	84	149	186	156	97	139	
X83S 29	168	131	85	142	188	157	99	138	
X83S 46	168	136	91	150	188	153	97	140	
X83S 90	168	131	91	153	189	161	105	142	
X83S 133	176	136	88	153	187	162	105	143	
X83S 138	174	136	92	147	188	163	106	143	
X83S 140	168	136	92	152	190	158	104	142	
X83S 154	174	134	89	145	188	162	101	141	
X83S 155	176	145	89	154	189	161	103	145	
X83S 156	168	141	87	148	188	161	103	142	
X83S 158	174	128	89	157	187	161	103	142	
X83S 160	168	134	83	155	191	154	101	140	
X83S 161	176	136	92	154	188	161	105	144	
X83S 169	173	136	84	148	188	153	97	139	
X83S 197	176	139	80	149	188	153	97	140	
X83S 198	176	139	92	152	190	160	106	145	
X83S 209	173	131	83	144	188	157	97	139	
X83S 308	176	139	90	152	188	163	103	144	
X83S 335	176	134	89	150	191	160	101	143	
X83S 338	174	140	91	144	189	163	101	143	
LOCAL CHECK	176	121	87	150	189	162	106		
LOCATION MEAN	172	135	88	149	188	158	101		
S.E.OF MEAN	0.60	6.57	2.15	3.72	1.33	1.35	One Rep.		
L.S.S. AT 5%	1.75	-	6.26	-	-	3.93			
C.V. %	35.79	0.60	2.63	1.23	0.76	7.09			
ERROR DF	24	24	24	24	24	24			
SIGNIFICANCE	*	NS	*	NS	NS	*			

* = Significant at $P \leq 0.05$, NS = not significant.

Table 5.7.4. Plant height (cm) of entries at different locations in LIF3T during 1984/85.

CROSS NO.	ALGERIA		ARGENTINA	BULGARIA	EGYPT	JORDAN	SYRIA	TURKEY		Overall Mean
	Setif	Sidi Bel-Abbes	Salta	Toshevo	Gemmiza	Mushagar	Tel Hadya	Ankara-1	Ankara-2	
X83S 1	26	24	28	21	30	29	28	21	21	**25**
X83S 3	29	30	35	25	38	28	29	24	21	**28**
X83S 5	27	30	22	25	53	32	31	25	21	**29**
X83S 13	28	30	25	21	55	28	31	24	19	**29**
X83S 26	27	26	25	20	47	27	30	23	21	**27**
X83S 29	29	30	27	21	35	28	28	22	22	**26**
X83S 46	24	30	25	20	39	27	30	23	23	**26**
X83S 90	23	30	26	24	52	28	30	20	21	**28**
X83S 133	24	30	29	21	50	28	30	24	20	**28**
X83S 138	27	28	30	23	37	28	30	26	21	**27**
X83S 140	27	25	30	25	44	25	30	25	22	**28**
X83S 154	23	30	32	23	33	30	32	21	20	**27**
X83S 155	29	30	26	25	58	26	31	24	20	**29**
X83S 156	29	32	29	28	37	28	29	23	21	**28**
X83S 158	26	25	25	23	48	28	30	23	19	**27**
X83S 160	21	25	26	19	51	25	28	22	18	**26**
X83S 161	26	32	27	27	44	25	27	26	19	**28**
X83S 169	21	25	29	24	33	23	28	18	18	**24**
X83S 197	23	30	26	21	43	25	26	19	20	**25**
X83S 198	25	30	22	23	48	30	30	23	21	**28**
X83S 209	25	25	28	21	37	26	26	22	18	**25**
X83S 308	29	30	28	25	55	29	33	26	21	**30**
X83S 335	27	30	25	19	48	23	29	24	21	**27**
X83S 338	22	30	26	25	37	29	27	19	20	**26**
LOCAL CHECK	31	32	24	28	48	28	33	26	20	
LOCATION MEAN	**26**	**28**	**27**	**23**	**44**	**27**	**29**	**23**	**20**	
S.E.OF MEAN	1.92	1.01	3.93	1.63	7.78	2.05	1.39	One Rep.	0.62	
L.S.S. AT 5%	5.60	2.95	-	4.77	-	-	-		1.80	
C.V. %	10.38	4.96	20.49	9.89	24.86	10.51	6.61		4.17	
ERROR DF	24	24	24	24	24	24	24		24	
SIGNIFICANCE	*	*	NS	*	NS	NS	NS		*	

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.7.5. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in LIF3T during 1984/85.

CROSS NO.	ALGERIA				ARGENTINA		BULGARIA		EGYPT		JORDAN	
	Setif		Sidi Bel Abbes		Salta		Toshevo		Gemmiza		Mushagar	
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
X83S 1	895	7	708	23	1566	2	466	14	452	17	703	9
X83S 3	885	8	1432	8	833	21	600	7	226	22	500	17
X83S 5	677	19	1625	4	1133	8	500	13	333	21	603	13
X83S 13	1052	1	1197	11	1466	3	300	23	1309	3	923	4
X83S 26	1000	4	1739	3	966	17	400	17	1226	5	1070	2
X83S 29	750	15	1598	5	1233	6	366	19	357	20	800	6
X83S 46	916	6	2197	1	1033	15	400	17	654	14	1196	1
X83S 90	697	18	1562	7	1166	7	533	10	1726	1	740	8
X83S 133	760	13	1000	18	1433	4	300	23	1119	6	410	20
X83S 138	635	20	895	22	866	20	366	19	202	23	403	21
X83S 140	1041	3	1041	17	400	24	566	9	583	16	651	10
X83S 154	750	15	979	19	1633	1	466	14	190	24	586	15
X83S 155	989	5	1114	14	1033	15	333	22	880	10	960	3
X83S 156	1052	1	1583	6	966	17	600	7	630	15	856	5
X83S 158	864	9	1062	16	700	22	466	14	976	9	793	7
X83S 160	541	24	1750	2	1133	8	833	3	702	12	476	18
X83S 161	770	12	614	25	1133	8	533	10	678	13	311	24
X83S 169	598	21	1156	12	1133	8	800	4	416	18	596	14
X83S 197	552	23	921	21	1366	5	700	5	738	11	433	19
X83S 198	583	22	656	24	1066	14	1033	1	988	8	620	12
X83S 209	458	25	968	20	1100	13	700	5	416	18	340	23
X83S 308	760	13	1343	9	933	19	366	19	1047	7	526	16
X83S 335	822	10	1156	12	700	22	300	23	1238	4	341	22
X83S 338	708	17	1260	10	1133	8	533	10	142	25	623	11
LOCAL CHECK	802	11	1104	15	233	25	1000	2	1476	2	-	
LOCATION MEAN	782		1226		1054		538		748		644	
S.E.OF MEAN	65.51		377.23		203.33		132.64		362.30		196.98	
L.S.D. AT 5%	191.18		-		593.43		387.10		-		-	
C.V. %	11.84		43.48		27.27		34.82		68.45		43.22	
ERROR DF	24		24		24		24		24		23	
SIGNIFICANCE	*		NS		*		*		NS		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	4		-		21		0		-		-	

Cont'd. ...

Table 5.7.5. Cont'd. ...

CROSS NO.	SYRIA				TUNISIA				TURKEY		(1)	
	Izra'a		Tel Hadya		Beja		El Kef		Ankara -1		Overall Mean	Rank
	Y	R	Y	R	Y	R	Y	R	Y	R	Y	R
X83S 1	450	13	1188	1	2462	3	2287	3	796	5	1152	5
X83S 3	566	12	1016	7	2300	5	1712	13	484	19	998	13
X83S 5	847	2	1077	4	2737	2	1700	14	718	10	1110	6
X83S 13	283	19	1097	3	2350	4	1587	18	468	20	1174	4
X83S 26	766	5	905	15	1825	15	2300	2	328	21	1175	3
X83S 29	766	5	866	16	2137	11	1875	9	656	15	1063	8
X83S 46	633	11	1022	6	2275	7	2050	6	640	17	1238	1
X83S 90	683	8	1038	5	2225	9	1512	20	796	5	1199	2
X83S 133	383	14	955	11	1362	23	1575	19	812	2	972	16
X83S 138	383	14	944	12	2025	14	2025	7	703	13	906	19
X83S 140	383	14	750	18	2062	13	1675	16	718	10	948	17
X83S 154	-		1105	2	2162	10	1600	17	804	4	1027	10
X83S 155	666	9	972	10	1462	20	2000	8	734	8	1047	9
X83S 156	816	3	933	13	1487	18	2137	5	656	15	1090	7
X83S 158	283	19	927	14	1462	20	1812	11	796	5	985	15
X83S 160	250	21	711	19	1487	18	1150	22	218	24	900	20
X83S 161	666	9	683	21	2075	12	1875	9	734	8	940	18
X83S 169	166	24	605	23	1675	16	1000	23	171	25	815	23
X83S 197	183	23	650	22	1337	24	1350	21	281	22	832	22
X83S 198	214	22	605	23	1275	25	850	25	718	10	839	21
X83S 209	350	17	561	25	1412	22	950	24	281	22	718	24
X83S 308	750	7	711	19	1675	16	1750	12	812	2	992	14
X83S 335	933	1	1011	8	2300	5	1687	15	703	13	1025	11
X83S 338	783	4	755	17	2237	8	2162	4	625	18	1017	12
LOCAL CHECK	300	18	1005	9	2962	1	2325	1	1000	1		
LOCATION MEAN	521		884		1951		1718		626			
S.E.OF MEAN	118.19		93.83		315.13		205.97		124.48			
L.S.D. AT 5%	345.77		273.84		919.72		601.11		363.28			
C.V. %	32.06		15.01		22.84		16.95		28.10			
ERROR DF	23		24		24		24		24			
SIGNIFICANCE	*		*		*		*		*			
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	10		0		0		0		0			

(1) Izra'a was excluded from the overall mean, NS = not significant, * = significant at P≤ 0.05.

Table 5.7.6. The five heaviest seed yielding entries at the individual locations in the LIF_3T during 1984/85.

RANK	ALGERIA		ARGENTINA	BULGARIA	EGYPT	JORDAN
	Setif Cross No.	Sidi Bel Abbes Cross No.	Salta Cross No.	Toshevo Cross No.	Gemmiza Cross No.	Mushagar Cross No.
1	X83S 13	X83S 46	X83S 154	X83S 198	X83S 90	X83S 46
2	X83S 156	X83S 160	X83S 1	Local check	Local check	X83S 26
3	X83S 140	X83S 26	X83S 13	X83S 160	X83S 13	X83S 155
4	X83S 26	X83S 5	X83S 133	X83S 169	X83S 335	X83S 13
5	X83S 155	X83S 29	X83S 197	X83S 197 X83S 209	X83S 26	X83S 156

Cont'd. ...

RANK	SYRIA		TUNISIA		TURKEY
	Izra'a Cross No.	Tel Hadya Cross No.	Beja Cross No.	El-Kef Cross No.	Ankara -1 Cross No.
1	X83S 335	X83S 1	Local check	Local check	Local check
2	X83S 5	X83S 154	X83S 5	X83S 26	X83S 133
3	X83S 156	X83S 13	X83S 1	X83S 1	X83S 308
4	X83S 338	X83S 5	X83S 13	X83S 338	X83S 154
5	X83S 26 X83S 29	X83S 90	X83S 3 X83S 335	X83S 156	X83S 1 X83S 90 X83S 158

The brackets indicate entries having the same rank.

X83S 13 with seed yields of 1199, 1175, and 1174 kg/ha respectively. The five heaviest seed yielding entries are given in Table 5.7.6. It was observed that the populations X83S 13, X83S 26 and X83S 1 occurred most frequently among the top five heavy yielders.

5.8. LENTIL INTERNATIONAL F_3 TRIAL - EARLY (LIF_3T-E)

Material

The material for the Lentil International F_3 Trial-Early comprised of 24 F_3 populations and one local to be added by the cooperator. These populations were derived from the divergent crosses and were expected to release a wide genetic base upon which the selection can be practiced by the cooperators under their local environmental conditions.

Methods and Management

The randomised complete block design with 2 replications was suggested. The suggested plot size was 4 rows, each 4 m long accommodating 640 seeds per plot. The between row spacing was suggested to be 25 cm.

Twenty one sets of trial were distributed to cooperators in 13 countries. However, the results were received back for 12 sets. The agronomic data received from the cooperators are presented in Table 5.8.1.

Results and Discussion

The data on time to flowering (Table 5.8.2) revealed that the populations flowered earliest at Denbi in Ethiopia in 54 days and latest at Faisalabad-1 in Pakistan in 163 days. The range in time to flowering varied from 99 days for X83S 241 to 101 days for X83S 254. The crosses which flowered earlier were, not necessarily earlier in maturity (Table 5.8.3). At almost all the locations some of the populations were earlier in flowering than the respective local checks. The plant height data (Table 5.8.4) showed that the expression of plant height was least at Ramtha in Jordan (19 cm) and maximum at La Molina in Peru (57 cm). The populations X83S 15, -143, -191, -202, -226, -236 and -246, were tallest with average height of 37 cm.

The seed yields and rank of different entries are given in Table 5.8.5. The seed yield at Beja (Tunisia) was highest (1976 kg/ha) and was followed by El-Kef in Tunisia (1400 kg/ha). However, at La Molina in Peru the yields were lowest (231 kg/ha). The CV for the experiment was high at Faisalabad-2 in Pakistan (51.5%), and (41.0%) in Pakistan whereas at other locations it ranged from 14.5 to 31.0%. The ANOVA for the experimental design revealed that there were significant differences among the entries at all the locations except at Faisalabad in Pakistan, and Beja in Tunisia. The LSD estimates revealed that at Ramtha (Jordan), and Tel Hadya (Syria), 2 and 1 entries, respectively,

Table 5.8.1. Agronomic data for different locations in the LIF3T-E during 1984/85.

COUNTRY	LOCATION	PLANTING DATE	HARVESTING DATE	FERTILIZER (kg/ha) N	P	K	IRRI-GATION	INSECTICIDE/FUNGICIDE/ HERBICIDE	LOCAL CHECK
EGYPT	Mallawi	22.11.1984	28.04.1985	10	30		2	Prometrine	Giza 370
ETHIOPIA	Denbi	21.07.1985	19.12.1985	-			NA	NA	NA
JORDAN	Ramtha	21.11.1984	12.05.1985	20	40		NA	NA	UJL 176
NEPAL	Parwanipur	05.11.1984	02.03.1985	20	40		1	NA	Sindoor
PAKISTAN	Faisalabad-1	04.11.1984	15.04.1985	-			1	-	NA
PAKISTAN	Faisalabad-2	02.11.1984	16.04.1985	25	50		2	-	9-6
PERU	La Molina	22.11.1984	06.1985	-			1	Pomarsol,Semilla,Parathion	Chupaea
SUDAN	Hudeiba	14.11.1984	03.1985	43			8	NA	Seliam
SYRIA	Tel Hadya	07.12.1984	20.05.1985	30	50		-	-	ILL 4401
TUNISIA	Beja	NA	NA	NA			NA	NA	NA
TUNISIA	El Kef	NA	NA	NA			NA	NA	NA
TURKEY	Diyarbakir	NA	NA	NA			NA	NA	NA

NA = not available

Table 5.8.2. Time to flowering (days) of entries at different locations in LIF3T-E during 1984/85.

CROSS NO.	FEMALE PARENTS SELECTION	ILL	ORIGIN	MALE PARENTS SELECTION	ILL	ORIGIN	EGYPT Mallawi	ETHIOPIA Denbi	JORDAN Ramtha
X83S 2	76TA 66005	5562	JORDAN	78S 26004	5584	JORDAN	59	58	130
X83S 4	76TA 66005	5562	JORDAN	78S 26018	5590	JORDAN	61	56	130
X83S 15	78S 26003	5583	JORDAN	LOCAL	4354	JORDAN	59	65	132
X83S 137	PRECOZ	4605	ARGENTINA	-	581	USA	58	49	130
X83S 142	PANT.L. 406	2501	INDIA	78S 26013	5588	JORDAN	64	51	136
X83S 143	PANT.L. 406	2501	INDIA	76TA 66088	5572	IRAN	60	46	130
X83S 147	PANT.L. 639	2573	INDIA	78S 26013	5588	JORDAN	64	49	134
X83S 152	LENS 830	2570	INDIA	SILAIM	1861	SUDAN	60	46	136
X83S 159	S 256	2587	INDIA	-	1744	ETHIOPIA	61	67	139
X83S 163	S 256	2587	INDIA	PRECOZ	4605	ARGENTINA	58	51	128
X83S 164	S 256	2587	INDIA	-	5071	ETHIOPIA	59	66	130
X83S 191	LL 116	4225	INDIA	76TA 66005	5562	JORDAN	57	47	129
X83S 196	LL 116	4225	INDIA	SILAIM	1861	SUDAN	66	49	132
X83S 202	340	4404	PAKISTAN	76TA 66005	5562	JORDAN	61	48	128
X83S 226	340	4404	PAKISTAN	S 256	2587	INDIA	59	50	132
X83S 235	GIZA 9	784	EGYPT	78S 26013	5588	JORDAN	61	55	129
X83S 236	GIZA 9	784	EGYPT	76TA 66088	5572	IRAN	58	54	133
X83S 239	-	788	EGYPT	78S 26013	5588	JORDAN	57	50	130
X83S 241	-	788	EGYPT	76TA 66088	5572	IRAN	60	55	129
X83S 246	-	813	EGYPT	76TA 66088	5572	IRAN	55	53	132
X83S 254	80S 44174	-	ICARDA	78S 26002	5582	JORDAN	58	70	136
X83S 276	80S 42188	-	ICARDA	LOCAL	4354	JORDAN	57	56	139
X83S 311	LOCAL	4354	JORDAN	F1 (ILL 5588 X ILL 813)		-	58	55	129
X83S 329	81 WADIJOR.	5430	JORDAN	LAIRD	4349	CANADA	57	50	133
LOCAL CHECK	-	-	-	-	-	-	66	65	130
LOCATION MEAN							60	54	132
S.E.OF MEAN							0.67	2.94	2.19
L.S.D. AT 5%							1.96	8.59	6.39
C.V. %							1.59	7.62	2.34
ERROR DF							24	24	24
SIGNIFICANCE							*	*	*

Cont'd. ...

Table 5.8.2. Cont'd. ...

CROSS NO.	NEPAL Parwanipur	PAKISTAN Faisalabad-1	PAKISTAN Faisalabad-2	PERU La Molina	SYRIA Tel Hadya	Overall Mean
X83S 2	111	159	105	106	119	**105**
X83S 4	103	149	102	100	119	**102**
X83S 15	103	160	108	100	119	**105**
X83S 137	103	164	78	109	119	**101**
X83S 142	91	161	107	90	119	**102**
X83S 143	95	170	111	80	119	**101**
X83S 147	91	152	108	95	119	**101**
X83S 152	89	167	103	95	117	**101**
X83S 159	91	160	108	106	121	**106**
X83S 163	92	167	89	100	119	**100**
X83S 164	103	174	105	108	119	**108**
X83S 191	91	162	106	94	119	**100**
X83S 196	92	172	109	85	119	**103**
X83S 202	94	169	104	85	119	**101**
X83S 226	94	152	104	100	123	**101**
X83S 235	95	159	102	106	119	**103**
X83S 236	89	161	104	102	120	**102**
X83S 239	102	159	97	107	119	**102**
X83S 241	89	151	91	100	119	**99**
X83S 246	102	172	93	100	120	**103**
X83S 254	116	171	108	104	119	**110**
X83S 276	89	162	102	97	124	**103**
X83S 311	111	162	104	104	119	**105**
X83S 329	94	176	75	105	120	**101**
LOCAL CHECK	90	161	103	-	123	
LOCATION MEAN	**97**	**163**	**101**	**99**	**119**	
S.E.OF MEAN	4.37	6.22	2.51	4.54	0.35	
L.S.D. AT 5%	12.74	-	7.32	13.29	1.02	
C.V. %	6.37	5.40	3.50	6.47	0.41	
ERROR DF	24	24	24	23	24	
SIGNIFICANCE	*	NS	*	*	*	

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.8.3. Time to maturity (days) of entries at different locations in LIF3T-E during 1984/85.

CROSS NO.	EGYPT	ETHIOPIA	JORDAN	PAKISTAN	SYRIA	Overall Mean
	Mallawi	Denbi	Ramtha	Faisalabad-2	Tel Hadya	
X83S 2	138	116	171	150	158	**146**
X83S 4	140	118	169	158	162	**149**
X83S 15	137	119	169	158	157	**148**
X83S 137	134	125	170	156	160	**149**
X83S 142	142	115	170	151	159	**147**
X83S 143	143	117	168	153	157	**147**
X83S 147	144	115	172	152	158	**148**
X83S 152	142	115	169	150	154	**146**
X83S 159	144	119	168	159	163	**150**
X83S 163	137	125	171	158	161	**150**
X83S 164	139	119	170	157	160	**149**
X83S 191	136	117	166	153	156	**145**
X83S 196	146	116	171	150	156	**147**
X83S 202	145	114	166	150	156	**146**
X83S 226	142	125	170	158	161	**151**
X83S 235	144	124	170	159	159	**151**
X83S 236	139	126	173	155	160	**150**
X83S 239	139	125	170	164	163	**152**
X83S 241	140	120	169	158	162	**149**
X83S 246	138	134	170	158	161	**152**
X83S 254	139	127	169	162	160	**151**
X83S 276	136	130	170	158	174	**153**
X83S 311	135	123	169	160	157	**148**
X83S 329	135	120	169	155	159	**147**
LOCAL CHECK	146	116	169	149	157	
LOCATION MEAN	**140**	**121**	**169**	**155**	**160**	
S.E.OF MEAN	0.50	2.59	1.57	2.58	1.28	
L.S.D. AT 5%	1.47	7.57	-	7.53	3.74	
C.V. %	0.51	3.03	1.30	2.34	1.14	
ERROR DF	24	24	24	24	24	
SIGNIFICANCE	*	*	NS	*	*	

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.8.4. Plant height (cm) of entries at different locations in LIF3T-E during 1984/85.

