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**Abstracts
Book**



Posters: Theme 5 – Target and agent selection

54. Evaluation of *Fusarium* with potential as biocontrol agents of *Orobanche* on faba bean in Tunisia

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Broomrapes (*Orobanche* spp) are troublesome root parasitic weeds which cause losses in many broadleaf crops. In Tunisia, *O. foetida* and *O. crenata* are the most predominant species on legume crops, causing losses up to 80% in faba bean. The integration of biological control into *Orobanche* management is of increasing interest and fungi have potential as biocontrol agents for this weed. In Tunisia, fungi were isolated from underground stages of *O. crenata* and *O. foetida*. One hundred and forty nine isolates were screened for their phytotoxic activity on the parasitic weed, *O. crenata*. Of these, ten *Fusarium* isolates affected the use of lentil (*Lens culinaris*) by *Orobanche* without affecting the host plant. Specificity testing showed that two of the ten isolates had no negative effects on the test plants. In pot experiments both isolates reduced the number of tubercles of *O. crenata* and *O. foetida* by 68 and 88% and the dry matter by 82 and 88%, respectively. Similar experiments with formulated inoculums of the two isolates demonstrated improved efficacy, giving up to 100% reductions of the number and dry matter of tubercles. We conclude that *Fusarium* spp. have potential as biocontrol agents against both *O. crenata* and *O. foetida* on faba bean.

Key Words: *Orobanche*; *Fusarium*; faba bean; biological control; formulation

55. Biological control of *Cirsium arvense* by using native insects

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Cirsium arvense is considered as one of the world's worst weeds and the third most troublesome weed in Europe. It has become increasingly problematic in ecological areas where conventional control measures are restricted. Thus control that exploits both plant competition and herbivory by specialized native insects, may be an inexpensive and sustainable alternative control measure. To date, augmentation or conservation of native agents has received little attention compared to other approaches but interest is growing. Reasons for this are that future progress in classical biological control of *Cirsium arvense* will depend on the identification of new, host specific herbivores from the native range, and better predictions and evaluations of non-target impacts. Surveys are being conducted for herbivores on *Cirsium arvense* in North Khorasan. We are beginning this project but already realize the importance of *Cassida rubiginosa*, a univoltine shield beetle feeds on foliage of *Cirsium arvense*. For successful use of this insect as a biological control agent, knowledge is required about (i) the insect densities required to obtain the desired control level, and (ii) the factors preventing this insect from attaining such population levels. This information may lead to the development of strategies to increase population densities of the agents.

Key Words: biological control; *Cassida rubiginosa*; herbivores; natural enemies