W1372

Fall Armyworms

Midhula Gireesh, Assistant Professor and Extension Specialist, Department of Entomology and Plant Pathology
Becky Bowling, Assistant Professor and Extension Turfgrass Specialist, Department of Plant Sciences
Celeste Scott, Horticulture Extension Specialist, Department of Plant Sciences

As the name suggests, fall armyworms usually show up in the late summer and fall. Outbreaks can be severe in some years. Although armyworms may be better known as agricultural crop pests, they can be a severe but sporadic pest on turfgrass. When in a group, they may eat the grass down to the ground and cause bare areas in lawns. In cases of heavy infestations, large expanses of turfgrass can be destroyed. Fall armyworms have a broad host range but generally prefer lush, well-fertilized grasses. Areas that are newly planted will be the most susceptible.

How to Identify Fall Armyworms

Fall armyworms are lepidopteran insects that have four life stages: egg (Figure 1), larva (Figure 2), pupa and adult (Figure 3). The larvae cause damage to turfgrass by feeding on the leaves (foliar feeders). Larvae generally range from 1 to 1.5 inches long, depending on instar (growth stage, Figure 4) and are greenish to brown with alternating dark and light stripes that run the length of their body. The larva has a dark head capsule marked with a pale but distinct, inverted "Y" (Figure 5). Often, four black dots may be observed on the back side of each segment and on the abdomen. The adult moths are tan with bronze front wings and a single white dot in the middle. When expanded, their wings measure about 1.5 inches across. Fall armyworms do not overwinter in Tennessee. Each year, fall armyworm moths, carried by air currents, move north from Florida, spreading from south to north.

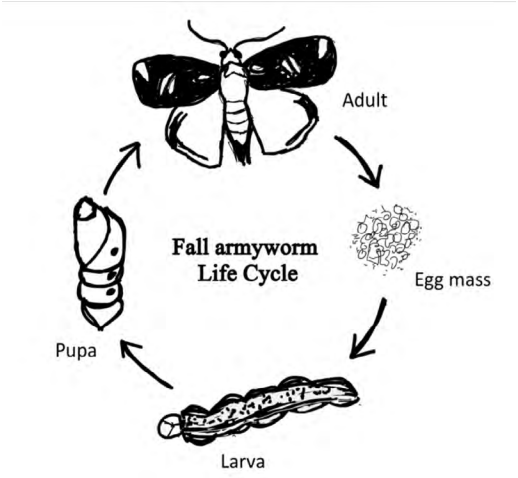

Figure 1 (Top Left): *Fall armyworm egg mass*

Figure 2 (Top Right): *Fall armyworm larva*

Figure 3 (Bottom Left): *Fall armyworm lifecycle. Adapted from University of Georgia , Illustrated by Rebekka Horn,University of Tennessee*

Figure 4: *Fall armyworm larval stages.*

Figure 5: *Fall armyworm larva with a distinct, inverted "Y" on the head capsule*

It is essential to scout lawns for fall armyworms by carefully examining the turfgrass. Unlike many other foliar feeding pests in turfgrass, fall armyworms will feed both during the day and at night but tend to feed most heavily in the early morning. In early stages, small immature armyworms are unable to chew completely through the leaves and instead scrape the green tissue off the leaf surface, resulting in transparent leaf tips that resemble windowpanes. As armyworms mature, they tend to "march" in large groups or feed in a way that creates a distinct line between damaged and undamaged turfgrass. Feeding can persist until the first hard frost. A good indicator that armyworms are present is seeing birds in the yard in the early morning hours. When fall armyworms are suspected but not immediately visible, a soapy water solution may help bring them to the surface. Add 1 to 2 tablespoons of liquid dishwashing soap to a gallon of water. Pour this solution over a 2-foot by 2-foot area (4 square feet). Caterpillars and other insects will generally be forced to the surface by the irritating soap solution.

How to Control Fall Armyworms

While warm-season grasses, such as bermudagrass, can be susceptible to serious injury from fall armyworm, feeding will generally not result in death of established turfgrass, as recovery from the continued growth of rhizomes (below-ground stems) is possible. More often, concerns arise from unsightly and exposed areas that are more vulnerable to winter weeds and other stresses going into the winter. Fall armyworms are generally less attracted to zoysiagrass. Natural enemies, including certain parasitoids, ground beetles, soldier bugs, birds, rodents and fungal and viral diseases, can keep a check on fall armyworm populations. However, this might not be effective when the fall armyworm pressure is high or there is an outbreak. If identified early, fall armyworms are not a difficult pest to manage as many effective insecticides are available, such as bifenthrin, permethrin, zeta cypermethrin, lambda-cyhalothrin, carbaryl, cyantraniliprole and spinosad, Bacillus thuringiensis kurstaki. According to federal law, ensure that the target pest (armyworm) and site (residential lawn or commercial turfgrass) are listed on the product label.

Once an active ingredient is selected for control, follow these practices to achieve the best results. Liquid applications are preferred to granules due to better coverage and rapid action. Mowing before application can improve penetration of the insecticide through the canopy and into the spaces where fall armyworms are actively feeding. Avoid watering or mowing for 24 hours after spray applications to increase larval exposure to the insecticide. Keep in mind when armyworm pressure is high, an insecticide application soon after sod installation is recommended. However, many insecticides can pose a risk to beneficial insects and other organisms, particularly if not used in accordance with the label. Always read and follow the label instructions prior to making an application. If in doubt, consult a UT Extension professional.

Active Ingredient	Selected Trade Names[1]
Bifenthrin	Ortho® BugClear™ Lawn Insect Killer
Chlorantraniliprole	Grub Ex1
Gamma-cyhalothrin	Spectracide Triazide Insect Killer for Lawns & Landscapes Concentrate
Imidacloprid + ß-cyfluthrin	BioAdvanced Complete Insect Killer for Soil and Turf
Permethrin	Hi-Yield 38 Plus Turf, Termite, and Ornamental Insect C
Spinosad	Monterey Garden Insect Spray
Zeta-Cypermethrin + Bifenthrin	Sevin® Insect Killer Lawn Granules

[1] Trade names are provided for informational purposes only.

References

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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 and registered for use in your state.

Disclaimer

This publication contains pesticide recommendations that are subject to change at any time. The recommendations in this publication are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. The label always takes precedence over the recommendations found in this publication. 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 that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author(s), the University of Tennessee Institute of Agriculture and University of Tennessee Extension assume no liability resulting from the use of these recommendations.

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