

centers and units: Central Coordination Post (PCC) (national) in charge of the management and coordination of the campaign; National Locust Control Center of Ait Melloul (CNLAA), which is responsible for technical and logistical support and training; Regional Coordination Posts (PCR) (provincial) in charge of implementing control operations in their area of action; Sub-Regional Coordination Posts (S-RCP) in charge of conducting operations in the field; and Operational units (OU) also responsible for conducting field operations on the front lines of defense. CNLAA-Aghadir is the main locust control center for the country whose mission is: (1) Monitor the evolution of the different locust species throughout the national territory and conduct preventive and curative control campaigns, (2) To ensure the necessary logistics for the control system mobilized during times of crisis, (3) Ensure the maintenance and repair of locust control equipment and the management of the national pesticide stock, (4) Provide technical and scientific support to the RCPs, (5) Develop research and training programs on locust control and environmental monitoring, (6) Evaluate treatment operations, particularly the environmental impact of interventions, (7) Ensure the exchange of locust information with countries in the region and with regional and international organizations, (8) Ensure the medical follow-up of the personnel involved in the control and coordinate the health prevention activities carried out in the RCPs. To manage this heritage and maintain it in good working order, the CNLAA has a staff of about one hundred and five employees (including about twenty managers and technicians) to which is added at the appropriate time the seasonal staff recruited on site as part of specific operations. It should also be noted that a doctor assigned to and based at CNLAA provides full-time medical monitoring of locust control personnel.

## MISCELLANEOUS

### MI1

**SAFE MOVEMENT OF FOOD AND FORAGE CROPS GERmplasm: ICARDA'S EXPERIENCE IN THE ARAB REGION.** Safaa G. Kumari<sup>1</sup>, Abdul Rahman Moukahel<sup>1</sup> and Inaam El-Miziani<sup>2</sup>. (1) International Center for Agricultural Research in the Dry Areas (ICARDA), Terbol Station, Beqa's Valley, Zahle, Lebanon, Email: s.kumari@cgiar.org; (2) ICARDA, Rabat, Morocco.

Germplasm exchange for research and breeding purposes is essential for crop improvement in the face of climate change and population growth. To contribute towards achieving sustainable development goals, the germplasm exchange need to accelerated to keep up with a world-changing food demand at an ever-increasing pace. However, the movement of living materials is not without the risk of inadvertent movement of associated organisms, including pests. Therefore, extreme care is required to ensure that exchanged germplasm is pest-free. The Consortium of International Agricultural Research Centers (CGIAR) is a global partnership that unites international organizations engaged in research about food security. CGIAR centers have established Germplasm health units (GHUs) to ensure the safety of exchanged plant materials, and compliance with

the FAO International Plant Protection Convention (IPPC) procedures and the International Standards for Phytosanitary Measures (ISPMs) used by National Plant Protection Organizations (NPPOs) to prevent the introduction and control the spread of pests along with plants or plant products. Within the framework of the CGIAR, ICARDA has the world mandate for the improvement of barley, lentil and faba bean. It also has a regional mandate for the improvement of wheat (bread and durum), Kabuli chickpea and pasture and forage crops in the dry areas, including the Arab region. The development of improved germplasm and elite genotypes for use by national, regional and international breeding programs is the major objective of the ICARDA crop improvement program. In order to safeguard countries from quarantine risks (insect pests, pathogens and weeds) associated with the movement of germplasm, ICARDA follows a regulatory and quarantine program working in close collaboration with competent institutions where ICARDA has platforms for crop breeding, germplasm multiplication and evaluation and genetic resources exchange in Lebanon and Morocco. ICARDA's GHU is responsible for the monitoring, clearance and documentation of safe germplasm movement at the center, to do so, all incoming and outgoing genetic resources and breeding germplasm must go through a strict quarantine monitoring system (seed health testing, quarantine clearance based on national and international procedures and rules). Annually, ICARDA's GHU tests more than 100,000 exchanged seed samples from ICARDA mandate crops to be distrusted for more than 70 countries, including Arab region. The center is fully equipped with a seed science and technology and data management staff, in addition to the necessary crop management and post-harvest seed operation facilities. The seed production process is monitored by an independent GHU in coordination with the quarantine systems of the host countries in which ICARDA operates. The role of ICARDA's GHU in the safe exchange of germplasm in the Arab region will be presented.

### MI2

**TRANS-BOUNDARY PLANT PESTS AND DISEASES IN THE ARAB REGION: PRESENT SITUATION AND FUTURE CHALLENGES.** Taher Sadeh Elazzabi, FAO former Senior Plant Protection Officer for the Near East Region, Pesticide Management and Phytosanitary Consultant, Email: taherazzabi@gmail.com

In recent years, the world including the Arab region, has witnessed an increase in both frequency and severity of trans-boundary plant pests and diseases. Trade and movement of plant materials contributed to large scale pests outbreaks that affected vast crop areas. Extreme weather events associated with climate change also participated in spread of pests and diseases beyond their normal range. Genetic diversity in cropping systems can increase susceptibility to damage, if infestations or infections are not detected early, and thus may have consequences on overall agricultural production and food security. Plant quarantine and other schemes to ensure the safe international trade in agricultural commodities may be partly effective in limiting pests spread because they can move without human intervention, as in the case of pathogens vectored by insects