



OP38: Integrated pest management of food legume insect pests in North Africa, West and Central Asia

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Mustapha El Bouhssini earned his Ph.D (1992) from Kansas State University. In 1996 he joined the International Center for Agricultural Research in the Dry Areas (ICARDA) in Aleppo. His research has been on integrated pest management of cereals and legume crops in North Africa, West and Central Asia. Recently the scope of his IPM program expanded to include insect pests of date palm. More than two decades of dedicated work has yielded significant contributions to the development of IPM options that are now being increasingly used in CWANA. He has published 100 refereed papers, proceedings (27), newsletters and extension publications (12), books (5) and book chapters (6), and voluntary and invited presentations (150 +) at international and regional meetings worldwide. Mustapha has also been heavily involved in human resources development in CWANA, including giving short-term training courses, mentoring individual trainees and supervising graduate students. Based on his scientific achievements in the area of entomology, Mustapha was recognized by a number of awards including the Distinguished Scientist Award from the International Branch of the Entomological Society of America, 2014; Distinguished Alumnus Award from the Entomology Department, Kansas State University, 2014; the International Plant Protection Award of Distinction from the International Association for the Plant Protection Sciences (2007) and the ICARDA Scientist of the Year (1998).

Food legumes (chickpea, lentil, faba bean) are important crops in North Africa, West and Central Asia (CWANA). However, their production is adversely affected by a number of insect pests such as chickpea Leaf miner and Pod borer, Sitona and aphids. ICARDA, in collaboration with its partners, has been developing integrated pest management options for these pests. The management strategies include host plant resistance, cultural practices and biological control. Several sources of resistance to Sitona of lentil and chickpea Leaf miner have been identified in the ICARDA genebank. The Focused Identification of Germplasm Strategy (FIGS) has been used to select sub-sets from the genebank to screen for the different pests. Germplasm carrying resistance to chickpea Leaf miner has been developed and shared with partners. Also, QTLs associated with resistance to chickpea Leaf miner have been identified. Early planting of chickpea in winter has been shown to be less damaged by the Leaf miner compared to the spring-sown crop. A number of essential oils and plant extracts from several plant species have showed good insecticidal activities against chickpea Pod borer and Leaf miner. In a recent study conducted in 2014 and 2015, a liquid formulation of the seed dressing insecticide Celest ®Top (a.i. Difenconazole + Fludioxonil+ Thiamethoxam) has been found effective in reducing damage caused by Sitona and Stem borer on faba bean and Pea aphid on lentil. Several natural enemies have been shown to be associated with food legume pests and their potential role in regulating food legume pest populations will be discussed.