

The Fall Armyworm - Pest of Pasture, Hayfields and Small Grains 2009

Allen Knutson
Extension Entomologist, Texas AgriLife Extension
Texas A&M Research and Extension Center, Dallas

Two species of armyworms attack forage and field crops in north Texas. The fall armyworm is most abundant during August through early November in north Texas and feeds primarily on bermuda grass, wheat and rye grass, although it attacks many other crops. The true armyworm is common during April and May when it attacks wheat, rye grass, winter pastures, and seedling corn and sorghum. Both caterpillars can occur in very large numbers, can consume a crop almost overnight, and will move in large masses or "armies" to adjacent fields in search of food. Armyworms attack many different kinds of plants and when food is scarce, they can feed on plants not normally attacked.

The fall armyworm apparently does not overwinter in north Texas. Moths fly north from south Texas each year to re-infest the area. Outbreaks often occur in late summer and fall and follow periods of rain which create favorable conditions for eggs and small larvae to survive. Irrigated fields are also highly attractive to moths for egg laying, especially during drought conditions.

Life Stages of the Fall Armyworm.

Eggs. Eggs are laid in masses of up to 50 eggs on the grass leaves and are difficult to find. The eggs are covered with the grey scales from the moth's body, giving the egg mass a fuzzy appearance. Eggs hatch in 2-3 days.

Caterpillar. Fall armyworms are green, brown or black. A distinct white line between the eyes forms an inverted "Y" pattern on the face. There are four black spots aligned in a square on the top of the 8th segment near the back end of the caterpillar. Armyworms are very small at first, cause little plant damage and as a result infestations often go unnoticed. Larvae feed for 2-3 weeks and full grown larvae are about 1 to 1 ½ inches long. Armyworms consume 80% of their total food intake during the last few days of development. Given their immense appetite, great numbers, and marching ability, armyworms can damage entire fields or pastures in a few days. Once the armyworm completes feeding, it tunnels into the soil about an inch and enters the pupal stage.

Pupa. The full grown armyworm tunnels into the soil and transforms to the pupae, an inactive, non-feeding stage. In 7-10 days, the moth emerges from the pupa and repeats the life cycle.

Moth. The fall armyworm moth has a wingspan of about 1 ½ inches. The front pair of wings are dark gray with an irregular pattern of light and dark areas. Moths are active at night and common around lights at night. A single female can deposit up to 2000 eggs.

Development from egg to adult requires about 4 weeks during the summer and is longer during cool weather. There are several generations a year. Development ends with cold weather in November.

Management.

The key to managing fall armyworms is to detect infestations before they have caused economic damage. Fall armyworm larvae feed primarily during the night and during cloudy weather. During the day, look for armyworms under loose soil and fallen leaves on the ground. The presence of chewed leaves can indicate armyworms are present. Small larvae chew the green layer from the leaves and leave a clearing or “window pane” effect and consume only a small amount of foliage. For this reason, infestations can go unnoticed unless the field is closely inspected.

Once larvae are greater than 3/4 inch, the quantity of leaves they eat increases dramatically. During the final 2-3 days of feeding, armyworms consume 80% of the total foliage consumed during their entire development. For this reason, extensive feeding damage can occur in a few days.

The density of armyworms sufficient to justify insecticide treatment will depend on the stage of crop growth and value of the crop. Seedling plants can tolerate fewer armyworms than established plants. Infestations of 2-3 armyworms per square foot may justify treatment.

Hot, dry weather and natural enemies limit armyworm populations. Insect parasites such as wasps and flies, ground beetles, and other predators help suppress armyworm numbers. Diseases such as insect viruses and fungi can also be important. However, these natural enemies can be overwhelmed when large numbers of migrating moths lay thousands of eggs in a field.

Armyworms often infest fields of volunteer wheat and weedy grasses in ditches and around field margins. Destruction of volunteer wheat and weedy grasses can eliminate these sources of armyworms.

Labeled Insecticides for Armyworm Control in Pastures and Hayfields.

Always read and follow all label instructions on pesticide use and restrictions. Information below is provided for educational purposes only. Read current label before use.

Malathion 57% and Malathion ULV. Zero days to harvest or grazing.

Mustang Max (9.6% zeta-cypermethrin). The first pyrethroid insecticide labeled on pastures and hay fields. Applications may be made up to 0 days for forage and hay, 7 days for straw and seed screenings. Labeled for a large number of insect pests, including armyworms, grasshoppers

Tracer. Do not allow cattle to graze until spray has dried. Do not harvest hay or fodder for 3 days after treatment. There is no preharvest interval for forage. Treat when eggs hatch or when larvae are small. Use higher rates for larger larvae.

Sevin 4F, Sevin XLR, Sevin 80S, Generic Carbaryl. When applied to pastures, there is a 14 day waiting period before grazing or harvesting.

Dimilin 2L. Wait one day until harvest. Label does not list a restriction on grazing. To be effective, Dimilin must be applied before larvae reach 1/2 inch or longer. Will not control larger larvae. Provides residual control for up to 2-3 weeks, as long as forage is not removed from field. Dimilin acts as an insect growth regulator.

Intrepid 2F. Do not harvest hay within 7 days of application. There is no pre-harvest interval for forage. Begin applications when first signs of feeding damage appear. Use higher rates for

heavier infestations. Intrepid is an insect growth regulator.

Lannate. Bermudagrass only. Do not apply within 7 days of feeding forage or allowing livestock to graze. Do not apply within 3 days of cutting for hay. Lannate is a highly toxic POISON and all label precautions must be carefully followed. A restricted use pesticide.

Karate. (and other lambda cyhalothrin products) Pasture and rangeland grass, grass grown for hay and silage and grass grown for seed. Pasture and rangeland grass may be used for used for grazing or cut for forage 0 days after application. Do not cut grass to be dried and harvested for hay until 7 days after the last application.

Labeled Insecticides for Armyworm Control in Wheat and Small Grains include:

Baythroid, carbaryl, Lannate, Lorsban, Mustang Max, methyl parathion, Proxis and Tracer. Refer to label for restrictions on grazing and harvesting treated crops.
Always read and follow pesticide label directions.