CROSS NO.	EGYPT Mallawi	ETHIOPIA Denbi	JORDAN Ramtha	NEPAL Parwanipur	PAKISTAN Faisal-abad-2	PERU La - Molina	SYRIA Tel Hadya	Overall Mean
X83S 2	41	26	20	34	46	58	30	36
X83S 4	36	24	21	33	38	63	30	35
X83S 15	40	28	21	30	46	63	31	37
X83S 137	46	24	21	29	38	58	26	34
X83S 142	39	22	18	31	51	61	25	35
X83S 143	44	22	20	36	52	60	25	37
X83S 147	42	25	12	38	49	58	28	36
X83S 152	37	25	17	36	45	56	25	34
X83S 159	47	28	17	35	43	61	25	36
X83S 163	41	22	21	31	48	58	32	36
X83S 164	34	33	17	37	42	64	27	36
X83S 191	40	27	15	40	58	56	26	37
X83S 196	42	23	19	37	53	55	26	36
X83S 202	44	25	20	32	57	53	29	37
X83S 226	35	28	21	32	56	57	32	37
X83S 235	42	23	20	34	42	54	30	35
X83S 236	43	29	20	38	41	61	28	37
X83S 239	41	29	21	37	38	56	29	35
X83S 241	44	27	20	33	54	54	29	37
X83S 246	39	29	20	34	50	59	28	37
X83S 254	43	30	20	27	39	53	30	34
X83S 276	43	28	21	33	48	55	30	36
X83S 311	40	26	22	32	49	52	31	36
X83S 329	40	26	20	33	47	50	30	35
LOCAL CHECK	44	30	22	40	53	-	28	
LOCATION MEAN	41	26	19	34	47	57	28	
S.E.OF MEAN	1.02	2.20	2.05	1.43	3.63	3.23	1.39	
L.S.D. AT 5%	2.98	-	-	4.17	10.59	-	4.06	
C.V. %	3.50	11.71	14.79	5.83	10.80	7.93	6.88	
ERROR DF	24	24	24	24	24	23	24	
SIGNIFICANCE	*	NS	NS	*	*	NS	*	

* = significant at $P \leq 0.05$, NS = not significant.

Table 5.8.5. Seed yield (Y=kg/ha) and rank (R) of entries at different locations in LIF3T-E during 1984/85.

CROSS NO.	EGYPT		ETHIOPIA		JORDAN		PAKISTAN			
	Mallawi		Denbi		Ramtha		Faisalabad-1		Faisalabad-2	
	Y	R	Y	R	Y	R	Y	R	Y	R
X83S 2	83	17	496	15	293	10	666	8	403	20
X83S 4	805	1	643	8	816	1	733	6	470	16
X83S 15	83	17	663	7	566	3	433	15	566	13
X83S 137	583	3	623	9	176	18	266	21	595	11
X83S 142	138	14	276	23	390	7	333	19	1008	5
X83S 143	111	16	260	24	239	14	766	5	1161	4
X83S 147	83	17	206	25	173	19	1100	3	525	14
X83S 152	222	11	366	20	246	13	1133	2	863	6
X83S 159	55	23	616	10	-		433	15	406	19
X83S 163	361	7	513	13	-		166	25	330	24
X83S 164	55	23	790	4	187	17	366	18	230	25
X83S 191	250	10	370	18	483	5	733	6	593	12
X83S 196	83	17	590	11	232	15	633	9	1273	2
X83S 202	361	7	306	22	268	12	833	4	1196	3
X83S 226	277	9	520	12	336	8	616	10	518	15
X83S 235	138	14	370	18	476	6	266	21	396	21
X83S 236	55	23	340	21	283	11	333	19	463	17
X83S 239	527	5	463	16	336	8	266	21	730	8
X83S 241	611	2	393	17	-		500	13	366	23
X83S 246	83	17	713	6	-		516	12	410	18
X83S 254	83	17	716	5	216	16	500	13	390	22
X83S 276	166	12	936	3	116	20	533	11	723	9
X83S 311	444	6	503	14	806	2	266	21	783	7
X83S 329	166	12	986	2	-		383	17	633	10
LOCAL CHECK	555	4	1510	1	493	4	1233	1	1486	1
LOCATION MEAN	255		567		357		560		661	
S.E.OF MEAN	One Rep.		85.20		66.50		162.64		240.60	
L.S.D. AT 5%			248.67		196.81		474.66		-	
C.V. %			21.25		26.34		41.02		51.48	
ERROR DF			24		19		24		24	
SIGNIFICANCE			*		*		*		NS	
NO. OF ENTRIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK			0		2		0		-	

Cont'd. ...

Table 5.8.5. Cont'd. ...

CROSS NO.	PERU La Molina Y	PERU La Molina R	SYRIA Tel Hadya Y	SYRIA Tel Hadya R	TUNISIA Beja Y	TUNISIA Beja R	TUNISIA El Kef Y	TUNISIA El Kef R	Overall Mean (1) Y	Rank (1) R
X83S 2	301	7	1307	1	2750	1	1475	9	1182	2
X83S 4	23	24	877	5	2137	8	2200	2	1176	3
X83S 15	93	19	922	3	2562	5	2050	3	1199	1
X83S 137	74	23	611	20	2375	7	1175	19	940	12
X83S 142	429	4	522	25	1725	16	687	25	758	24
X83S 143	289	8	588	21	1562	21	1212	15	924	15
X83S 147	203	11	577	22	1575	20	1250	14	872	19
X83S 152	156	16	567	23	1200	25	1212	15	890	18
X83S 159	164	15	627	19	1525	22	950	24	759	23
X83S 163	125	18	650	17	2637	2	1325	13	936	13
X83S 164	93	19	564	24	1725	16	1100	21	795	21
X83S 191	402	5	659	16	1387	23	987	23	788	22
X83S 196	500	2	672	14	1650	18	1012	22	971	9
X83S 202	203	11	711	13	1375	24	1187	18	934	14
X83S 226	132	17	716	11	1625	19	1662	7	942	11
X83S 235	195	13	755	9	1925	14	1350	12	843	20
X83S 236	351	6	800	8	1850	15	1725	5	918	16
X83S 239	448	3	666	15	2000	13	1587	8	952	10
X83S 241	89	22	712	12	2125	9	1375	10	911	17
X83S 246	250	9	639	18	2075	10	1800	4	1025	8
X83S 254	246	10	883	4	2037	11	1725	5	1041	7
X83S 276	507	1	844	7	2400	6	1171	20	1101	5
X83S 311	179	14	994	2	2587	3	1200	17	1055	6
X83S 329	93	19	755	9	2575	4	1362	11	1115	4
LOCAL CHECK	-		866	6	2025	12	2237	1		
LOCATION MEAN	231		739		1976		1400			
S.E.OF MEAN	50.71		75.97		353.02		203.62			
L.S.D. AT 5%	148.34		221.71		1030.29		594.27			
C.V. %	30.98		14.52		25.26		20.56			
ERROR DF	23		24		24		24			
SIGNIFICANCE	*		*		NS		*			
NO. OF ENTRTIES SIGNIFICANTLY EXCEEDING THE LOCAL CHECK	-		1		-		0			

(1) Mallawi, Ramtha and La Molina were excluded from the overall mean , NS = not significant
* = significant at $P \leq 0.05$

Table 5.8.6. The five heaviest seed yielding entries at the individual locations in the LIF_3T-E during 1984/85.

RANK	EGYPT	ETHIOPIA	JORDAN	PAKISTAN	
	Mallawi	Denbi	Ramtha	Faisalabad-1	Faisalabad-2
	Cross No.	Cross No.	Cross No.	Cross No.	Cross No.
1	X83S 4	Local check	X83S 4	Local check	Local check
2	X83S 241	X83S 329	X83S 311	X83S 152	X83S 196
3	X83S 137	X83S 276	X83S 15	X83S 147	X83S 202
4	Local check	X83S 164	Local check	X83S 202	X83S 143
5	X83S 239	X83S 254	X83S 191	X83S 143	X83S 142

Cont'd. ...

RANK	PERU	SYRIA	TUNISIA	
	La Molina	Tel Hadya	Beja	El-Kef
	Cross No.	Cross No.	Cross No.	Cross No.
1	X83S 276	X83S 2	X83S 2	Local check
2	X83S 196	X83S 311	X83S 163	X83S 4
3	X83S 239	X83S 15	X83S 311	X83S 15
4	X83S 142	X83S 254	X83S 329	X83S 246
5	X83S 191	X83S 4	X83S 15	X83S 236
				X83S 254

exceeded the respective local check by a significant margin. In addition some of the populations gave as good yield as the local checks and did not differ significantly. These populations should give segregates which are better than the respective checks. The five heaviest yielding entries at different locations are given in Table 5.8.6. The populations namely X83S 4 and X83S 15 occurred more frequently than others among the top five heaviest yielders.

6. AGRONOMY

6.1. INTERNATIONAL DATE OF PLANTING AND PLANT-POPULATION TRIALS (DPPT)

Introduction

The objectives of the trial were: (i) to find out the optimum date of planting for chickpeas in different agro-ecological locations in the ICARDA region and to find out the consequence of deviating from this date on the crop performance, (ii) to determine the response of the chickpea crop to change in plant-population in relation to the date of planting and (iii) to determine the response of faba beans and lentils to change in plant population.

Results of previous seasons have revealed that in most locations advancing date of planting early into the season increased growth and seed yields of faba beans and lentils. In case of chickpeas, delaying planting into spring reduced growth and seed yield substantially in all locations, however, varying the planting dates within winter did not lead to significant changes in the crop performance. The results revealed that seed yield increased with increasing population in wetter areas; however, under drier conditions, the existing genotypes of the three legumes have shown consistent high degree of plasticity.

Material and Methods

It was suggested that the cooperators use the locally adapted cultivar in all the three crops. In chickpeas two dates, namely D_1 and D_2 were suggested. D_1 should correspond to the early winter planting and D_2 to the early spring planting in the region. In case of faba beans and lentils, however, only one date has been proposed, between mid-October and early November for North Africa and West Asia for faba beans, and between mid-November and early December for lentils. Three row spacings and plant populations for chickpeas; four row spacings and 3 plant populations for faba beans; and four row spacings and four plant populations for lentils were suggested. The split-split-plot design keeping dates in the main plot, rows in the sub-plots and plant populations in sub-sub plots was suggested in chickpeas. In faba beans and lentils, however, split plot design with row spacings in the main plot and plant populations in the sub-plot were suggested. Each sub plot comprised 5 meter long rows eight each in faba beans and chickpeas and ten in lentils. At harvest the net plot data was to be reported from central rows, the outside 2 rows and 0.5 m at either end of the central rows were to be discarded.

6.1.1. INTERNATIONAL CHICKPEA DATE OF PLANTING AND PLANT-POPULATION TRIAL (CDPPT)

Results and Discussion

Eighteen trials were sent to cooperators in 10 countries and the results were received from only seven locations.

The results received from different locations are presented in Table 6.1.1 and discussed separately as under:

Lebanon: The trial was conducted at Terbol and due to severe winter the crop sown during winter was badly affected by cold and gave poor yields. Thus the general conclusions were not drawn.

Pakistan: The trial was conducted at Dasht, Quette and Kuchlak.

The mean square due to date of planting, row spacing and plant population were significant for all the locations indicating that there were differences in seed yield due to dates of planting, row spacings and plant populations. Further the rows x plant populations interaction was also significant for all the locations indicating thereby that seed yields were different at different levels of rows spacings with same plant populations or vice versa.

In all the environments, early winter planting gave the highest yield as compared to late spring, wider row spacings gave higher yields than narrower ones, and higher plant population gave higher yield than lowery plant populations. It may, therefore, be suggested that chickpeas should be planted in winter at a plant population of 60 plants/m^2 at 50 cm row spacing to get highest yields at these locations.

Syria: The trial was conducted at Homs and Gelline in Syria. At both these locations the mean squares due to dates at planting and plant populations were significant indicating thereby that seed yields varied due to sowings at different timings, and at different plant population levels and due to the interaction between them. The best seed yields were obtained at early winter plantings and at 60 plants/m^2.

6.1.2. INTERNATIONAL FABA BEAN PLANT POPULATION TRIAL (FBPPT)

Results and Discussion

Fourteen trials were sent to cooperators in 8 countries but results were received from two locations namely Terbol in Lebanon and Riyad in Saudi Arabia only. The ANOVA for the experimental design (Table 6.1.2) revealed the significance of mean squares due to row spacings only. At Terbol in Lebanon, row spacings of 30 cm gave the highest seed yield whereas at Riyad in Saudi Arabia row spacing of 60 cm gave the highest seed yield.

Table 6.1.1. Seed yield of chickpeas at different dates of planting (D), row spacings (R) and plant population levels (P) in CDPPT at different locations during 1984/85.

Plant Population (P)	Seed Yield (kg/ha)								
	Date of Planting (D)								Overall Mean
	D1 (Early winter)				D2 (Early spring)				
	R1 (30cm)	R2 (40cm)	R3 (50cm)	Mean	R1 (30cm)	R2 (40cm)	R3 (50cm)	Mean	
LEBANON (Terbol)									
30 plants/msq (P1)	1185	1130	1173	1163	2097	1631	1550	1759	1461
45 plants/msq (P2)	1411	1363	1350	1375	1781	1799	1810	1797	1586
60 plants/msq (p3)	1566	1412	1370	1450	2133	1655	1802	1863	1657
Mean	1388	1302	1298	1329	2004	1695	1721	1807	
Overall Mean for row spacing : R1 = 1696 R2 = 1498 R3 = 1509									
C.V. (%) for:	D = 13.30	R = 11.19	P = 13.33						
L.S.D. at 5% for:	D = 294.59	R = 207.94	P = 225.99						
	DxR = NS	DxP = NS	RxP = NS	DxRxP = NS					
PAKISTAN (Dasht)									
30 plants/msq (P1)	217	307	369	298	167	203	259	210	254
45 plants/msq (P2)	409	427	410	416	294	321	312	309	362
60 plants/msq (P3)	443	545	588	526	350	464	485	433	479
Mean	357	426	456	413	270	329	352	317	
Overall Mean for row spacing : R1 = 312 R2 = 377 R3 = 404									
C.V. (%) for:	D = 3.96	R = 4.65	P = 5.38						
L.S.D. at 5% for:	D = 10.58	R = 10.44	P = 11.03	DxR = NS	DxP = NS	DxRxP = NS			
	R at the same level of P = 18.75			P at the same level of R = 19.10					
PAKISTAN (Kuchlak)									
30 plants/msq (P1)	434	306	321	354	167	217	257	214	284
45 plants/msq (P2)	403	428	409	414	297	314	306	306	360
60 plants/msq (P3)	431	536	573	514	262	358	471	364	439
Mean	423	424	434	427	242	296	345	295	
Overall Mean for row spacing : R1 = 333 R2 = 360 R3 = 389									
C.V. (%) for:	D = 14.48	R = 6.18	P = 6.66						
L.S.D. at 5% for:	D = 38.32	R = 13.71	P = 13.49	DxR = NS	DxP = NS	DxRxP = NS			
	R at the same level of P = 23.48			P at the same level of R = 23.37					

Cont'd. ...

Table 6.1.1. Cont'd. ...

Plant Population (P)	Seed Yield (kg/ha)								
	Date of Planting (D)								Overall Mean
	D1 (Early winter)				D2 (Early spring)				
	R1 (30cm)	R2 (40cm)	R3 (50cm)	Mean	R1 (30cm)	R2 (40cm)	R3 (50cm)	Mean	
PAKISTAN (Quetta)									
30 plants/msq (P1)	213	291	366	290	162	207	260	210	250
45 plants/msq (P2)	409	438	409	419	292	336	311	313	366
60 plants/msq (P3)	449	643	589	561	361	376	490	409	485
Mean	357	458	455	423	272	306	353	311	
Overall Mean for row spacing :	R1 = 314			R2 = 382	R3 = 404				
C.V. (%) for:	D = 3.44	R = 2.99	P = 5.43						
L.S.D. at 5% for:	D = 9.27	R = 6.77	P = 11.20	DxR = NS	DxP = NS	DxRxP = NS			
	R at the same level of P = 17.22			P at the same level of R = 19.40					
SYRIA (Gelline)									
30 plants/msq (P1)	1832	1277	1456	1522	464	410	468	447	984
45 plants/msq (P2)	1743	1612	1700	1685	583	423	525	510	1098
60 plants/msq (P3)	1731	1901	2009	1880	653	716	596	655	1268
Mean	1768	1597	1722	1695	566	516	529	1117	
Overall Mean for row spacing :	R1 = 1167			R2 = 1056	R3 = 1125				
C.V. (%) for:	D = 23.72	R = 22.37	P = 25.03						
L.S.D. at 5% for:	D = 198.66	R = NS	P = 160.47						
	DxR = NS	DxP = NS	RxP = NS	DxRxP = NS					
SYRIA (Homs)									
30 plants/msq (P1)	1359	1255	1284	1299	706	491	696	631	965
45 plants/msq (P2)	1356	1320	1459	1378	786	675	654	705	1042
60 plants/msq (P3)	1639	1940	2093	1891	655	734	745	711	1301
Mean	1451	1505	1612	1523	716	633	698	682	
Overall Mean for row spacing :	R1 = 1083			R2 = 1069	R3 = 1155				
C.V. (%) for:	D = 68.85	R = 31.63	P = 28.76						
L.S.D. at 5% for:	D = 569.44	R = NS	P = 182.05	DxR = NS	RxP = NS	DxRxP = NS			
	D at the same level of P = 597.20			P at the same level of D = 257.47					

NS = not significant

Table 6.1.2. Seed yield of faba beans at different row spacing (R) and plant population (P) levels in FBPPT at different locations during 1984/85.

Plant Popoulation (P)	Seed Yield (kg/ha)									
	LEBANON (Terbol)					SAUDI ARABIA (Riyad)				
	Row spacing (R)					Row spacing (R)				
	R1 (30cm)	R2 (40cm)	R3 (50cm)	R4 (60cm)	**Mean**	R1 (30cm)	R2 (40cm)	R3 (50cm)	R4 (60cm)	**Mean**
30 plants/msq (P1)	4312	3599	3704	3395	**3753**	1200	1227	2450	2650	**1881**
45 plants/msq (P2)	3848	3649	3550	3434	**3620**	1150	800	2350	2492	**1698**
60 plants/msq (P3)	4319	3521	3647	3313	**3700**	1050	1550	1550	1850	**1500**
Mean	**4159**	**3589**	**3634**	**3381**		**1133**	**1192**	**2116**	**2330**	
C.V.(%) for:	R = 11.67			P = 13.93			R = 6.34		P = 31.31	
L.S.D. at 5% for:	R = 397.86		P = NS	RxP = NS			R = 197.41		P = NS	RxP = NS

NS = not significant

6.1.3. LENTIL INTERNATIONAL PLANT POPULATION TRIAL (LPPT)

Results and Discussion

Twenty trials were sent to different cooperators in 9 countries and the results were received for six trials from four countries. The trial at Uhrusk in Poland did not give reliable results. The results from other locations presented in Table 6.1.3 and discussed as under:

Czechoslovakia: At Piestany in Czechoslovakia the ANOVA revealed that mean squares due to rows, spacings and row x spacing interaction were not significant.

Lebanon: At Terbol in Lebanon, only the mean square due to row spacings were significant. The highest seed yield was obtained at a row spacing of 20 cm.

Pakistan: The trial was conducted at three locations namely Dasht, Kuchlak and Quetta. At all these locations the mean squares due to rows spacings (R), plant population (P) and R x P interaction were significant except at Quetta where R x P interaction was not significant. At all the sites 40 cm row spacing and 100 plants per meter square gave the highest seed yields. The best combination was with 100 plants per meter square and with 40 cm row spacing and was closely followed by 50 cm row spacing.

6.2. INTERNATIONAL FERTILITY-CUM-INOCULATION TRIALS (FIT)

Introduction

The FIT was planned to study the response of faba beans, lentils and chickpeas to the application of fertilizer nutrients and to inoculation with Rhizobium culture under different agro-ecological conditions in the region. The objectives of this trial have been to investigate:

(i) whether there is need for application of phosphate and potash,
(ii) whether the naturalized Rhizobia present in the soil were effective or there was a need for artificial inoculation,
(iii) whether the symbiotic nitrogen fixation was adequate in meeting the nitrogen need of the crop,
(iv) whether the symbiotic nitrogen fixation as reflected in terms of crop performance can be improved with starter nitrogen dressing,
(v) whether the symbiotic nitrogen fixation is affected by the application of phosphorus and/or potassium.

Material and Methods

The basic set of fertility and inoculation treatments was the same for all the three crops. These consisted of: (i) an unfertilized uninoculated control, (ii) 50 kg P_2O_5/ha; (iii) 60 kg K_2O/ha, (iv) inoculation, (v) inoculation + 50 kg P_2O_5/ha, (vi) inoculation+ 60 kg

Table 6.1.3. Seed yield of lentils at different row spacing (R) and plant populations (P) levels in LPPT at different locations during 1984/85.

Plant Popoulation (P)	Seed Yield (kg/ha)									
	CZECHOSLOVAKIA (Peistang)					LEBANON (Terbol)				
	Row spacing (R)					Row spacing (R)				
	R1 (12.5cm)	R2 (15cm)	R3 (25cm)	R4 (30cm)	**Mean**	R1 (20cm)	R2 (30cm)	R3 (40cm)	R4 (50cm)	**Mean**
100 plants/msq (P1)	1781	1689	1993	1754	**1804**	978	1053	981	831	**961**
200 plants/msq (P2)	1589	2110	2199	1760	**1914**	1085	1041	942	904	**993**
300 plants/msq (P3)	2143	2135	2138	2083	**2125**	1179	969	908	873	**982**
400 plants/msq (P4)	1969	2202	1900	2215	**2071**	1055	906	920	856	**934**
Mean	**1870**	**2034**	**2057**	**1953**		**1074**	**992**	**937**	**866**	
C.V.(%) for:	R = 24.2		P = 20.8				R = 6.9	P = 8.7		
L.S.D. at 5% for:	R = NS	P = NS	RxP = NS				R = 51.6	P = NS	RxP = NS	

Cont'd. ...

Table 6.1.3. Cont'd. ...

Plant Popoulation (P)	Seed Yield (kg/ha)									
	Row spacing (R)					Row spacing (R)				
	R1 (20cm)	R2 (30cm)	R3 (40cm)	R4 (50cm)	**Mean**	R1 (20cm)	R2 (30cm)	R3 (40cm)	R4 (50cm)	**Mean**
	PAKISTAN (Dasht)					**PAKISTAN (Kuchlak)**				
100 plants/msq (P1)	995	948	1932	1907	**1446**	969	931	1938	1931	**1443**
200 plants/msq (P2)	632	610	1397	1099	**935**	763	601	1340	1340	**1011**
300 plants/msq (P3)	344	318	950	630	**561**	363	303	698	618	**496**
400 plants/msq (P4)	350	500	1020	609	**620**	330	483	969	612	**599**
Mean	**580**	**594**	**1325**	**1061**		**606**	**580**	**1237**	**1126**	
C.V.(%) for:	R = 21.40	P = 19.25				R = 12.8	P = 14.9			
L.S.D. at 5% for:	R = 152.4	P = 122.94		RxP = 245.8(1) = 261.5(2)		R = 91.2	P = 94.8		RxP = 189.7(1) = 187.7(2)	
	PAKISTAN (Quetta)									
100 plants/msq (P1)	975	961	1925	1906	**1442**					
200 plants/msq (P2)	621	593	1375	1350	**985**					
300 plants/msq (P3)	1201	310	956	627	**774**					
400 plants/msq (P4)	330	474	994	619	**604**					
Mean	**782**	**584**	**1312**	**1126**						
C.V.(%) for:	R = 46.6		P = 46.20							
L.S.D. at 5% for:	R = 354.6		P = 315.24		RxP = NS					

NS = not significant

(1) for difference between two plant population means at the same level of row spacing.

