

PLURIENNAL MONITORING AND CONTROL OF LEPIDOPTERA USING PHEROMONES IN A CONFECTIONARY FACTORY

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The development of *Ephestia cautella* (Tropical warehouse moth) and *Plodia interpunctella* (Indian meal moth) in a confectionary factory was controlled for the period 1988-1992.

Monitoring was carried out with wing traps in 1988-1989, using pyrethrum treatments whenever infestation levels increased. From November 1989 the whole factory was protected by employing laminar dispensers containing 2 mg of TDA. The pheromone was laid on square paper sheets with 20 mm sides, treated with 5 mg of cypermethrin, according to the technique used by Capizzi *et al.* (1986).

The method already proved rather successful in laboratory trials with *Ephestia kuehniella*; Trematerra and Capizzi (1977) observed that 56% of males died without mating in 30 min, 30% in 50 min and only 14% were able to mate.

In total 160 dispensers were used with an average density of 1 dispenser/700 m³; they were set up by using a silicon glue at a height of about 2 metres, on walls, shelves and machineries, and they were replaced 3 times a year.

To check the possible development of infestation, trays - each one containing 500 g of toasted hazel-nuts—were suspended at a height of 3 metres in every department, while pheromone traps of wing type were kept and catches were counted once a week. Using this method, catch levels were observed to increase up to August 1990, when a widespread insecticide treatment was conducted. Afterwards the attracticide method enabled the elimination of all infestations, except for a case of an infestation of *Ephestia cautella* in the roasting department in August 1992, due to a stock of hazel nuts already infested. The removal of goods and a timely insecticidal spraying stopped the outbreak.

In conclusion, the attracticide method is very efficacious only if the levels of infestation are low. It is also necessary to carry out regular monitoring and to adopt stiff preventative measures (such as cleaning of departments and machinery, the use of non-infested goods). So it is possible to achieve "insectistasis", as already showed by Levinson and Levinson (1982).