



Mediterranean Flour Moth

Ephestia kuehniella

Description

Adults: Up to 20 mm (0.75 inches) long with forewings are pale gray with transverse black wavy bars and the hind wings are dirty white in color.

Eggs: Oval, ivory in color and 2 mm (0.08 inches) long.

Larvae: Larvae are 13-16 mm (0.5-0.7 inches) long. Coloration ranges from white to pink. The heads are dark and hard.

Pupae: The pupa form a brown, spindle shaped cocoon approximately 9 mm (0.35 inches) long.

Life Cycle

Adult moths do not feed and die within 10 days. Female moths can lay from 116-678 eggs on or near the food source that they will infest. Developmental time for the Mediterranean flour moth from egg to adult in room temperature is approximately 50 days. Mating and egg laying begins almost immediately after adults emerge from the pupa (cocoon).

Damage and Detection

Mediterranean flour moth larvae will feed on grains, seeds, tree nuts, cereals, dried fruits, powdered milk, bird seed, dried pet foods and numerous other dry food goods. The larvae prefer broken grains to whole grains. It prefers coarser grades of flour as well as graham flour and corn meal. The larvae will migrate away from the food source to pupate and can be found considerable distances from their food. Mediterranean flour moth larvae are known for producing copious amounts of webbing that can clog animal feed dispensers and packaging machinery in food processing plants and flour mills.

Corresponding Products from Insects Limited

- [Hanging NoSurvivor Traps and Bullet Lures \(IL-164\)](#)

QUICK SCAN

SIZE / LENGTH

Adult	0.75 inch (20 mm)
Eggs	0.08 inch (2 mm)

COLOR RANGE

Adult	Pale gray wings with black wavy bars
Larvae	White to pink with dark heads

LIFE CYCLE

Egg-Adult	Approx. 50 days
Females	Lay 116-678 eggs

FEEDING HABITS

Larvae	Feeds on grains, seeds, tree nuts, cereals, dried fruits, powdered milk, bird seed, dried pet foods
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INFESTATION SIGNS

Larvae	Migrate away from food source to pupate. Product copious amounts of webbing
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Mediterranean Flour Moth Monitoring Guidelines

Lure

BULLET LURE® - Contains sex pheromone to attract male moths.

Lure Storage

Keep unopened lures in cool storage less than 16°C (60°F) or place in freezer for extended storage. Lures can remain frozen for up to 24 months or at room temperature for 12 months to retain their full effectiveness for use afterwards.

Trap Designs Used with Lure

NOSURVIVOR traps are diamond shaped sticky traps that can be hung from many locations. This design is the preferred trap for this moth that flies well.

THE SIGHTTRAP™ is the size of a NoSurvivor hanging trap and provides daily images and catch data to help with early detection. The data is available on the web and app-based software, ForesightIPM.

Trap Placement Techniques

Pheromone traps can be out placed year-round but are especially recommend when temperatures exceed 12.5°C (55°F). Place hanging pheromone traps 1.5 meters (5 feet) above ground or at eye level to allow for easy inspection when monitoring traps. Place pheromone traps 7.5 – 15 meters (25 – 50 feet) apart to determine the presence or absence of Mediterranean flour moths. Increase pheromone trap density to 4.5 – 7.5 meters (15 – 25 feet) apart to help locate source of Mediterranean flour moths. Mediterranean flour moth pheromone traps are best utilized in areas that store dried goods such as food, grains, seeds, nuts, dried fruit, animal feed, or pet food. Keep pheromone traps 7.5 meters (25 feet) away from exterior doors.

Trap and Lure Maintenance

Replace traps when glue is filled with moths or becomes dusty. Replace pheromone lures every 90 days. Replace all pheromone lures in a location at the same time. Do not cut the cap off the bullet lure. Do not stagger lure replacement over several weeks. Record date and number of catches to identify trending information.

Fun Facts

- Sometimes confused with the Indian meal moth (*Plodia interpunctella*) and Almond moth (*Cadra cautella*)
- Like many food moth species, adult Mediterranean flour moths do not eat. Their larvae are vivacious feeders and damage dried goods.
- Mediterranean flour moths initiate flight at temperatures above 12.5°C (55°F).
- Larvae produce large amounts of silk which can contaminate grain and clog machinery.
- The pheromone that attracts Mediterranean flour moths (*Ephestia kuehniella*) also attracts many other moth species including:
 - Indian meal moth (*Plodia interpunctella*), Almond moth (*Cadra cautella*), Mediterranean flour moths (*Ephestia kuehniella*), Raisin moths (*Cadra figulilella*), Tobacco moths (*Ephestia elutella*), Cactus moth (*Cactoblastis cactorum*), Olive pyralid moth (*Euzophera pinguis*), Cedar shoot borer (*Hypsipyla grandella*), Mahogany shoot borer (*Hypsipyla robusta*), Black armyworm (*Spodoptera cosmioides*), Lawn grass armyworm (*Spodoptera depravata*), Larger cotton cutworm (*Spodoptera dolichos*), Southern armyworm (*Spodoptera eridania*), African armyworm (*Spodoptera exempta*), Beet armyworm (*Spodoptera exigua*), Fall armyworm (*Spodoptera frugiperda*), Lateral lined armyworm (*Spodoptera latifascia*), Egyptian cotton leafworm (*Spodoptera littoralis*), Tobacco cutworm (*Spodoptera litura*), Costa Rican armyworm (*Spodoptera sunia*), Bristly cutworm (*Lacinipolia renigera*)