



Pest e-alerts



*Entomology and Plant Pathology, Oklahoma State University
127 Noble Research Center, Stillwater, OK 74078
405.744.5527*

Vol. 8, No. 29

<http://entopl.okstate.edu/Pddl/>

Oct 2, 2009

Keep a Close Watch for Fall Armyworms in Seedling Wheat

Tom A. Royer, Extension Entomologist



My entomologist colleagues in Dallas TX are receiving reports of impressive fall armyworm buildups in wheat, turf and pastures. Reports indicated that seedling wheat fields are suffering severe stand loss. These reports serve as an early warning for fall armyworm threats to Oklahoma wheat fields. Fall armyworms can kill seedling wheat, so newly planted wheat fields need to

be watched carefully for several weeks after emergence. To scout for fall armyworms, examine plants in several locations within the field. Fall armyworms are most active in the morning or late afternoon. Look for leaves that seem to have had all of their green tissue removed which gives the leaf a "window pane" appearance. Examine some plants showing evidence of injury, and look in for small caterpillars in the whorl of the wheat seedling. When scouting, examine plants along the field margin as well as in the interior, because they often move in from road ditches and weedy areas. The suggested treatment threshold is 2 to 3 larvae per linear foot of row in wheat. In pasture, we do not have determined an established treatment threshold. However a general guideline developed for the southeastern U.S. suggests that two or three large larvae per square foot in grass pasture works as a treatment threshold.

It is much easier to control fall armyworms when they are small (less than ½ inches). Several insecticides are registered for control of fall armyworm in wheat, including Baythroid XL (cyfluthrin), Proaxis (gamma cyhalothrin), Cobalt (gamma cyhalothrin + chlorpyrifos), Karate/Warrior w Zeon (lambda cyhalothrin), Lannate (methomyl), methyl parathion, Tracer (spinosad) and Mustang MAX (zeta cypermethrin). Check Current Report; CR7194-Management

of Insect and Mite Pests in Small Grains for more information on rates and products registered for fall armyworm control.

In pasture, Sevin, malathion, Lannate (for bermuda pasture only), Confirm2F, Tracer and methyl parathion are labeled for control of fall armyworm. Check Current Report, CR7193- Management of Insect and Mite Pests in Rangeland and Pasture for recommended application rates.

Questions and Answers Regarding Fall Armyworm in Wheat and Pasture

Tom A. Royer, Extension Entomology Specialist
Gene Krenzer, Extension Agronomy Specialist

“A couple of years ago, fall armyworms seemed to destroy my pasture “overnight”, where do they come from?”



Fall armyworm is a tropical insect and overwinters only in the warmest areas of the US. As populations build throughout the summer, they move northward on weather fronts, often arriving in Oklahoma in late summer. Because several generations develop during the summer, the generations overlap and effectively create a continuous supply of moths (and eggs). Any fall-planted wheat field that is emerging out of the ground could become infested.

Fall armyworm infestations often go unnoticed for a while because they don't cause obvious damage until they get bigger. The caterpillars shed their skin five times before they quit feeding. To indicate the stage of growth that a caterpillar is in, we refer to them as instars. The first instar is the caterpillar just after it hatches. A second instar is the caterpillar after it has shed its skin for the first time. A sixth instar has shed its skin five times and will feed, bury itself in the soil, and pupate.

If you were to ration out a supply of food to feed each instar, you would need to reserve 70% of the total supply just to feed a sixth instar caterpillar. It is similar to trying to feed a hungry

teenager. Like a teenager, a sixth instar fall armyworm can eat lots of food in a relatively short period of time, and leave little leftover for anyone else.

“Is my wheat susceptible to fall armyworm?”

YES. Producers should be monitoring any emerged wheat for signs of fall armyworm feeding.

“How can I recognize a fall armyworm infestation before it causes major injury?”

