Pest of the Month: Fall Armyworm on Turfgrass

The Fall Armyworm, *Spodoptera frugiperda* (Smith), is a late season pest in Missouri, especially in southern parts of the state. It does not overwinter in Missouri, but arrives here in late June / early July from the Gulf Coast area where it overwinters. Fall Armyworm can be an occasional, but sometimes sever pest on turfgrass.

Fall Armyworm adults are medium sized, dull-colored moths with a wingspan of about 1 1/2 inches. They resemble cutworm moths, a close relative. The front wings of male moths are dark gray, mottled with lighter and darker splotches, with a noticeable whitish blotch near the extreme tip (see Figure 1.). The forewings of females are more uniform gray, with less distinct markings. The hind wings of both sexes are grayish white. Adult moths are mainly active at night. The larvae of newly hatched Fall Armyworm are about 1/16 inch long and light grayish green in color, with older larvae ranging from light tan, to olive green, to nearly black. The full grown larvae measure about 1 1/2 inches long and have longitudinal stripes running along their sides. Although Fall Armyworm larvae resemble True Armyworms, they can be distinguished by the more prominent, light-colored, inverted Y-shaped marking on the front of the head as well as the presence of four distinct, black tubercles (a little projecting knob) on the back of each abdominal segment (Figure 2.). In addition, Fall Armyworms have well-defined teeth on their mandibles, unlike True Armyworms. The pupae of both Fall and True Armyworm are very similar in appearance.

Several generations of Fall Armyworms can occur each year, but generally only two occur in Missouri. Female moths are capable of laying 50 to several hundred eggs in masses covered with the grayish moth scales. Larvae hatch in 3 to 5 days and a new generation can take anywhere from 24 to 35 days to mature.

On turfgrass, Fall Armyworm is a sporadic, but occasionally severe pest. Damage is very similar to that of the True Armyworm. Newly hatched larvae feed gregariously at first, scraping the underside of leaf blades and leaving the clear, upper epidermal layer, or chewing the leaf margins

Continued on page 78

and producing a tattered look. As the larvae grow they can consume the equivalent of a good-sized handful of grass. The Fall Armyworm can feed anytime during the day or night, but move about mostly in the early morning or after dark. Although they are not as aggressive as the true armyworm; they can progressively thin a lawn over several days if not treated.

Look for discolored areas of turfgrass as the first sign of fall armyworms. Damage often begins along one edge of the turf area. Large numbers of birds looking for larvae in a turf area may well be a sign of Fall Armyworms infestation. Also look for green, fecal pellets that can often be seen in areas of damage. A valuable time-saving tool to use when scouting for Fall Armyworms in turf is to use a soapy water flush to bring to the larvae to the surface prior to severe damage. Mix two tablespoons of liquid dishwashing detergent in two gallons of water. From a bucket or sprinkling can, slowly pour the entire contents onto a square yard area where signs of infestation have occurred and then observe closely over the next few minutes for the Fall Armyworms (and any other larvae present) to make there way to the top of the turfgrass. It is not uncommon for the turf to be severely damaged and by the time someone begins looking for caterpillars, they have already entered the soil to pupate.

Fall Armyworm can be more difficult to control chemically than True Armyworm. Control will be improved if you cut the turf prior to treating. Light irrigation prior to treatment may also help as will treating late in the day. Chemical control is needed if natural enemies do not keep infestations below the economic threshold of 1 per square foot on general turf or 1 per square yard on golf greens. If possible, do not mow turf and remove clippings for several days after treating for any of the caterpillar pests.

Fall Armyworm (FAW) is one of eleven insect pests currently monitored by the IPM Pest Monitoring Network. Thirteen pheromone traps located in 6 of Missouri's 8 geographical regions are checked frequently to provide up-to-date pest-population data as an important tool to help pest managers make sound pest management decisions. Since the FAW monitoring season began in mid-May, there have been 8 FAW Pest Alerts sent to our subscribers from August 28th through October 4th due to potentially significant moth captures in pheromone traps. Significant captures have occurred in 2 Missouri counties in the Southeast region; 5 alerts at the Delta Center near Hayward in Pemiscot County, and 3 alerts from Benton in Scott, County.

Figure 1.

Figure 2.

Individuals interested in pest management can sign up and receive electronic Pest Monitoring Alerts when potentially significant insect captures have been reported. To subscribe to this service, visit our web site at: http://ppp.missouri.edu/pestmonitoring/subscribe.htm.

At the site, fill in the required fields and then mark the boxes next to the insects of interest and click submit. When pest captures reach significant numbers you will automatically be notified via email.

Although Pest alerts from moth and beetle captures in pheromone traps DO NOT indicate that treatment is necessary, they do provided valuable tool to our subscribers indicating that scouting for

Continued on page 79

Pest of the Month: Fall Armyworm on Turfgrass continued from page 78

potential pests in nearby locations may be in order.

Monitoring for pest outbreaks is a cornerstone of MU's Integrated Pest Management (IPM) Program. IPM stresses scouting practices rather than calendar-based treatments to detect pests and determine if action is necessary. MU's IPM Pest Monitoring Network provides farmers, landowners and pest managers with an up-to-date tally on several economically important insect species captured in pheromone traps throughout Missouri.

For additional information on Fall Armyworm and possible damage symptoms on corn and other crops as well as treatment recommendations follow this link: http://extension.missouri.edu/publications/DisplayPub.aspx?P=G7115

Image citations:

Figure 1: Spodoptera frugiperda moth: University of Georgia Archive, University of Georgia, Bugwood.org

Figure 2: Spodoptera frugiperda larva with inverted 'Y' on front of head, and four distinct, black tubercles on back of abdominal segments: Russ Ottens, University of Georgia, Bugwood.org

Steven Kirk
Extension Associate
KirkS@missouri.edu