

Timed Mating Disruption: a new pheromone-dispensing device for the protection of orchards from *Cydia pomonella*, *C. molesta* and Leafrollers

F. Rama¹, F. Reggiori¹, W. Praticelli²

¹Isagro Ricerca s.r.l. - Via Fauser, 4 - 28100 Novara (Italy)

²Via Romana, 65 - 41036 Medolla (Italy)

Abstract

A computerized system for dispensing insect sex pheromones at various release rates is presented.

The installation consists of an electronic device which, through a suitable timed dripping system, distributes the pheromone formulate on a plaited filament that moves within the orchard. The pheromone-impregnated thin rope runs over a system of pole-mounted pulleys above the tree canopy, releasing the semiochemical into the orchard. The versatility of such a mating-disruption system makes it possible: i) to distribute different pheromones at the same time and on the same support as required; ii) to avoid possible chemical treatments due to dispenser depletion in the last part of the season; iii) to change the operational parameters, in particular the timing and the dosage of pheromone dispensing, according to: a) time of the day during which adults are active for mating; b) trap catches in the reference field; c) possible trap catches within the disrupted orchard.

Field tests were carried out in the period 2000-2001 on apple and pear orchards to control Codling moth (*Cydia pomonella*), Oriental fruit moth (*C. molesta*) and the Leafrollers complex. The amount of pheromone released during the season varied from 160 to 220 g, according to the species to be controlled and their respective populations. Good results have been achieved in most tests, showing an efficacy comparable with the standard IPM

practise.