UT Extension
SP431-W

Insects

# The Indian Meal Moth in Stored Grain

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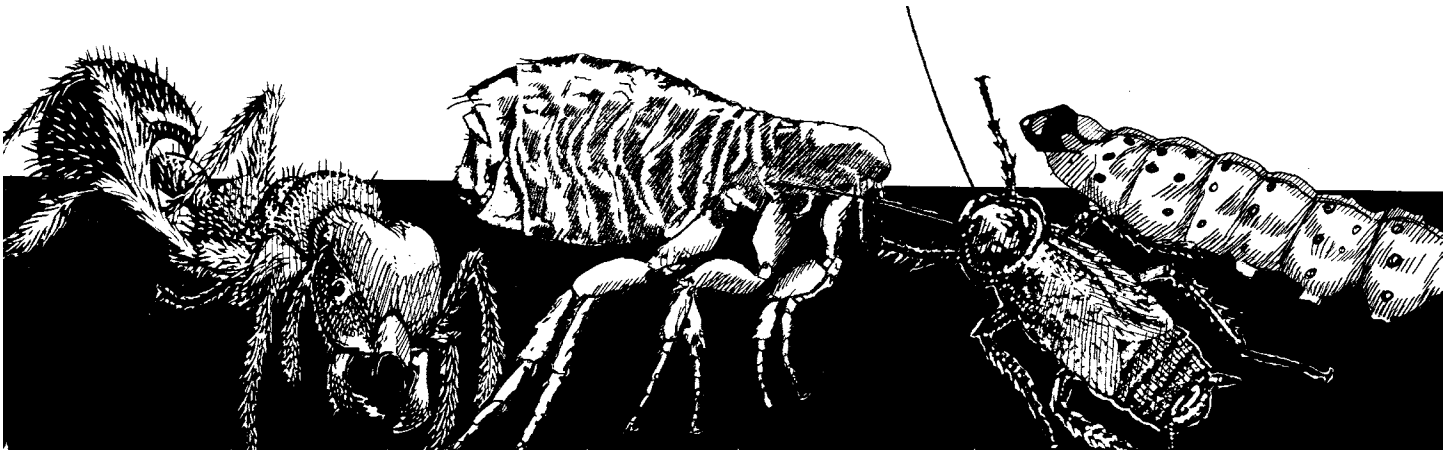
The Indian meal moth, *Plodia interpunctella* (Hubner), is one of the common moths infesting stored grain and stored-grain products. These moths are called "flour moths" in Tennessee because they feed on flour or milled products, seldom attacking sound grain kernels. They prefer broken grains or grains injured by other grain pests. The Indian meal moth is quite commonly found in farm grain bins.

## Life History and Description

The Indian meal moth is easily distinguished from other grain-infesting moths by obvious markings on its forewings. The outer two-thirds of the wings are brown with a copper luster. The inner wing area is whitish-gray. The female moth deposits her eggs singly or in groups on the food material. After a few days, the eggs hatch and small whitish larvae emerge. These larvae feed on broken grains or grain products. The larvae are about 1 inch long when fully grown. They are dirty white, sometimes varying to greenish or pinkish hues. The larva spins a silken cocoon and transforms into a light-brown pupa. The moth emerges about a week later. During warm periods, the entire life cycle may take only six to eight weeks.

***Indian meal moth adult***
Photo credit: Whitney Cranshaw, Colorado State University (Bugwood Network, UGA1246075)



One recognizable feature of the larvae is the silken thread they spin behind them as they crawl over a food source. This webbing can be quite extensive if large numbers of larvae are present. Also, sacks of cracked corn can become quite heavily infested with Indian meal moths.

## Control Measures

Maintaining sound, clean grain and preventing other insect pest damage in bins will help ensure against Indian meal moth infestations.

Use an insecticide on the grain, the bin walls and floors. This action will help reduce the chance of Indian meal moth infestations. Treat the base of the bin on the outside to prevent the moth larvae from entering the bin. Any old grain within the bins should be removed before adding new grain. Use of the fumigant chloropicrin to treat the empty bin prior to adding new grain will destroy any moth infestations below the false flooring of the grain bin.

Use pesticides with care and follow the label. When using chloropicrin fumigant, follow all label requirements and safety precautions. The University of Tennessee recommends that only trained and certified individuals apply fumigants.

### Chemical Control Measures

| Crop | Insecticide | Per 1,000 bushels |
|---|---|---|
| Corn, milo | Actellic 5E | 9.2 – 12.3 oz<br>(mix in 5 gal water to 1,071 bu) |
| Oats, rice, barley, wheat, milo | Reldan 4E<br>Storcide** | Oats – 6.2 oz, 6.4 oz**<br>Rice – 8.6 oz, 9.0 oz**<br>Barley – 9 oz, 9.6 oz**<br>Wheat – 11,7 oz, 12.0 oz**<br>Milo – 10.7 oz, 11.2 oz**<br>(mix in 1 to 5 gal water per 1,000 bu of grain) |
| **Empty Bin Fumigation and Treatment:** | | |
| Chloropicrin not available in quart size. | | |
| Tempo (20wp) – Bayer Co. | Empty bin only | Empty bin. Spray prior to storage of corn or small grain. Use 1 – 2 packets per 1,000 sq ft<br>Not for grain treatment |
| Tempo SC Ultra – Bayer Co. | Empty bin only | 8 ml/gal water |

**Precautionary Statement**

To protect people and the environment, pesticides should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store or dispose of a pesticide. According to laws regulating pesticides, they must be used only as directed by the label. Persons who do not obey the law will be subject to penalties.

**Disclaimer Statement**

Pesticides recommended in this publication were registered for the prescribed uses when printed. Pesticide registrations are continuously reviewed. Should registration of a recommended pesticide be canceled, it would no longer be recommended by the University of Tennessee. Use of trade or brand names in this publication is for clarity and information; it does not imply approval of the product to the exclusion of others which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

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