

## “DISSECTING” TRUE ARMYWORM MANAGEMENT

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True armyworms are an occasional pest in Wisconsin’s corn and wheat production systems. Typically, field damage is superficial and spotty in nature. During the summer of 2018, we had few, if any, reports of damage from the spring (migrating) generation. However, there were several significant, if not severe, damage from the summer generation throughout the state.

Armyworm larvae have a tan head w/numerous vein-like lines in the compound eyes. Body color and intensity can be very diverse, but alternating light to darker color lines are usually noticeable. Typically, the “belly” is lighter colored than the rest of the body. Larvae are nocturnal feeders and often rest in the corn whorl or on the soil surface in wheat during the day. Larvae may grow up to 1.5 inches long. The adult moth has a wingspan of 1.5 inches and few identifying characteristics.

Adult moths migrate to Wisconsin on spring weather events. Once they arrive, they are usually attracted to grasses to lay eggs. Larvae emerge one week to 10 days after eggs are laid and will feed for approximately 3 to 4 weeks. Fully developed larvae will pupate for approximately 2 weeks before emerging as adults.

Armyworm prefer to feed on grass plants including corn and small grains. The presence of grassy weeds (including cover crops) and corn no-tilled into alfalfa may attract adults to lay eggs. If these hosts are unavailable, broadleaf weeds and other crop plants, including vegetables and soybeans may serve as hosts. Armyworm larvae may also migrate short distances from one host to another. In this situation damage is usually highest along field margins.

Larvae will begin feeding at the leaf margin, often leaving a ragged edge. If holes are chewed in a leave, they too will have a ragged appearance.

Because armyworms migrate to Wisconsin timing of arrival and intensity of the flight is difficult to forecast. Routine monitoring of attractive fields (corn planted into not-till alfalfa, lodged wheat, grassy weeds and/or rye cover crop) is suggested. Damage from the summer generation if more difficult to predict and requires an extensive monitoring of corn and other susceptible crops.

The economic threshold for armyworms varies according to the crop. However, one commonality is that armyworm are best controlled when under 1-inch long. In wheat, and other small grains, the long-established economic threshold is a field average of three armyworms per square foot. Armyworms are nocturnal feeders so look for larvae on the soil

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surface and under surface residue. Furthermore, armyworms can switch from leaf feeding to head clipping prior to harvest. Seedling corn can be very resilient. In a recent article published by Kelly Tilmon and Andy Michel (Ohio State University), they suggested rescue treatments may be needed if stand infestation is greater than 50% and larvae are not yet mature. In late vegetative/early reproductive corn, the threshold is one armyworm on 75% of the plants or two armyworms on 25% of the plants. Again, armyworms are best controlled if under 1-inch long.

There are several foliar broadcast insecticide options available to control armyworm larvae. Insecticide classes include carbamates, organophosphates, synthetic pyrethroids, diamides and microbials (*Bacillus thuringiensis* and spinosads). However, read label direction before deciding. Pay close attention to the Preharvest Interval especially in small grains.

There are several corn Bt hybrids with proteins that provide control of European corn borer. However, these proteins do not all offer adequate control of armyworm, especially when larval pressure is high. Of those proteins, the trait packages with the Vip3A protein can provide control of true armyworm.