Be Aware of Fall Armyworm in Late Season Crops and Pasture

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I have observed fall armyworm (FAW) feeding in OSU sorghum trials located in southeastern Oklahoma. While much of early planted sorghum is at or close to maturity, the potential for FAW damage in other crops continues. Fall armyworms are surface dwelling "climbing cutworm" caterpillars, so named because they tend to occur in noticeable numbers in late summer and fall, and often “march” in large numbers (Fig. 1) from food source to food source. Infestations can occur in grass pastures (Fig. 2), lawns, alfalfa, double cropped soybean, and sorghum, just to name a few.

Figure 1. FAW damage in lawn. Photo, Syngenta.

Figure 2. FAW damage in pasture. Photo, UGA Ext.

Fall armyworm feeding often goes unnoticed until they become 1 inch or more. By then, they are large enough to destroy a grass pasture or a lawn overnight. Going through six instar developmental stages, around 90% of damage occurs in the final 2 instars, about 3-4 days. They seem to prefer tall fescue, but they will also feed on bermudagrass and other turf. This time of year, damage may have appearances similar to drought. They do not overwinter in Oklahoma, but we will not be rid of them until we experience a true “killing frost”.

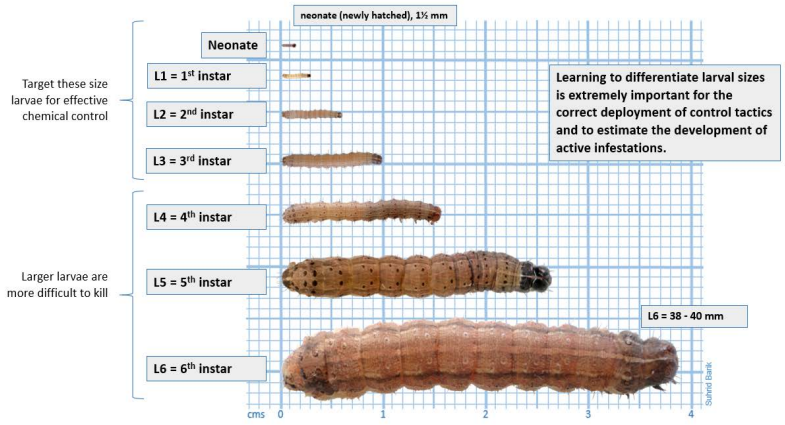

Figure 3: Developmental stages of Fall Armyworm larva. Occurs in short amount of time (2-3) weeks. Ninety percent damage in the final two instars. Corteva AgScience.

Mature fall armyworms measure 1½ inches long when fully grown (Fig.3). Their body color can range from green, to brown to black. When scouting, pay close attention to their head capsule and the presence of a prominent inverted white "y". In addition, a symmetrical square pattern of dots appears on the next to last body segment (Fig. 4).

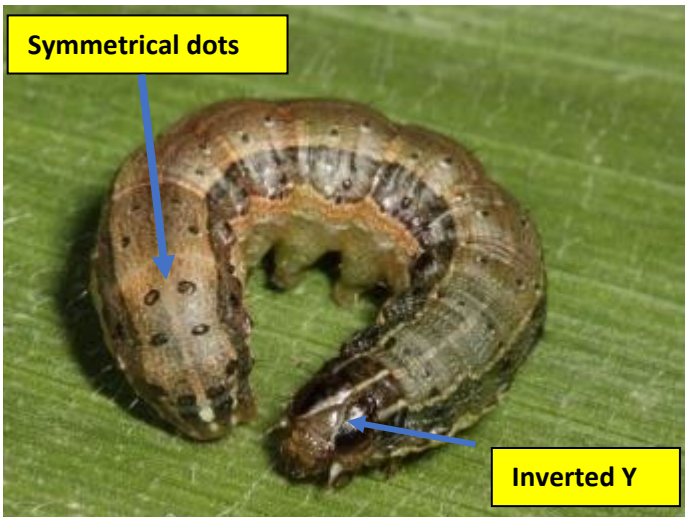

Figure 4. Characteristics of the fall armyworm. Note the inverted Y and symmetrical square dots on the next to last body segment. Photo, SANBI.

Small larvae do not eat through the leaf tissue, but instead, scrape off all the green tissue and leave a clear membrane that gives the leaf a "window- pane" appearance. Once they reach the fourth instar, they can chew through the entire leaf. When scouting, look for both types of chewing damage.

The following are suggested thresholds for various crops in Oklahoma:

Grass pastures:
For those wanting to put up grass hay, scout your fields by looking for caterpillars and “window paned” or chewed leaves (Fig 5). Get a wire coat hanger (Fig. 6), bend it into a hoop, place it on the ground, and count all sizes of caterpillars in the hoop. Take samples in several locations, along the field margin as well as in the interior. The hoop covers about 2/3 of a square foot.

Figure 5. Window-paned chewed leaf. Photo, OSU

Figure 6. Bent coat hanger for scouting. Photo, OSU.

Treatment threshold is an average of two or three ½ inch-long larvae per hoop sample (3-4 per square foot). Fall armyworm are easier to control with an insecticide when they are small (less than ½ inches). For control guidelines and specific insecticide information, consult OSU Fact Sheet CR-7193 Management of Insect Pests in Rangeland and Pasture.

Alfalfa:
Regularly check fields, this time of year, looking for evidence of various stages of feeding. Late August into late September is generally when alfalfa is seeded in Oklahoma. Close attention should be made to newly seeded stands. Two to three larvae per foot can destroy a seedling stand, while 10-12 larvae per foot have been known to destroy established stands of 12-14 inches in height (Fig. 7).

Figure 7. Heavy defoliation of established alfalfa. Photo. University of Nebraska, Lincoln.

Treatment threshold for an established stand is an average of 2-3 (½ inch) larvae per row foot. For newly seeded stands, threshold is 1 larva per row foot.

For control guidelines and specific insecticide information, consult OSU Fact Sheet CR-7150 Alfalfa Forage Insect Control

Soybean:

For stand reduction, do not allow caterpillars to reduce stands by more than four plants per row-foot. For larger soybean plants, base treatment thresholds by estimating percent leaf loss as well as the presence of defoliators (Fig 8). Research from various states has shown that soybeans can withstand 35% foliage loss up to one week before bloom. During bloom and pod fill, the threshold falls to 15% to 20% defoliation, and then increases to 35% to 40% defoliation once pods have filled (Fig 9). For more information consult CR-7167: Management of Insect and Mite Pests in Soybean

Figure 8. Spotted FAW damage in soybean. Growmark.

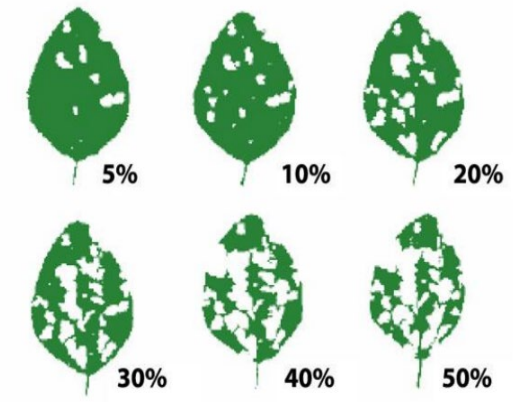

Figure 9. Visual representation of percent defoliation in soybean. Photo credit, Royer OSU.