D3423: Perspectives of *Liriomyza* biological control in Brazil

Tuesday, September 27, 2016
09:00 AM - 05:00 PM
Convention Center - West Hall C

Results from a 10 years-long research on *Liriomyza* parasitoids in Brazil are reported in this work. It involves parasitoid diversity, biology and rearing procedures. These agromyzid leafminers are a serious pest in many crops in Brazil; however, in melon crops *L. sativae* became the major pest since the year 2000. In this period, different *L. sativae* parasitoid species were identified, such as *Opius scabriventris* (=*Phaedrotoma scabriventris*) (Braconidae), *Neochrysocharis texensis*, *N. formosa*, *Chrysocharis vonones*, *C. caribea*, *Diglyphus begini* (Eulophidae) and *Zaeucoila unicarinata* (Figitidae). Considering the abundance and rearing facility, studies were conducted with *O. scabriventris* and *C. vonones*. Both species showed potential as biological control agents, with a shorter egg-adult period than the pest and high parasitism rates. As host plants for rearing *L. sativae*, cowpea (*Vigna unguiculata*) and jack bean (*Canavalia ensiformis*) showed good results. A pupation chamber was developed to collect the larvae that came out of the leaves, reducing the work time and the pupae manipulation that could increase the mortality. As other leafminer parasitoids, the studied species showed a host-feeding behavior that can increase the rearing cost. Field trials need to be conducted to test the efficiency of these species in controlling *L. sativae*. In addition, considering the leafminer parasitoid diversity in melon crops, researches are being conducted aiming to mass collect parasitoids in the harvest period and transfer to new areas, as a biological control strategy. In Brazil, no biological control companies are presently marketing leafminer parasitoids; however, there is growing interest, primarily for high-value crops.

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