INSECTS

Update on Intense Flights of Black Cutworm Moths

During the last week of April, reports of intense captures (nine or more moths caught over a 1- to 2-day period) of black cutworm moths were numerous in many counties of the state. For the period of April 23 through 29, intense flights occurred in the following counties: Champaign (4/28), Clark (4/23), Clinton (4/24), Douglas (4/29), Effingham (4/28), Fayette (4/25–4/28), Hancock (4/23 and 4/28), Knox (4/24), Logan (4/23), Macon (4/26), McHenry (4/28), McLean (4/27), Montgomery (4/24 and 4/26), Morgan (4/23 and 4/27), Shelby (4/28), and Stark (4/24). The following cooperators were organized by Len Dobbins, FMC Corporation, and provided the information on black cutworm flight activity: WLS Flying (Montgomery County), Bo Jac Seeds (Logan County), Hennings Feed and Fertilizer (Shelby County), PC Ltd. Cerro Gordo (Macon County), Ehler Bros. Thomasboro (Champaign County), Hughes Seed Farm (McHenry County), Mowers Plus (Stark County), Agri Pride FS (Clinton County), Woolsey Bros. (Fayette County), Effingham Equity (Effingham and Douglas counties), UAP Jacksonville (Morgan County), Hancock Service Co. (Hancock County), and Leroy Fertilizer (McLean County).

The distribution of cooperators who reported intense flights of cutworms during late April suggests that central Illinois producers should be vigilant in their scouting efforts of seedling-stage corn plants. A reminder: Cornfields at or below the 4-leaf stage of development are most susceptible to cutting and potential economic losses. Don’t wait for cutting to show up before you begin monitoring cornfields for black cutworms. Pinhole leaf feeding is the best early indicator of potential cutworm problems. Even though your county may not have been listed so far this spring in our newsletter, don’t assume that cornfields in your area are not at risk. Our list of cooperators is not exhaustive. Our best advice is to “ground-truth” the cutworm risk in each cornfield under your management. In last week’s Bulletin we provided a list of projected cutting dates based on earlier intense flights this season. Cutting of plants in some southern and southwestern counties is expected to begin as early as May 9. We’ll provide new projected cutting dates for the most recent intense flights in next week’s issue. Stay tuned as the black cutworm season unfolds.

If you’ve experienced low numbers of black cutworm moths in your pheromone trap(s) this season, you may not be alone. Dale Baird, Crop Systems Educator, Rockford Extension Center, reported that Scentry Biologicals indicated they had sent him a “bad batch” of pheromone lures. So if you ordered your pheromone lures from this company, you may want to confirm that your specific lot number contained functioning lures. Please let us know if any confirmed cases of black cutworm injury are occurring in your area of the state. We’ll pass along your observations in future issues of the Bulletin.—Mike Gray
Correct Identification of Potential Insect Pests: A Key First Step in Pest Management

While monitoring fields for black cutworms, it is quite likely that you will observe many other life forms in addition to cutworms. One nontarget organism you may find is the millipede; you’ve probably spotted these so-called “thousand leggers” in your basements and in pots of house plants as well. Millipedes (Figure 1) are distant relatives of insects and primarily serve as scavengers of decaying plant materials. The majority of millipedes have 30 or more pairs of legs, with each body segment bearing two pairs. Millipedes are not capable of cutting plants and should not be considered pests of corn.

Other creatures encountered while scouting for cutworms might include ground beetle larvae and crane fly maggots (Figure 1). Dave Feltes, IPM Educator, Quad Cities Extension Center, recently reported that a cornfield suspected of having an infestation of black cutworms was instead supporting a thriving population of crane fly maggots. With a little knowledge of what crane fly maggots look like, producers can save themselves the expense of an unnecessary insecticide treatment. Crane fly maggots are commonly misidentified as cutworms, but these large maggots are not pests and should not be considered of economic importance. They feed on organic matter in the soil and are most often found in fields that are poorly drained. The maggots are legless, have poorly developed heads, and vary in length from 0.7 to 1 inch when fully grown, depending on the species. Ground beetle larvae are alligator shaped and are armed with impressive and hardened mouth parts, which they use to capture and feed on prey. In some cases, ground beetle larvae are confused with wireworms; immature ground beetles can usually be separated from wireworms by examining the rear portion of the abdomen: Many species of ground beetle grubs have two prolonged structures that extend from the tip of their abdomen, whereas wireworms have hardened tail-plate regions that are sometimes notched or somewhat pointed.