(2) for difference between two row spacing means for the same plant population mean or for different levels of plant population.

K_2O/ha, (vii) inoculation + 50 kg P_2O_5/ha + 60 kg K_2O/ha and (viii) 100 kg N/ha + 50 kg P_2O_5/ha + 60 kg K_2O/ha.

The trial was designed as a randomized complete block with four replications. The cooperators could reduce the replications to three if land was limiting. The suggested plot size was: 13.5 m^2 (2.7m x 5.0m). The net plot for harvesting was suggested to be comprised of the central rows leaving one row at either side of the plot and 0.5 m at either end of row as borders.

6.2.1. CHICKPEA INTERNATIONAL FERTILITY-CUM-INOCULATION TRIAL (CFIT)

Results and Discussion

Twenty trials were sent to cooperators in 12 countries and the results were received from three locations. The crop at Montpellier in France was severely affected by frost and did not produce reliable results. The results from other two locations namely El-Marg in Libya and Lahore in Pakistan are presented as under:

Libya: The trial was conducted at El-Marg in Libya. None of the treatments was significantly better than the unfertilized uninoculated control which indicated that naturalized Rhizobia present in the soil were effective and there was no need for artificial inoculation or fertilizer application.

Pakistan: At Lahore in Pakistan, the inoculation with Rhizobium (T4) gave the highest seed yield which exceeded the control by a significant margin. Further phosphate application also increased the seed yields by significant margin but the yield levels were lower than Rhizobium application alone.

6.2.2. FABA BEAN INTERNATIONAL FERTILITY-CUM-INOCULATION TRIAL (FBFIT)

Results and Discussion

Twelve trials were sent to different cooperators in seven countries but the results were received from two locations namely Dijon in France and Dhmar in Yemen Arab Republic. The ANOVA for seed yield for both locations revealed that the mean squares due to treatments were not significant.

6.2.3. LENTIL INTERNATIONAL FERTILITY-CUM-INOCULATION TRIAL (LFIT)

Results and Discussion

Twenty trials were sent to cooperators in 12 countries and the results were received from 10 trials from six countries. The trials at

Table 6.2.1. Seed yield (Y=kg/ha) and rank (R) of different fertilizer-cum-inoculation treatments in CFIT at different locations during 1984/85.

	TREATMENT	LIBYA El Marg Y	LIBYA El Marg R	PAKISTAN Lahore Y	PAKISTAN Lahore R	Overall Mean Y	Overall Mean R
T1	Control	2013	1	2883	7	2448	6
T2	Phosphate at 50 kg P_2O_5/ha (Phosphate)	1613	8	3287	3	2450	5
T3	Potash at 60 kg K_2O/ha (Potash)	1866	4	3038	6	2452	4
T4	Inoculation with Rhizobium	1924	3	3456	1	2690	1
T5	Inoculation + Phosphate	1951	2	3409	2	2680	2
T6	Inoculation + Potash	1719	7	2638	8	2178	8
T7	Inoculation + Phosphate + Potash	1813	5	3146	4	2479	3
T8	100kg N/ha + Phosphate + Potash	1746	6	3105	5	2425	7
LOCATION MEAN		1831		3120			
S.E. OF MEAN		80.18		120.93			
L.S.D. AT 5%		243.20		355.66			
C.V. %		7.58		7.75			
ERROR DF		14		21			
SIGNIFICANCE		*		*			

* = significant at $P \leq 0.05$

Table 6.2.2. Seed yield (Y=kg/ha) and rank (R) of different fertilizer-cum-inoculation treatments in FBFIT at different locations during 1984/85.

	TREATMENT	FRANCE Dijon Y	FRANCE Dijon R	YEMEN A.R. Dhmar Y	YEMEN A.R. Dhmar R	Overall Mean Y	Overall Mean R
T1	Control	2654	7	3123	7	**2888**	**6**
T2	Phosphate at 50 kg P_2O_5/ha (Phosphate)	2763	4	2961	8	**2862**	**7**
T3	Potash at 60kg K_2O/ha (Potash)	2930	1	3507	3	**3218**	**2**
T4	Inoculation with Rhizobium	2855	3	3490	4	**3172**	**4**
T5	Inoculation + Phosphate	2703	6	3423	5	**3063**	**5**
T6	Inoculation + Potash	2589	8	3127	6	**2858**	**8**
T7	Inoculation + Phosphate + Potash	2736	5	3616	2	**3176**	**3**
T8	100kg N/ha + Phosphate + Potash	2899	2	3623	1	**3261**	**1**
LOCATION MEAN		**2766**		**3359**			
S.E. OF MEAN		135.76		197.25			
L.S.D. AT 5%		399.29		580.13			
C.V. %		9.81		11.74			
ERROR DF		21		21			
SIGNIFICANCE		NS		NS			

NS = not significant

Table 6.2.3. Seed yield (Y=kg/ha) and rank (R) of different fertilizer-cum-inoculation treatments in LFIT at different locations during 1984/85.

	TREATMENT	ALGERIA		COSTA RICA		CZECHOSLOVAKIA		PAKISTAN			
		Setif		Heredia		Piestang		Dasht		Kuchlak	
		Y	R	Y	R	Y	R	Y	R	Y	R
T1	Control	483	6	338	8	2607	2	404	8	351	8
T2	Phosphate at 50 kg P_2O_5/ha (Phosphate)	529	5	679	4	2626	1	628	6	607	6
T3	Carbofuron at 1.0 kg a.i./ha (Carbofuron)	575	2	667	5	2133	7	548	7	532	7
T4	Inoculation with Rhizobium	620	1	591	7	2261	4	847	4	845	4
T5	Inoculation + Phosphate	531	4	736	1	2375	3	961	2	880	2
T6	Inoculation + Carbofuron	558	3	713	3	2177	6	736	5	609	5
T7	Inoculation + Phosphate + Carbofuron	483	6	607	6	2123	8	954	3	873	3
T8	100kg N/ha + Phosphate + Carbofuron	475	8	729	2	2230	5	1074	1	1052	1
LOCATION MEAN		532		633		2316		769		719	
S.E. OF MEAN		65.30		80.87		141.36		31.40		46.92	
L.S.D. AT 5%		192.05		237.86		415.76		92.34		137.99	
C.V. %		24.55		25.55		12.20		8.16		13.05	
ERROR DF		21		21		21		21		21	
SIGNIFICANCE		NS		*		NS		*		*	

Cont'd. ...

Table 6.2.3. Cont'd. ...

	TREATMENT	PAKISTAN				LEBANON		Overall Mean	
		Lahore		Bannu		Terbol			
		Y	R	Y	R	Y	R	Y	R
T1	Control	682	3	1004	8	2119	2	998	8
T2	Phosphate at 50 kg P_2O_5/ha (Phosphate)	621	7	1425	6	2083	4	1149	6
T3	Carbofuron at 1.0 kg a.i./ha (Carbofuron)	633	5	1170	7	2169	1	1053	7
T4	Inoculation with Rhizobium	598	8	1429	5	2013	6	1150	5
T5	Inoculation + Phosphate	623	6	1962	2	1951	7	1252	2
T6	Inoculation + Carbofuron	667	4	1783	3	2102	3	1168	4
T7	Inoculation + Phosphate + Carbofuron	790	2	1716	4	2030	5	1197	3
T8	100kg N/ha + Phosphate + Carbofuron	812	1	2020	1	1888	8	1285	1
LOCATION MEAN		678		1564		2044			
S.E. OF MEAN		61.55		55.69		92.26			
L.S.D. AT 5%		181.02		163.80		271.36			
C.V. %		18.13		7.12		9.02			
ERROR DF		21		21		21			
SIGNIFICANCE		NS		*		NS			

* = significant at $P \leq 0.05$, NS = not significant

Diyarbakir in Turkey and Mastung in Pakistan failed due to frost and drought, respectively. The results from other locations are presented as under:

Algeria: At Setif in Algeria the ANOVA for seed yield revealed that mean squares due to treatments were not significant.

Costa Rica: At Heredia in Costa Rica, uninoculated control ranked in seed yield as eight. Inoculation with Rhizobium increased the seed yield significantly but maximum yield was obtained for T_5 (Inoculation + Phosphate) which was closely followed by T_8 (100 kg N/ha + Phosphate + Carbofuron) and T_6 (Inoculation + Carbofuron). Further the application of carbofuron alone also resulted in increase in yield to almost double indicating thereby that sitona might be a problem in this area. It may, therefore, be concluded that inoculation with carbofuron or inoculation with phosphate are the most desirable treatments.

Czechoslovakia: The trial was conducted at Piestang. The ANOVA revealed that the differences between treatment means were not significant.

Lebanon: The trial was conducted at Terbol. The ANOVA for seed yield revealed that the differences between the treatment means were not significant.

Pakistan: The trial at Mastung failed due to drought. The results from other locations are presented here. At three sites namely Dasht, Kuchlak and Bannu, the ANOVA revealed significant differences among treatment means whereas at Lahore these were not significant. At these three sites the seed yields were highest for T_8 (100 kg N/ha + Phosphate + Carbofuron) and lowest for T_1 (uninoculated unfertilized control). Inoculation alone increased the seed yields by significant margins at all these locations. But at Bannu the application of phosphate in addition to inoculation further increased the seed yield by a significant margin.

6.3. INTERNATIONAL WEED CONTROL TRIALS (WCT)

Introduction

The trial aimed at finding out the magnitude of yield loss that occurs in faba bean, lentil and chickpea crops due to the presence of weeds. It also aimed at assessing the relative merit of some selected weed control treatments under the different agro-ecological conditions in the three crops in the ICARDA region.

Material and Methods

The basic treatments involved weedy check, weed free by repeated hand weeding, hand weeding twice (30-40, 70-80 days after emergence) and herbicide application treatments. The details of these treatments are given in the appropriate tables.

The trials were designed as randomized complete blocks with four replications. The plot size was 18.0 m^2 (3.6 m x 5.0 m) for all the three crops. At harvest time the two outside rows and 0.5 m at either end of the central rows were discarded. Thus the seed yields described in this report came from the central rows of 4 m length.

6.3.1. CHICKPEA INTERNATIONAL WEED CONTROL TRIAL (CWCT)

Thirty six trials were distributed to cooperators in 12 countries and the results were received from 7 locations in seven countries. The trials at Mushagar in Jordan, and Diyarbakir in Turkey failed thus the data on yield were not reported. The treatments at Wroclaw in Poland were quite different as compared to the ones suggested. Among the weedicide treatments, Bandren (aclonifen 60%) at 2.4 kg/ha a.i. was most effective in controlling weeds since no seed yield data are reported, gain in seed yield could not be assessed. Out of the remaining four locations, the comparison of seed yield of weedy check T_1 with weed free check (by repeated hand weeding) indicated that weeds caused heavy losses in seed yield at almost all locations. On an average over locations the yield loss was 43%. The ANOVA for seed yield revealed non-significant differences among treatment means for Perico in Argentina and Parwanipur in Nepal.

Nine treatments at Faisalabad in Pakistan, and six at Terbol in Lebanon excelled the weedy check by a significant margin. The best chemical treatment at Faisalabad in Pakistan was T_9 (Maloran + Kerb) and at Terbol in Lebanon was T_6 (Igran).

6.3.2. FABA BEAN INTERNATIONAL WEED CONTROL TRIAL (FBWCT)

Results and Discussion

Twenty two trials were supplied to cooperators in 11 countries and the results were received for 7 trials from 6 countries and presented in Table 6.3.2. The comparison of the weedy check (treatment T_1) and weed free check (treatment T_2) showed that weeds caused heavy losses in seed yield at almost all the locations. On an average across the locations the yield loss was 44%, however, the maximum loss was observed at Terbol in Lebanon (73%).

The ANOVA of yield data revealed that the mean squares due to treatments were not significant at Perico in Argentina, Nubaria in Egypt and Mateur in Tunisia whereas at other locations the mean squares

Table 6.3.1. Seed yield (Y=kg/ha) and rank (R) of chickpeas as affected by weed control treatments in CWCT at various locations during 1984/85.

	TREATMENT	ARGENTINA Perico		NEPAL Parwanipur		PAKISTAN Faisalabad		LEBANON Terbol		Overall Mean	
		Y	R	Y	R	Y	R	Y	R	Y	R
T1	Weedy check	551	11	164	8	2491	12	550	10	939	12
T2	Weed free by repeated hand weeding	907	1	256	4	3289	1	2124	1	1644	1
T3	Hand weeding twice (30-40 & 70-80 DAE)	869	2	300	1	3140	2	1664	4	1493	2
T4	Pre-emergence application of Chlorobromuron (Maloran) at 1.5 kg a.i./ha	483	12	291	2	2853	8	505	11	1033	9
T5	Pre-emergence application of Methabenzthiazuron (Tribunil) at 3.0 kg a.i./ha	605	8	72	10	2501	11	752	8	982	11
T6	Pre-emergence application of Terbutryne (Igran) at 3.0 kg a.i./ha	680	5	237	5	2882	6	1671	2	1367	5
T7	Pre-emergence application of Cyanazine (Bladex) at 3.0 kg a.i./ha	614	7	204	6	2743	10	439	12	1000	10
T8	Pre-emergence application of Cyanazine at 1.0 kg a.i./ha	590	9	72	10	2869	7	718	9	1062	8
T9	Same as No. 4 above + 0.5 kg a.i./ha of Pronamide (Kerb)	793	3	6	12	3094	3	1616	5	1377	4
T10	Same as No. 5 above + Pronamide as No. 9	666	6	289	3	2844	9	1417	6	1304	6
T11	Same as No. 6 above + Pronamide as No. 9	767	4	197	7	2919	4	1665	3	1387	3
T12	Same as No. 7 above + Pronamide as No. 9	588	10	116	9	2919	4	1060	7	1170	7
	LOCATION MEAN	676		184		2879		1182.			
	S.E. OF MEAN	90.76		119.72		118.85		227.11			
	L.S.D. AT 5%	261.14		351.09		341.94		653.44			
	C.V. %	26.83		112.57		8.26		38.42			
	ERROR DF	33		22		33		33			
	SIGNIFICANCE	NS		NS		*		*			

* = significant at $P \leq 0.05$, NS = not significant

Table 6.3.2. Seed yield (Y=kg/ha) and rank (R) of chickpeas as affected by weed control treatments in FBWCT at various locations during 1984/85.

	TREATMENT	ARGENTINA		EGYPT				ETHIOPIA	
		Perico		Nubaria		Shandweel		Debre Zeit	
		Y	R	Y	R	Y	R	Y	R
T1	Weedy check	461	2	1286	10	2083	6	1176	12
T2	Weedy free by repeated hand weeding	410	5	1871	3	3726	3	1944	1
T3	Hand weeding twice (30-40 & 70-80 DAE)	434	3	1115	12	2013	8	1368	11
T4	Pre-emergence application of Chlorobromuron (Maloran) at 1.5 kg a.i./ha	390	7	1516	9	1805	12	1678	6
T5	Pre-emergence application of Methabenzthiazuron (Tribunil) at 3.0 kg a.i./ha	378	8	1741	6	2245	5	1409	10
T6	Pre-emergence application of Terbutryne (Igran) at 2.0 kg a.i./ha	424	4	1866	4	4606	2	1688	5
T7	Pre-emergence application of Cyanazine (Bladex) at 0.5 kg a.i./ha	375	10	1617	8	2013	8	1775	2
T8	Pre-emergence application of Cyanazine (Bladex) at 1.0 kg a.i./ha	336	11	1635	7	1875	10	1768	3
T9	Same as No. 4 above + 0.5 kg a.i./ha of Pronamide (Kerb)	406	6	1252	11	1828	11	1468	9
T10	Same as No. 5 above + Pronamide as No. 9	376	9	2114	1	2777	4	1620	8
T11	Same as No. 6 above + Pronamide as No. 9	540	1	2071	2	5254	1	1638	7
T12	Same as No. 7 above + Pronamide as No. 9	321	12	1775	5	2037	7	1701	4
	LOCATION MEAN	**404**		**1655**		**2689**		**1603**	
	S.E. OF MEAN	82.56		239.48		212.86		139.19	
	L.S.D. AT 5%	237.56		689.03		612.43		400.46	
	C.V. %	40.80		28.93		15.83		17.36	
	ERROR DF	33		33		33		33	
	SIGNIFICANCE	NS		NS		*		*	

Cont'd. ...

Table 6.3.2. Cont'd. ...

TREATMENT	TUNISIA				TURKEY		LEBANON		(1) Overall Mean	
	Mateur		Menzel Temime		Izmir		Terbol			
	Y	R	Y	R	Y	R	Y	R	Y	R
T1	1813	7	1173	3	982	12	928	12	1247	12
T2	918	12	1380	2	3325	6	3456	2	2235	3
T3	1506	9	1575	1	3398	5	3518	1	1907	7
T4	2016	6	1144	4	2567	10	1454	11	1632	10
T5	1538	8	1004	5	2909	8	1907	10	1732	9
T6	1440	10	-		3406	4	3428	3	2408	2
T7	1376	11	-		1339	11	2264	9	1537	11
T8	2560	1	958	7	2574	9	2413	8	1880	8
T9	2391	2	1004	5	3544	2	3369	5	2036	6
T10	2280	4	784	8	3111	7	3247	7	2217	4
T11	2391	2	442	9	3454	3	3424	4	2681	1
T12	2218	5	-		3790	1	3356	6	2171	5
LOCATION MEAN	1870		1051		2867		2730			
S.E. OF MEAN	416.54		143.32		447.24		239.37			
L.S.D. AT 5%	1296.36		467.33		1286.81		688.72			
C.V. %	31.48		19.27		31.20		17.53			
ERROR DF	11		8		33		33			
SIGNIFICANCE	NS		*		*		*			

(1) Menzel Temime was excluded from the overall mean
* = significant at $P \leq 0.05$, NS = not significant

were significant.

Egypt: At Shandweel in Egypt, two of the weedicide treatment namely, T_{11} and T_{16} excelled the weedy check by a significant margin.

Ethiopia: At Debre Zeit, seven weedicide treatments namely T_7, T_8, T_{12}, T_6, T_4, T_{11} and T_{10} excelled the weedy check by a significant margin.

Tunisia: At Menzel-Temime in Tunisia, none of the weedicide treatments excelled the weed free check.

Turkey: At Izmir in Turkey eight of the weedicide treatments excelled the weedy check by a significant margin and highest yield was obtained using T_9, which was closely followed by T_{11}, T_6, T_{10}, T_5, T_8 and T_4 respectively.

Lebanon: At Terbol in Lebanon, treatment T_6 was the best and was closely followed by T_{11}, T_9, T_{12}, T_{10}, T_8, T_7 and T_5, respectively.

In general, on the basis of overall performance of the weedicides is indicated that the treatments T_{11} and T_6 are the best for controlling weeds in faba beans.

6.3.3. LENTIL INTERNATIONAL WEED CONTROL TRIAL (LWCT)

Results and Discussion

Thirty two sets of trial were distributed to cooperators in 13 countries and the results were received for 11 sets. The trial at Mastung in Pakistan, failed due to severe drought, and at Diyarbakir in Turkey due to severe cold. No data were reported from Muchagar in Jordan. The results obtained from other locations are thus presented in Table 6.3.3 and discussed as under:

The comparison of weedy check (Treatment T_1) and weed free check (Treatment T_2) showed that weeds caused heavy losses in seed yield in lentils (63%). The ANOVA revealed that the differences between treatment means were significant at all the locations except at Perico in Argentina and Pawanipur in Nepal.

At Heredia in Costa Rica, three weedicide treatments namely T_5, T_{10} and T_9 respectively in order of merit excelled the weedy check in seed yield by a significant margin.

At Piestang in Czechoslovakia, seven weedicide treatments namely T_9, T_5, T_4, T_{12}, T_6, T_{10} and T_8, respectively, in order of merit excelled the weedy check by a significant margin.

At Dasht and Kuchlak in Pakistan all the weedicide treatments excelled the weedy check in seed yield by a significant margin and the best three weedicide treatments included T_9, T_6, and T_4.

Table 6.3.3. Seed yield (Y=kg/ha) and rank (R) of chickpeas as affected by weed control treatments in LWCT at various locations during 1984/85.

	TREATMENT	ARGENTINA Perico		COSTA RICA Heredia		CZECHOSLOVAKIA Piestang		NEPAL Parwanipur	
		Y	R	Y	R	Y	R	Y	R
T1	Weedy check	734	12	16	12	947	12	444	11
T2	Weedy free by repeated hand weeding	879	5	546	1	3128	1	776	2
T3	Hand weeding twice (30-40 & 70-80 DAE)	816	7	358	3	2960	2	611	6
T4	Pre-emergence application of Chlorobromuron (Maloran) at 1.5 kg a.i./ha	808	9	127	8	2085	5	472	9
T5	Pre-emergence application of Methabenzthiazuron (Tribunil) at 3.0 kg a.i./ha	740	11	442	2	2134	4	550	8
T6	Pre-emergence application of Terbutryne (Igran) at 2.0 kg a.i./ha	779	10	69	10	1896	7	777	1
T7	Pre-emergence application of Cyanazine (Bladex) at 0.5 kg a.i./ha	834	6	94	9	1341	11	215	12
T8	Pre-emergence application of Cyanazine (Bladex) at 1.0 kg a.i./ha	899	3	133	7	1660	9	637	4
T9	Same as No. 4 above + 0.5 kg a.i./ha of Pronamide (Kerb)	901	2	196	5	2332	3	571	7
T10	Same as No. 5 above + Pronamide as No. 9	815	8	318	4	1685	8	446	10
T11	Same as No. 6 above + Pronamide as No. 9	881	4	52	11	1504	10	625	5
T12	Same as No. 7 above + Pronamide as No. 9	986	1	148	6	1967	6	674	3
LOCATION MEAN		839		208		1970		566	
S.E. OF MEAN		71.22		61.47		234.07		197.72	
L.S.D. AT 5%		204.90		176.85		673.00		579.84	
C.V. %		16.96		58.86		23.76		60.43	
ERROR DF		33		33		33		22	
SIGNIFICANCE		NS		*		*		NS	

Cont'd. ...

