Another Year to Remember for Insect Management?

Everyone in agriculture knows that each growing season presents unique challenges and opportunities for crop production. We entomologists eagerly anticipate each growing season, wondering which insects will make their marks and which will be most noticeable by their relative absence. Will soybean aphids return with a vengeance in 2004, or will their populations be relatively unnoticed, as they were in 2002? Will the range of the variant western corn rootworm that lays eggs in soybeans expand in 2004? Will secondary insect pests wreak any havoc this year, and, if so, where? Will European corn borers remind us of their capability to cause economic losses, or will the trend of low densities continue?

In addition to these questions, and others about the usual culprits—alfalfa weevil, bean leaf beetle, black cutworm, potato leafhopper, spider mites, stalk borer—we should gain more insight about new insect-control technologies. Insecticidal seed treatments for corn (primarily Cruiser and Poncho) will be used on an unprecedented number of acres in 2004, so any uncertainty about their efficacy could be addressed. YieldGard Rootworm corn hybrids will be planted on more acres in 2004 than in 2003, and their impact on rootworm populations will be interesting to observe.

Our team comprising the Insect Management and Insecticide Evaluation Program, coordinated by Ron Estes in the Department of Crop Sciences, has ambitious plans for applied field research in 2004, with objectives to address both fundamental questions about product efficacy and more challenging questions associated with insect management. We have plans for research projects focused on bean leaf beetle, black cutworm, corn rootworms, European corn borer, soybean aphid, and white grubs. We will assess the efficacy of currently registered insecticides, insecticidal seed treatments, and transgenic crops, as well as the efficacy of “experimental” insect-control products not yet registered for commercial use. We also will investigate the effects of several insects on crop growth and development, including crop yield, and the effects of crop production practices (e.g., planting time, level of fertilization) on the pests. As always, we hope to share the results of many of our efforts in articles in the Bulletin, as well as in an annual report, which currently is being designed for accessibility through our IPM Web site (http://www.ipm.uiuc.edu).

We hope you learn a lot about insect management this year, too. And please don’t hesitate to contact us if you have information or data to share. By way of example, your submissions of side-by-side comparisons of soybean yields from strips or fields treated and not treated with insecticides for soybean aphids enabled us to determine the general impact of soybean aphids in Illinois in 2003. Such information is invaluable for validating or revising our insect management recommendations. Never underestimate the significance of your input.

So here’s hoping that we have a great growing season this year and that we learn a lot about insect management to boot. Keep us up to date with your observations, and we’ll do the same for you.—Kevin Steffey
Some 11th-Hour Reminders About Insect Management

Alfalfa and wheat are growing (and looking pretty good, for the most part), fields are being prepared, and some corn has already been planted. But it's not too late to offer some reminders about insect management for 2004. Following is an abbreviated list of considerations regarding insect management, presented to advocate that we all do the best we can for the economic bottom line and for the environment.

- If transgenic corn for insect control (i.e., YieldGard Corn Borer, Herculex, and YieldGard Rootworm corn hybrids [Bt corn]) is to be planted, please abide by all insect resistance management guidelines. To view these requirements all at one location, go to the National Corn Growers Association Web site, http://www.ncga.com. Remember that if a grower plants Bt corn, at least 20% of the corn acres on a farm must be planted to a non-Bt refuge. We recommend that non-Bt corn refuges should be planted within or adjacent to fields of Bt corn, regardless of the target insect.

- If insecticidal seed treatments or granular or liquid insecticides are used to control subterranean insects in corn (e.g., corn rootworms, white grubs, wireworms), we recommend untreated “checks” within the same field. These untreated areas of the field (they need not be large) enable growers and their advisers to evaluate the efficacy of insect-control products, as well as to determine whether they were needed in the first place. Untreated checks also enhance the likelihood for determining the impact of any given insect pest on crop development and yield.

