

INDIANMEAL MOTH



Common Name: Indianmeal moth
Scientific Name: *Plodia interpunctella*

Introduction. The Indianmeal moth was given its common name by an early American entomologist (Asa Fitch) who found it feeding on cornmeal (Indian meal). It is probably the most important and most commonly encountered pest of stored products found in the home and in grocery stores in the United States. Of Old World origin, it is now found worldwide.

Recognition. Indianmeal moths have a body length of 1/4 to 3/8 inch and a wingspread (wing tip to wing tip) of about 5/8 to 3/4 inch. The front wings are nearly bi-colored; the inner 1/3 being light beige and the outer 2/3 being coppery or bronze. The hind wings are pale gray.

Mature larvae are usually about 1/2 inch long and off-white in color; however, they may vary to a greenish or pinkish or brownish hue depending on their food. The head and thorax surface behind the head are yellowish-brown.

Similar Insects. (1) The meal moth (*Pyralis farinalis*) has a larger wingspan (3/4 to 1 inch) and has the front wings colored darker at the basal 1/3 and outer 1/3. (2) Other small moths (e.g., clothes moths) lack the characteristic front wing coloration in which the basal 1/3 is pale and the remainder dark.

Biology. The female Indianmeal moth lays 100 to 400 eggs, singly or in small groups, on the larval food material during a period of 1 to 18 days. Upon hatching, the larva establishes itself in a crevice of the food material. It feeds in or near a tunnel-like case it has webbed together of frass and silk. The larval period lasts 13 to 288 days, depending primarily on temperature and food availability. When the last instar (growth stage) larva is ready to pupate, it leaves the food and wanders about until a suitable pupation site is found.

This behavior often results in many cocoons being constructed up to 30 feet removed from the larval food source. There are usually 4 to 6 generations per year (range 4 to 8), with the life cycle (egg to egg) typically requiring 25 to 135 days (range 25 to 305).

Habits. The moths themselves cause no damage. The larvae are surface feeders and generally produce a lot of webbing throughout the infested part of the food materials. They are general feeders and attack grain and grain products, dried fruits, seeds, nuts, graham crackers, granola, powdered milk, biscuits, chocolate, candies, dried red peppers, dried tomatoes, dry dog food, bird seed, dried flower arrangements, potpourri and even rodent bait. They are very destructive wherever dried fruits are stored. Preferred are the coarser grades of flour such as whole wheat, graham flour, and cornmeal, but they can breed in shelled or ear corn (including decorative Indian corn). When the larvae wander about looking for pupation sites in homes, they are often mistaken for clothes moth larvae. Likewise, when the moths are flying, they are also mistaken for clothes moths. Adults are attracted to light.

Cultural Control & Preventative Measures. The first step towards stopping an infestation of Indianmeal moths is locating and, if possible, removing the food source(s) or excluding the breeding site(s). Moths, larvae and cocoons can be removed using a vacuum cleaner fitted with a hose attachment. Dried grain, seed, vegetable, fruit, and chocolate products and other vulnerable items should be stored in airtight, thick-walled containers until needed. Infested dried flower arrangements of value can be heat-treated in a warm oven (140°F) for 30 minutes to destroy all stages, or deep-frozen (0°F or colder for 72 hours) to destroy eggs, larvae and adults (but not all the pupae, if present). Rodent bait that has been stashed away in structural voids by invasive mice, may be infested by moth larvae and can be difficult to locate and treat.

Professional Control. A Rottler pest management professional will assist in locating Indianmeal moth breeding sources and making recommendations for preventing re-infestation. A spot treatment of an infested structural void using a residual insecticide dust, or a crack and crevice treatment into cabinet corner seams and shelf junctures using non-residual or residual insecticide aerosol formulations may be applied by the technician to stop additional pest breeding.

Larvae that form pupae in well-concealed cocoons during late summer and autumn may not give rise to new adult moths until the following spring. Therefore, good sanitation and food-storage practices must be maintained perpetually, once an Indianmeal moth infestation has been detected and treated.



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