Before you decide that a rescue treatment is required for black cutworm control, be absolutely sure that the target insect has been identified correctly. Each year we receive several reports that fields have been treated needlessly.—Mike Gray

Corn Flea Beetle Evident in Some Cornfields

Bill Brink, Crop Systems Extension Educator, Springfield Extension Center, indicated that corn flea beetle injury was evident on 2- to 3-leaf stage corn plants. Densities of flea beetles averaged about two per plant. Dennis Epplin, Crop Systems Extension Educator, Mt. Vernon Extension Center, reported a severe flea beetle infestation in Wayne County on seedling corn plants (VE to V1 stage). As reported in an earlier issue of the Bulletin, inbreds that are susceptible to Stewart’s wilt are most at risk for infestations of corn flea beetles. Fields planted to these inbreds should be carefully monitored this spring. Plan to check at least 20 plants in each of five areas of a field for flea beetles. Make sure that you examine the upper and lower portions of leaves. During bright, sunny days, flea beetles are likely to be “tucked” away on the lower surface of leaves. The Seed Corn Pest Management Manual for the Midwest, published by Purdue University, provides the following recommendation:

Prior to the V5 stage of development, control may be necessary if 10 percent of the plants inspected show severe corn flea beetle feeding damage (plants begin to look silvery or whitish, or leaves begin to die) and approximately 2 to 3 or more flea beetles per plant are found.

This seed corn pest management manual provides a great deal of useful information on scouting tips and economic thresholds. To order a copy, contact the Purdue Pest Management Program, 1158 Entomology Hall, Purdue University, West Lafayette, IN 47907, or call John Obermeyer at (765)494-4563.—Mike Gray

Figure 1. (a) ground beetle larva; (b) crane fly maggot; (c) millipede.
Bean Leaf Beetles—Waiting for Soybeans

Each crop in Illinois has its early insect invaders—cutworms in corn, alfalfa weevils in alfalfa, several insects in wheat, and bean leaf beetles in soybeans. Although very few soybeans have been planted yet, the presence of bean leaf beetles is worth noting. As soon as soybeans emerge from the soil, any bean leaf beetles in the vicinity will locate them to begin feeding and laying eggs. Bill Brink, Extension Educator/Crop Systems at the Springfield Extension Center, has observed bean leaf beetles in soybean stubble from last year, and several other folks have seen bean leaf beetles in alfalfa, one of their favorite “hang-outs” in the spring. However, in both situations, the bean leaf beetles are just biding their time, waiting for soybeans to emerge.

Bean leaf beetles overwinter as adults in protected areas such as woodlots. When they leave the overwintering habitats, they move to other suitable habitats (such as alfalfa) to mate and lay a few eggs. However, the females reserve most of their complement of eggs for soybeans. Larvae that hatch from eggs laid in soybean fields feed on roots and nodules, but the injury is not economic.

Bean leaf beetles are about 1/4 inch long with considerable variation in color. The background color of most bean leaf beetles is light yellow to tan; however, some bean leaf beetles are green, and others are red. Their wing covers usually have four main black spots and stripes along the edges, but these markings may be absent. A black triangle is always present behind the “neck-like” prothorax.

When adult bean leaf beetles enter soybean fields in the spring, they feed on the young leaves, leaving small, round holes. Most soybean growers become pretty worked up over defoliation when soybean plants are in stages V1 to V2. Small plants with lots of holes in the leaves often cause people to overreact to the injury. However, research from the University of Nebraska has shown that seedling soybeans compensate very well for early season injury by bean leaf beetles.

Most entomologists now concur that early season management of bean leaf beetles usually is not necessary. Densities of 16 beetles per foot of row in the early seedling stage or 39 per foot of row at stage V2+ are necessary for economic injury. These large densities usually are not reached during most years. So our advice is to try to ignore the injury to seedlings that you might observe, unless the numbers of bean leaf beetles are extraordinarily high. There is no need to spend money for an insecticide treatment that will cost more than the injury inflicted by the beetles, especially when profit margins are so tight.—Kevin Steffey

Alfalfa Weevil Problems the Most Serious in Several Years

Highlights:
• Alfalfa weevil damage is severe in southwestern, south-central, and central counties.
• Densities of alfalfa weevil larvae are well above thresholds, and some spraying has been warranted.
• Alfalfa weevil larvae in southern counties are from both fall- and spring-deposited eggs; the larvae in central Illinois are probably from fall-deposited eggs.
• Maps of heat-unit accumulations and projected heat-unit accumulations have been updated.

