

# Indian Meal Moth and Angoumois Grain Moth

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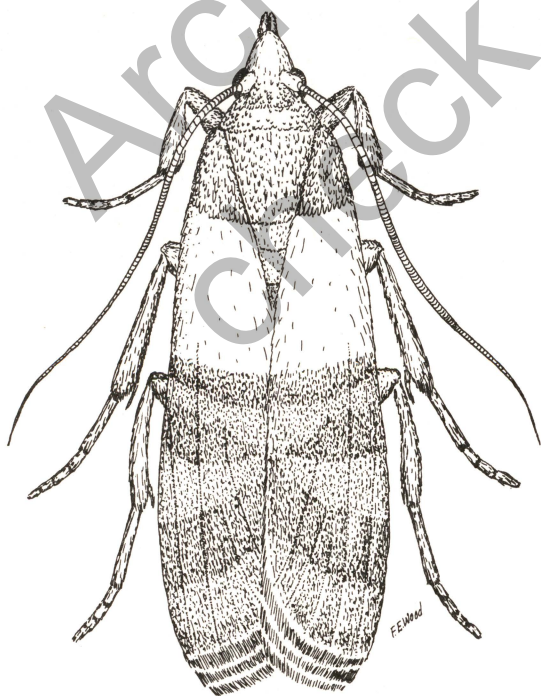
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The Indian meal moth and the Angoumois grain moth are the most common moths found in stored products in the home. The Indian meal moth will infest most cereal products, nuts and dried fruits. The Angoumois grain moth will infest stored whole grain and seeds. Both species are of European origin.

## THE INDIAN MEAL MOTH

The Indian meal moth is a pest of many stored products in the United States. This insect attacks all types of cereal products, nuts, seeds and dried fruits.

The adult moth is about  $\frac{1}{3}$  of an inch long. When viewed from above the front one-third of the insect is copper colored; the middle one-third white or grey and the rear one-third copper colored with bands of black scales dispersed across the wings.



Indian Meal Moth

## LIFE CYCLE

The adult female moth deposits small eggs on the stored products. The eggs hatch into small greenish-white worms (larvae) with light brown heads. Feeding larvae leave a thin strand of silk on the infested material. The accumulation of silk and excrement from a heavy infestation will eventually "blanket" the surface of the infested product. Pupation (a quiet, immobile stage) occurs prior to adulthood in silk cocoons covered with excrement and grain in the surface layer of the infested material. Adults mate after they emerge from the cocoon and lay eggs in the same container or other nearby stored foods. The entire life cycle will take from 4-6 weeks under conditions found in an average household.

## CONTROL

All infested foods should be discarded. All other packages of food products should be inspected for possible infestations and placed in tight containers to prevent further infestation.

After discarding infested foods, all the shelves, storage cabinets, flour bins, and other areas near where stored foods are kept should be cleaned and scrubbed with a good cleaning solution and water. For further control where infestations persist, the shelves and cabinets may be sprayed with the following:

pyrethrins + piperonyl butoxide; rates: 0.1-0.25 percent + 1-2 percent.

DO NOT allow food to come in contact with the sprayed surfaces.

Keeping foods in tight containers is the cheapest and most convenient method of control.

## THE ANGOUMOIS GRAIN MOTH

The Angoumois grain moth adult is about  $\frac{1}{3}$  of an inch long. The body is tan or cream colored and the wings are uniformly grey or tan colored with a heavy fringe of hairs. This is usually the only stage seen by the homeowner since the eggs are very small and the larvae develop entirely inside the infested seeds.

The most common grains infested are popcorn, field corn,

Indian corn and wheat. The homeowner should pay particular attention to decorative items which contain these grains.

### LIFE CYCLE

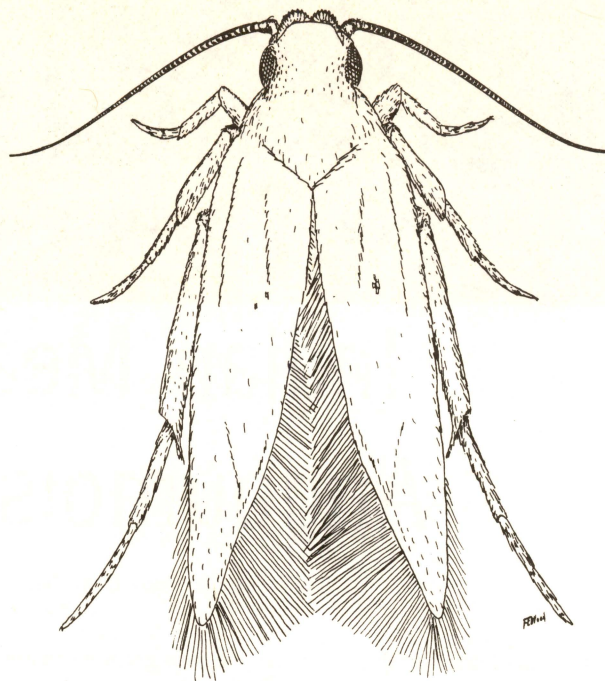
The female moth deposits an egg on the kernel, either in the field or after the grain is in the home. The egg hatches into a small white worm-like larva which bores into the kernel. The larva lives in the kernel until changing into the adult stage. Adults emerge from the seeds by making a very small round hole in the kernel. As an adult the female mates and begins laying eggs, reinfesting the same grain or spreading into new areas.

### CONTROL

The first step in control is to find the infestation. Look for heavy concentrations of moths or small holes in the kernels of the grain.

Infested human foods should be discarded.

Heating at 135 to 150 degrees for 30 minutes or freezing at 9-10 degrees for 3 days will control the pests. Store the grain in tight containers to prevent reinfestation.



**Angoumois Grain Moth**

### USE PESTICIDES WISELY AND SAFELY

Apply only where needed or justified.

Use care when handling, mixing, or applying pesticides.

Keep pesticides in original containers complete with labels.

Keep pesticides out of reach of children.

READ, UNDERSTAND, and FOLLOW directions on the label and heed all precautions.

Carefully and properly dispose of unused portions of diluted sprays and empty pesticide containers.

DO NOT contaminate food or dishes.