



Fall Armyworm

Identification and Control

Casey Reynolds, Assistant Professor and Extension Turfgrass Specialist
Mike Merchant, Professor and Extension Urban Entomologist
Diane Silcox Reynolds, Post-doctoral Research Associate, Entomology
 The Texas A&M University System

Fall armyworms (Fig. 1) can cause rapid, significant loss of leaf tissue in turfgrass. They feed primarily on bermudagrass, ryegrass, fescue, and bluegrass, but can also damage agricultural crops. The name armyworm originates from agriculture, where infestations sometimes resemble an army as they move across large agriculture fields. The same devastation can occur in turf, where armyworms can consume areas as large as a football field in as few as 2 to 3 days (Fig. 2).

Lifestages of the fall armyworm

Armyworms belong to the insect order Lepidoptera and family Noctuidae. Common species of armyworms present in Texas include: the fall armyworm (*Spodoptera frugiperda*) the yellow-striped armyworm (*Spodoptera ornithogalli*) the

beet armyworm (*Spodoptera exigua*) and the true armyworm (*Mythimna unipuncta*). Of these four species, the fall armyworm is the most common cause of damaged turfgrass



Figure 3. Fall armyworm adult moth.



Figure 1. Fall armyworm larvae.



Figure 2. Fall armyworm damage to a football field. on golf courses, athletic fields, and home landscapes. The fall armyworm has four life stages: egg, larva, pupa, and adult. Adult moths (Fig. 3) are generally gray, with a 1½-inch wingspan and

white underwings. The forewings are mottled with flecks of white, and males may have a triangular white spot in the middle of the wing and another spot near the wingtip.

Fall armyworms are unusually susceptible to cold, and populations are thought to die out each winter except in south Texas. Fall armyworm infestations often occur during “outbreak years,” when exceptionally high populations of the insects survive the winter and make their way north.

Armyworms fly and mate at night, after which the female will lay up to 1,000 eggs in masses (Fig. 4) on suitable host plants or other surfaces including the undersides of tree leaves or on structures near turfgrasses. These structures can include bleachers, fences, light posts, golf flags, and even water coolers (Fig. 5). The presence of lights around athletic fields, parks, and golf courses can increase the likelihood of moths being present near these turfgrass settings, so consider this when scouting for these pests.

After hatching, newly emerged larvae may spin a silken thread to lower themselves to the turf to feed. The earliest instars, one to four, eat relatively little leaf material, while the fifth and



Figure 4. Fall armyworm eggs.



Figure 6. Inverted “Y” on head of a fall armyworm.

sixth larval stages eat over 90 percent of the total foliage the armyworm will consume over its life span. This usually means that early damage is often overlooked, and most defoliation takes place over a relatively short period during the later development stages. Caterpillars feed throughout the day but are typically most active early in the morning and late in the evening. They can often be observed easily at these times.

Fall armyworm caterpillars range from shades of brown to gray, green, or yellow-green. Their most distinguishing characteristic is a whitish inverted Y between the eyes (Fig. 6) and three whitish stripes on the pronotal shield behind the head. Development from eggs to full-grown larvae often takes 2 to 3 weeks, at which point the larvae will burrow into the soil to pupate (Fig. 7) and emerge as adults 10 to 14 days later whereupon the life cycle begins again. Multiple generations occur each year, particularly in south Texas where the warmer climate can allow development to take place year round.

Damage by fall armyworm caterpillars (larvae) initially appears at the tips of the grass blades. The tips look transparent due to the plant cells being eaten. If left uncontrolled, caterpillars may continue feeding, stripping tissue from turfgrass leaves, and leaving brown areas adjacent to green turf.



Figure 5. Fall armyworm eggs laid on a golf course water cooler.



Figure 7. Fall armyworm pupae.

Initial damage can resemble drought stress but will progress to complete loss of foliage if there are enough armyworms and the turfgrass is left untreated. There may also be a distinct line between damaged and undamaged areas. Healthy bermudagrass typically recovers after defoliation because its rhizomes and stolons grow so aggressively. However, newly established bunch-

type grasses, such as ryegrass or fescue, may be stunted more severely or even killed by armyworm feeding.

Fall armyworm control

While scouting for damage is important for all insects, careful, frequent inspection is especially important for this pest because it feeds rapidly and is very destructive. If many armyworms are present in turfgrasses, it is important to treat as soon as possible to avoid further damage. There are several active ingredients that control fall armyworms effectively, but formulations, sites for use, and applicator requirements vary widely. Always consult the product label for specific instructions on application rates, methods, and timing. For a complete list of products labeled for fall armyworm control, consult the Texas Turfgrass Pest Control Recommendations Guide.

Acknowledgment

*All photos by Casey Reynolds,
Assistant Professor and Extension Turfgrass Specialist*

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