- Use all insect-control products in the manner prescribed by the manufacturing company and the U.S. EPA. Abide by the directions and precautions on insecticide labels, and never apply an insecticide to a crop for which the insecticide is not labeled. Also, please avoid pesticide drift. Instances of pesticide drift harm relationships among neighbors, both rural/rural and rural/urban.

- Plan to scout early and frequently. This may seem like a tired recommendation (it’s been around for decades), but the worth of regular and timely scouting should not be undervalued. Early and timely scouting in 2003 would have prepared far more people for soybean aphids. Instead, far too many people were surprised.

- Don’t apply an insecticide if the insect pest density has not reached an economic threshold. Again, this may seem like a trite recommendation, but it is an underlying principle of integrated pest management (IPM). Far too often, insecticides are applied to fields because neighbors are applying insecticides, or based upon spurious recommendations. Case in point: We learned that some aggressive “advisers” were recommending application of insecticides to control aphids in wheat in southern Illinois a couple of weeks ago. However, based on widespread reports, aphids were either not present or were at very low densities in wheat fields in southern Illinois. When growers heed spurious recommendations, the results are unnecessary impacts on economics and the environment. As the growing season of 2004 progresses, this simple principle will be especially important regarding our response to small densities of soybean aphids.

Despite the increasing trend toward prophylactic insect control with insect-control products, we would like to keep the principles of IPM on the front burners. Let’s not erase all of the benefits of IPM by reverting to unformed insect management decisions.—Kevin Steffey, Mike Gray, and Kelly Cook

Alfalfa Weevil or Clover Leaf Weevil?

It’s the time of year that, when walking through our alfalfa fields, we ask ourselves that age-old question—Is this an alfalfa weevil or a clover leaf weevil? Well, maybe we don’t always ask ourselves that very question, but it is one that should be considered this time of year. Kevin Black, with Growmark, has recently received reports of scattered alfalfa weevil activity in southern Illinois. Truth be told, these may not all be alfalfa weevils that are feeding in these alfalfa fields.

The alfalfa weevil and clover leaf weevil can both be found in early spring and can easily be misidentified. Larvae of the alfalfa weevil are green, with a white stripe down the back and a black head capsule. Clover leaf weevil larvae are also green with a white stripe on the back, but the stripe is bordered by reddish pink smudges. The head capsule of cloverleaf larvae is brown.

Injury caused by these insects is very similar, though injury caused by the clover leaf weevil occurs just prior to that caused by the alfalfa weevil. Alfalfa weevil larvae remain on the plant most of the time and prefer to feed on the tips of plants; clover leaf weevil larvae feed on the lower leaves of the plant but feed primarily at night. During the day, they can be found in the soil around the crowns of the plant or in debris. Adults of the clover leaf weevil are light brown, with a wide, dark brown stripe on the back. The adult alfalfa weevil is about half the size of the clover leaf weevil and is brown, with a dark, narrow stripe along the center of the wing covers.

Fungal organisms usually keep clover leaf weevil infestations in check, and they generally do not cause economic injury. It is important to distinguish between these two insects to correctly assess the situation and avoid unnecessary insecticide treatments.
Table 1. Accumulated and projected degree-day totals, base 48°F, from January 1.

<table>
<thead>
<tr>
<th>Location</th>
<th>Degree-days, base 48°F, through April 7</th>
<th>Projected degree-days, base 48°F, through April 13</th>
<th>Projected degree-days, base 48°F, through April 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dixon Springs</td>
<td>284</td>
<td>356</td>
<td>435</td>
</tr>
<tr>
<td>Brownstown</td>
<td>176</td>
<td>233</td>
<td>300</td>
</tr>
<tr>
<td>Champaign</td>
<td>145</td>
<td>187</td>
<td>239</td>
</tr>
<tr>
<td>Monmouth</td>
<td>116</td>
<td>151</td>
<td>195</td>
</tr>
<tr>
<td>DeKalb</td>
<td>105</td>
<td>137</td>
<td>178</td>
</tr>
</tbody>
</table>