Reports over the past two weeks suggest that population densities of alfalfa weevils are higher than they have been in several years. We have not had many difficulties with alfalfa weevils for quite some time, especially in northern counties, and I and other entomologists in Illinois have speculated that natural enemies (parasitic wasps, fungus disease) have suppressed weevil populations below economic levels. However, despite this speculation, alfalfa weevils are making their presence known this spring, at least in southwestern, south-central, and central counties.

Omar Koester, Extension Unit Assistant/Crop Systems in Randolph County, has been reporting that growers and applicators are spraying alfalfa fields to control alfalfa weevils in southwestern counties. Bill Brink, Extension Educator/Crop Systems at the Springfield Extension Center, has observed “tremendous numbers of alfalfa weevils, the worst [he’s] seen in a long time.” Bill has found as many as six to seven larvae per plant with evidence of defoliation on 50 to 75 percent of the plants. This intensity of alfalfa weevil damage obviously is well above economic levels. These reports suggest that if you have not already scouted for weevils in alfalfa, you better get to it.

Heat-unit accumulations to date (Figure 2) suggest that these alfalfa weevils are from eggs that were deposited last fall (peak larval activity from fall-deposited eggs occurs when 325 heat units accumulate above the base temperature of 48°F). I learned last week that some folks in southwestern counties were finding larvae of all sizes, suggesting that larvae also had hatched from spring-deposited eggs. Their peak activity will occur when about 575 heat units accumulate above the base temperature of 48°F, which likely will occur in southwestern Illinois at least by the beginning of the week of May 10. Figure 3 shows the projected heat-unit accumulations (base 48°F) from January 1 to May 16, 1999. Obviously by mid-May, most alfalfa weevil activity will have run its course in southern counties, but we’ll still have plenty of fun with them in central and northern counties.

We are not certain how widespread the weevil problems are in alfalfa, so we’d like to hear from you. Any information you can provide from your neck of the woods would be most useful for everyone.
Dynamic economic thresholds for alfalfa weevils were printed in Table 1 of issue no. 5 (April 23, 1999) of the Bulletin. Insecticides suggested for control of alfalfa weevils and the harvest intervals associated with these insecticides were printed in last week’s Bulletin (issue no. 6, April 30, 1999). Keep this information with you as you scout for and make decisions about whether to treat for alfalfa weevils. Also, keep a watchful eye on alfalfa weevil larvae that might be diseased with the fungus Zoophthora phytonomi (see issue no. 5 of the Bulletin). Natural enemies don’t seem to be slowing weevils down this spring, but the impact of natural enemies, especially the fungus, can be realized in short periods of time.—Kevin Steffey

Aphids in Wheat Are Not Uncommon

In last week’s issue of the Bulletin (issue no. 6, April 30, 1999), I discussed the possibility of finding cereal leaf beetles in wheat. That has been confirmed by Robert Bellm, Extension Educator/Crop Systems at the Edwardsville Extension Center, who found cereal leaf beetle eggs in some fields in southwestern Illinois. Larvae should be evident soon. I also discussed armyworms in a previous issue of the Bulletin (issue no. 5, April 23, 1999). Although no one has reported finding armyworms yet, it is probably only a matter of time.

Other insects found in wheat at this time of year are aphids, especially bird cherry-oat aphids. Matt Montgomery, Extension Assistant/Crop Systems at the Sangamon/Menard Extension Unit, found some bird cherry-oat aphids at the bases of wheat plants in a wheat field in southern Sangamon County on April 29. He also observed some lady beetles in the same field. Remember this: Lady beetles love aphids, the “candy” of the insect world. In fact, lady beetles usually prevent several species of aphids from reaching economic levels during most years in Illinois.

