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CONFERENCE PROGRAM & ABSTRACT BOOK

ICARDA
Science for Better Livelihoods in Dry Areas

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FONDATION OCP

IFAD
Investing in rural people

Food and Agriculture Organization of the United Nations

CGIAR
RESEARCH PROGRAM ON Grain Legumes

landraces of lentil. Genetic differentiation according to agro-environmental origins (dry areas, highlands and favourable areas) was demonstrated allowing oriented selection of genotypes to be included in breeding programs. Landraces from dry areas especially those originating from Jemaat Shaim would result in greater genetic gain for drought tolerance, while landraces from highlands (middle Atlas mountains) would result in greater genetic gain for cold tolerance. Furthermore, genetic evidence for the differentiation of 'lentils of Ain Sbit' as a local product quality mark (*produit de terroir*) were obtained, thus offering efficient tools for enhanced valorization and for the protection of this landrace for the benefits of local farmers. Also, a number of SSR and AFLP alleles that were identified to be linked with drought tolerance could differentiate landraces according to their response to drought stress. These alleles could be used in marker-trait association studies. On the other hand, important molecular markers including Single Nucleotide Polymorphism (SNP) were identified to be associated with quantitative trait loci related to root and shoot traits conferring drought tolerance in a recombinant inbred line population. Also the previously developed genetic linkage map related to this population was enhanced using a combination of co-dominant and dominant markers. The use of the identified DNA markers in the lentil breeding program would result in a more efficient cultivar development and enhanced valorization of genetic resources.

PP77: Pulse crops in Georgia

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The article discusses the study and practical application issues of pulse crops in Georgia. It is highlighted that pulse crops, such as, bean, soybean, chickpea, lentil, faba bean and others play an important role in providing the population with food supply. Also the pulse crops significantly improve the yield of agricultural crops by accumulating nitrogen in the soil. The following issues are dealt in the article: genetic resources of pulse crops in Georgia, the spread of the most important crops in the country, its agricultural importance, pests and diseases, and the measures to control them.

PP78: Responsiveness of chickpea to climate change

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Appropriate changes in the genetic options are needed to cope up with the changing climate and farming system to ensure food security and sustainable cereal production for the ever growing populations in developing world. Among the food legumes, chickpea is one of the key commodity for nutritious food-basics with high protein contents and is consumed by large population of across the Mediterranean and South Asia regions in various forms. Knowledge of the association of chickpea yield with the climatic factors is important in identifying and modifying the climate resilient traits of chickpea. Using systematic research data collected from 1996-97 to 2013-14 at Tel Hadya, Syria and Terbol, Lebanon on grain yield, potential yield estimated from the response of highest yielding genotype, and yield from the local checks, correlations were made and the result showed that the average May maximum daily temperature was the most influential factor on the average yield productivity as well as the potential productivity chickpea genotypes. An additional variable which improved the prediction model was number of frost days during March for average yield and average minimum temperature during April for the potential yield.