

Montana small grain insects

Armyworms and Cutworms

Several species (Lepidoptera: Noctuidae)

Many kinds of armyworms and cutworms attack small grains and alfalfa in Montana. Heavy infestations may destroy crops if fields are not treated.

Capsule Information Series

Number 34, October 1991

Pale western cutworm



Damage

Pale western cutworms live underground and plants are cut below the soil. Worms are about 1 1/4 inch long when full-grown. They overwinter as eggs. Consider treatment when populations exceed 1 worm per 2 feet of row (young plants) or 1 worm per foot of row (tillered plants).

Army cutworm



Larva



Adult

Army cutworms feed on foliage at night and hide in the soil during the day. They are about 1 1/2 inch long when full-grown. They overwinter as eggs or larvae. Consider treatment when more than 2 worms per foot (young plants) or 4 worms per foot (tillered plants) appear. The adults are moths which are common in buildings and around lights at night.

Wheat head armyworm



Larva



Damaged kernels

Wheat head armyworms feed on foliage and on developing heads. Larvae are brown or green with white stripes. They remain in plants during the day, but are difficult to find. Kernel damage may be extensive, but is seldom detected. Economic thresholds are not established.

Some Concepts:

- Moths lay eggs in the soil in the fall.
- Larvae feed in the spring or summer.
- There is one generation per year for most species.
- Don't treat low populations to prevent future losses.
- Don't treat if worms if they have nearly completed their development.
- Tillage is not effective for killing worms.
- Many species of cutworms and armyworms are present in Montana, but only a few cause crop damage.
- Pheromone traps may be effective in predicting outbreaks.
- Insecticides are effective; check with the extension service for recent registrations.

IMPORTANT PEST INSECTS IN MONTANA

Pale western cutworm

Agrotis orthogonia
Lepidoptera: Noctuidae

by Wendell L. Morrill and Gary Adams*

Description: The moth is dull grey, with a wingspread of 1 inch. They are similar to many other kinds of moths which are attracted to lights at night. Larvae have clear skins, and a faint dark line can be seen through their backs. They reach 1¼ inch in length when full grown.

Damage: Worms feed underground on small grains. Small worms may eat through tillers, and plants may fall to the ground and die. Larger worms will pull plants underground where they are eaten. Damage is usually later than that of the army cutworm.

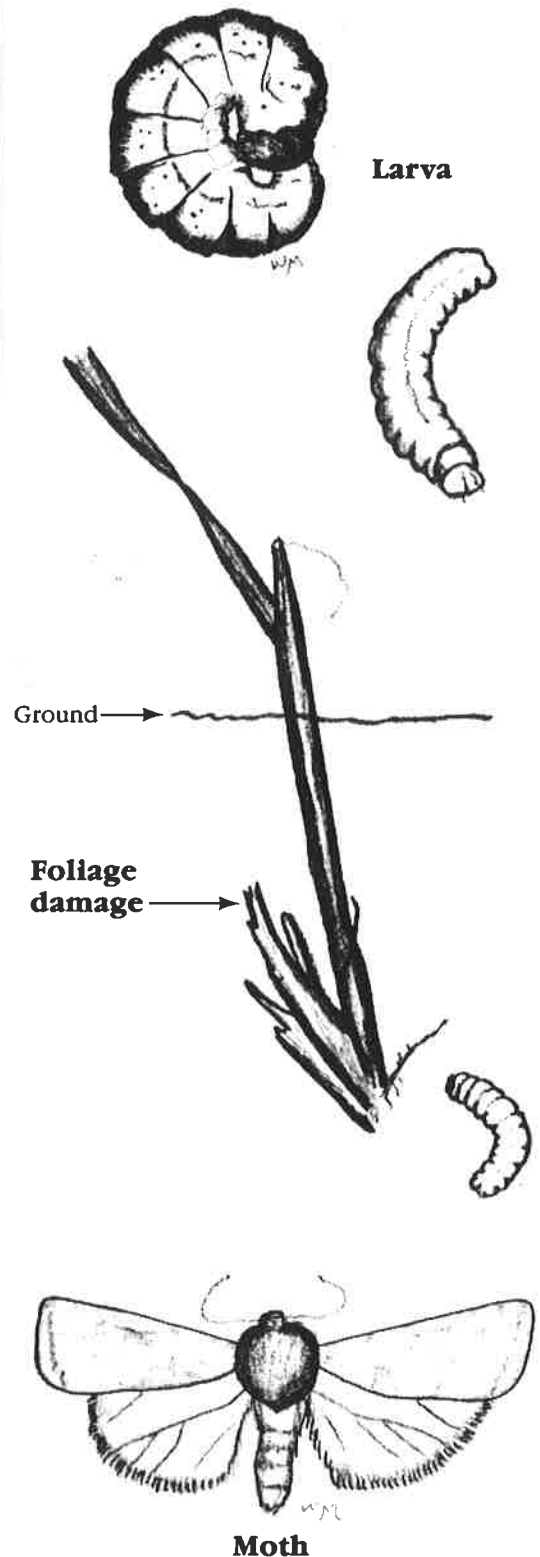
Life Cycle: Eggs hatch in the spring, and worms feed until their development is complete. They pupate in the soil, and moths emerge in August. Eggs are laid from September until the first killing frost. There is one generation per year.