The bird cherry-oat aphid usually is the first species of aphids found in wheat. It is olive green with a red-orange band across the rear of the abdomen; the tips of its cornicles (“tail pipes” that protrude from the rear of the abdomen) are black. Other species of aphids in wheat are English grain aphids, which are green and have long, narrow cornicles that are entirely black; and the greenbug, the most threatening aphid species. The greenbug is bright green with a darker stripe along the middle of its back. The tips of the cornicles are black.

Entomologists have never been able to associate economic yield losses in wheat with infestations of bird cherry-oat aphids; however, both English grain aphids and greenbugs are capable of causing yield losses under the right circumstances. Cool temperatures sometimes hold back the parasitoids that usually suppress early season populations of aphids in wheat. If aphids begin building their colonies in the absence of natural enemies, their numbers could escalate rapidly, so keep your eyes open.

Economically important outbreaks of aphids are uncommon in wheat in Illinois, but noting their presence and potential buildup is important. Seedling wheat can be severely injured by the feeding of virus-carrying aphids, but wheat in the boot or heading stage is seldom damaged economically by these insects. Greenbugs generally cause greater damage to wheat than the other aphids because they inject toxic enzymes into plants during feeding. Research regarding the effect of aphids on wheat yields suggests that the threshold is 12 to 15 aphids per tiller during seedling to boot stage. However, the presence of natural enemies often keeps aphid populations in wheat below economically damaging densities. In addition to lady beetles, a fungus disease and parasitoids also suppress aphid populations. In cool, wet springs, a fungus disease helps to keep aphid populations in check. The presence of aphid “mummies”—swollen, copper- or tan-
colored aphids (see Figure 4)—reveals the activity of parasitic wasps. Hopefully, the effects of these natural enemies will help us out again this year.—Kevin Steffey

PLANT DISEASES

Seedling Diseases of Soybeans

Wet conditions favor the development of seedling blights in soybeans. Seeds may simply rot in the soil or wilt and die after emergence (damping-off). Three genera of fungi (Rhizoctonia, Pythium, and Phytophthora) are responsible for most of these losses.

Reduced early season plant growth and a pale green color of seedlings characterize Rhizoctonia seedling blight. Fields infected with Rhizoctonia are often mistakenly identified as having herbicide damage due to the unevenness of the stand. This disease is normally associated with moderately wet conditions and warm temperatures. However, it can appear in very wet fields.

The identifying feature of this disease is a small, reddish lesion at or just below the soil line on one side of the stem. This usually is not a girdling lesion and results in a sunken cankered area at the point of infection. Plants generally grow through this problem but may lose some early season growth.

Pythium and Phytophthora seed rot and seedling blights are usually most destructive during wet springs. Both of these fungi produce spores (called zoospores) that swim to plant roots, encyst, and cause infection. Seeds may simply rot in the ground, or seedlings may wilt and die after emergence, their stems becoming dark brown to black. The most obvious symptom of either Pythium or Phytophthora activity in fields is the absence of plants in low or compacted areas. Cool to moderate temperatures favor disease development. Phytophthora can reappear later in the season during the podfill stage to cause further losses on susceptible varieties. Pythium, however, is active only in the early season as a seedling blight.

Control of seedling blights is based on using good agronomic practices (well-prepared seedbed, high-quality seed, and so forth), planting resistant varieties when appropriate, and using selected pesticide applications. Any practice that encourages rapid emergence of seedlings will help minimize the impact of seedling blights. Plant resistant or tolerant varieties of Phytophthora (none are available for Rhizoctonia or Pythium), and apply preventive seed or soil treatments based on the knowledge of the disease or diseases present.—Joe Toman

CONFERENCES

Scouting Update Workshop

For those in northern Illinois, or anyone who may be interested, a Scouting Update Workshop is scheduled for May 25 at the Northern Illinois Agronomy Research Center—Crops Training Center (Shabbona). This one-day workshop allows for small group discussions of potential crop production problems and alternative pest management strategies. The workshop emphasizes scouting techniques, economic thresholds, and crop conditions that scouts need to be aware of when evaluating fields. Sessions focus on early season problems but will mention significant pests that occur throughout the crop season. University of Illinois Extension research and teaching staff will provide in-depth, research-based information on identifying crop stages and pests. For further information and registration, contact Ellen Phillips, Crops Educator, at (630)833-2171.—Joe Toman

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