

■ Here's the adult stage of a fall armyworm. The moths are nondescript and weak flyers, often carried long distances by wind and storms. These moths lay clusters of small eggs on grasses.

FALL ARMYWORMS:

ATTACK OF THE CREEPY CRAWLERS



In 2021, many food plotters learned the hard way about this common pest. That prompted an obvious question: How can you combat this foliage-eating bug?

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As a child in the mid-1960s, I had three very enjoyable toys: Jarts, which were lawn darts with pointed metal tips; Clackers, which were super-hard acrylic spheres connected by a string; and a Creepy Crawler set, which used a liquid goo squirted into molds shaped like various critters and then cooked on a tabletop heating unit to solidify the goo.

The set started my interest in insects, and many years later, I earned an undergraduate college degree in entomology. Too bad Jarts, Clackers and Creepy Crawlers were banned because of safety concerns. Whenever I hear enlightened people complaining about children drinking from a lawn hose, I think of Jarts, Clackers and Creepy Crawlers — banned staples of my

youth, which I survived and during which I thrived.

Many insects feed on crops, including fall armyworms, and their presence generates considerable attention. Fall armyworms are foliage eating caterpillars (called larvae) of a nondescript moth. There are several species of armyworms, and the fall armyworm periodically appears in large numbers capable of devouring the foliage of crops. During summer and early fall 2021, much of the country experienced a major — sometimes described as unprecedented — outbreak of fall armyworms, and the insects inflicted significant damage on lawns and food plots. Its preferred food sources are grasses, including bermudagrass, corn, millet, grain sorghum, cereal grains and grassy weeds. However, fall armyworms also feed on many annual crops, such

as soybeans, peas and many brassica crops. Although they prefer grasses, fall armyworms move en masse to other food sources when nearby grasses are consumed. That mass migration (that is, a march) is the root of the name fall armyworm.

The 2021 outbreak prompted increased awareness about the pest and also raised questions on how to deal with them.

LIFE CYCLE

The fall armyworm is a common, regularly occurring pest in the coastal regions of the southern United States, where it overwinters. There are multiple generations of fall armyworms in the South and progressively fewer generations farther north. The insect does not survive winter in Northern latitudes, which explains why the fall armyworm is only an occasional pest. Although the fall armyworm is known for the spectacular mass movement of larvae in search of food, such movements occur for short distances. Infestations of armyworms outside the South are likely because of weak-fly-ing adult moths carried by winds associated with storm fronts or tropical systems.

Adult fall armyworms (the moths) emerge from pupae (an inactive stage) buried in the soil. The moths are small, gray and basically nondescript. Swarms of moths lay thousands of eggs on green plants, usually grasses. Within 48 hours, larvae hatch and immediately begin feeding. As the larvae grow, they progressively shed their exoskeleton (skin). When the larvae are at maximum size, they burrow into the soil and pupate. The time from newly hatched larvae to pupation is two to three weeks, with temperature affecting the rate of development. The pupal stage is basically a state of dormancy until conditions stimulate adult moths to emerge from the pupae. In summer, the pupal stage can be as brief as two weeks. In fall, the pupal stage can last several months and can be in an overwintering form, assuming the soil does not freeze.

Newly hatched fall armyworm larvae are less than ¼ inch long and are found among grasses close to the soil surface. Color is variable, but young fall armyworm larvae are usually pale green, almost translucent and have a dark head. Young larvae progress to fully developed caterpillars with a maximum size of about 1½ inches long. The color of older larvae is highly variable from light tan, to green and even nearly black. A critical characteristic of fall armyworm caterpillars is a pale inverted Y on the larval face.

Older larvae are more noticeable, obviously because of their larger size compared to newly hatched larvae. Additionally, they are more visible and noticeable because they feed higher on plants. That's often the stage when customers become alarmed by the presence of fall armyworms and feeding damage. Unfortunately, by the time large armyworms are observed, there's already significant feeding damage. Further, large larvae are more difficult to control with insecticides than small larvae. This il-

lustrates the need for customers to closely inspect their food plots for young (tiny) fall armyworm larvae, which are often found close to the soil surface in grasses.

FALL ARMYWORM CONTROL

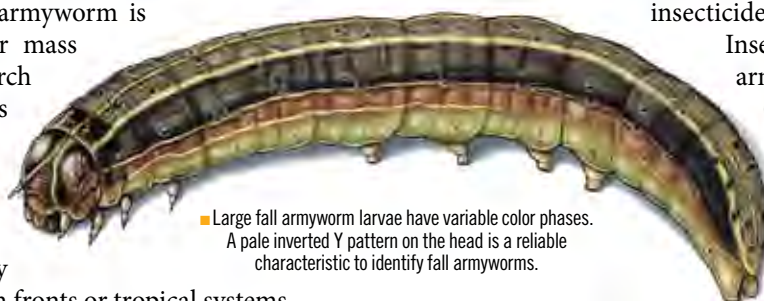
It's important for customers to regularly and closely inspect their food plots for armyworms, particularly in late summer and early autumn. Focus on forages that are planted in cereal grains, such as Oats Plus, Pure Attraction, Destination and No Plow. Small larvae will be lower in the crop canopy compared to larger worms. When detected, smaller larvae will be easier and more effectively controlled than larger larvae. Configuring a sprayer for high-volume output (sprayer tips with large orifices) will help ensure thorough coverage with insecticide spray.

Insecticide options to control fall armyworms include carbaryl (Sevin) and Spinosad. These insecticides are available without a state-approved applicator's license. Read the insecticide label before use for information on rates and cautionary statements.

This article focuses on the fall armyworm infestations during Summer 2021, but the basic information is the same for other foliage feeding larvae. There are several species of armyworms, along with other foliage feeders, such as corn earworm (also called tomato fruitworm), hornworms and loopers. Although there's variation among these species, the basic life cycle is the same, along with management strategies. It is critical to closely monitor food plot growth during summer and early autumn. Close inspection of food plot forages and treating infestations when larvae are tiny is crucial for effective management.

CONCLUSION

In graduate school, my career path changed from entomology to weed science. A classmate in graduate school had a cocklebur ecology study in soybeans. Specific cocklebur plants, which we sarcastically called pet weeds, were pampered all summer, and the effects of those weeds on individual soybean plants were measured. Tall cocklebur plants began to die in midsummer. A previously unknown or perhaps underappreciated beetle was feeding on the cocklebur plants and was identified as the cocklebur weevil. Because of the importance of that research (especially to my classmate), considerable effort was made to control the cocklebur weevil feeding on cocklebur. Strange things happen when the insect world and weed world collide. I guess it depends on your perspective. Creepy crawlers.



■ Large fall armyworm larvae have variable color phases. A pale inverted Y pattern on the head is a reliable characteristic to identify fall armyworms.

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