

MATING DISRUPTION AND TOXIC BAIT TO CONTROL THE ORIENTAL FRUIT MOTH AND THE AMERICAN FRUIT FLY ON PEACH ORCHARDS IN BRAZIL

Härter W. da R.¹, Grützmacher A.D.¹, Nava D.E.², Gonçalves R.S.¹, Botton M.³

¹Universidade Federal de Pelotas, Campus Universitário, Faculdade de Agronomia Eliseu Maciel, Departamento de Fitossanidade, Campus Universitário, s/nº, Caixa postal 354, CEP 96010-900 Pelotas, RS, Brazil. ²Embrapa Clima Temperado, Caixa Postal 403, CEP 96001-970 Pelotas, RS, Brazil. ³Embrapa Uva e Vinho, Caixa Postal 130, CEP 95700-000 Bento Gonçalves, RS, Brazil.

marcos@cnpuv.embrapa.br

Peach production area in Brazil reaches 23.000 ha and is concentrated mainly in Southern Regions, notably Rio Grande do Sul (RS), Santa Catarina (SC) and Parana (PR) states. The entire production is sold in the internal Brazilian market, 50% for fresh consumption and 50% for canning industry. In the majority of the regions, peach production is conducted in small orchards 2-3 ha, which produce 10 to 15 ton/ha. In all growing regions, major pests of peaches are the Oriental Fruit Moth (OFM) *Grapholita molesta* (Lepidoptera: Tortricidae) and the South American Fruit Fly (SAFF) *Anastrepha fraterculus* (Diptera: Tephritidae), which can cause 100% of damage in non-sprayed orchards. Pest control of these major pests is based mainly on application of broad-spectrum phosphorous and pyrethroid insecticides. As a result of this control program, it is common to observe infestation of secondary pests such as mites (*Tetranychus urticae* and *Panonychus ulmi*), White Peach Scale *Pseudaulacaspis pentagona*, San Jose Scale *Quadraspidiotus perniciosus* and Aphids (*Brachycaudus scwartzi* and *Myzus persicae*), resulting in additional cover sprays. Pheromones and toxic baits are new alternatives for OFM and SAFF management in the country. The goal of this work was to assess the efficiency of the simultaneous use of the toxic bait (Biofruit[®] 3% + malathion - Malathion 500 CE, 200 mL 100L⁻¹) for the control of SAFF and the mating disruption technique with sexual pheromone Splat Grafo[®] for OFM control during two season in commercial peach orchards. Three orchards (0.5 ha each), with one of the following treatments were used: (i) Toxic bait + Sexual pheromone; (ii) Conventional (spray of phosphorous insecticides); (iii) Untreated. The monitoring of number of trap adults densities for both species, sprout damage caused by *G. molesta* and fruit damage caused by both species were evaluated during the season. The toxic bait and the synthetic sexual pheromone applied together, decreased in more than 90% the number *A. fraterculus* and *G. molesta* adults trapped during the season. It was also observed a decrease on sprout damage (62 and 85% on the 2007/2008 and 2008/2009 season, respectively) and fruit damage (98 and 99%, on the 2007/2008 and 2008/2009 season respectively when compared with to untreated orchards. To conclude, the simultaneous use of toxic bait and sexual pheromones was efficient to control of *A. fraterculus* and *G. molesta* in Brazilian peach orchards.

Key words: *Anastrepha fraterculus*, *Grapholita molesta*, management of peach-pests, toxic bait, sexual pheromone.