Table 1 lists accumulated and projected degree-days (base 48°F) from January 1. Alfalfa weevil larval hatch is expected to occur after the accumulation of 300 degree-days. Alfalfa fields in southern Illinois will soon be experiencing larval hatch. View statewide maps and the most current degree-day accumulations at locations near you with our degree-day calculator.—Kelly Cook

The Arrival of Black Cutworm Moths Continues

In the Bulletin last week (“Continuing Information About Moth Captures”), we reported moth counts from Ron Hines, senior research specialist at the University of Illinois Dixon Springs Agricultural Center, who monitors several traps for moths during the growing season and reports his findings in “The Hines Report.” Included in his traps were several black cutworm moths and one armyworm moth.

Since then, we’ve had several other reports of black cutworm moths being found in traps in Illinois. Moths were captured during the last weekend in March in Piatt County (trap monitored by Doug Gucker) and Sangamon County (Matt Montgomery, trap monitored by Brian and Lori Bell). Mike Roegege also reported three significant moth flights—two in Adams County (Sam Markert, Camp Point) on March 29 and April 6, and one in Brown County (Terry Beyhmer, Mt. Sterling) on April 6.

Degree-days can be used to predict larval development and when the first cutting of plants may begin (Table 2). The accumulation of degree-days begins with a significant moth flight (nine moths caught over a 2-day period). If you know when a significant moth flight occurs in your area, you can determine when potential cutting may occur near you by using our degree-day calculator. Unfortunately, at this time the Web site is only providing users 1- and 2-week projections of degree-days; we hope to have this remedied in the next few days to provide a projected cutting date. In 2 weeks, degree-day accumulations are estimated to be 98 degree-days. This would signify that egg hatch is just beginning in that area. We’ll be sure to update expected cutting dates for these counties in the Bulletin next week. Until then, if you have any questions or want to report any trap catches, feel free to contact me by e-mail (kcook8@uiuc.edu) or by phone (217-333-6652).—Kelly Cook

Table 2. Degree-days and corresponding insect growth stages and activity for black cutworm.

<table>
<thead>
<tr>
<th>Degree-days</th>
<th>Stage</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (biofix)</td>
<td>Intensive moth</td>
<td>Egg laying</td>
</tr>
<tr>
<td></td>
<td>capture</td>
<td></td>
</tr>
<tr>
<td>90</td>
<td>Egg hatch</td>
<td>—</td>
</tr>
<tr>
<td>91–311</td>
<td>1st-3rd instar</td>
<td>Leaf feeding</td>
</tr>
<tr>
<td>312–364</td>
<td>4th instar</td>
<td>1st cutting</td>
</tr>
<tr>
<td>365–430</td>
<td>5th instar</td>
<td>Cutting</td>
</tr>
<tr>
<td>431–640</td>
<td>6th instar</td>
<td>Cutting slows</td>
</tr>
<tr>
<td>641–989</td>
<td>Pupa to moth</td>
<td>Cutting stops</td>
</tr>
</tbody>
</table>

Table 2. Degree-days and corresponding insect growth stages and activity for black cutworm.

Early-Season Diseases of Alfalfa, the “Queen of Forages”

Alfalfa in Illinois in April can be looked at in at least two ways. One is the established alfalfa fields, which are growing vigorously in most areas of Illinois and are well on the way to producing the first crop for 2004. Another is the fields planted this spring. Both are susceptible to multiple diseases. With the value of alfalfa and the costs for reseeding in mind, it can pay to closely monitor and scout fields to determine whether and which diseases are causing problems so that management plans for specific diseases can be planned to maximize yield, quality, and profit for the alfalfa crop. Information and photographs for

Announcements on New Insecticides

Early in 2004, AMVAC Chemical Corporation entered into an agreement with Syngenta Crop Protection to supply Force 3G corn soil insecticide for use through AMVAC’s SmartBox systems beginning this year. Most of you know that AMVAC also supplies Aztec 4.67G and Fortress 5G through the SmartBox system, a closed handling system that makes application of granular insecticides more precise and reduces applicator exposure. Force 3G in the SmartBox will be available in limited quantities in 2004 and will be sold through select distribution channels by AMVAC.

