

# Stored Product Food Moths



The term Stored Product Moths or SP Moths includes species which can attack food and non-food items. Those that prefer foodstuffs are often referred to by their latin genus names as *Ephestia-Plodia*, a group of moth species that can be found in a variety of stored products, in both domestic properties and commercial facilities. The goods to which they have adapted with varying degrees of specificity include commodities such as stored grain, cereals, pulses, oilseeds, dried foods, dried fruit, fungi, nuts and cocoa. Their common name often describes the commodity on which they feed which can lead to some confusion.

**Warehouse Moth, Cocoa moth or Tobacco Moth (*Ephestia elutella*)**

Widely distributed throughout temperate regions. It is rarely imported except on products from other temperate areas.

**Almond Moth or Tropical Warehouse Moth (*Cadra cautella*)**

A tropical or subtropical species which is frequently found on imported cargoes.

**Mediterranean Flour Moth (*Ephestia kuehniella*)**

Now cosmopolitan, a particular problem in mills, bakeries and occasionally in catering premises. In warm conditions adults will be present throughout the year and there may be 4-6 generations.

**Indian Meal Moth (*Plodia interpunctella*)**

A Cosmopolitan species which originated in South America. It will survive all year round in warm conditions.

**Raisin Moth (*Cadra figulilella*)**

Feeds on dried fruits, such as the raisin and date. It covers a range that includes much of the world preferring a hot, arid climate with little moisture and plentiful harvest for its larvae to feed on.



**Monitoring and trapping stored product moths**

Pheromones species-specific chemicals that insects use to communicate. Fortunately the above group of insects all share the same common sex pheromone ((Z,E)-9,12-Tetradecadienyl acetate) that the females release to attract makes for mating. This means a single pheromone trapping product can be used to monitor or trap all of the above pest moth species. When combined with a second pheromone (Z,E)-9,12-Tetradecadien-1-ol and varying the ratio between the two, dispensers can be provided to attract more of one than the others. Species not responding the above include the Angoumois Grain Moth (*Sitotroga cerealella*) and the European Grain Moth (*Nemapogon granellus*).

For monitoring purposes, pheromones are either supplied within prebaited glue-boards, such as the Demi-Diamond System or as separate pheromone dispensers, to be used with glue traps (normally triangular in cross section) or funnel traps (no glue board required). The placement of pheromone traps is key. In professional pest management, these traps are used to monitor, not to control, so where the traps are placed, will help determine where to focus further inspection. The distance between traps is influenced by the obstacles to placement or suspending traps. When possible, a grid pattern is preferred as it helps narrow down the areas to inspect. More time can then be spent inspecting areas with high moth counts, and less time in areas with low counts.



Demi-Diamond System for Food Moths. Note green grid denotes pheromone for these species. Do not use blue grid which is for webbing clothes moth.



Rubber septa and vial / tube type pheromone dispensers. Examples of simple methods to dispense stored product moth pheromones.



Striped delta trap with glue coated inside surface. A single use monitoring system.



A funnel trap as often used in commercial premises with pheromone dispensers.