



PEST MANAGEMENT & CROP DEVELOPMENT

BULLETIN

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INSECTS

Discoveries of White Grub and Grape Colaspis Woes Continue

Despite the fact that early-season insect pests of corn should finish feeding soon, discoveries of the feeding results are still being made. Dave Feltes, Extension IPM educator in the Quad Cities, visited a field on June 6 and observed uneven plant heights in a field that had looked fine just a week earlier. A couple of good corn-growing days last week allowed uninjured plants to outpace the grub-injured plants, so a height differential became obvious. Dave identified the grubs in the field as a combination of *Phyllophaga* grubs ("true" white grubs) and Japanese beetle grubs. Interestingly, a quick overview of some of the data we have gathered from one of our Japanese beetle grub trials in Piatt County revealed no pattern in damage among the treatments in the trial. In other words, the untreated check plots didn't seem to have any more or less grub damage than most of the insecticide-treated plots in the trial. This is contrary to reports we have received this spring of significant damage caused by Japanese beetle grubs. Keep in mind, however, our data are preliminary. The data may reveal some trends upon further investigation.

Mike Hellmer, field sales agronomist with Pioneer Hi-Bred International, continues to find the consequences of grape colaspis injury in some cornfields in east-central Illinois. In a 40-acre field near Hope (Vermilion County), Mike observed 10 to 12 grape colaspis larvae per plant. About 25 acres of the 40-acre field were damaged severely enough that replanting was warranted, even at this late date. Injured plants were dead or dying.

Warmer temperatures should help corn plants injured by white grubs or grape colaspis grow past the injury. As long as the plants live and seem to recover, they probably will produce ears. However, we are not certain what effect these early-season setbacks in growth might have on plant yields. One of the objectives of our study is to address that uncertainty. We'll let you know what we learn.—*Kevin Steffey*

Where Are the Corn Borers?

Just a reminder—everyone should be scouting for European corn borers by now. Moth flights of European corn borers got into full swing in southern Illinois during May, with moths being captured in Massac, Pope, and Pulaski counties for slightly over a month (http://www.ipm.uiuc.edu/pubs/hines_report/index.html). European corn borer moths have been observed for more than a week in central Illinois, and moth flight should be under way in northern counties by now. John Shaw, entomologist with the Illinois Natural History Survey, captured one male and one female European corn borer in his light trap in Champaign County on June 4. As the numbers of captures in light and pheromone traps increase, we can expect mating and then egg-laying to commence. If you are accumulating degree-days to determine the occurrence of corn borer larvae, refer to Table 1 in the article "Reports of European Corn Borers Begin" in last week's issue (no. 11, June 6, 2003) of the *Bulletin*. Also included in that article is information about scouting, thresholds, and control.

Kevin Black (Growmark, Bloomington) recently reported that FS specialists in southwestern Illinois (Madison, Randolph, and White counties) had been finding adults, egg masses, and first and second instars of European corn borers in some cornfields. The infestations were not very heavy, but their presence is worth noting.

If you are scouting your fields, please send us reports of what you encounter. These field reports help us understand what's happening across the state, and we can relay the findings to others in Illinois.—*Kelly Cook and Kevin Steffey*

Illinois Insect Monitoring Network

As promised, a monitoring network for insect pests in Illinois is under way. The purpose of the Illinois Insect Monitoring Network is to provide up-to-date information about several insect species throughout the state as the crop-growing season progresses. Extension educators, cooperators, and industry personnel have been diligently submitting weekly black cutworm counts with a promise of the development of such a Web site. Although the site currently is only partially navigable, data collected this spring are being added and soon will be available for viewing. After the site is up and running, data will be added weekly. To take a glimpse at the new Web site, please visit <http://www.ipm.uiuc.edu/fieldcrops/imn/index.html>.

With the black cutworm moth flight behind us, we are looking toward monitoring flights of European corn borers and corn earworms. The data we include in our Web site will be provided entirely by volunteers. If you are monitoring a pheromone or light trap, we would like to add you to our list of contacts for weekly updates. Contact me at (217)333-6652 or kcook8@uiuc.edu for more information. Please remember, this site is not yet completely functional but will be soon! Bookmark it and check back for insect updates.—*Kelly Cook*

EPA Approves Poncho Insecticide

On June 2, officials of Gustafson LLC announced that the U.S. Environmental Protection Agency (EPA) had approved the registration for Poncho 600 seed-applied insecticide for corn. The insecticide will be marketed to corn growers by participating seed companies under the names of Poncho 250 and Poncho 1250, representing different application rates and protection levels. Poncho 250 is labeled to protect corn from early-season injury caused by cutworms, flea beetles, seedcorn maggot, white grubs, wireworms, and a few other pests that

usually are not relevant in Illinois. Poncho 1250 is labeled to protect corn from the same pests, as well as billbugs and corn rootworms.