We just received word from Dow AgroSciences that gamma cyhalothrin has received federal registration for use on a number of field, vegetable, tree, and vine crops. State agencies currently are reviewing the submission package, so the product is not yet available for use in Illinois. However, Dow AgroSciences expects state registrations soon. The trade name for the product containing gamma cyhalothrin for use on field crops will be Proaxis. This new generation pyrethroid will have the lowest overall rate range of any currently U.S.-registered pyrethroid. Over the past few years, we have included Proaxis in several of our insecticide efficacy trials, and its performance has been excellent. In the near future, we will provide more information (e.g., crops, use rates) about Proaxis in the Bulletin.—Kevin Steffey
the most important alfalfa diseases in Illinois can be found at the University of Illinois Field Crop Diseases Web site (www.cropdisease.cropsci.uiuc.edu).

Early-Season Diseases in Established Stands

Several diseases can cause significant damage to alfalfa stands early in the season. Some of these are the same ones that cause later problems, including bacterial and Fusarium wilts, Verticillium wilt, anthracnose, crown rot, and Phytophthora root rot. These diseases, with the exception of crown rot, can generally be managed with good alfalfa varieties that have high levels of disease resistance. Two other diseases can be of particular concern at this time of the year: spring black stem and Sclerotina crown and stem rot.

Spring black stem and leaf spot (caused by the fungus *Phoma medicaginis*) is a common disease in the cool times of the year that can reduce yield and forage quality. Dark brown to black spots develop on the leaves, which can expand and cause yellowing. Leaf drop may result, especially in the lower canopy of dense stands, which often stays moist. Dark lesions may develop on stems and and kill them. This disease is favored by wet and cool conditions and can develop quickly when conditions are favorable. The alfalfa crop should be harvested as soon as possible if this disease becomes severe in order to minimize losses of yield and quality. High levels of resistance to spring black stem are not available in alfalfa cultivars. However, good new varieties adapted to your area may suffer less damage from this disease than older varieties. Losses from foliar diseases can generally be minimized with good management practices and fertilization, especially using potassium.

Another disease that can cause considerable damage to young alfalfa stands, especially stands in the southern half of Illinois that were seeded last fall, is Sclerotinia crown and stem rot. At this time of the year, damage from this disease may be seen as dead patches of plants or plants with wilting or dying stems. On closer inspection, infected plants often are soft and rotting, covered in part with white fungal growth, and they contain small (1/8 inch to 1/4 inch), rounded black fungal structures. These plants typically have infected internal crown tissue that is brown to yellow in color. Sclerotinia crown and stem rot of alfalfa in Illinois is thought to be caused primarily by the soilborne fungus *Sclerotinia trifoliorum*, which is a different species than what causes white mold of soybean. This disease is managed by planting in spring, rotating away from alfalfa and clover, and using the most resistant cultivars available.

Diseases in Newly Planted Fields

Soilborne diseases that cause pre- and postemergence damping-off of alfalfa seedlings can be a major concern for successful stand establishment. Three diseases of particular concern are Pythium rot and damping-off, Phytophthora rot and damping-off, and Aphanomyces root rot. All of these diseases are favored by wet soil conditions. *Pythium* and *Phytophthora* often kill seedlings rapidly, before plants become severely discolored, whereas *Aphanomyces* tends to kill plants more slowly, while causing stunting and yellow-purple discoloration of cotyledons and leaves. Each of these diseases can be managed to some degree by avoiding wet fields. Treatment of alfalfa seed with the fungicides meta-laxyl (Allegiance) or mefenoxam (Apron XL) provides effective protection for seed and seedlings against *Pythium* and *Phytophthora*. *Aphanomyces* cannot be managed with fungicides. Cultivars are not available that are resistant to *Pythium*. Many alfalfa cultivars have excellent resistance to *Phytophthora* and race 1 of *Aphanomyces*.

