Tutalab

Use in monitoring and mass trapping of *Tuta absoluta*

The tomato leaf miner, *Tuta absoluta* (Lepidoptera: Gelechiidae) is a moth that causes damage to tomato, eggplant and other Solanaceae. It is a pest native to South America which is widely spread in Europe and Africa.



Tuta absoluta
Lepidoptera: Gelechiidae

In warm areas, it may have between 10 to 12 generations, persisting thoughout the year. Temperature affects considerably the development of this species. The life cycle can last 29 days at 30º C and extend until 89 days at 15ºC. Low temperatures affect drastically the survival of this species. Females can lay 40-50 eggs up to 260 during their lifetime. Larvae can attack fruit, leaves or stems. They bore into the leaf consuming the mesophyll creating as a result irregular galeries that can necrose. The damage is therefore detected in the form of galleries in stem, flower and fruit. Once the fruit is injured by this species, it can be secondarily attacked by other pests or diseases.



CONTROL MANAGEMENT

The management of this species is carried out mainly by application of chemical treatments. There are a few phytosanitary products which are efficent but the use of these chemicals is limited due to the facility of this species to develop resistance. It is therefore recommended to apply an integrated management combining different techniques to control this species. So besides chemical treatment it is proposed a combination with mass trapping. This procedure consists on attracting males into a trap loaded with a pheromone dispenser inside. In this way, a population of one gender is reduced and the chance of mating diminished, decreasing the amount of chemicals needed. Also, some mechanical control is required, such us covering the greenhouse (in covered crops) with nets to complicate the entry of this species and eliminate the damaged parts of the plant (leaves and fruits).





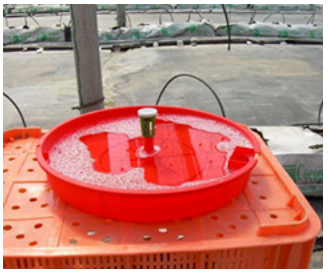
FORMULATION

Dispensers

The product TUTALAB is a dispenser comprising the compound (E,Z,Z)-(3,8,11)-tetradecatrienyl acetate. This product is described as the main component of the sex pheromone of *Tuta absoluta.* The dispensers is a rubber septum containing the active ingredient. The material of the septum allows the emission of the product at a controlled rate. In regular weather conditions, the field life of the dispenser is 40-45 days, although it may be reduced at high temperatures or strong winds.

APPLICATION

- Water traps with the corresponding dispenser should be put in the plot since the very beginning of planting. Each dispenser will be put into the basket in the water trap. The traps should be filled with water and some odorless detergent. Each trap should be put 30 cm above the
- The trap density recommended is 25 water traps per hectare placed in an alternate homogeneous distribution. In case pest pressure is very high then 40 traps/ha is recommended to be placed. If most of the captures are observed in one specific part of the plot, then the number of traps is this area should be increased (redistributing



the traps placed).

▪ It is advisable to monitor some traps in order to check the population level and if a complementary chemical treatment is recommended to be applied.

▪ Water traps should be kept full of water with some droplets of detergent. Also it is convenient to remove the insects captured in the traps regularly in order to avoid saturation of the devices.

HANDLING AND STORAGE

TUTALAB dispensers are supplied in packages with the convenient number of units. The material of the packing is impermeable to vapor of the different products. It is recommended to keep the product in its original packaging, unopened in the freezer until ready to use. Under these conditions, the product can be stored for at least two years. With the usual handling of the prodcut, there is no risk of toxicity on people, animals or plants. The product is a dispenser that emits to the air vapors of the active substance at a low controlled rate (0.004 mg/day and dispenser). For the same reason, risk of water and soil pollution may be excluded. The dispensers used and their packaging must be managed according to current legislation for residues disposal.









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