Armyworm in Michigan

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Armyworm moths prefer to lay eggs in areas of heavy vegetation. This includes weedy fields, fields with a cover crop, and small grains such as wheat. Also, parts of fields bordered by ditches, fencerows, and small grain fields are at risk. Because of this, spot spraying may be possible along field edges or in areas that had heavy weed growth, rather than treating the entire field.

During outbreaks, many people comment on how fast damage seems to occur. One day the field looks fine from the road, a couple days later the wheat or corn has thinned out considerably. This highlights the importance of scouting. There is no substitute for getting out of the truck and taking a quick walk into a field to see what is going on. In the case of many insects that feed as larvae or nymphs, the younger the critter, the easier it is to kill. This means a higher percent control, and/or the use of a lower rate of insecticide, saving you money. Also, larger larvae eat more and are often responsible for the majority of damage. This accounts for the seemingly overnight defoliation of fields—the larvae were there for several days, but they finally molted into the larger, hungrier, more destructive stages.

Corn

Larvae are usually active at night or on cloudy days. During the day, they often hide in the whorl or at the base of plants. During outbreaks, numbers can reach 5-10 larvae per whorl. Large frass (excrement) pellets in the whorl is a sign that larvae are present, but hiding. Damage is obvious as feeding on the leaf margins; in severe cases, all leaf material is eaten except the midrib, giving the corn a tattered appearance. The threshold is one or more larvae per seedling; at whorl stage, 25 percent of plants with 2 or more larvae per plant OR 75 percent of plants with one larave; 5 or more per plant in tassel-stage corn. Sprays directed down into the whorl should kill the larvae hiding out there quite easily, unless the larvae are large. Pre-harvest interval is obviously not an issue with corn, and there are many products to choose from: Ambush, Asana, Baythroid, Capture, Lorsban, and Pounce. For organic production, products containing Bt can be effective on small larvae.

Small grains

Larvae are usually active at night or on cloudy days. During the day, larvae are usually at the base of plants under residue, so you have to get down into the canopy to find them. If you cannot find larvae easily on the plant, look carefully at the base of the plant, or shake the plants so that larvae fall to the ground. Damage is apparent as feeding along the leaf margins. As small grains mature and dry down, larvae sometimes march en masse into neighboring fields (thus the name ‘army’). Before heading, treat at 4 or more larvae per square foot. After heading - to prevent head clipping - treat if there are 2 or more larvae per square foot. When making a spray decision in wheat, watch the Pre-harvest intervals. PHIs for some common insecticides are the following:

Lannate = 7 days. Lannate is also registered for use on sugar beets, and may be more readily available in the Thumb.
Mustang = 14 days
Penncap / Declare / Methyl parathion = 15 days.
Tracer = 21 days. I have never worked with Tracer - it is a new biological-based product
containing the active ingredient Spinosad. It is already used with success against caterpillars on fruit crops.

Warrior = 30 days. Warrior has been VERY effective in killing armyworms, but it has a longer PHI.

For organic production, several Bt products are available, but they are effective only on small larvae. Pyganic, which contains pyrethrin, can also be used in some organic certification schemes—I don’t know how effective it is on larger larvae. The PHI for both Bt and Pyganic is 0 days.

From experience in the Thumb three years ago, spraying may still be cost effective even if much of the flag leaf is gone. Of course yield loss has occurred, but often there is still yield to protect. It may be that enough of the flag leaf is left to help fill the head, or that only certain parts of the field are heavily damaged. Dr. Kurt Thelen at MSU also speculates that the green stem may partially replace the role of the flag leaf. Spraying also prevents larvae from clipping heads, and from leaving the wheat to infest nearby crops.

Note that if the larvae are already quite large (1.5 inches = ready to pupate), or if there are numerous parasitized caterpillars, spraying probably will not pay.

See Bulletin E-1582 (available on this CD, at your local extension office, or free on the web at http://www.canr.msu.edu/fldcrp/e1582.htm) for specific products and rates. If larvae are over 1 inch, then caterpillars will pupate shortly and a spray is not economically justified.

For good pictures of armyworms and armyworm damage, visit: http://entomology.unl.edu/images/smgrains/armyworm/armyworm.htm