Aphanomyces root rot, caused by *Aphanomyces euteiches*, may be of particular concern, because we have found this pathogen to be very widespread in Illinois alfalfa fields. This disease is typically most damaging to seedlings and can dramatically thin stands and reduce vigor and yield of infected plants. Races 1 and 2 of *Aphanomyces euteiches* are very common in Illinois alfalfa fields. Resistant alfalfa varieties should be used to manage Aphanomyces root rot, especially where fields are prone to slow drainage and where seedling establishment problems have been noted in the past. Most certified varieties are resistant (R) or highly resistant (HR) to Aphanomyces root rot race 1. Resistance to race 1 does not protect against race 2. Thus, based on our new knowledge of race 2 in Illinois fields, resistance to races 1 and 2 is needed in many fields to protect plants against Aphanomyces root rot. Several alfalfa varieties are available that are resistant to both races of *Aphanomyces*.

For diagnosis of these and other crop disease problems, send samples to the University of Illinois Plant Clinic in Urbana (217-333-0519; www.cropsci.uiuc.edu/research/clinic/clinic.html).—Dean Malvick

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**WEEDS**

Everything’s Coming Up Green (and Purple)

Various shades of green and purple have begun to appear in many fields in response to recent rains and warm temperatures. It is our goal to keep ahead of the weeds and tell you what is emerging each week to make scouting fields easier. In the Web version of the *Bulletin*, color photographs accompany weed descriptions. So, to keep up the annual tradition of reviewing the identification of these early-season weeds. . . .

One of the earliest grasses to appear in no-till fields is downy brome (*Bromus tectorum*). Downy brome is a winter annual, with a dense, soft mat of hairs covering the upper and lower leaf surfaces and the stem. A unique characteristic of downy brome leaves is that they twist clockwise. The ligule is very short and membranous, while the leaf sheath is closed (typical of brome grasses).
The droopy panicle, or seed head, begins to appear in April and can have a green to reddish purple tint.

Another grass that is early to emerge is annual bluegrass (Poa annua). Annual bluegrass has very narrow leaves, with a short (1- to 2-millimeter-long) membranous ligule. Leaves and stem do not have any hairs present. A distinguishing characteristic of annual bluegrass is the end of the leaf blade, which is keeled like the bottom of a boat. This grass is highly tillered and is likely to be found in clumps.

Two species of chickweed are common to Illinois. The most prevalent is common chickweed (Stellaria media), with mouseear chickweed (Cerastium vulgatum) coming in second. Common chickweed is a winter annual that forms very dense mats. The leaves are smooth, opposite, and round to egg-shaped, with a pointed end. Mouseear chickweed is a perennial with leaves very similar to common chickweed, except that dense hairs cover the leaf surfaces.

Curly dock (Rumex crispus) is a perennial weed that begins as a rosette, with smooth, egg-shaped leaves. Some of the younger leaves may have red and purple spots on them, although the speckling will become more pronounced with maturity. Older leaves will develop wavy margins, and an ochrea (papery sheath) will be easily seen near the base of the petiole.

Two biennial weeds that are hard to distinguish when small are wild carrot (Daucus carota) and poison hemlock (Conium maculatum). Both form basal rosettes and have leaves that are pinnately dissected (very divided). Leaves of wild carrot (otherwise known as Queen Anne’s lace) are smooth on the upper surface yet have very short hairs on the lower leaf surface. In the second year, vertical hollow stems with very few leaves are produced from the rosette. Poison hemlock leaves and stems are hairless, with purple speckling on the stems. In the second year, leaves are present on the stems, and the plant appears fern-like. When the stem or leaves are crushed, they emit a pungent, parsnip-like odor. Poison hemlock leaves tend to be larger, 20 to 40 centimeters long, compared with wild carrot leaves, which may only reach 15 centimeters.