Table 6.3.3. Cont'd. ...

TREATMENT	PAKISTAN						LEBANON		Overall Mean	
	Dasht		Faisalabad		Kuchlak		Terbol			
	Y	R	Y	R	Y	R	Y	R	Y	R
T1	344	12	550	10	352	12	501	11	**486**	**12**
T2	1241	3	1019	2	1303	3	1640	2	**1316**	**1**
T3	1072	4	1026	1	1154	4	1680	1	**1209**	**2**
T4	1007	5	365	11	1077	5	585	10	**815**	**9**
T5	403	11	925	3	441	11	986	7	**827**	**8**
T6	1400	2	662	9	1472	2	442	12	**937**	**4**
T7	619	9	766	7	667	9	849	9	**673**	**11**
T8	491	10	819	4	521	10	1109	6	**783**	**10**
T9	1790	1	324	12	1870	1	1228	5	**1151**	**3**
T10	868	6	778	6	908	6	1287	4	**888**	**5**
T11	804	7	670	8	839	7	1392	3	**845**	**7**
T12	711	8	813	5	749	8	878	8	**865**	**6**
LOCATION MEAN	**896**		**726**		**946**		**1048**			
S.E. OF MEAN	19.16		87.46		5.10		145.09			
L.S.D. AT 5%	55.12		251.63		14.67		417.44			
C.V. %	4.27		24.06		1.08		27.67			
ERROR DF	33		33		33		33			
SIGNIFICANCE	*		*		*		*			

* = significant at $P \leq 0.05$, NS = not significant

At Faisalabad in Pakistan, only three weedicide treatments namely T_5, T_8, and T_{12} excelled the weedy check in seed yield by a significant margin.

At Terbol in Lebanon, 5 weedicide treatments namely T_{11}, T_{10}, T_9, T_8 and T_5, excelled the weedy check by a significant margin.

6.4. FABA BEAN INTERNATIONAL OROBANCHE CHEMICAL CONTROL TRIAL (FBOCCT)

Introduction

Faba Bean International Orobanche Chemical Control Trial was distributed to cooperators for the first time during 1984/85. The main objective of the trial was to know the extent of loss caused by and the possibility of controlling Orobanche spp in faba beans using glyphosate herbicide. The trial is expected to give the information on the appropriate rate of chemical and the stage of crop grown at which it should be applied to get the best control.

Material and Methods

The treatments included:

T_1 Control-No application of glyphosate
T_2 At the beginning of flowering, apply glyphosate at 0.08 kg ai/ha once
T_3 Starting at the beginning of flowering apply glyphosate at 0.08 kg ai/ha twice at 15 days interval
T_4 Starting at the beginning of flowering apply glyphosate at 0.08 kg ai/ha thrice at 15 days interval
T_5 At 15 days after flowering began, apply glyphosate at 0.08 kg ai/ha once
T_6 Starting 15 days after flowering began, apply glyphosate at 0.08 kg ai/ha twice at 15 days interval
T_7 Starting 15 days after flowering began, apply glyphosate at 0.08 kg ai/ha thrice at 15 days interval
T_8 At the beginning of flowering, apply glyphosate at 0.12 kg ai/ha once
T_9 Starting at the beginning of flowering, apply glyphosate at 0.12 kg ai/ha twice at 15 days interval
T_{10} Starting at the beginning of flowering, apply glyphosate at 0.12 kg ai/ha thrice at 15 days interval

The trial was designed as randomised complete block with four replications. The suggested plot size was 8 rows, 5m long spaced 45cm apart (=18.0m^2). At harvesting, net area harvested was suggested to be 6 rows 4m long spaced 45cm apart (=10.8m^2).

Results and Discussion

Five sets of trials were sent to cooperators in four countries but results were received back from Izmir in Turkey. The ANOVA for Orobanche number and Orobanche weight (Table 6.4.1) revealed that there were significant differences among the treatment means. Co-efficient of variation were very high for the experiment for both the variables studied. Complete control of Orobanche could be achieved using treatment T_{10}. The other treatments which were almost equally effective were T_9 and T_4. Since these results are based on only one location and CVs were very high, no generalized conclusions were withdrawn except that glyphosate is quite useful for control of Orobanche infestation.

Table 6.4.1. Number and weight of Orobanche per plot for different treatments in FBOCCT at Izmir in Turkey during 1984/85.

Treatment	Orobanche	
	Number per plot	Weight per plot
T_1	38.00	54.00
T_2	25.75	33.25
T_3	4.00	5.50
T_4	1.00	0.75
T_5	26.75	32.50
T_6	3.00	4.25
T_7	14.00	16.50
T_8	37.75	41.50
T_9	0.50	0.75
T_{10}	0.00	0.00
S.E. of mean	5.70	6.72
LSD at 5%	16.55	19.50
C.V.	75.68	71.11
Error d.f.	27	27
Significance	*	*

7. ACKNOWLEDGEMENTS

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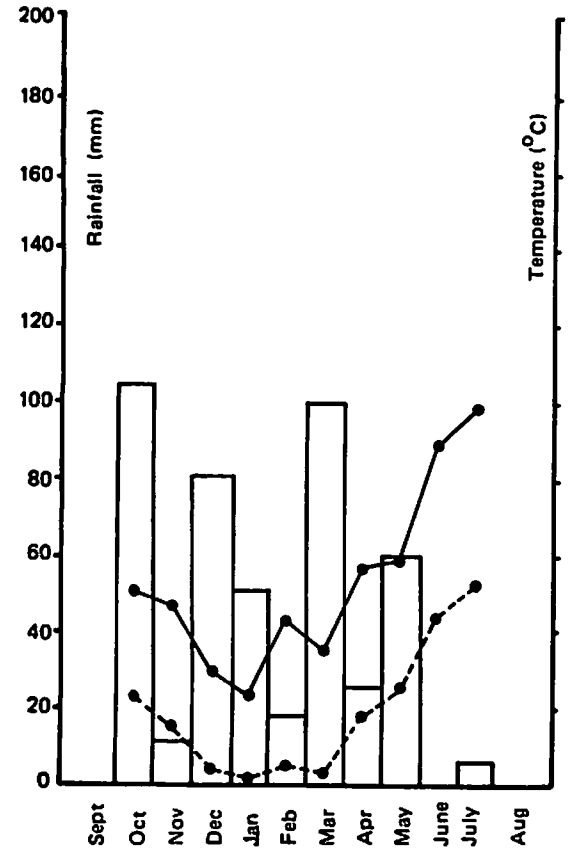

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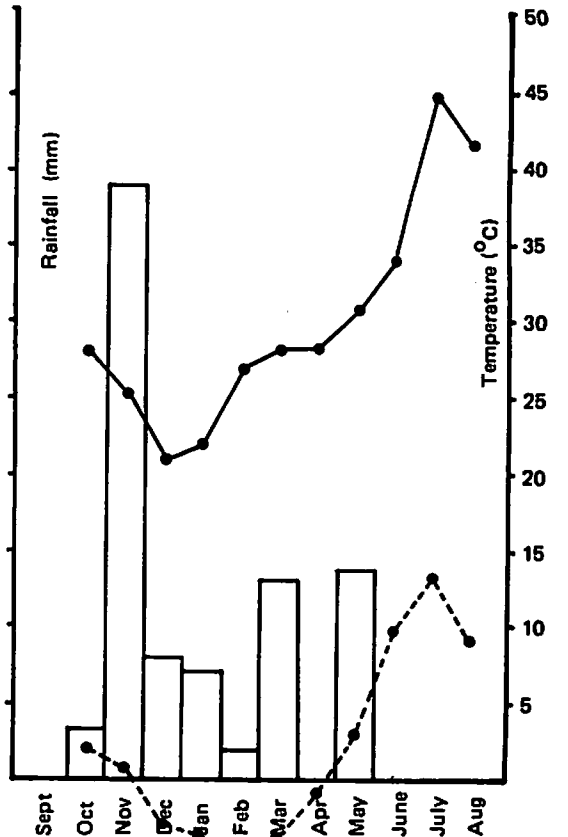

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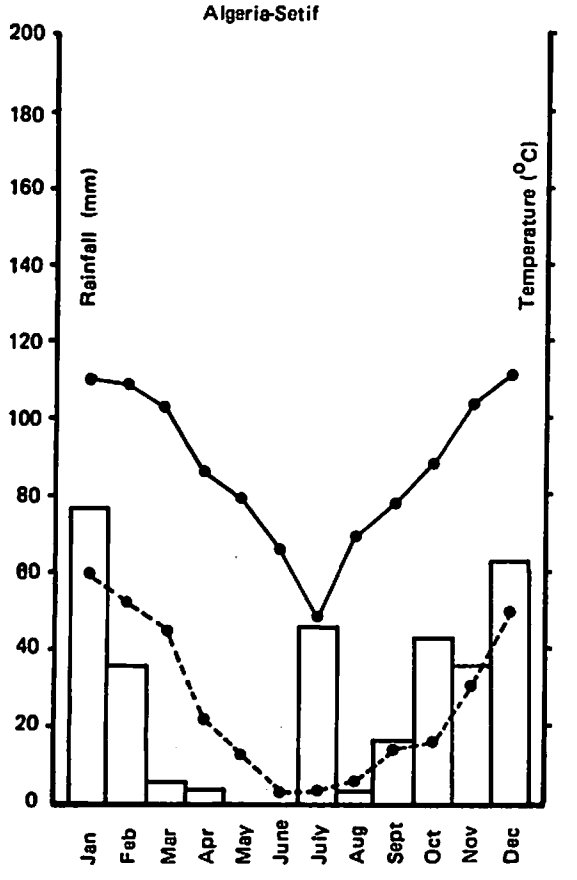

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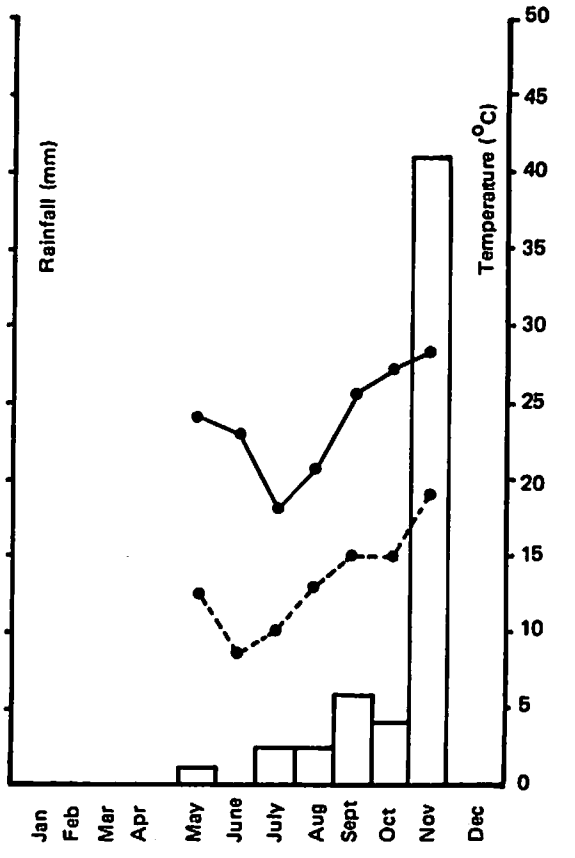

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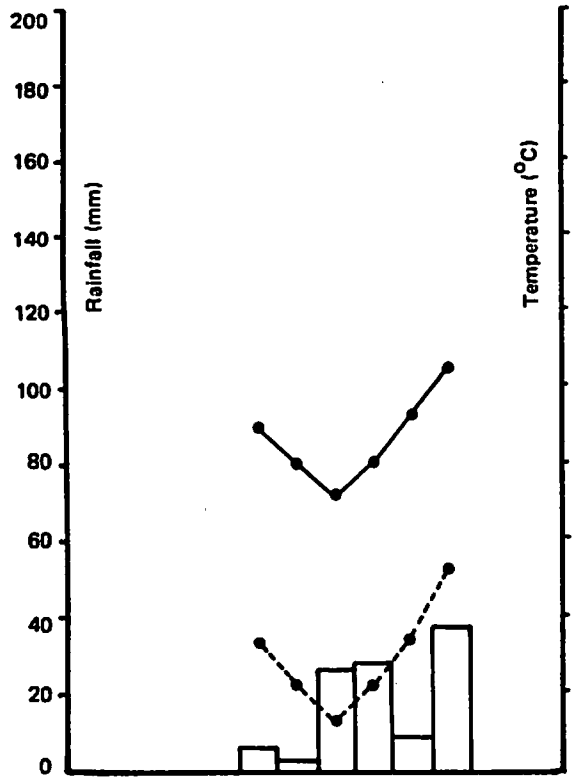

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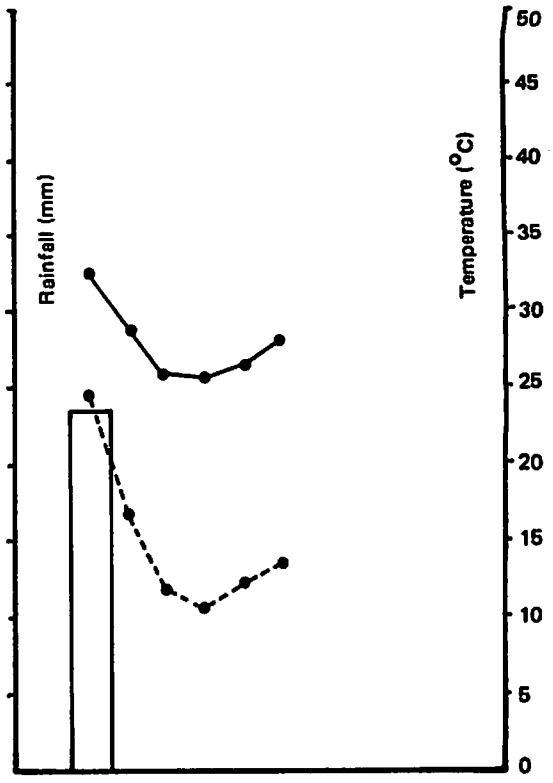

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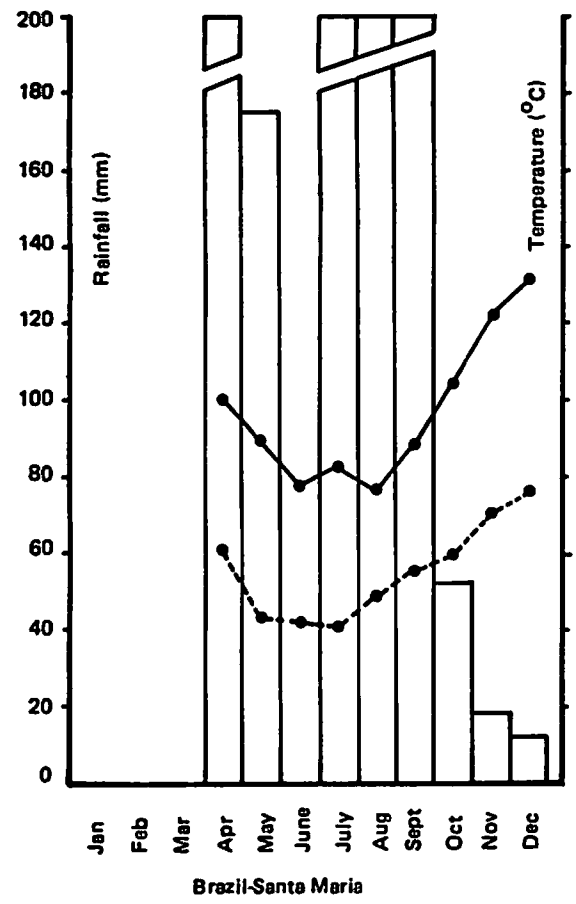
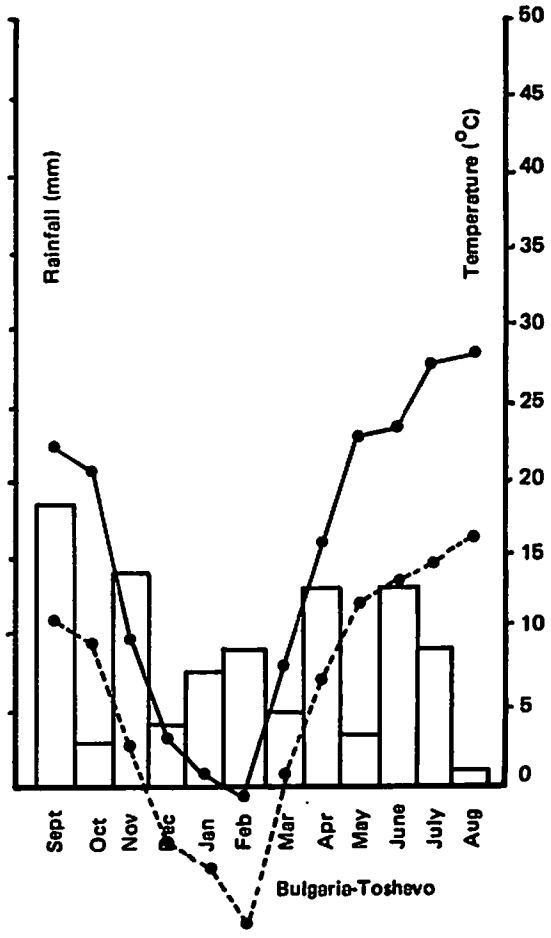
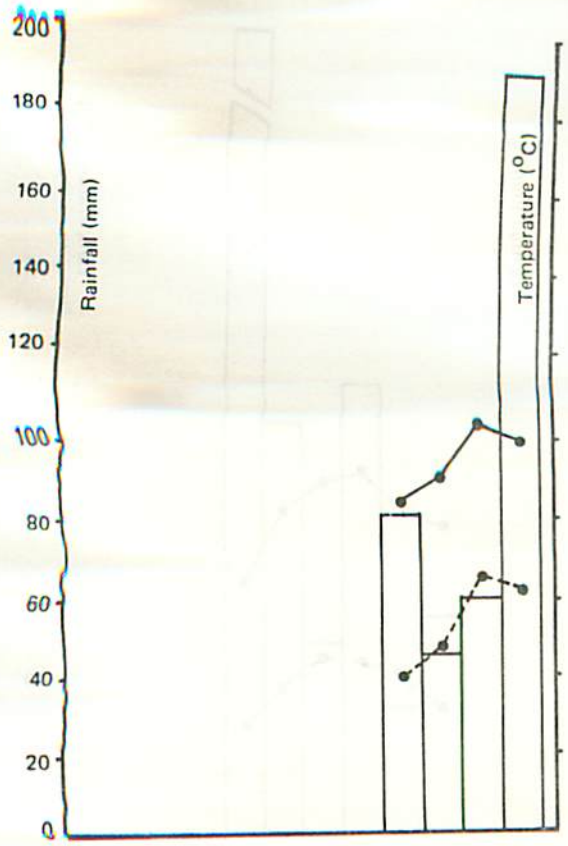