Detection: Damage usually appears first on southern slopes. Search in the soil where stands are thin to find larvae. Pheromone traps may be useful in locating areas where moth activity is high in the fall, suggesting worm infestation for the following year.

Economic Damage Levels: Consider treatment, if there are one or more worms per two feet of row in young wheat, or, if there is more than one worm per foot of row in tillered wheat.

Controls: Treat with insecticides when worm populations exceed the economic damage level. Tillage is not effective, if infested fields are to be replanted. Check with your county Extension agent for recent recommendations.

*Morrill is an associate professor of entomology; Adams assisted with this report as a requirement for Economic Entomology 310.



IMPORTANT PEST INSECTS IN MONTANA

Army cutworm

Euxoa auxiliaris

Lepidoptera: Noctuidae

by Wendell L. Morrill and Todd Borchers*

Description: Moths are brown and tan and have a wingspread of 1¾ inches. They are attracted to lights at night. Larvae have a dark stripe down their backs and have dark brown heads. They reach 1½ inch in length when full grown.

Damage: Worms feed on tips of small grains plants at night and hide in the soil during the day. Wheat damage resembles rabbit or antelope grazing. Heavy infestations will completely destroy fields. Weeds such as fanweed are also attacked.

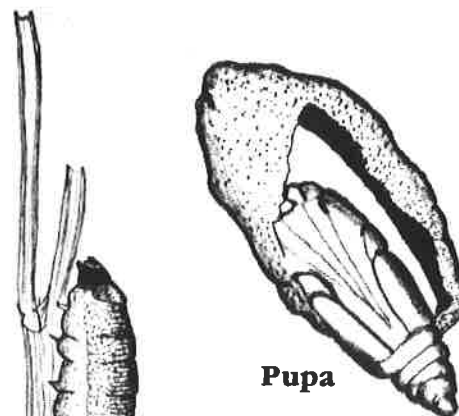
Life Cycle: Eggs hatch in the fall, and larvae may feed in the winter or early in the spring during warm periods. After the worms are full grown, they form cells in the soil where they enter the pupal stage. Moths emerge from the pupae in the summer and lay eggs in the soil from September until the first killing frost. There is one generation per year.

Detection: Examine fields which are not showing vigorous early spring growth. Search in the dry upper layer of soil for larvae. Traps using sex pheromones may be used to detect heavy fall activity, which suggests problems for the following year.

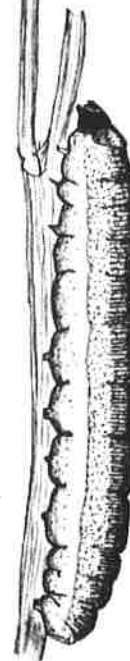
Economic Damage Levels: Vigorous wheat stands can tolerate more damage than young plants or plants under drought stress. Consider treating when two or more worms are present per foot of row in small wheat, or if three or more are present in tillered wheat.

Controls: Apply recommended chemicals when worm populations exceed the economic damage levels. Tillage is not effective. Predators and parasites are common, but usually are not effective in preventing losses.

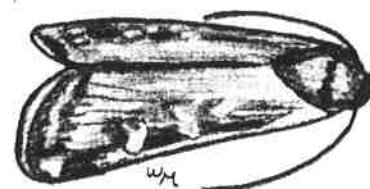
*Morrill is an associate professor of entomology; Borchers assisted with this report as a requirement for Economic Entomology 310.



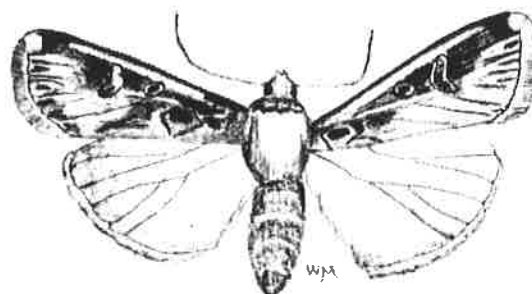
Pupa



Larva



Resting moth



Moth, wings open