The active ingredient of Poncho is clothianidin, another insecticide in the nicotinoid family that was introduced for corn production with the seed treatments Gaucho and Prescribe (active ingredient imidacloprid) and Cruiser (active ingredient thiamethoxam). These seed treatments offer an alternative to granular and liquid insecticides for control of several soil-inhabiting insect pests. The use of these insecticidal seed treatments with transgenic corn for rootworm control, as well as in the required nontransgenic refuge, is expected to increase during the next few years.

Poncho-treated corn seed will be available on many hybrids that can be purchased by corn growers in 2004. In the meantime, check all of your trusted sources for information about the efficacy of these seed treatments, as well as their potential fit in specific cropping systems.—*Kevin Steffey*

PLANT DISEASES

Aphanomyces Root Rot of Alfalfa Occurring in Illinois Fields

The wet Illinois weather this spring has favored development of *Aphanomyces* root rot of alfalfa. This disease has caused significant damage in some areas to alfalfa seeded this spring.

Aphanomyces root rot is caused by the fungal-like pathogen *Aphanomyces euteiches*. The pathogen causes the most damage to newly seeded alfalfa stands in wet weather and slowly drained soils. *Aphanomyces* root rot is usually not a significant problem when soils are fairly dry for 4 to 6 weeks after planting, but the pathogen can survive in soil for long periods and cause serious damage when soils are wet after planting. Results can be thin stands, increased weed pressure, reduced nodulation and nitrogen fixa-

tion, and reduced vigor and yield of plants that survive infection. *Aphanomyces euteiches* seems to occur in most Illinois alfalfa fields, with both races 1 and 2 widespread.

Diagnosis of *Aphanomyces* root rot can be challenging in the field. Infected seedlings usually are discolored and stunted. Cotyledons become yellow, and the seedlings usually develop a purple tint. The stunted and discolored seedlings are often mixed in a stand with taller, healthy seedlings. Established stands with high disease pressure may be stunted and thinned. *Pythium* and *Phytophthora* damping-off and root rot are also favored by wet soil conditions, but these diseases tend to kill seedlings quickly, before plants become severely chlorotic or discolored.

Aphanomyces root rot is managed by planting resistant or highly resistant varieties and by avoiding slowly drained fields. Based on recent research in Illinois, varieties with resistance to both *Aphanomyces* races 1 and 2 should provide the best control for many, if not most, fields in the state. Seed and seedling diseases caused by *Pythium* and *Phytophthora* can be managed with the seed-treatment fungicides Apron XL (mefenoxam) and Allegiance (metalaxyl), but effective fungicides and seed treatments are not available for control of *Aphanomyces* root rot of alfalfa.

—*Dean Malvick*

Seed and Seedling Diseases of Soybean Caused by *Phytophthora* and *Pythium* in Illinois

Issue 8 of the *Bulletin* (May 16, 2003) discussed the major pathogens, symptoms, and management considerations associated with soybean seed and seedling diseases in Illinois. Common pathogens that cause soybean seed and seedling diseases in the state are *Pythium*, *Phytophthora*, *Rhizoctonia*, and *Fusarium*. Information and photos of symptoms for diseases caused by these pathogens can be found at <http://cropdisease.crops.uiuc.edu>.

The recent wet and cool weather conditions in Illinois may have set the stage for widespread damage from seed and seedling rot of soybean caused by *Phytophthora* and *Pythium*. Reports of replanting due to stand loss from seed and seedling diseases have started to come in, and we expect more of this to occur soon.

In much of Illinois, the soil conditions are close to ideal for damage to soybeans caused by *Phytophthora* and *Pythium*. These two pathogens cause very similar seed rot and pre- and postemergence damping-off of seedlings. The seedlings with damping-off symptoms usually have brown to tan tissue that is soft and rotting. *Pythium* is usually favored by cool, saturated soil conditions, and *Phytophthora* by warmer and intermittently wet soil conditions—conditions that exist across much of Illinois.

Pythium can be managed by using seed treatments and by improving drainage if possible. After planting, not much can be done to manage these diseases, but consider noting which fields have problems with seed and seedling diseases for implementation of management strategies in future. Seed treatments containing metalaxyl (for example, Allegiance) or mefenoxam (for example, Apron XL) can be effective for control of *Pythium* and *Phytophthora* for about 2 to 3 weeks after planting.