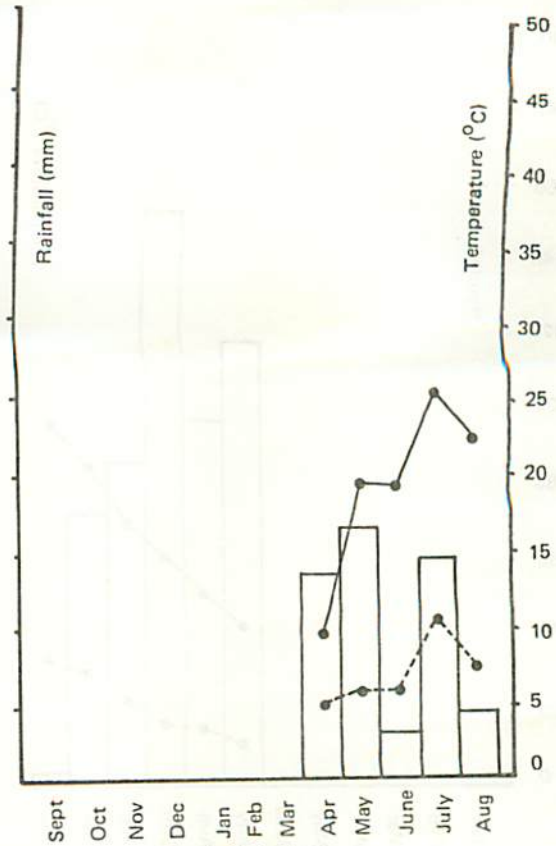
Brazil-Santa Maria



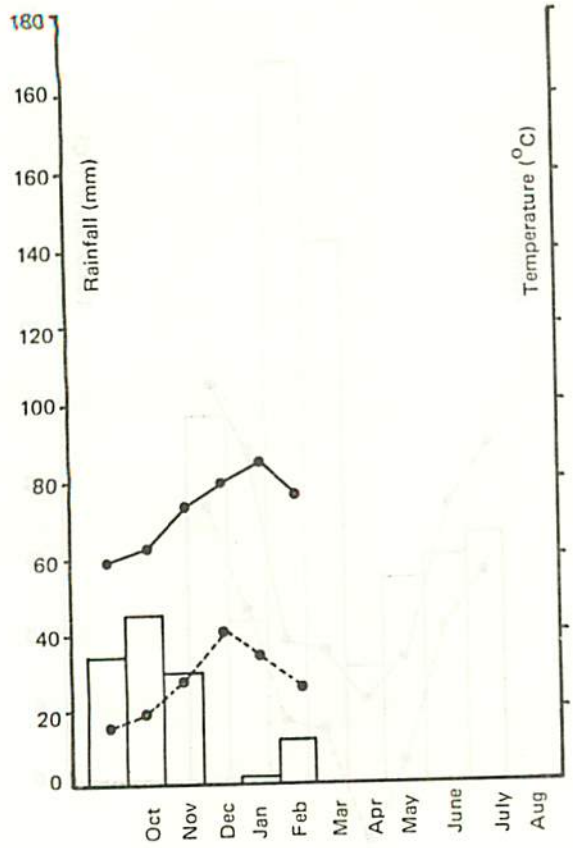
Bulgaria-Toshevo



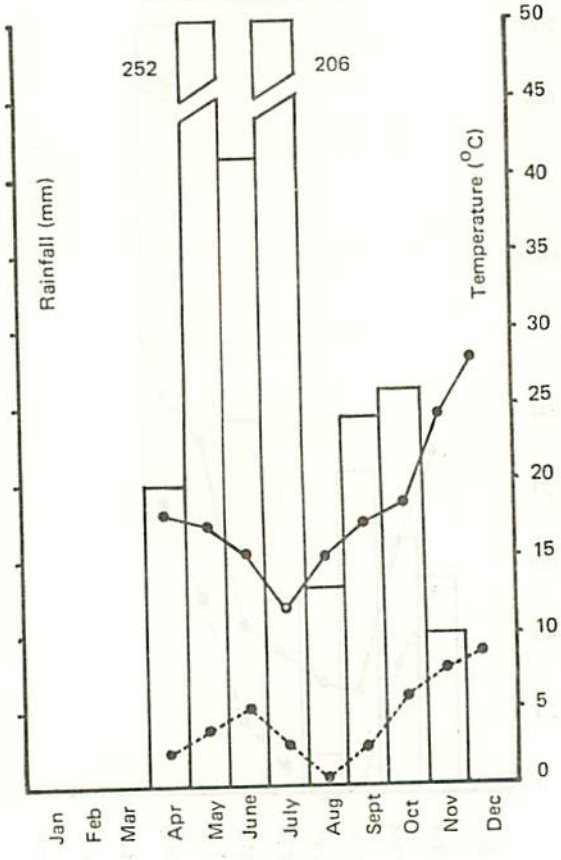
Canada-Ridge Town



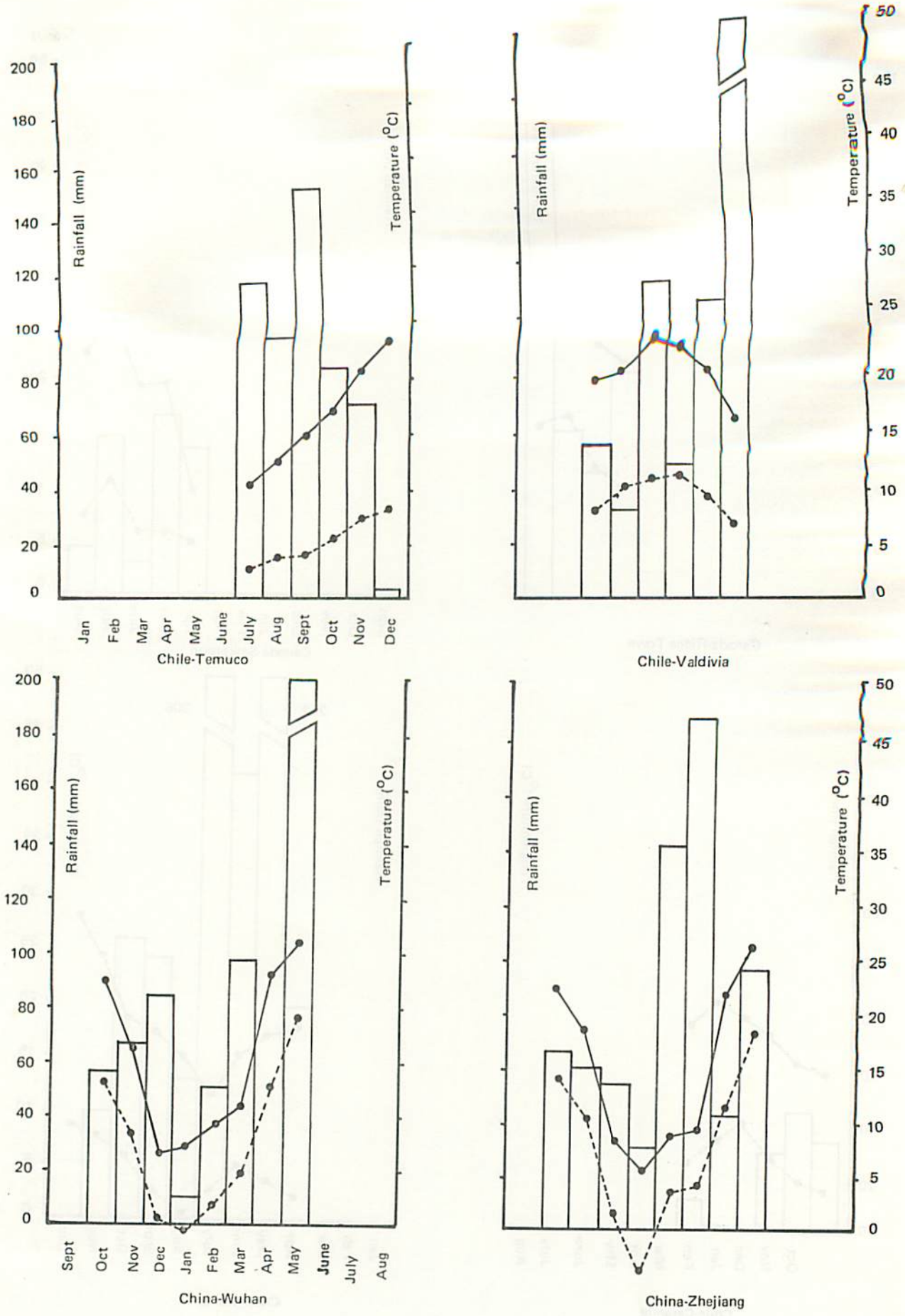
Canada-Saskatoon

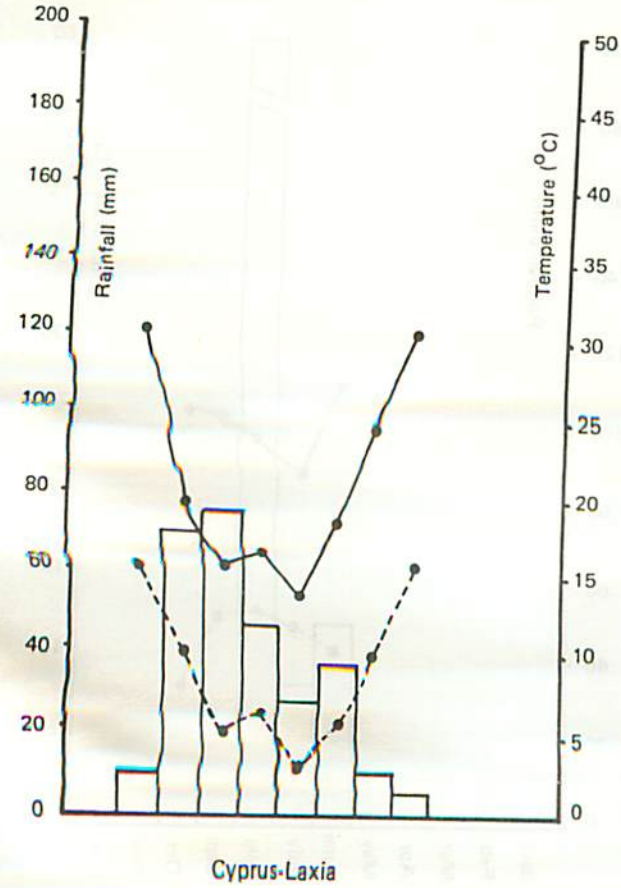


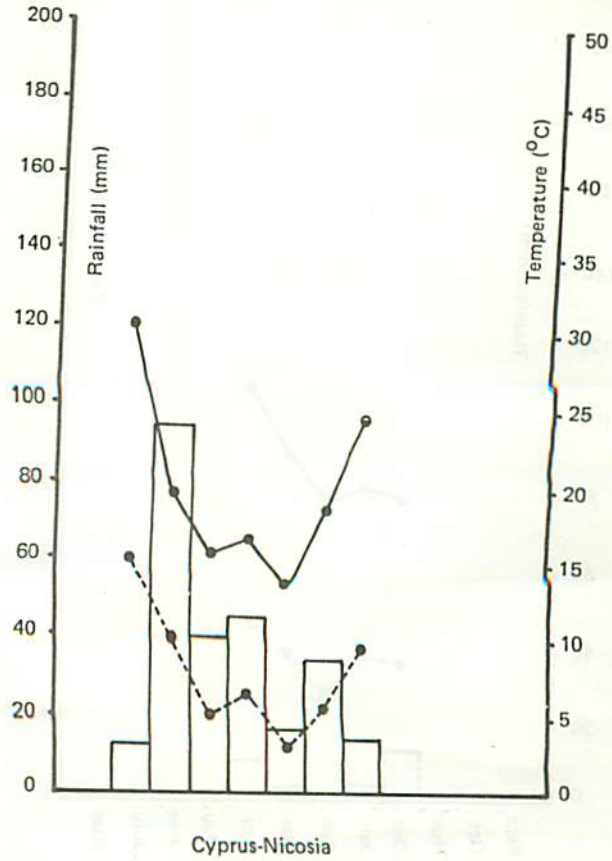
Chile-Carahue

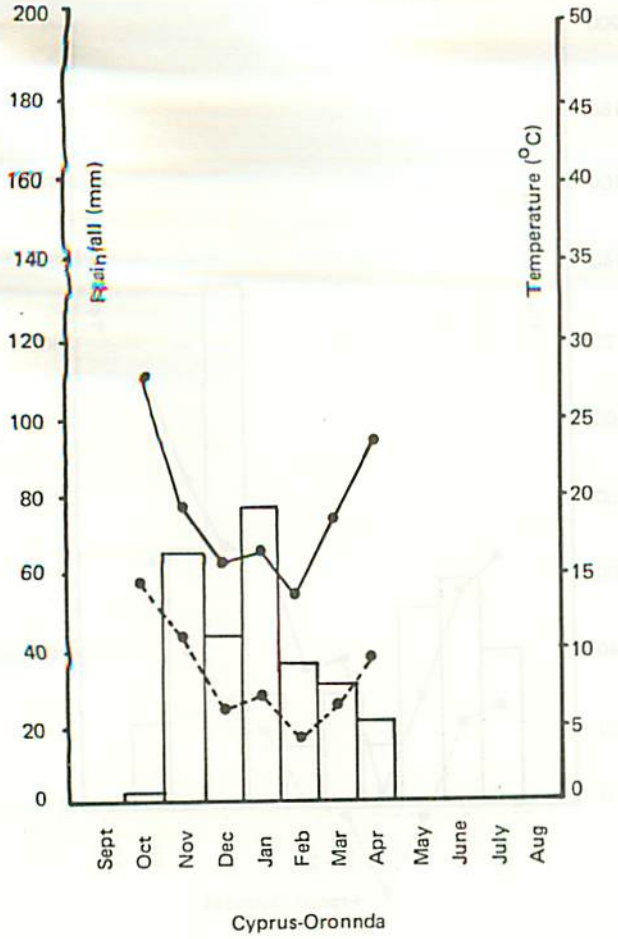


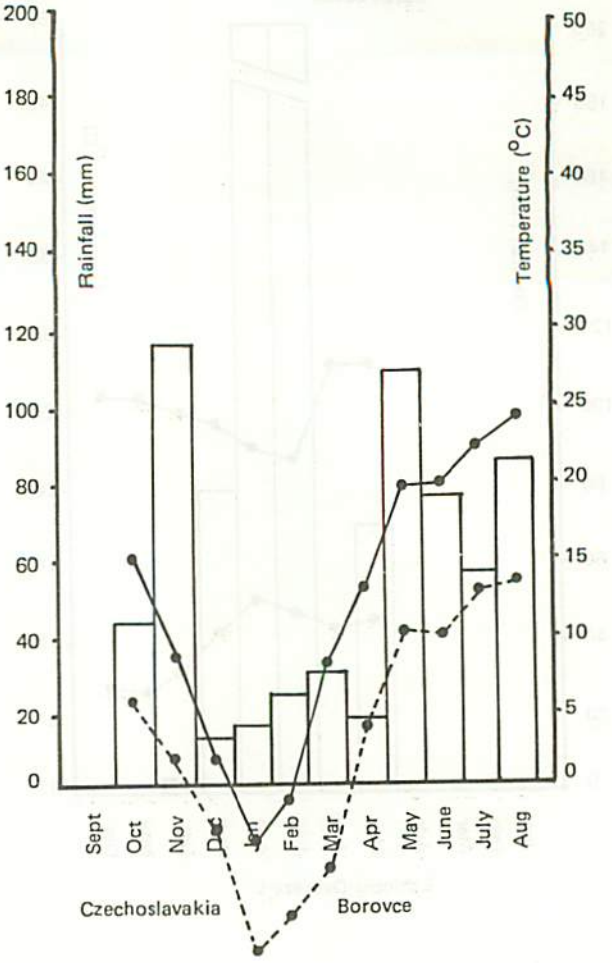
Chile-Chillan

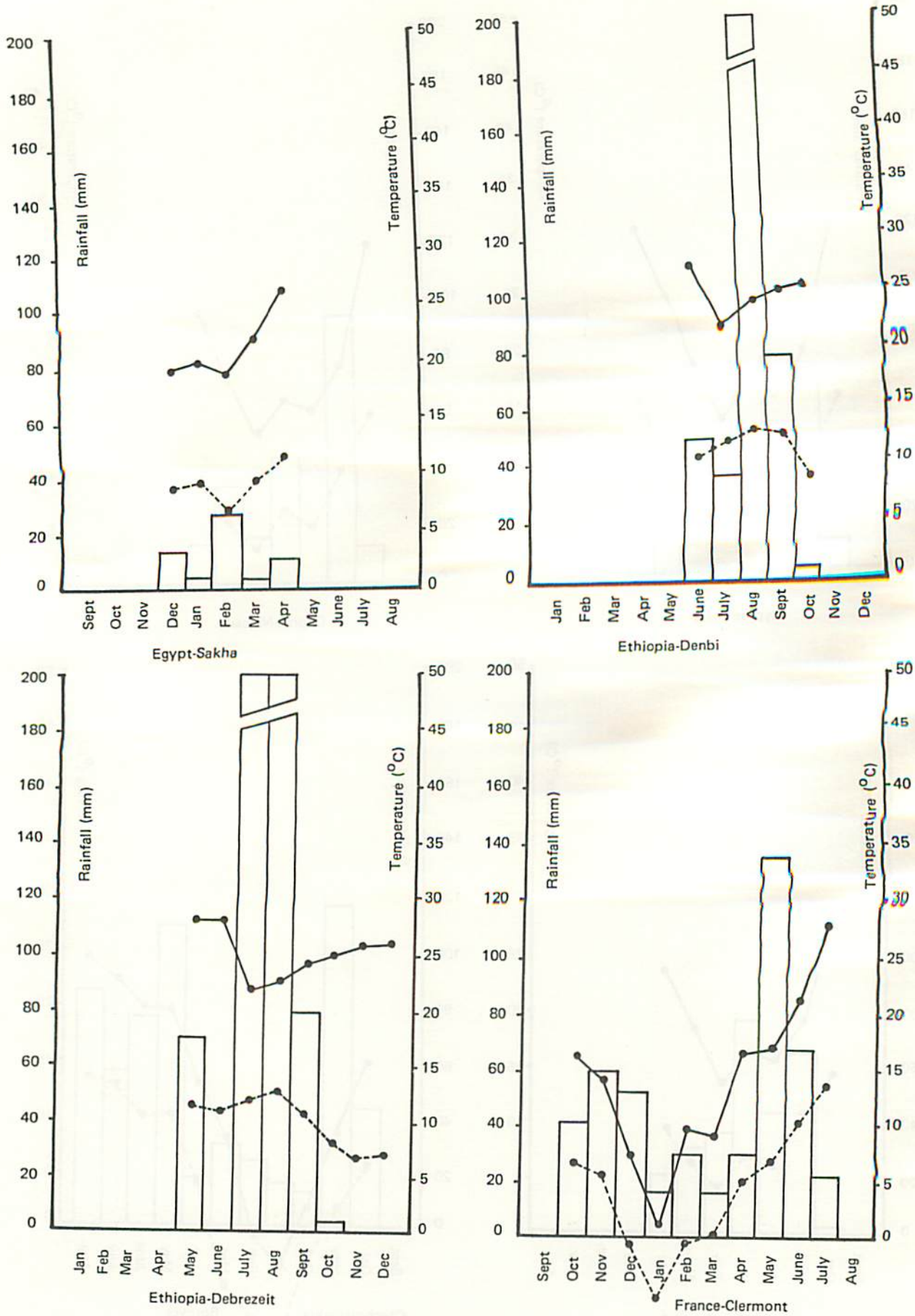

Rainfall (mm)
Temperature (°C)
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
Chile-Temuco
Chile-Valdivia
China-Wuhan
China-Zhejiang

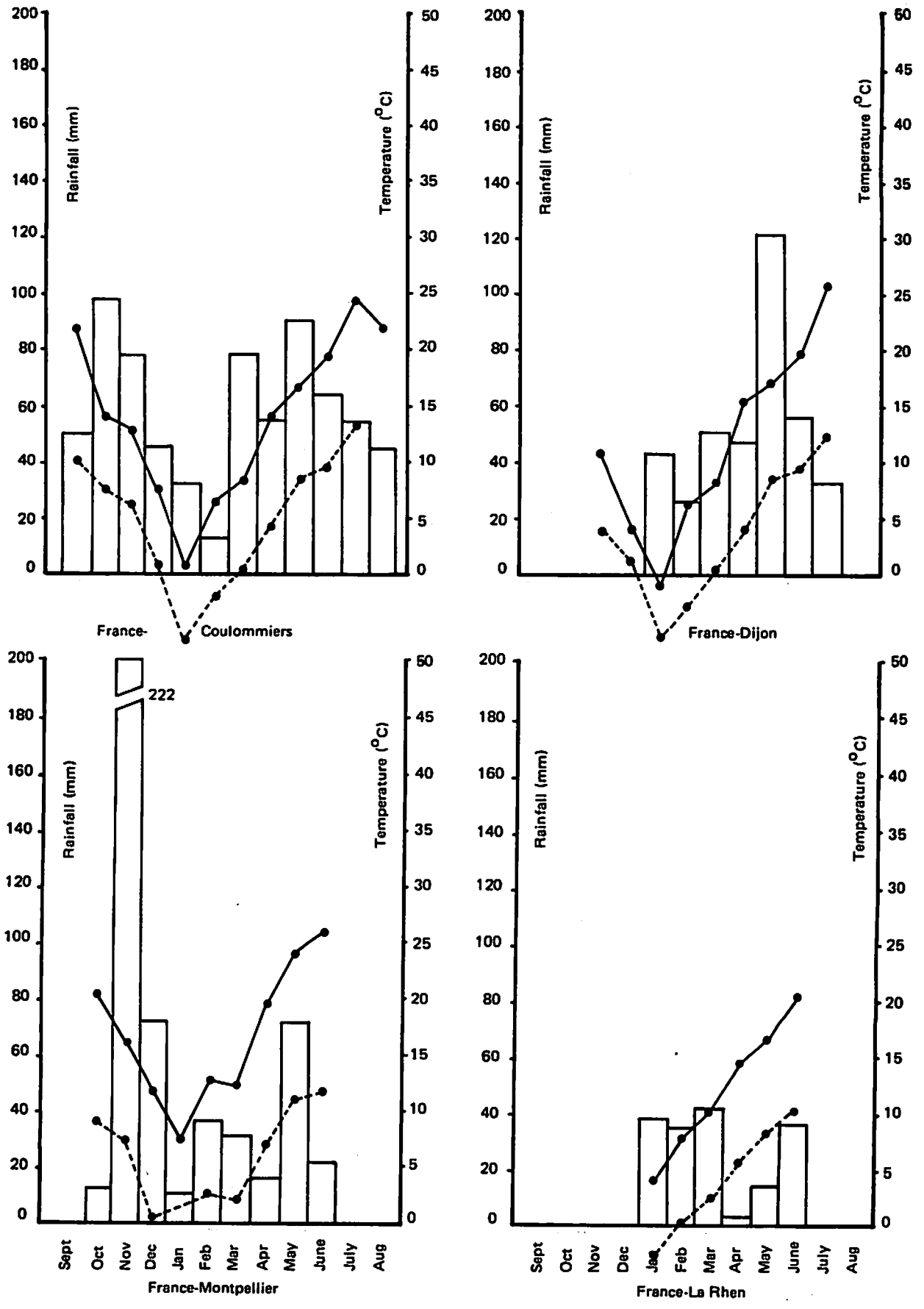

Rainfall (mm)
Temperature (°C)
Cyprus-Laxia

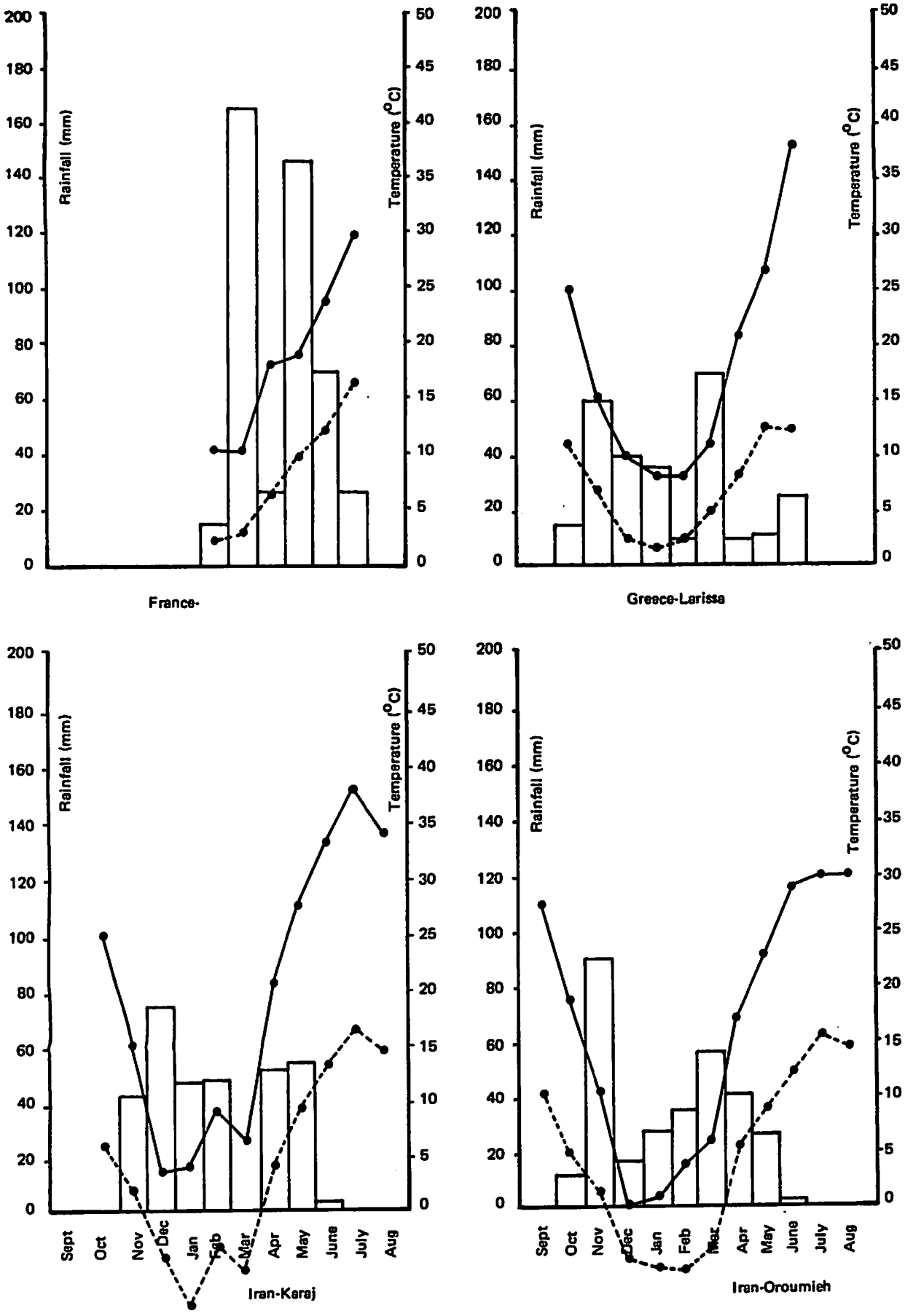

Rainfall (mm)
Temperature (°C)
Cyprus-Nicosia


Rainfall (mm)
Temperature (°C)
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug
Cyprus-Oronnda