Leaf shape is the easiest way to differentiate buckhorn and broadleaf plantain. Both plantains are perennials that have leaves that form basal rosettes. Buckhorn plantain (Plantago lanceolata) has very narrow, lanceolate leaves with parallel venation. These leaves can be smooth or hairy, and there is no petiole. Broadleaf plantain (Plantago major) has broad, oval-shaped leaves, with three to five prominent veins. The older leaf margins are wavy and may or may not have hairs. There is a petiole present on broadleaf plantain.

A weed less common to Illinois is western salsify (Tragopogon dubius). This biennial looks very grasslike, with long, narrow leaves arranged in a rosette. The leaves have a keeled tip (similar to annual bluegrass) and clasp around the stem. The stem is smooth and very fleshy with occasional hairs. Western salsify leaves, stems, and roots (large taproot) exude a milky sap when injured.

Horseweed (marestail) has also taken over many fields already this spring. Horseweed seedlings develop basal rosettes. The earliest leaves are egg-shaped, with soft, short hairs. With time, the leaves become linear to elliptic and crowded around the stem. The edges of the leaves are toothed. We encourage you to pay special attention to horseweed due to the presence of glyphosate-resistant biotypes in Indiana and Kentucky.

Many other weeds have emerged or begun to emerge, including purple deadnettle, henbit, yellow rocket, shepherd’s-purse, Virginia pepperweed, field pennycress, butterweed, buttercup, kochia, prickly lettuce, star-of-Bethlehem, pineappleweed, dandelion, Pennsylvania smartweed, prostrate knotweed, speedwells, catchweed bedstraw—and the final weed in our list is giant ragweed!

You may review descriptions of these weeds in previous articles in the Bulletin: “What Weed Is That?” (http://www.ipm.uiuc.edu/bulletin/pastpest/articles/200205m.html) and “A Review of Early-Season Weed Species” (http://www.ipm.uiuc.edu/bulletin/pastpest/articles/200104h.html).—Dawn Nordby and Aaron Hager

CROP DEVELOPMENT

The Season Gets Under Way

Corn

While we have had fewer warm days this year in late March and early April than in 2003, soils are drying well in many parts of the state, and both planting preparation and planting are starting to get under way. Although some producers in the northern part of Illinois wait to plant until after the middle of April, many in central and southern Illinois start to plant as soon as soil conditions are good for planting. Some may even do so before soil conditions are good. Others may plant in good conditions, but chances for weather-related problems are greater with earlier planting. In fact, some of the corn planted in March this year is struggling with the wet and cool weather in the past weeks, and some may need replanting.

Our data suggest that corn planted in the first half of April will on average yield less than corn planted in late April, but this effect will vary with weather. Can we guess whether this will be a year when very early planting helps or hurts yields? Not very well, though one key to gaining from early planting is to wait to plant until after the middle of April, many in central and southern Illinois start to plant as soon as soil conditions are good for planting. Some may even do so before soil conditions are good. Others may plant in good conditions, but chances for weather-related problems are greater with earlier planting. In fact, some of the corn planted in March this year is struggling with the wet and cool weather in the past weeks, and some may need replanting.

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As I have said before, the first half of April is no time to do “foolish” things to get corn planted. If it turns wet and cold after early planting, we may feel that early planting was valuable because it meant not planting late, but corn planted into soils when they are too wet will often fail to thrive. We generally need a little better “luck” for corn to emerge and grow well when it’s planted very early. This doesn’t mean we shouldn’t plant early, but we should do so only when conditions are good.

Even if a lot of acres need to be planted in the next month, history tells us not to get too agitated even if rainfall in April is normal and we aren’t able to plant exactly when we would like. The last week of April is considered the ideal time to plant, but yield losses for planting up to 10 days on either side of the ideal date are not large. On the other hand, one of the real benefits of planting early is that replanting, in the event it is needed, can be done closer to the optimum planting time.