Phytophthora sojae can attack and kill soybeans from planting to harvest. In addition to improving drainage in fields where possible and using the seed treatments noted above, resistance is used to manage *Phytophthora* rot of soybean. Soybean varieties with specific resistance to *Phytophthora* should be planted. The major resistance genes Rps1c or Rps1k should be effective in most fields. However, we have recently confirmed that these resistance genes are no longer effective in some parts of Illinois. This research, funded by the Illinois Soybean Checkoff, has shown that races (pathotypes) of *Phytophthora* occur in some parts of Illinois that kill soy-

beans with Rps1a, Rps1c, and Rps1k. Many of the *Phytophthora* isolates from Illinois soybean fields can defeat Rps1a, and a smaller number can defeat 1c. A smaller number can defeat all of the common resistance genes (Rps 1a, 1c, and 1k) available in commercial varieties for Illinois. We know that these aggressive isolates are causing damage, but they do not seem to be widespread in Illinois. We still do not know how much damage they are causing. Results from this research will help with selection of soybean varieties with *Phytophthora* resistance and can assist breeders developing soybean varieties with *Phytophthora* resistance for Illinois.—Dean Malvick

REGIONAL REPORTS

Extension center educators, unit educators, and unit assistants in northern, west-central, east-central, and southern Illinois prepare regional reports to provide more localized insight into pest situations and crop conditions in Illinois. The reports will keep you up-to-date on situations in field and forage crops as they develop throughout the season. The regions have been defined broadly to include the agricultural statistics districts as designated by the Illinois Agricultural Statistics Service, with slight modifications:

North (Northwest and Northeast districts, plus Stark and Marshall counties)

West-central (West and West Southwest districts, and Peoria, Woodford, Tazewell, Mason, Menard, and Logan counties from the Central district)

East-central (East and East Southeast districts [except Marion, Clay, Richland, and Lawrence counties], McLean, DeWitt, and Macon counties from the Central district)

South (Southwest and Southeast districts, and Marion, Clay, Richland, and Lawrence counties from the East Southeast district)

We hope these reports will provide additional benefits for staying current as the season progresses.

Northern Illinois

Cooler-than-normal temperatures throughout the region have slowed crop development. Corn planted April 21 to 23 in the center of the northern region has reached the V5 to V6 stage. The main activities the past week include sidedressing anhydrous ammonia, corn and soybean postemergence-herbicide application, and baling hay. Drying hay has been challenging due to some rainfall and cloudy days. First-cutting yield data from the U of I forage variety trials is available at <http://vt.cropsci.uiuc.edu/forage.html>.

Few pest problems have been reported in the region. Some frost damage on soybeans was reported in LaSalle County, probably from the evening temperatures of May 31.

Several reports of suspected herbicide drift damage on windbreaks have been received. Upon further investigation, the conifers' new growth has about 2 to 3 inches of tip dieback. U of I Plant Clinic diagnosis suggests this damage is the result of injury to newly emerged growth during recent strong windstorms and other environmental stress. The tip-dieback symptom appears to be most common on spruce.

West-Central Illinois

Rainfall received over the weekend and earlier this week has kept the last remaining acres of soybeans from being put into the ground in some areas of the region. Corn growth has finally begun to pick up as roots of earlier-planted corn begin to reach the nitrogen and temperatures begin to approach those considered normal for the first part of June. Previously, a lot of corn acres had demonstrated slow growth and "purple corn syndrome" indicative of the cool temperatures of late. Currently, early-planted corn is now waist high in some places and beginning to canopy, but most of the crop is in the V6 to V9 range.

Soybeans are anywhere from just emerging to the second trifoliolate, with little difference in development be-

tween those planted in late April and those planted in mid-May. Despite the cool weather, only scattered reports of soybean seedling diseases have been received, and stands appear adequate in most fields.

Hay harvest continues, as most producers battle with poor drying conditions to get the first crop in the barn. Alfalfa that was cut in mid- to late May has already put on 4 to 6 inches of regrowth in some areas.

Wheat has flowered in nearly all areas and is well into the milk stage in most places. On sandier soils, some of the crop has begun to turn and is less than a few weeks from maturity. Some reports of the presence of head scab have been received.

The Western Illinois University (WIU) Department of Agriculture, in cooperation with University of Illinois Extension, is sponsoring a Herbicide Field Plot Tour on Thursday, June 26 at 1 p.m. at the WIU Agronomy Field Laboratory located immediately north of the WIU Golf Course in Macomb. Fourteen corn experiments and seven soybean experiments will be shown in no-till, strip-till, and mulch-till. Other topics include PPO-resistant waterhemp, triazine-resistant lambs-quarter,

glyphosate-resistant marehail, strategies to protect the effectiveness of glyphosate, giant ragweed biology and control, pokeweed control, and chickweed biology and control.

Southern Illinois

Producers were finally able to get back into the fields in the past week as planting emphasis switched from corn to soybean. Some corn-planting intentions were dropped due to late-planting delays. In some cases, wet field conditions and heavy winter-annual weed cover forced operators to open fields up with heavy disks to dry them out enough to plant. Rainfall across much of the region Tuesday night ranged from 2 to 4 inches and may result in soybean fields' having to be replanted.

The condition of corn planted in April is variable. Depending upon drainage conditions, some fields are in good shape, while others show uneven growth and irregular stands.

The condition of the wheat crop continues to deteriorate due to the weather. Scab is prevalent in all fields, with the severity dependent upon varietal susceptibility. Overall, we may see a yield drop of 10 to 15%

over earlier yield forecasts. As harvest rapidly approaches, wet field conditions will also complicate wheat harvest and double-crop soybean planting.

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