



# Entomological Notes

Department of Entomology

## ANGOUMOIS GRAIN MOTH

*Sitotroga cerealella* (Olivier)

The angoumois grain moth is occasionally found in Pennsylvania feeding on corn stored on the ear. Damage by this insect is minimal in shelled corn. However, the larval stage of this insect more commonly feeds within kernels of other grains. Grain infested by the angoumois grain moth larvae has an unpleasant smell, and is less attractive for consumption.

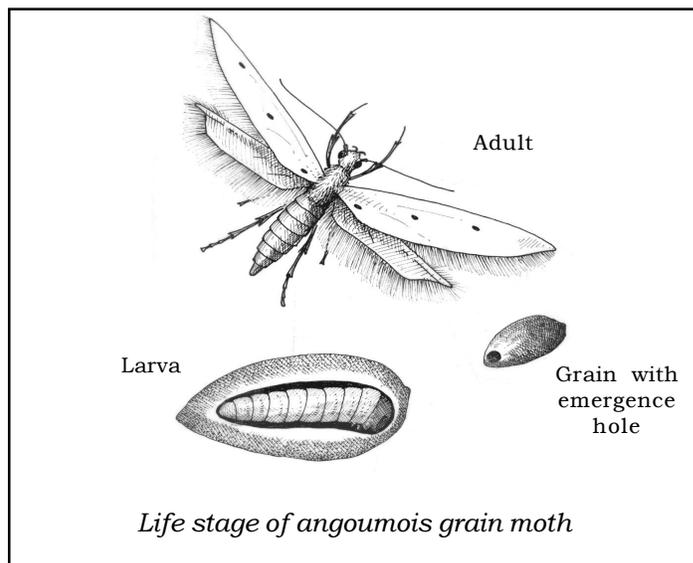
Most problems with the angoumois grain moth in corn occur in crib-stored ears, although the infestation may have begun in the field. Corn infested in the field may harbor larvae feeding within corn kernels. When the newly harvested, infested corn is cribbed, the larvae continue to develop, pupate, and emerge as adults, which in turn deposit eggs on uninfested kernels. Several generations of the insect can be completed during prolonged warm falls, resulting in a large portion of the grain being damaged.

### LIFE HISTORY

Female moths deposit eggs on grain kernels throughout the crib. Under normal conditions, a female will lay forty eggs. The eggs are glued to the kernel. Larvae emerging from the eggs eat through the kernel and begin feeding on the endosperm or germ. To assist in penetrating the kernel, larvae sometimes spin a cocoon that they use for leverage. Once inside the kernel, larvae continue to feed until mature, enlarging a cavity within the kernel. When mature, the larvae eat a channel to the outside of the seed, and make a weakly fastened flap at the exit by cutting the shell one-half to three-quarters the circumference of a circle. Larvae then spin silken cocoons and pupate within the kernels. Adults emerge by pushing the flap back on the kernels. The life cycle is complete in about five weeks at optimal temperatures.

### DESCRIPTION

The adult is a small buff to yellowish-brown moth about one-third inch long with a wing span of one-half inch. The front wing is a lighter color than the hind wing. Both wings end in a thumb-like projection and have fringed rear margins. The eggs are white when first



deposited, but soon turn red. Full grown larvae are one-fifth inch long and white with a yellow head. The area near the head is slightly larger in diameter than the posterior portion of the insect.

### DAMAGE

Angoumois grain moth larvae feed on a number of whole kernel grains. Their feeding causes a reduction in grain weight and quality. Heavily infested grain smells bad and is less attractive for consumption. Corn cribs infested with this insect will contain ears with small holes on individual kernels. Ears throughout the crib will be infested. In bins, however, only the top few inches of grain will be infested.

### MANAGEMENT

Once the problem is observed, control in crib stored corn can be difficult. Because the crib is open, fumigation cannot be effective without covering the crib with a tarp or plastic to seal in the fumigant. A better alternative is to empty the bin as soon as possible.

As with bin stored grain, sanitation and crib preparation before introduction of new grain can reduce the potential of angoumois grain moth infestations. Thoroughly clean the crib of old grain and ears. Larvae of the insect can be harbored in these residues. Harvest equipment should also be cleaned before use. Unless

the ear corn is going to be stored for longer than a year, a residual insecticide is probably not necessary. Although this insect can be a serious problem, few corn cribs have populations high enough to cause concern.

## **WARNING**

Pesticides are poisonous. Read and follow directions and safety precautions on labels. Handle carefully and store in original labeled containers out of the reach of children, pets, and livestock. Dispose of empty containers right away, in a safe manner and place. Do not contaminate forage, streams, or ponds.

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