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Managing Fall Armyworms on Lawns

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Introduction

As its name implies, the fall armyworm is pretty predictable in terms of the timing of its appearance. Although the levels of pressure from this pest varies from year to year, it is anticipated that fall armyworm pressure peaks from mid-August to mid-September.

Identification and damage incited by the pest

There are several caterpillars that attack lawns and ornamentals in Virginia lawns over the primary growing season, and there is a distinction between the fall armyworm (*Spodoptera frugiperda)* and the "common" armyworm (*Pseudaletia unipuncta*). The common armyworm is found pretty much anywhere east of the Rocky Mountains and its cold tolerance allows this insect to persist essentially year-round in Virginia. Fall armyworm is a tropical moth native to warm climate areas of the western hemisphere. It cannot successfully overwinter in Virginia. However, fall armyworm moths are strong fliers, and populations can show up throughout the eastern United States in the late summer and fall months, sometimes in very high populations like we saw most recently in 2018 and again in 2021 in Virginia. Female fall armyworm moths can lay up to 10 egg masses (each with 100 - 200 eggs). So, huge densities of armyworms can build up from just a few egg laying moths in a field. This can completely destroy lawns.

Virginia's turfgrasses the most predictable and problematic caterpillar on an annual basis is the fall armyworm, a caterpillar with a particular identification characteristic of an inverted "Y" on its head (Figure 1).

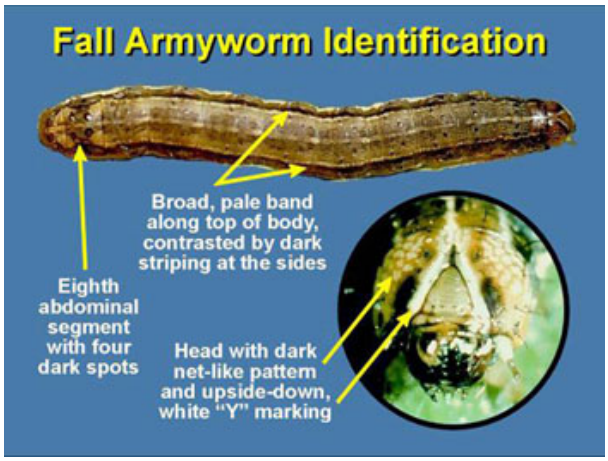

Figure 1. Fall armyworms can be identified by specific banding and spotting of their bodies and the inverted "Y" on their head. (image provided by Eric Day)

The lack of cold tolerance of the fall armyworm means it is introduced annually into the region by its adult form (a moth) that migrates from the south, mating and laying eggs along the way. Both species have the potential for two-three generations per year in Virginia. Each has chewing mouthparts, and feeding takes place on above ground foliage almost non-stop during the day. Long time turfgrass managers in the mid-Atlantic know to listen for reports of fall armyworm activity from their North Carolina colleagues because that is a sure sign that pest pressure is heading north.

The fall armyworm is particularly problematic while feeding on the foliage of cool-season grasses because of the environmental stress these plants are under in late summer. However, when present in large numbers (which is quite often the case) they can even cause appreciable damage on even the fastest growing grasses such as bermudagrass (Figure 2). When these caterpillars are present in large numbers, the turfgrass literally appears to be moving as these insect pests forage their way across the turfgrass, consuming the leaves of the turf as

they move. Hence, the common name that suggests an army is on the move.

Figure 2. The brown bermudagrass turf on this sports field has been damaged by fall armyworms feeding on the leaves. (photo by Bruce Adwell)

How, when, and where do fall armyworms feed and what does the damage look like?

Like a lot of grasses, weeds, and disease organisms, the promotion of vegetative growth from turfgrasses, grain crops, pastures etc. following late summer rains seems to be strongly correlated with the emergence of large numbers of very hungry fall armyworm larvae that will have one last feeding frenzy prior to cooler fall temperatures. The larvae have chewing mouthparts and consume the leaves of the turfgrasses as they move across the lawn, pretty much regardless of the time of day. Their presence is often indicated by increased bird-feeding activity. High numbers of worms and summer weather conditions that are not conducive to cool-season turfgrass recovery can result in extreme damage (Figure 3). In many cases, where only minimal foliage thinning has occurred, fall armyworm damage on cool-season grasses can be remediated with standard recommended fall fertility programs. However, if the damage is extreme (as seen in Figure 3) and recovery potential is limited, fall renovation or reseeding might be required. There are no turfgrass cultivars that are 'resistant' to fall armyworm damage, but renovation will afford you the opportunity to reseed with superior turfgrass varieties that you will find on the Virginia Turfgrass Variety Recommendation List from the VCE publication resources website (https://resources.ext.vt.edu/).

Figure 3. When present in large numbers, fall armyworms can defoliate lawns, especially cool-season lawns like this one grassed with tall fescue.

While fall armyworms are rarely a serious issue on warm-season grasses in Virginia, Figure 2 shows that the thinning of bermudagrass turf can be quite severe with enough worm activity. If this damage happens when there is still enough growing season for warm-season turfgrass recovery, chemical treatments are typically not required; however, outbreaks of fall armyworms later into the fall are of concern because these plants are trying to photosynthesize and store as much food as possible for the coming winter dormancy period. One situation where fall armyworm damage is of concern regardless of warm- or cool-season grasses is for newly installed sods. Caterpillars that are eating the food-making machinery of the plants (i.e. the leaves) are seriously reducing root development and reducing establishment success.

Control options

If damage is minimal, it is likely that you will have full recovery of the turfgrass and in most cases applications of insecticides are not warranted. However, damage can be quick and severe when worms are present in large numbers, so having a control plan is often warranted.

Insecticides recommended for control include most pyrethroids (such as bifenthrin, lambda-cyhalothrin, Mustang Max, Baythroid XL, etc..), the carbamate, Lannate LV, and many of the more selective (lepidopteran-targeting) insecticides such as the diamide Prevathon, Coragen, Acelepryn, Besiege), indoxacarb products like Steward, Avaunt eVo, Provaunt, spinosad (Blackhawk, Tracer, Matchpoint), Radiant, Intrepid Edge, as well as others. On turf, Virginia Tech trials indicate very good control of larvae with pyrethroids, which are also one the cheaper insecticide options available. Please note that control of large larvae is sometimes difficult with any insecticide. Consult the relevant VCE Pest Management Guide for specific recommendations (https://resources.ext.vt.edu). Remember THE LABEL IS THE LAW and labels vary for products, pests, and the plants being treated.

Summary

The fall armyworm is a fairly easy pest to control. its appearance is quite predictable and very often does not require insecticide applications on your turfgrasses. However, when present in large numbers and actively feeding, the damage to the turfgrass can be severe, so be prepared to identify and treat this pest when needed.

In search of further information?

There are many other publications on how to grow a healthy, environmentally responsible lawn that can be found under the Lawn and Garden tab on the Virginia Cooperative Extension website.

References

http://entnemdept.ufl.edu/creatures/field/fall_armyworm.htm

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