Rainfall (mm)
Temperature (°C)
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug
Czechoslavakia
Borovce


Rainfall (mm)
Temperature (°C)
Sept Oct Nov Dec Jan Feb Mar Apr May June July Aug
Egypt-Sakha
Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec
Ethiopia-Denbi
Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec
Ethiopia-Debrezeit
Sept Oct Nov Dec Jan Feb Mar Apr May June July Aug
France-Clermont


Rainfall (mm)
Temperature (°C)
France- Coulommiers
France-Dijon
222
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug
France-Montpellier
France-La Rhen


Rainfall (mm)
Temperature (°C)
France-
Greece-Larissa
Iran-Keraj
Iran-Oroumieh
Sept
Oct
Nov
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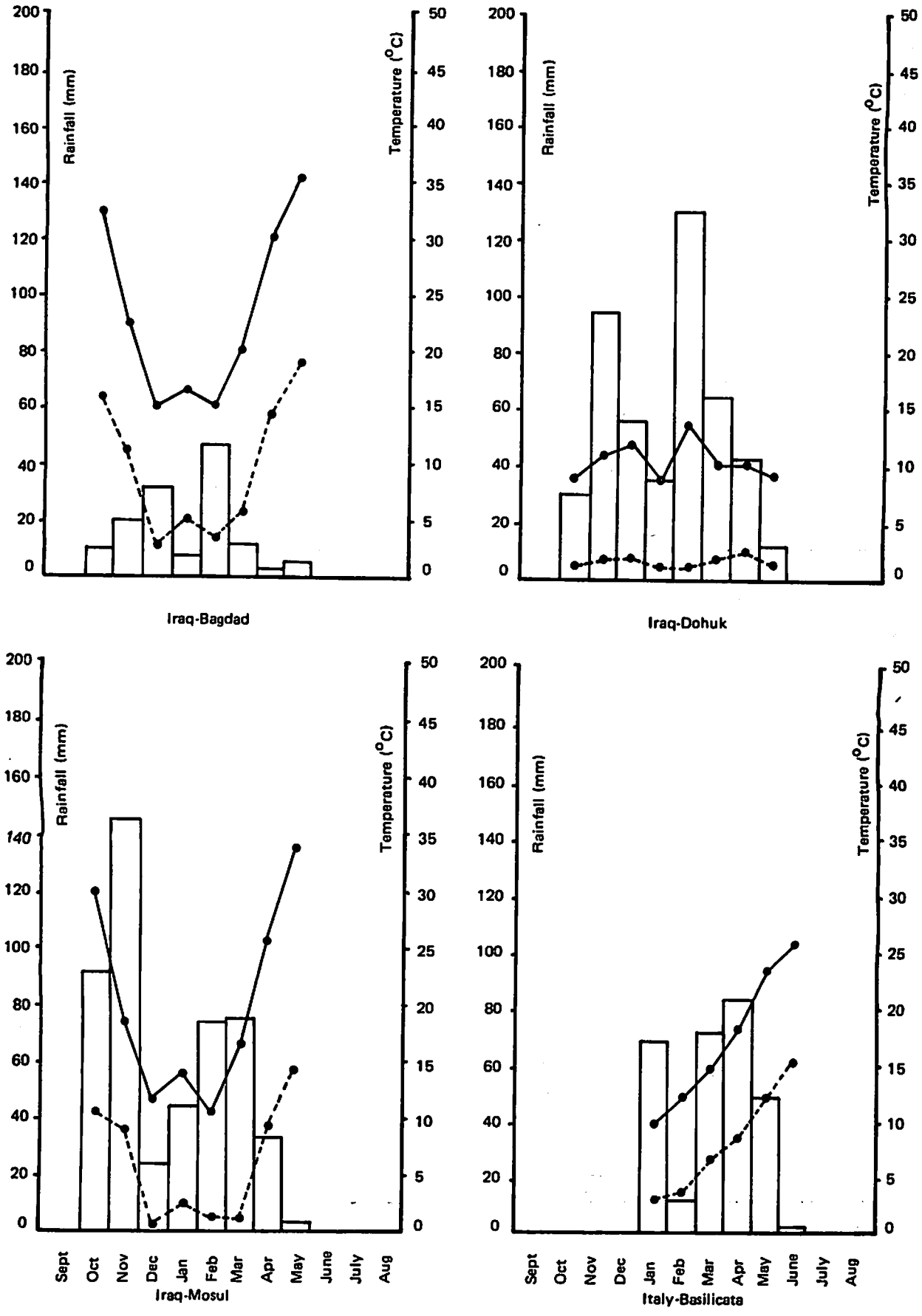
Jan
Feb
Mar
Apr
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Iraq-Bagdad
Iraq-Dohuk
Iraq-Mosul
Italy-Basilicata
Sept
Oct
Nov
Dec
Jan
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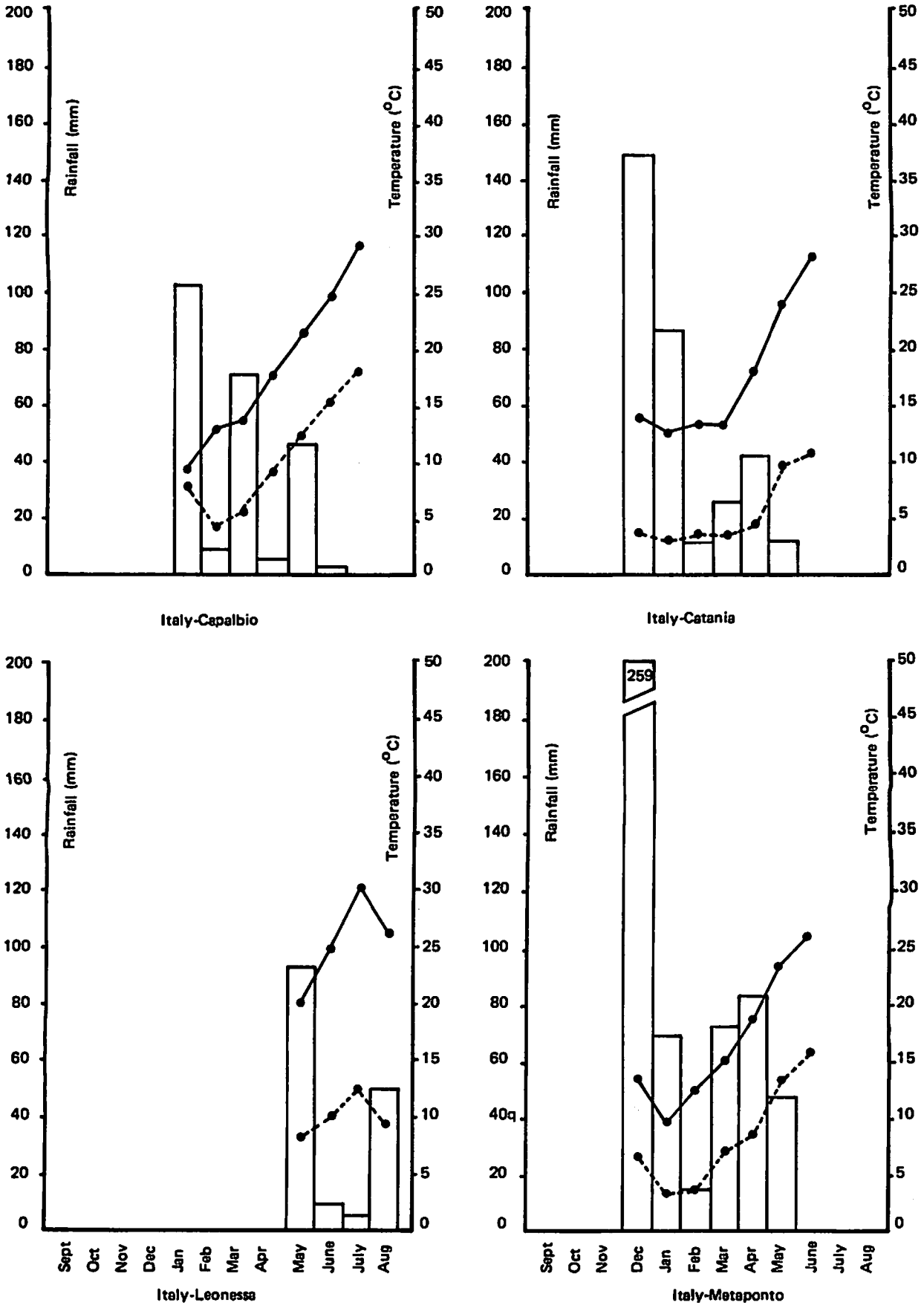
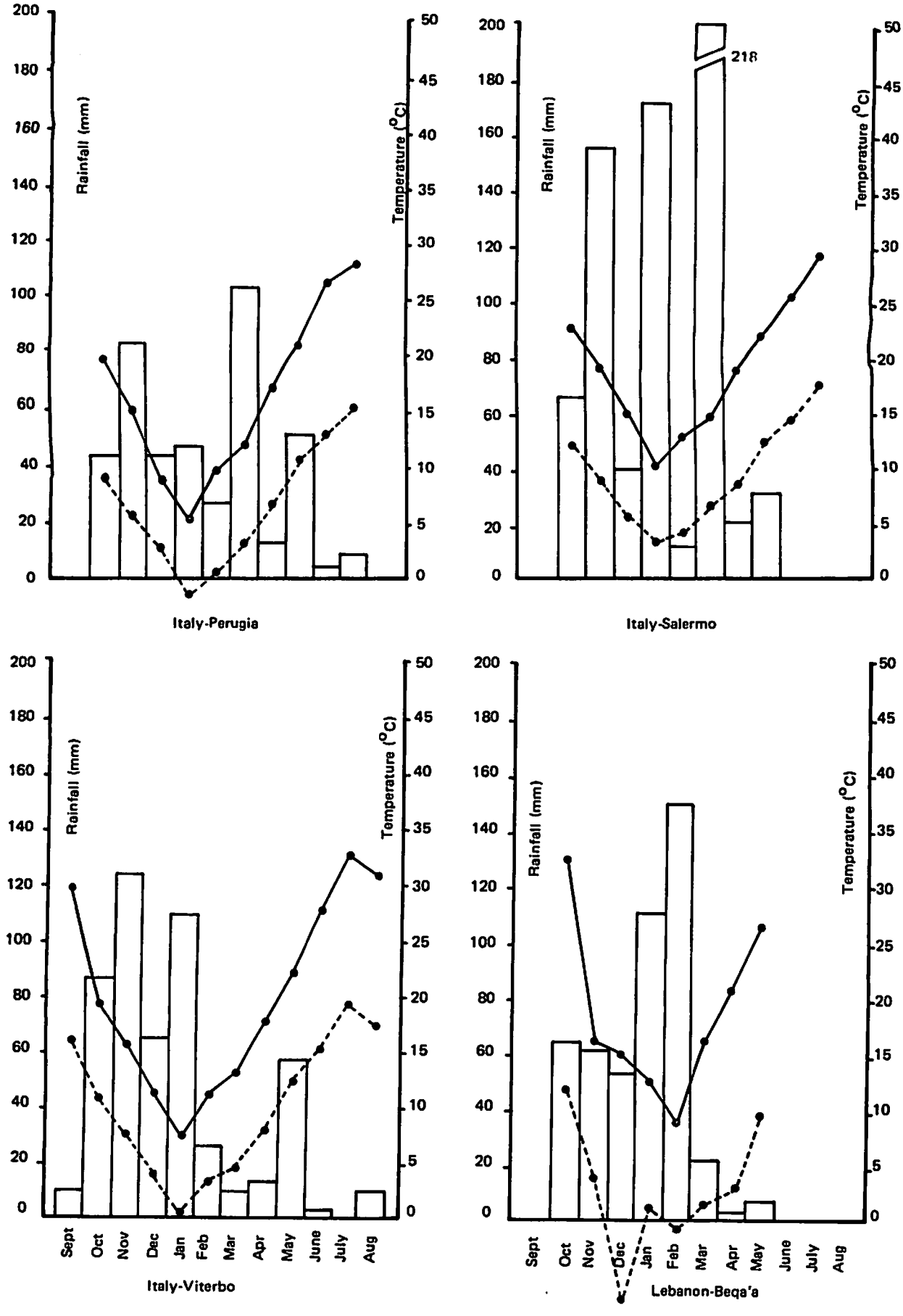
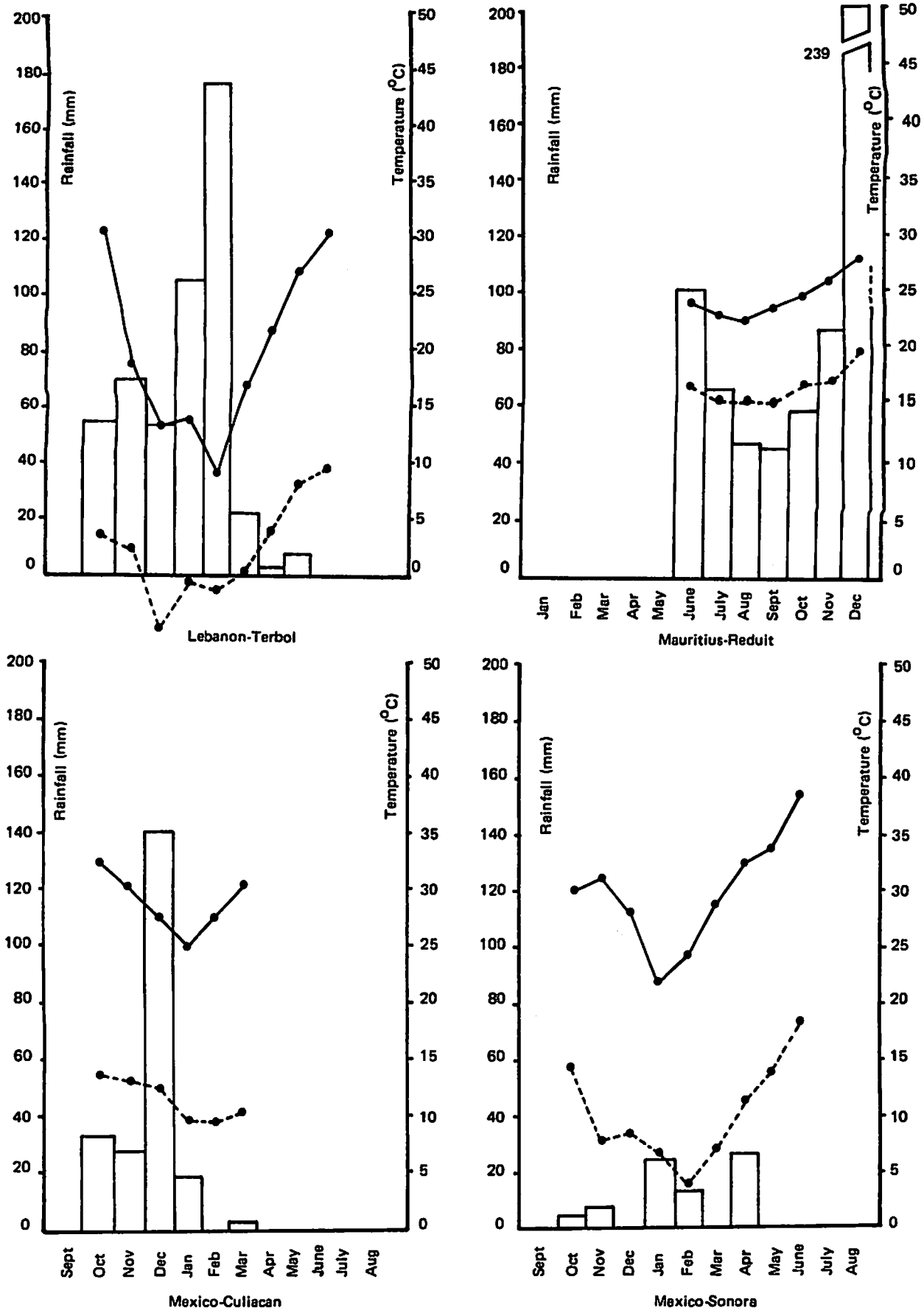
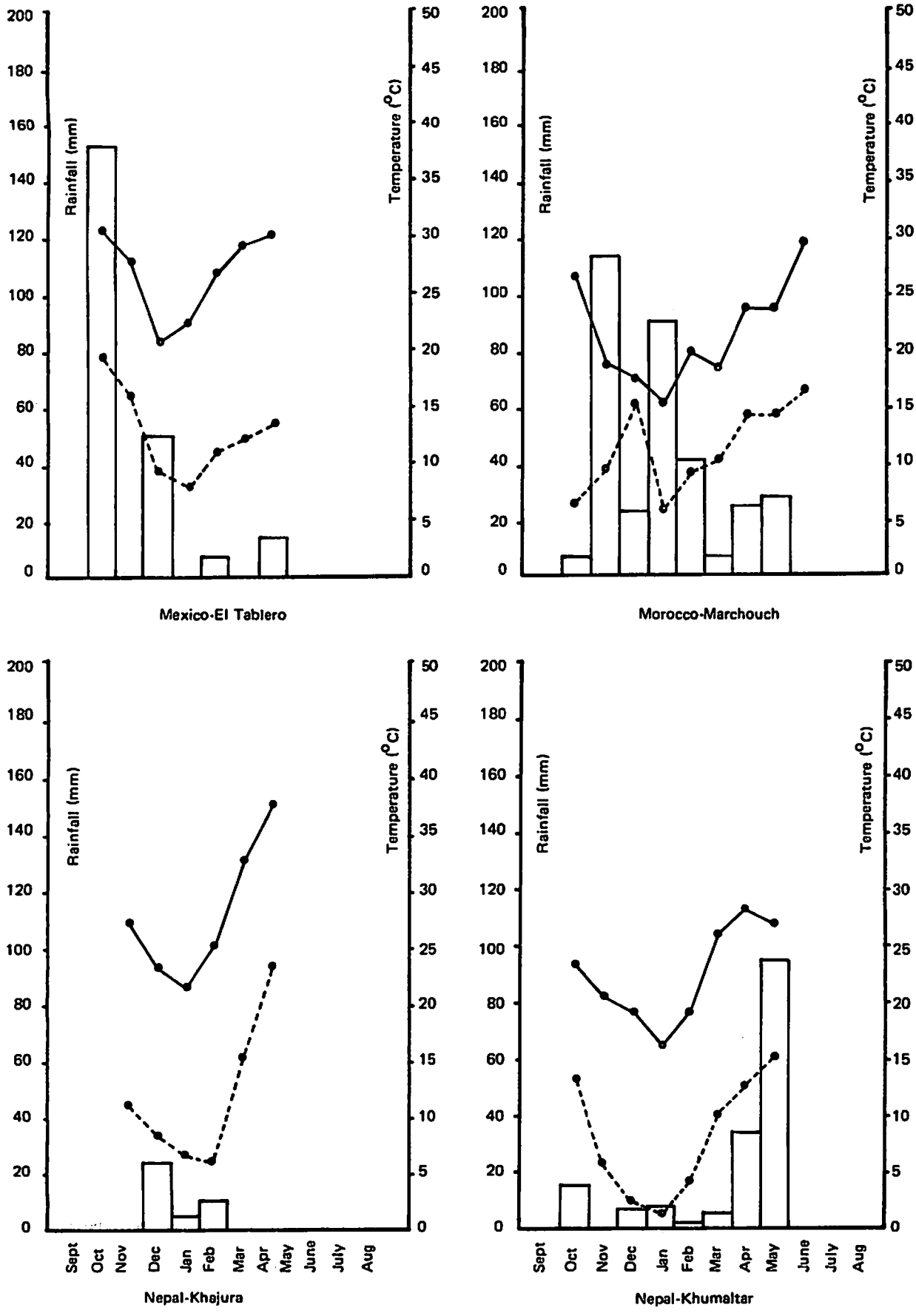
Mar
Apr
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Italy-Capalbio
Italy-Catania
Italy-Leonessa
Italy-Metaponto
259
40q
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Italy-Perugia
Italy-Salermo
218
Italy-Viterbo
Lebanon-Beqa'a
Sept
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Lebanon-Terbol
239
Jan Feb Mar Apr May June July Aug Sept Oct Nov Dec
Mauritius-Reduit
Sept Oct Nov Dec Jan Feb Mar Apr May June July Aug
Mexico-Culiacan
Mexico-Sonora