During the first three instars, the caterpillar does not remove much plant tissue. It will scrape off the epidermis of the leaf, leaving a clear, papery membrane that you can see through. This type of feeding is called “windowpaning” or skeletonizing. As the caterpillar gets larger, it chews through the leaf and begins eating along the margin of the leaf blade. Fourth through sixth instars chew along leaf margins and eat the entire leaf blade, as well as stems. The key is to look for the “windowpaning” as an early sign that you have an infestation.



“How many fall armyworms are too many, and how do I control them?”

In fall seeded wheat, treat if you find two to three armyworms per foot of row. In pasture, no established treatment threshold has been determined, however a general guideline for fall armyworm control in the southeastern US suggests that if you find two or three large larvae per square foot in grass pasture, consider treating.

Several insecticides are registered for control of fall armyworm in wheat, including Lorsban SG, methomyl (Lannate), Warrior T, and parathion (methyl or ethyl). Remember to follow all label restrictions.

In pasture, Sevin , malathion, Lannate (for bermuda pasture only), Confirm2F, and methyl parathion are labeled for control of fall armyworm.

“If I treat for fall armyworm, when can I put my cattle back out to graze?”

Grazing restrictions are as follows for wheat:

Sevin	7 day waiting period for grazing
Karate (RUP)	30 day waiting period for grazing
Lannate (RUP)	10 day waiting period for grazing
malathion	7 day waiting period for grazing
methyl parathion (RUP)	15 day waiting period for grazing
ethyl parathion (RUP)	15 day waiting period for grazing or harvest
Lorsban 4E-SG	14 day waiting period for grazing, 28 day waiting period for harvest, * registered for "other cutworms"

Grazing restrictions for pasture:

carbaryl, (Sevin and other names)	0-14 days, check label for specific recommendations
Confirm	0 days, wait until spray has dried
malathion	0 days
methomyl (Lannate)	for bermudagrass only, 7 day waiting period
parathion (methyl)	15 day waiting period

“If I have a wheat field that has been chewed to the ground, will it come back if I control the worms, or should I consider replanting?”

The answer to this question involves several considerations. First, the armyworms are not controlled, they will continue to feed and keep the leaves from getting above ground. At some point, the plants will simply “wear out” and die. If the wheat was very small seedling stage and under stress the plants may not have enough energy reserve to recover. However, if the wheat had some time to develop top growth before the armyworms chewed them down to the base and you have adequate soil moisture, you may see a nice recovery of the stand.

Before you decide on whether to spray or replant, answer the following questions:

- Was your stand marginal to begin with? If the answer is yes, you might want to consider replanting.
- How much will it cost to replant versus spraying? You should consider the economics of controlling the current infestation with the costs of a replant. If you replant, you might want to delay planting for several days to make sure the armyworms have either pupated or “marched” out of the field.

“Once this brood of armyworms is gone, can we quit worrying about them?”

The short answer is no. Fall armyworms are likely to be with us until we have a killing frost. However, we are getting late enough in the year that this will probably be the last generation that we see. The bottom line is that producers should remain vigilant.

“My lawn is infested, what should I do?”

There are products available for control, but for bermuda turf, you might consider not doing anything. It is late in the year, and fall armyworm will not likely cause serious damage. If you decide that control is required, several products are registered, including *Bacillus thuringiensis* (Javelin), diazinon, Orthene or Sevin. You may still find Dursban in stores, but it will no longer be sold to homeowners after 12/31/01, so you should probably consider other products.

A couple of new pyrethroid insecticides are available for homeowners as well. One line is the Bayer Advanced Lawn and Garden Multi-Insect Killer which contains cyfluthrin. Another line is the Ortho Home Defense Indoor and Outdoor Insect Killer, which contains bifenthrin. Both are very effective at very low dosages. Remember to follow all label directions before applying any pesticide.

Dr. Richard Grantham
Director, Plant Disease and Insect Diagnostic Laboratory

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural.