

informações sobre biologia, ecologia, hábito alimentar e interações desses importantes predadores com suas presas são importantes para o sucesso de programas de controle biológico de pragas.

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Título: Perspectives of biological control of leafminers in tomato crops

Leafminers from the genus *Liriomyza* are important pest of different crops in Brazil, such as tomatoes, melons, beans, onions, potato, cucumber and ornamentals. In many of these crops, leafminers populations outbreaks were caused by intensive broad-spectrum insecticide use to control other key pests. It is well known that, in areas with less chemical pressure the *Liriomyza* species are maintained in low populations by the high abundance and diversity of parasitoids. Most of these natural enemies in Brazil are from the Braconidae [e.g. *Opius* (= *Phaedorotoma*) *scabriventris*] and Eulophidae (e.g. *Chrysocharis* spp., *Neochrysocharis* spp., *Diglyphus* spp.) families. Two tactics are being studied to use leafminers biological control in open field: applied biological control, with massive rearing systems; and conservative biological control, managing parasitoids from older to new crop areas. The present talk will discuss the possibilities of these biological control tactics to be inserted in tomato crops IPM.

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Título: Specific procedure for finding the best mirid predator of *Tuta absoluta*

During the past 20 years, mirid predators became popular biological control agents. This may seem surprising as they are polyphagous as well as zoophytophagous. The phytophagous behaviour of some European mirid species has resulted in serious plant damage when their populations were not managed properly. However, they are used commercially and with success as biological control agent of *Tuta absoluta* (Meyrick) in tomato crops. We are evaluating three South American mirid predators, *Campyloneuropsis infumatus* (Carvalho), *Engytatus varians* (Distant) and *Macrolophus basicornis* (Stal), for control of various pests on tomato. During the evaluation process two important questions emerged: (1) what type of natural enemy might be the best for control of *T. absoluta* and other pests in tomato crops and (2) what characteristics should an efficient predator for control of *T. absoluta* possess? We have found that these mirids species are able to walk on tomato despite presence of many glandular trichomes, and reproduce and establish populations on tomatoes infested with *T. absoluta*. Also they kill eggs and larvae of important tomato pests such as *T. absoluta*, *Neoleucinodes elegantalis* (Guenée) (Lep.: Crambidae), *Helicoverpa armigera* (Hubner) (Lep.: Noctuidae), *Phthorimaea operculella* (Zeller) (Lep.: Gelechiidae), as well as nymphs of *Bemisia tabaci* (Gennadius) (Hem.: Aleyrodidae) and mites. Total numbers of eggs of *T. absoluta* eaten during the nymphal and adult stage of the three mirids were very high (1000-1500) and higher than predation rates published for other mirid species. They are easy to rear using *Anagasta kuehniella* (Zeller) eggs as food and tobacco plants as substrate for oviposition. We also determined their phytophagous behaviour, plant injury and yield reduction. Although feeding by all three mirids caused feeding rings on tomato fruits and leaves, the injury was not seriously affecting fruit quality or quantity. All these positive characteristics make them interesting candidates for biological control of pests in tomato crops, but this now has to be shown under commercial production situations in greenhouses and the field.

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Título: Desafios regulatórios, com enfoque na saúde humana, diante das inovações do biocontrole

A interação biológica tem sido observada há séculos. Já em termos de controle biológico há vários registros, sendo que em 1873, segundo Goncalves (1996), a primeira transferência internacional de um predador foi realizada e o primeiro grande sucesso, que se tornou um exemplo clássico na literatura, foi a introdução na Califórnia da joaninha *Rodolia cardinalis*, trazida da Austrália em