Rainfall (mm)
Temperature (°C)
Mexico-El Tablero
Morocco-Marchouch
Nepal-Khajura
Nepal-Khumaltar
Sept
Oct
Nov
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Jan
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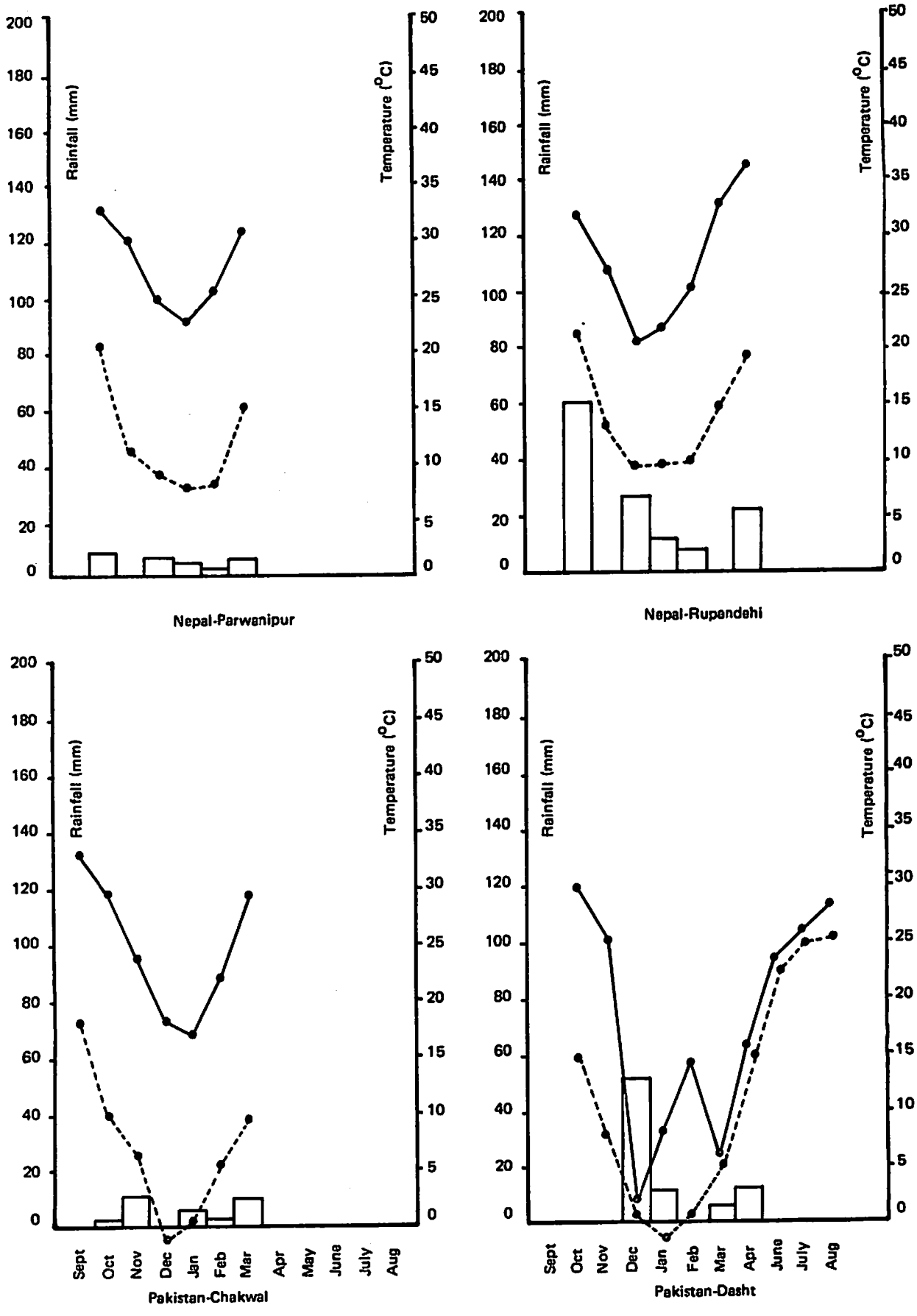
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Nepal-Parwanipur
Nepal-Rupandehi
Pakistan-Chakwal
Pakistan-Dasht
Sept
Oct
Nov
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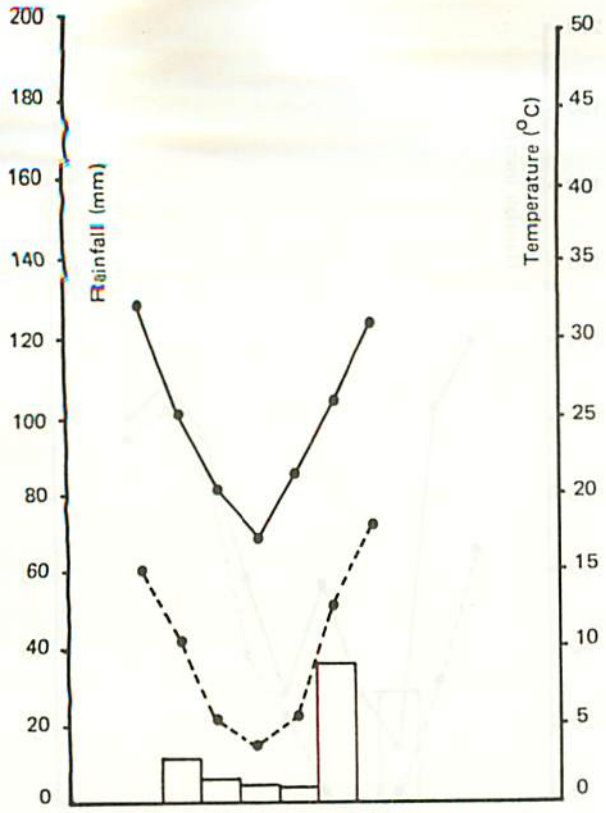
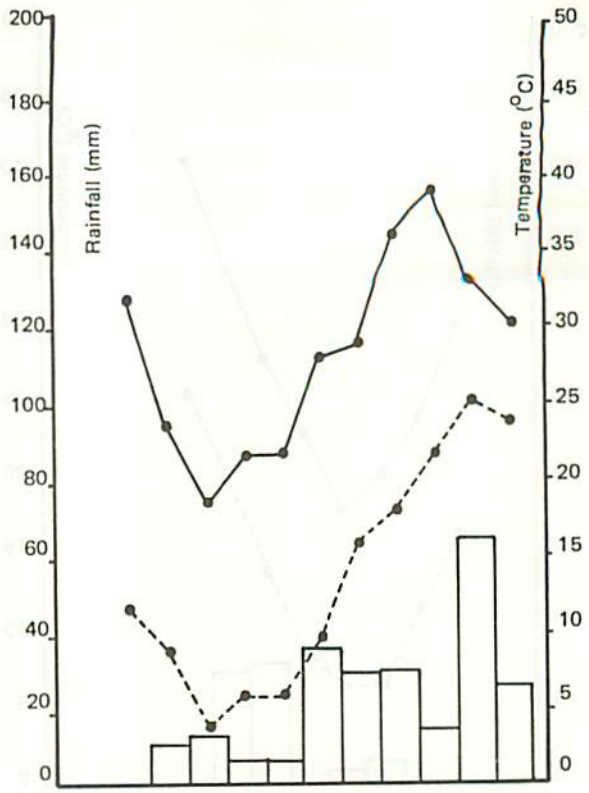
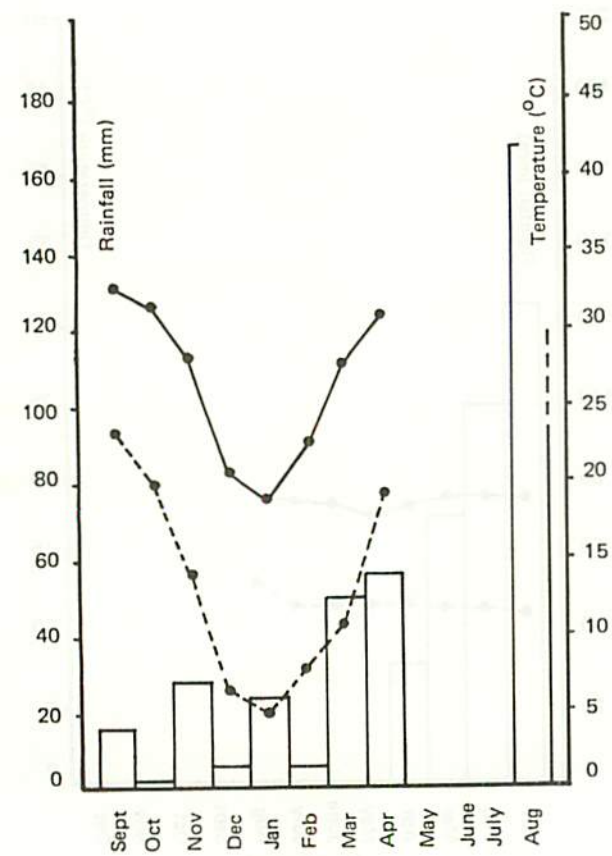
May
June
July
Aug



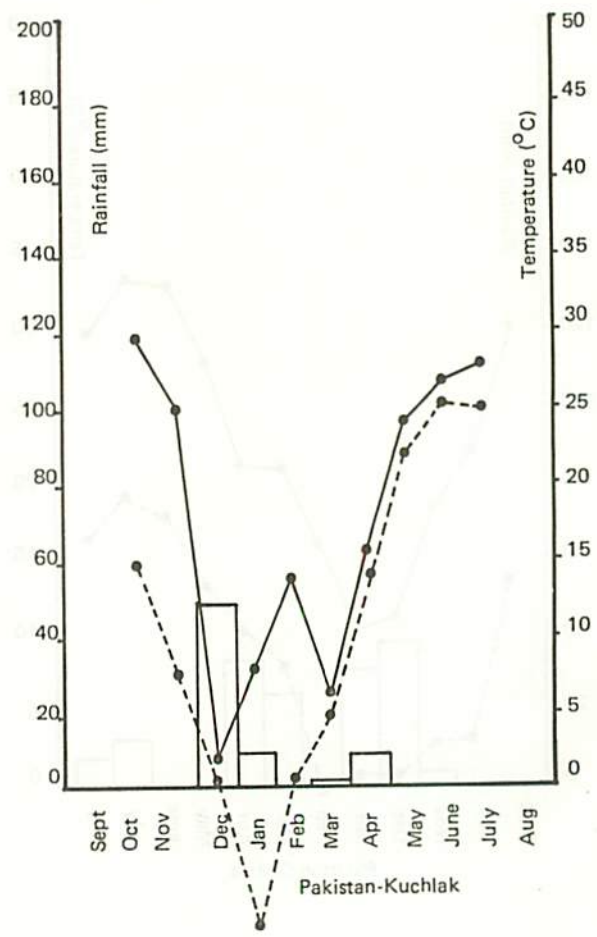
Pakistan-Faisalabad



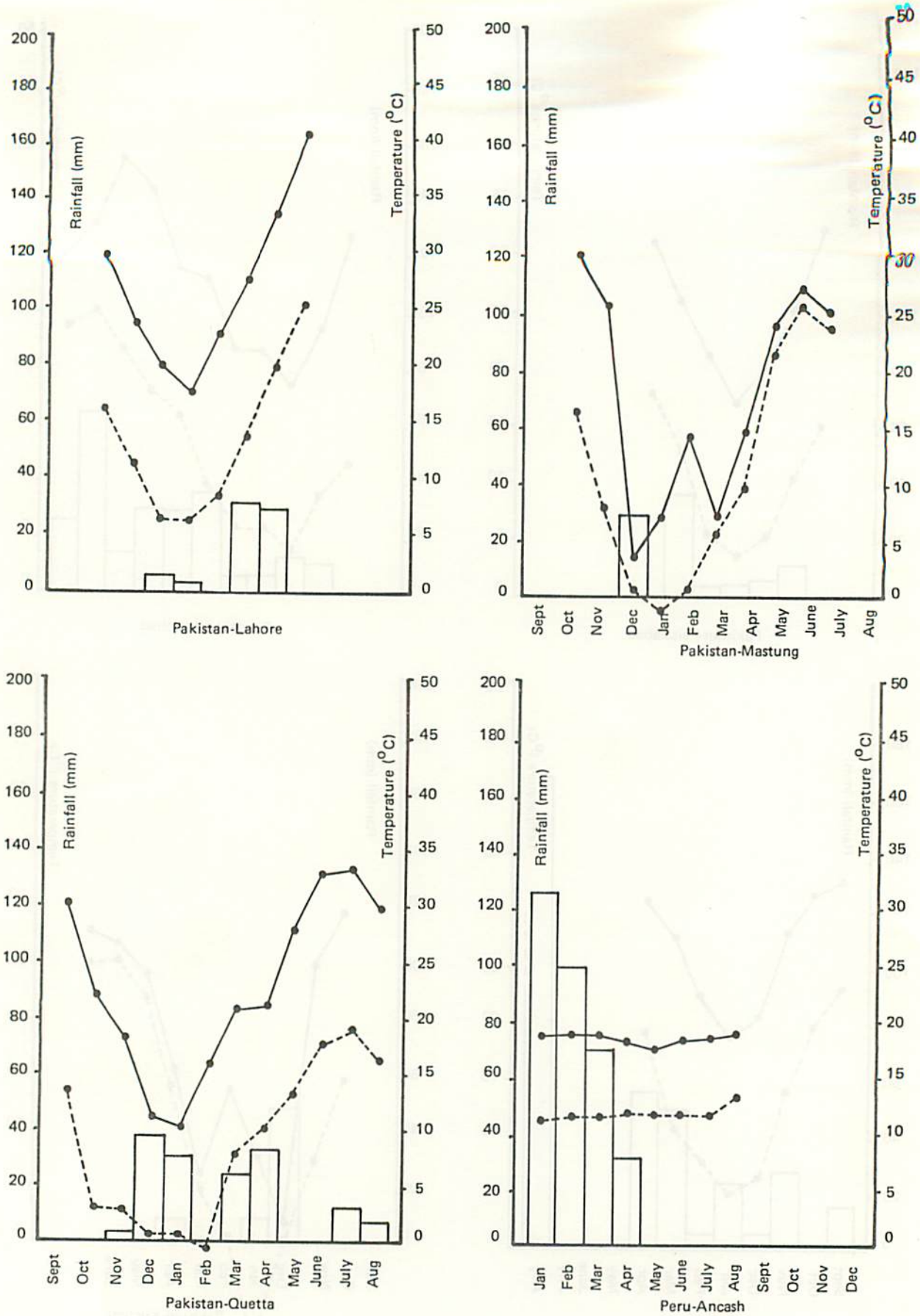
Pakistan-Islamabad



Pakistan-Karak



Pakistan-Kuchlak


Rainfall (mm)
Temperature (°C)
Pakistan-Lahore
Pakistan-Mastung
Pakistan-Quetta
Peru-Ancash
Sept
Oct
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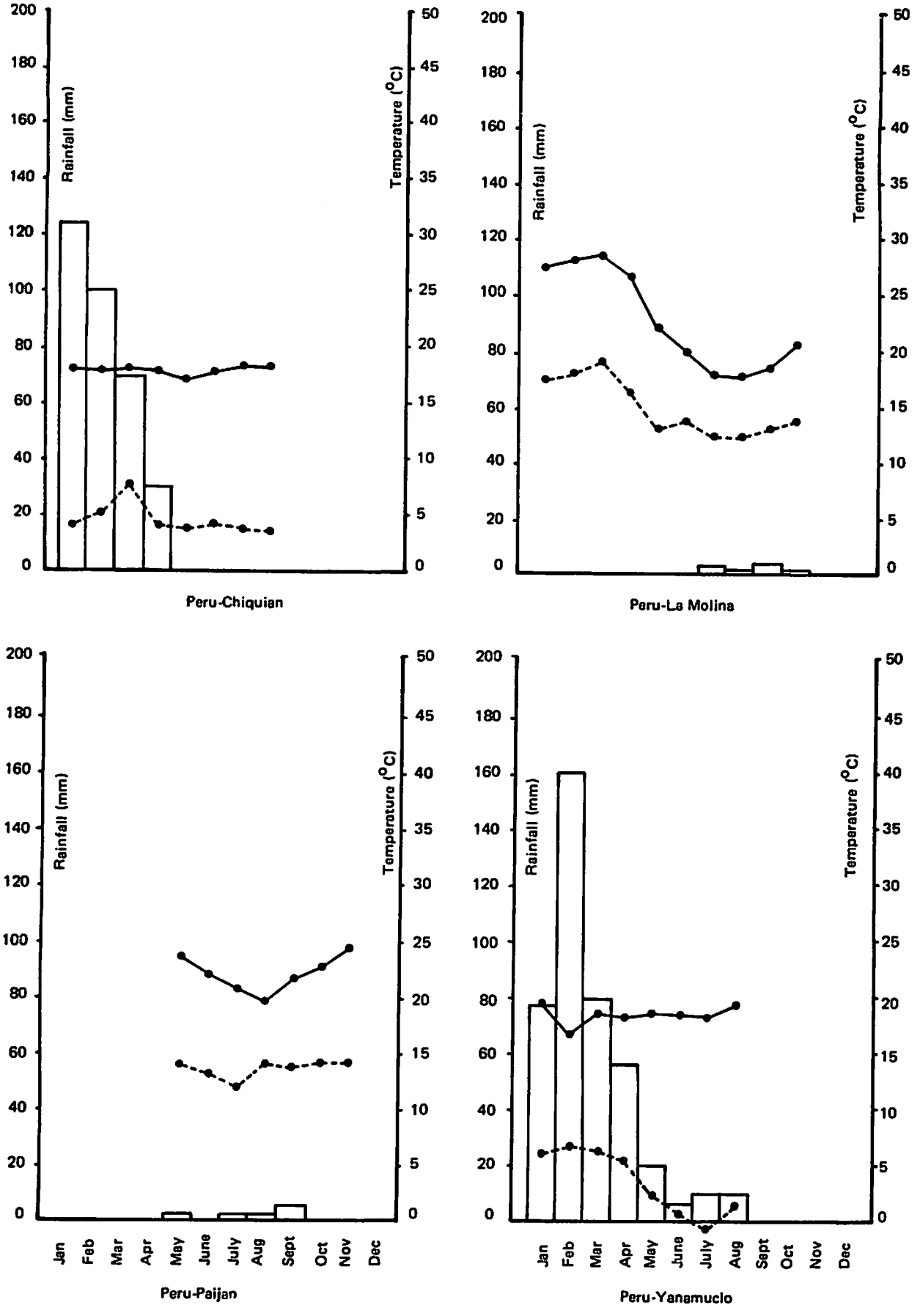
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Peru-Chiquian
Peru-La Molina
Peru-Paijan
Peru-Yanamucio
Jan
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May
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Sept
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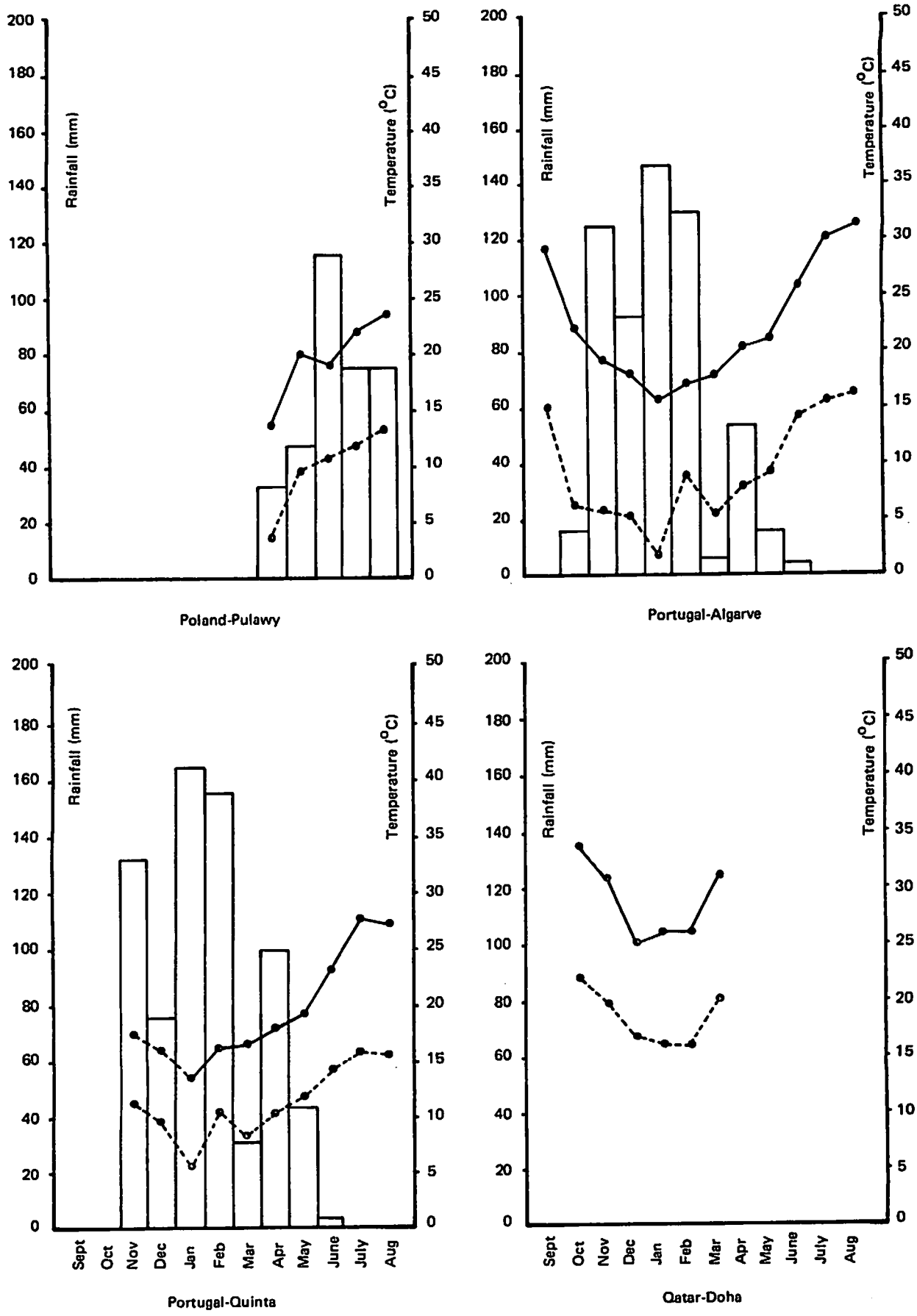
Nov
Dec


