



ORGANIC AGRICULTURE
Industry Trade Ltd. Company

KAPAR®MFF Mediterranean Fruit Fly Traps
KAPAR®SC Scarab Beetle Pheromone Traps

KAPAR® Pheromone Traps against
Warehouse Pest Moths

KAPAR®OFM Pheromone Traps in Oriental
Fruit Moth Control

KAPAR®TL Pheromone Traps in Tomato Leafminer Control

KAPAR®CM Codling Moth Traps

KAPAR® The Plum Fruit Moth
Acorn moth

KAPAR®CFF Pheromone Traps in European
Cherry Fruit Fly Control

KAPAR®WST White Sticky Trap in Fruit Sawflies
Forest Pests

KAPAR®RPW Red Palm Weevil Pheromone Traps

KAPAR®EGM European Grapevine Moth Traps

KAPAR®YST Yellow Sticky Trap

Fighting flies in the greenhouse without pesticides

KAPAR®BST Blue Sticky Trap in Thrips Control

Sticky UV-Light Traps

KAPAR®BB Bark Beetles Pheromone Traps

KAPAR®BB Pheromone Traps in Bark Beetle Control

KAPAR®CB Cotton Bollworm Pheromone Traps

KAPAR®OLM Olive Leaf Moth Pheromone Traps

KAPAR®OM Olive Moth Pheromone Traps

KAPAR®OFF Olive Fruit Fly Trap

KAPAR®PTM Potato Tuber Moth Pheromone Traps



ORGANIC AGRICULTURE
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BIOTECHNICAL CONTROL

WITH PEST INSECTS

Pheromone traps are used
in mass catch and diversion
techniques to determine the
time of control.

**TOMATO
LEAFMINER**

(TUTA ABSOLUTA)



Keresteciler Sanayii Sitesi Saray Mah. 2. Cad.
No.29 06980 KAZAN / ANKARA/ TURKEY



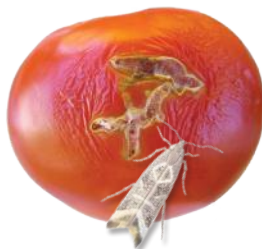
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TOMATO LEAFMINER (TUTA ABSOLUTA)



The pest multiplies rapidly in places with a Mediterranean climate and can produce 10-12 offspring per year in greenhouses. Depending on the environmental conditions, it completes one offspring in 29-38 days. Butterflies are active at night and hide among the leaves during the day. They lay its eggs, usually on the underside of leaves, buds and sepals of unripe green tomato fruits.

Type of Damage

This species, which has a very high damage potential, is the main pest in open field and greenhouse tomato cultivation. Its larvae damage all parts of the tomato plant except the root and in all periods. The larva hatches from the egg and starts feeding on fruits, leaves, roots and stems. The larva feeds by opening galleries in the leaves of tomato. The galleries opened by the larvae on the leaves are large and appear as transparent cavities. After that these galleries dry up into brown spots. It is possible to see

the black colored sawdust-shaped feces of the pest in the galleries opened on the leaf and fruit. The plant can dry out completely due to galleries opening in the green parts of the plant.

The pest can cause 50-100% crop losses in intensive populations. All biological periods of the pest can be found on tomato fruit. Therefore, it is transported from one place to another by tomato fruits, seedlings, transportation materials and tools.

Monitoring

The traps for monitoring should be set 3 traps/ha by seedling period. Traps are counted 2 times a week. If the insects in the traps exceed 4 the control should be started.

Mass Catch

The purpose is to catch as many butterflies as possible and prevent from reproducing. For this purpose, 3 traps/decars are used. The number of traps can be increased if the population is large. With

this type of control without using pesticides, the environment is not harmed and the products obtained are protected from plant pests.



Delta Trap

Delta traps are used to detect the first flight of the pest by placing a sticky card and pheromone inside. Insects that come to the smell emitted by the pheromone stick to the sticky card. When these cards are filled with insects, they should be replaced with a new one. The pheromones should be changed every 4-6 weeks.

Water Traps

The traps are placed at a height of 50 cm from the ground with maximum water in them. Pheromones are placed on the edges of the traps so that they do not touch the water. Some dishwashing liquid or vegetable oil is added so that the insects sink into the water.



Black Sticky Trap

The traps placed in the environment after the insect flight starts can be used with or without pheromone. Traps covered with insects should be renewed on time.

Usage and Storage Conditions of Pheromones:

- Traps should be set at the time of planting the seedlings. It should be checked at regular periods.
- The duration of action of pheromones is 4-6 weeks. During these periods, the pheromone must be renewed.
- Species-specific pheromones should not have a negative effect on other insects found in nature.
- Pheromones can be stored in their original pack at -18 degrees Celsius until the expiration date.