Does anything change with planting date? It is often considered best to plant full-season hybrids first, followed by midseason and shorter-season hybrids. In fact, the maturity range utilized by most producers is not that large: Even “full-season” hybrids have a fair cushion of growing degree-days for a given area, and growth rates for all hybrids are slow when growing degree-days accumulate slowly early in the season. This means that, except to make sure that fuller-season hybrids don’t get planted late, managing crop development and maturity through planting date won’t usually make large differences. By the same token, getting the crop up and growing by early May often has limited benefits, both because growth is slow under cool conditions and also because an emerged crop is more subject to frost injury, and sometimes to other problems.

**Soybean**

One question this spring is whether varietal maturity and planting date can be used to ensure early harvest, which this year can mean a considerably higher selling price of the crop. Due to the photoperiod effect on flowering and the slow growth of soybeans during cool temperatures, planting very early does not mean a much earlier harvest, though there is some effect, perhaps a day earlier maturity for every 5 days or so earlier planting. This is expected to vary a lot with the year. Varietal maturity is a more effective method of moving up harvest date, but this often comes at a cost of lower yields. In northern Illinois, a mid-September harvest by early planting of early varieties (groups 1.8 to 2.0) may not be able to ensure a yield great enough to negate higher prices. Early-maturing varieties can yield with later ones if the weather is good, but they usually have less ability to survive periods of dry weather without losing yield.

Chances of managing maturity and planting date for mid-September harvest are much better in central Illinois and are good in southern Illinois, though there will often be some yield penalty when soybean seed has fewer days to fill. Planting an MG 2.8 to 3.0 in early May in central Illinois might work, but cool temperatures in August will sometimes prevent early harvest. Trying to ensure harvest by the end of August will likely be counterproductive in most years because of large expected yield losses. In general, it may work to try to make small changes in hopes of harvesting early, but be prepared for these changes not to work as planned.

Our research has shown that the first 20 days or so of May in northern and central Illinois are the best time to plant, and any time in May is good for southern Illinois. Planting in early April and late May results in yield losses of about 10%, though this varies from year to year. Dropping about 150,000 to 175,000 seeds usually results in optimum stand numbers. We did not find much reason to change seeding rates for different planting dates. Serious stand loss can occur regardless of planting date, usually as a result of heavy rainfall before emergence and, when planting is very early, of frost. But even with good stands, soybean planted before mid-April tends to yield less than that planted in late April through mid-May.

**Wheat**

Wheat is generally in good shape, benefiting from the gradual warm-up and general lack of flooding and freeze injury. If it turns warm and wet, there could be some nitrogen loss, but the crop should remain in good shape if cool, relatively dry weather holds through the next weeks.

**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 Southwest 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

Limited fieldwork was reported in several locations in the region over the weekend. However, activity had increased by midweek. Activities include anhydrous ammonia application, dry fertilizer application, oat and alfalfa seeding, and secondary tillage. Also, early preplant herbicide application and burndown herbicide applications are occurring.

West-Central Illinois

With the dry soil conditions, producers have commenced fieldwork over much of the area. Applying anhydrous ammonia, performing primary and secondary tillage, and corn planting are taking place. Soil moisture levels are such that many producers are reporting excellent working conditions. Soil temperatures at the 4-inch depth on the morning of April 7 were near 50˚F.

Many producers are still waiting for warmer soil temperatures prior to “hitting it hard.” Others have made the assumption that with the dryer and cooler soils, the corn will keep just as well in the soil as it will in the bag, and they’re planting.

Several intense captures of black cutworm moths were noted on the morning of April 6 in Adams and Brown counties. Prior to that, an intense capture was reported in Adams County on March 28. Moth flights have occurred throughout the area, but few people have reported intense captures.

Wheat continues to tiller. Most nitrogen applications have been made. Some applications of Harmony Extra for garlic and winter annual weed control have been made.

Burndown herbicide application for no-till acres is beginning, as is dry fertilizer spreading.

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