Rainfall (mm)
Temperature (°C)
Poland-Pulawy
Portugal-Algarve
Portugal-Quinta
Qatar-Doha
Sept
Oct
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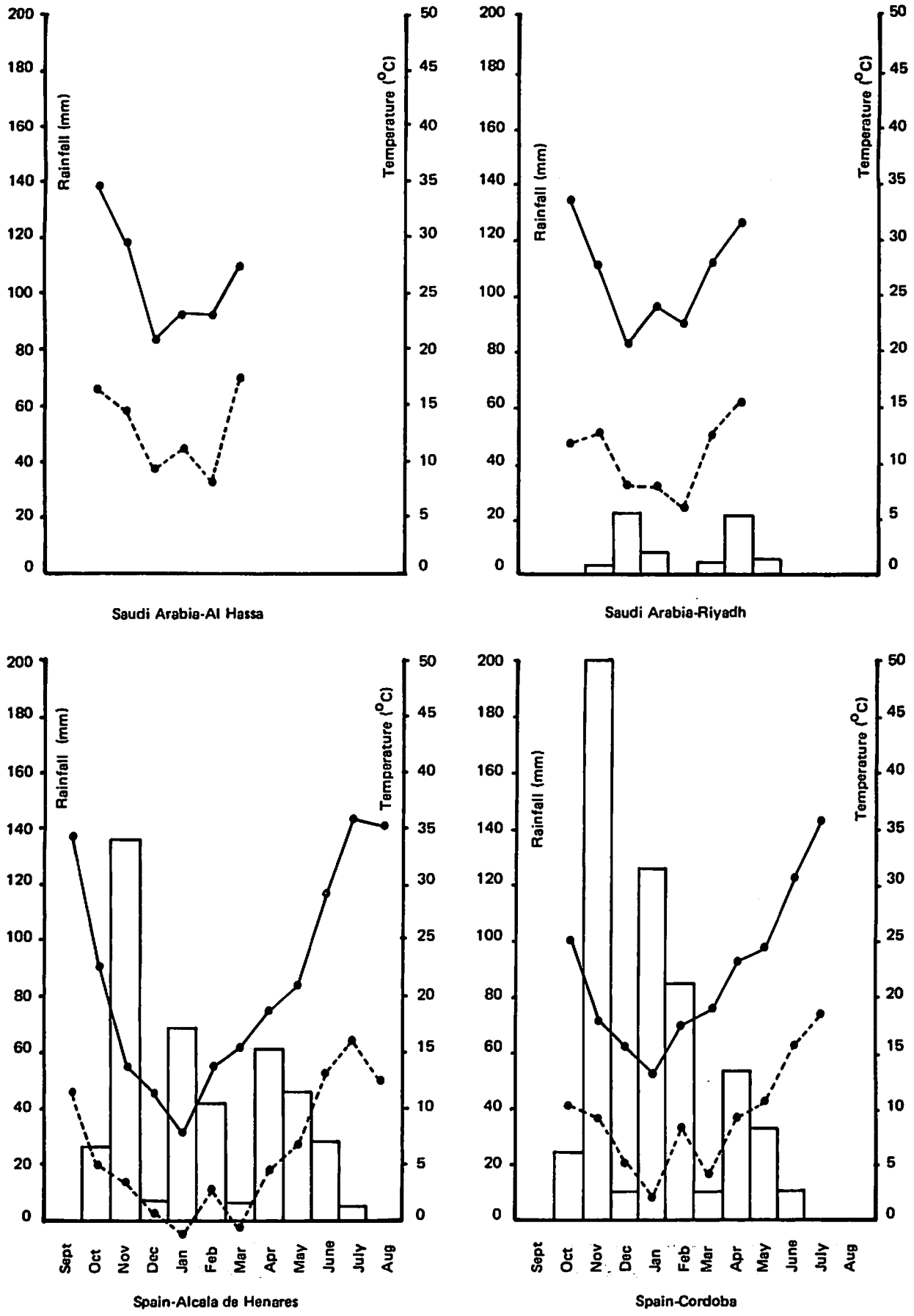
June
July
Aug


Rainfall (mm)
Temperature (°C)
Saudi Arabia-Al Hassa
Saudi Arabia-Riyadh
Spain-Alcala de Henares
Spain-Cordoba
Sept
Oct
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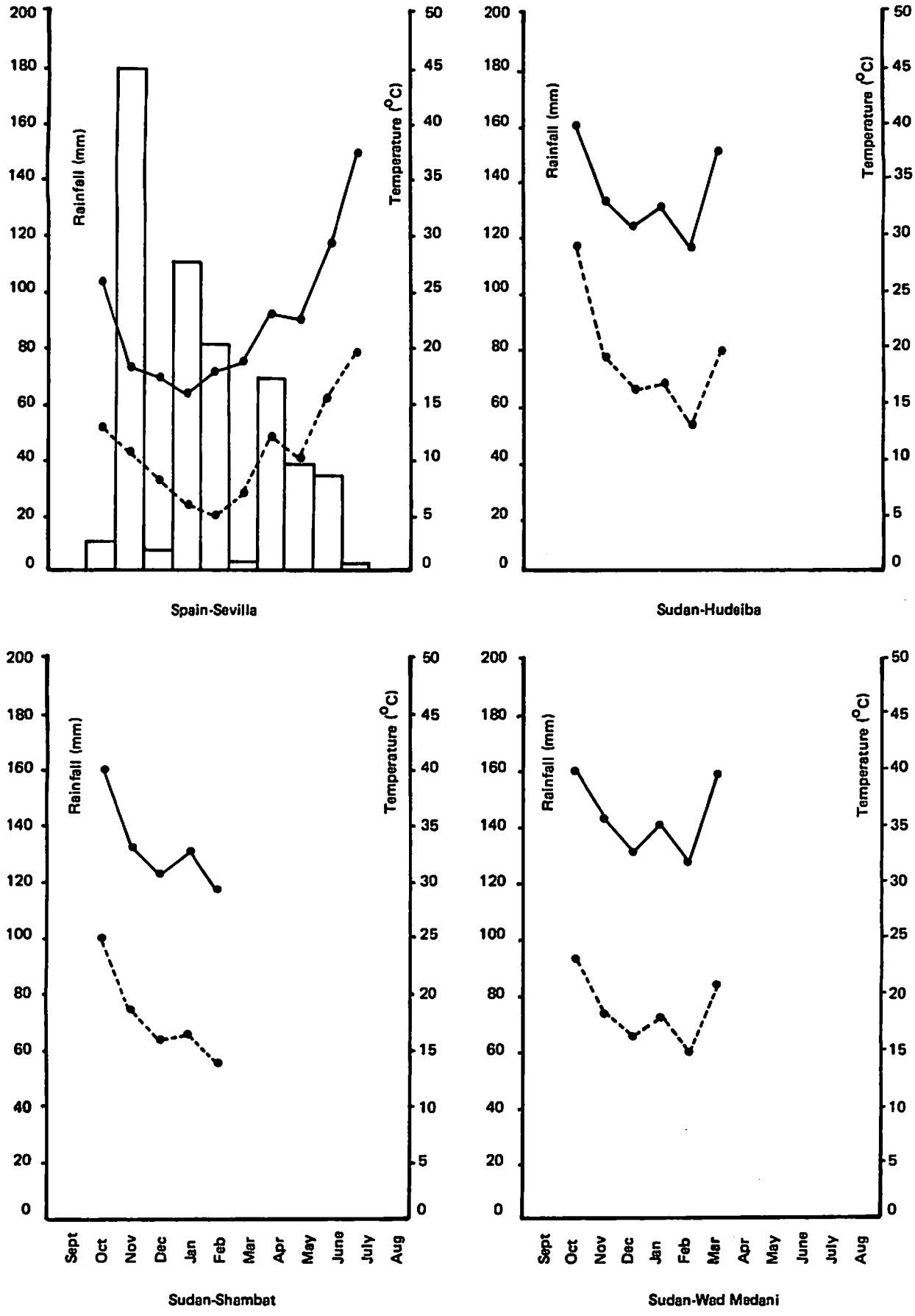
May
June
July
Aug


Rainfall (mm)
Temperature (°C)
Spain-Sevilla
Sudan-Hudeiba
Sudan-Shambat
Sudan-Wad Medani
Sept
Oct
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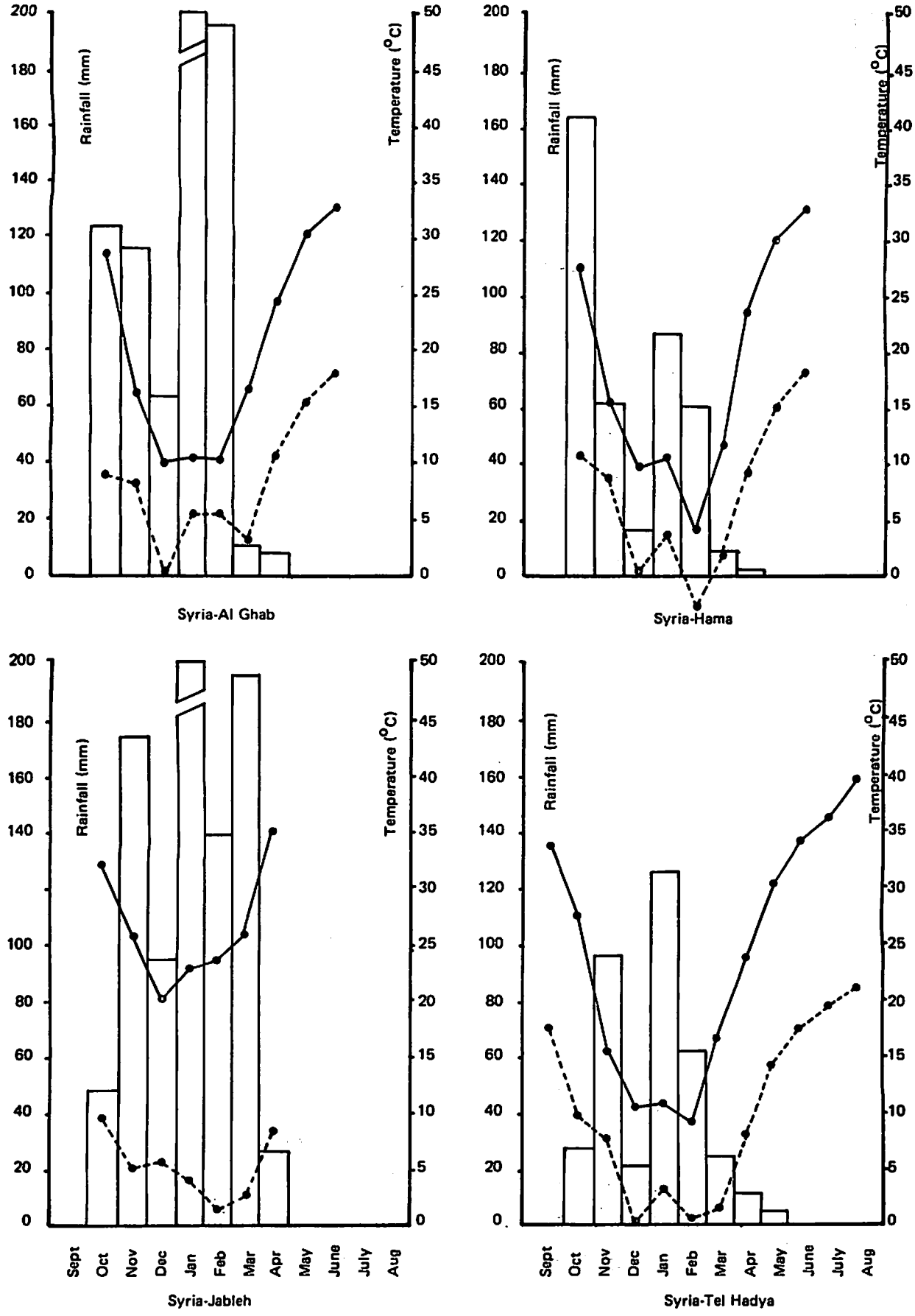
June
July
Aug


Rainfall (mm)
Temperature (°C)
Syria-Al Ghab
Syria-Hama
Syria-Jableh
Syria-Tel Hadya
Sept
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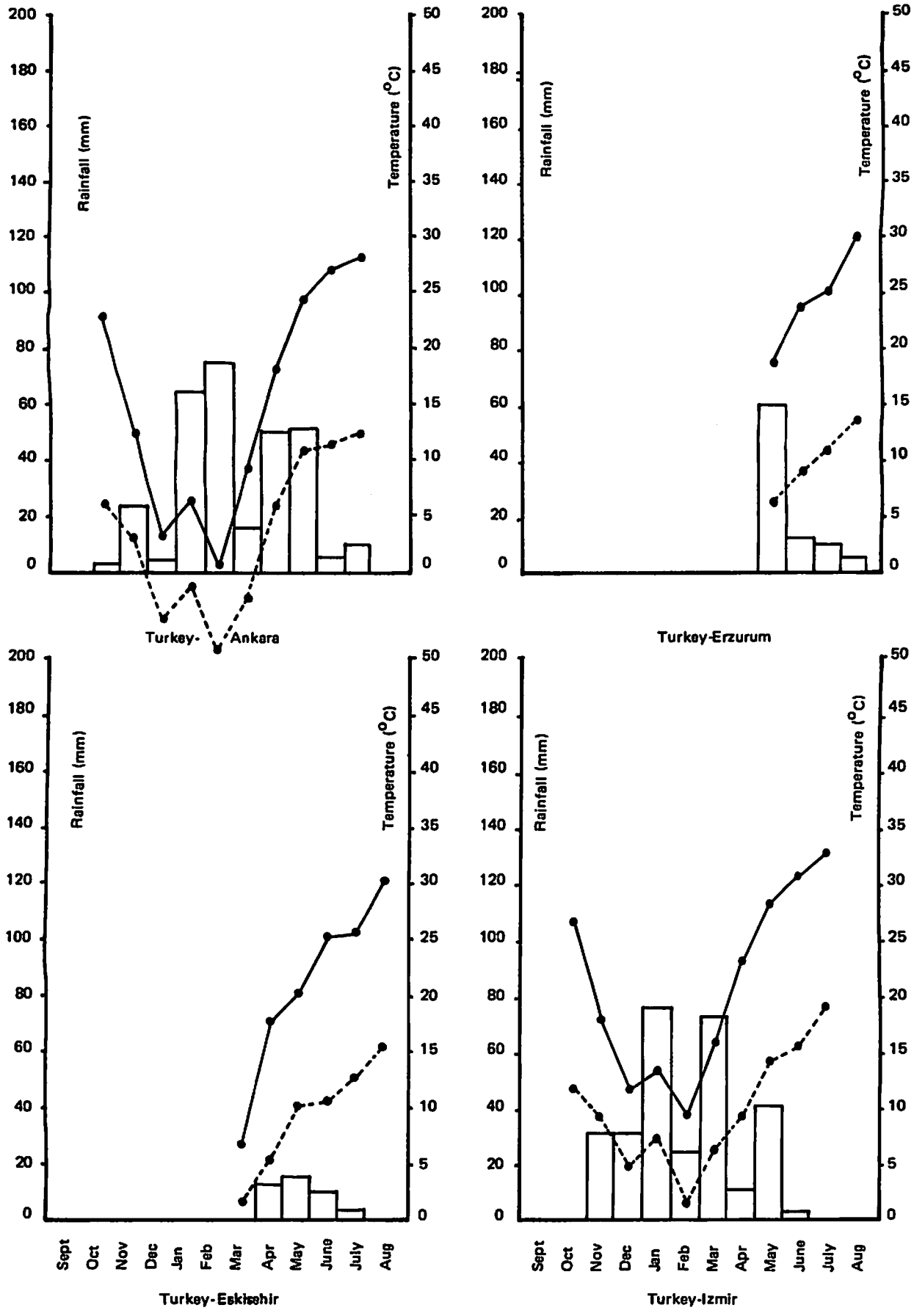
June
July
Aug


Rainfall (mm)
Temperature (°C)
Turkey- Ankara
Turkey-Erzurum
Turkey-Eskisehir
Turkey-Izmir
Sept
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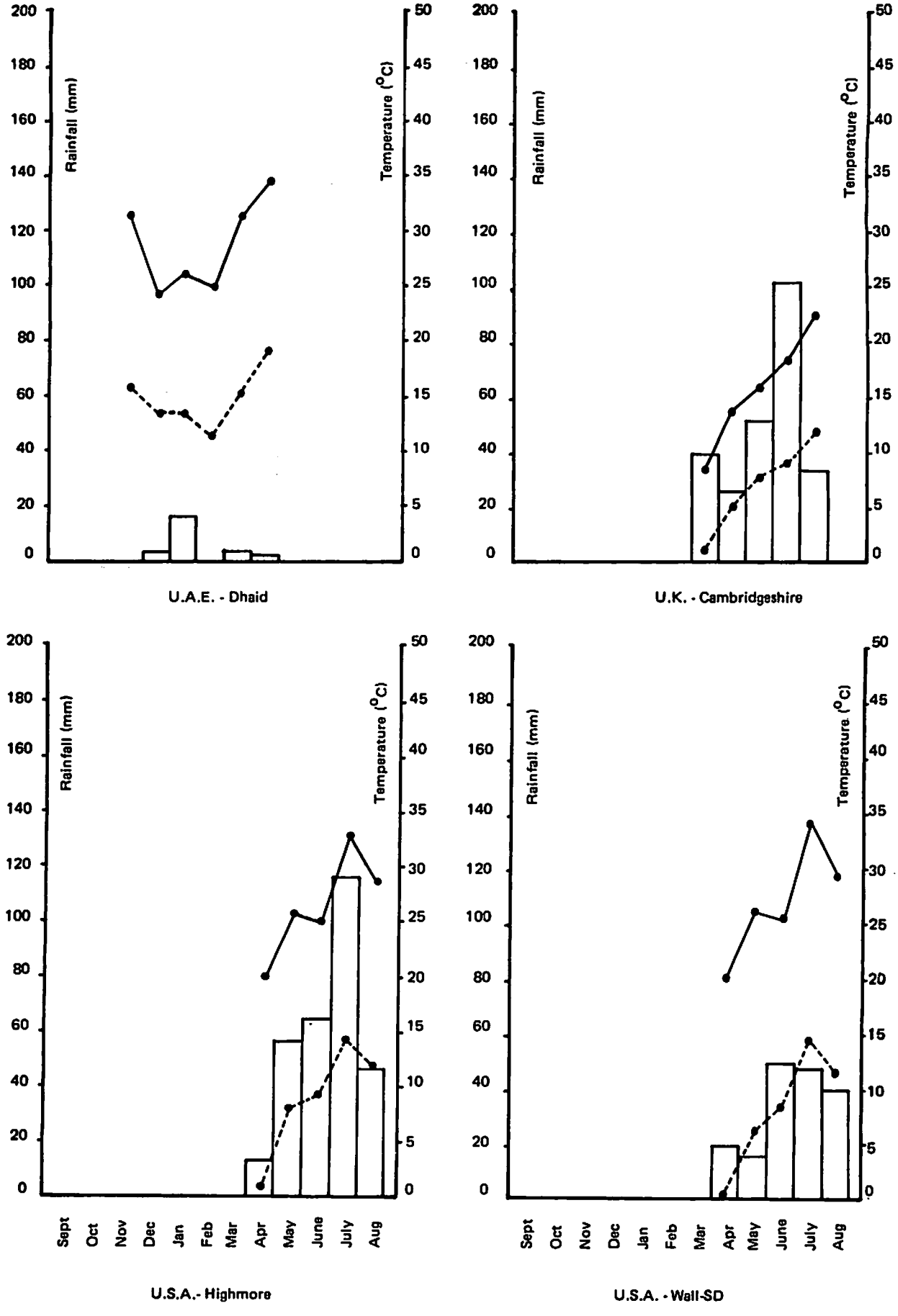
July
Aug


Rainfall (mm)
Temperature (°C)
U.A.E. - Dhaid
U.K. - Cambridgeshire
U.S.A.- Highmore
U.S.A. - Wall-SD
Sept
Oct
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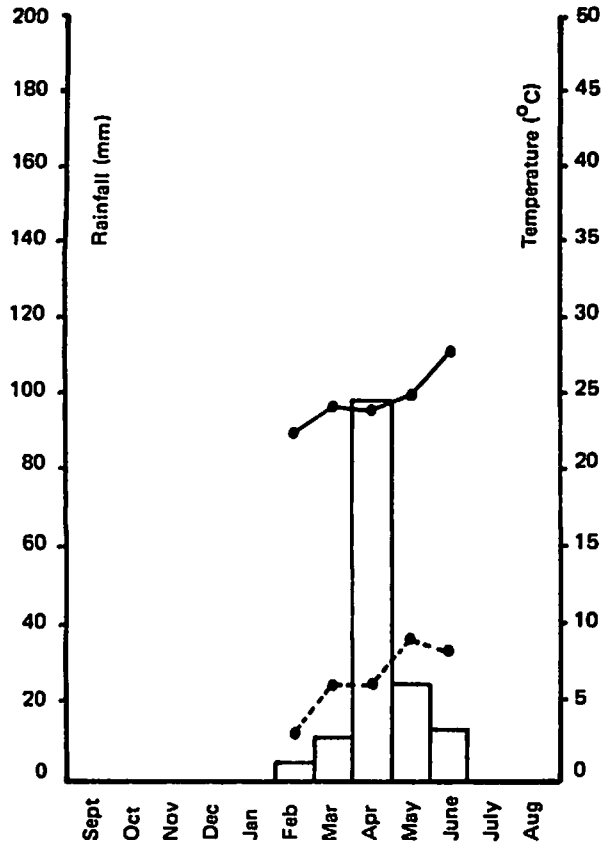
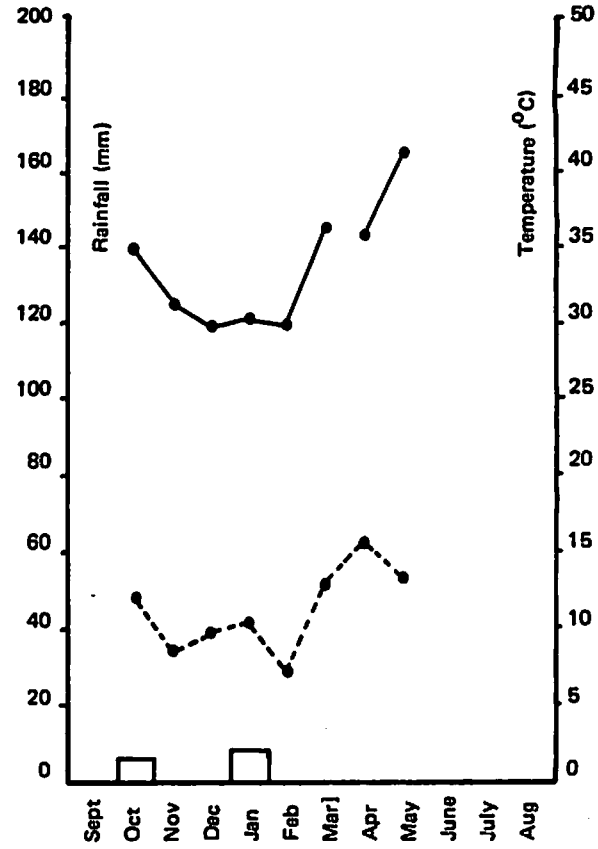
July
Aug



Yemen Arab Republic-Dhmar



P.D.R. of Yemen-Seiyun