



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
Industry Trade Ltd. Company

BIOTECHNICAL CONTROL

WITH PEST INSECTS

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

**KAPAR®PTM,
PATATO
TUBER MOTH
PHEROMONE TRAPS**



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



www.kapar.com.tr
www.kaparorganik.com.tr
kapar_kapar@hotmail.com



Telephone : + 90 (312) 395 22 79
GSM : + 90 (532) 393 83 64
Fax : + 90 (850) 622 90 27



KAPAR®PTM PATATO TUBER MOTH PHEROMONE TRAPS



Potato Tuber Moth, *Phthorimaea operculella* (Zeller)

Host Plants: Cultivated plants such as potato, tomato, tobacco, eggplant, pepper

Its body is thin and long, its wings are 5-6 mm, its antennae are longer than its body. The front wings are grayish brown, with dark brown spots on the top. The mature larva is 8-10 mm long and its head and neck are brown.

The pest spends the winter as larvae and pupae on potatoes left in the barn or field. With the average temperature reaching 15°C in the spring (end of March-early April), the adults emerge and start to lay eggs. Mating females lay their eggs on the underside of leaves, flower buds, and even sprouts of eggplant and potato plants at night. After the larvae complete their growth, they pupate in the cocoon that they weave between fresh leaves on the top sprouts. Butterflies are active at

night and they give 3-8 offspring per year.

Type of Damage

On potato, eggplant, tobacco and tomato leaves, it feeds between the two epidermises of the leaf and forms transparent cavities in the leaves. Later these transparent cavities turn brown and dry up. The larvae emerging from the eggs laid around the pores on the potato tuber enter the tuber and open uneven galleries. These galleries, which have a hard surface, are filled with white feces. At the mouth of the galleries, the detection of the pest is easily understood by the black colored feces accumulated on the tuber.

Storage

Earthing up and maintenance processes should be done well in potatoes. Harvested potatoes should be transported to storage without stacking them on the field edge. It should take care of taken to attach cage

wires to the windows of the potato warehouses so that butterflies do not pass through, not to put dirty sacks and materials in the warehouse, to clean and disinfect the empty warehouse. Potatoes can be safely stored below this temperature, as pests do not develop below 10°C.

Monitoring

In order to detect adult flight in the field, 2-3 traps should be hung per hectare from planting. For determine whether there is any harmfulness in the warehouses, 1 trap should be hung for a 100m² area as of the end of March. Trap counts should be made weekly.

Mass Catch

The purpose is to catch as many butterflies as possible and prevent pests from reproducing. For this purpose, 3-4 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.

Bucket Type Trap

The control can be done by using buckets consisting of traps, lower collection chamber, lid, hanging wire and pheromone basket. Traps should be checked at regular periods. The filled collection chamber should be emptied and properly removed from the fruit area.

Usage and Storage Conditions of Pheromones:

- The duration of action of pheromones is 4-6 weeks. During these periods, the pheromone must be renewed.
- The species-specific pheromones don't have a negative impact on other insects in nature.

