



PEST MANAGEMENT & CROP DEVELOPMENT

BULLETIN

No. 9 / May 22, 2009

Executive editor: Vince M. Davis,
Extension Soybean Specialist

Available on the Web at
www.ipm.illinois.edu/bulletin
For subscription information, phone
217-333-2007, or e-mail
acesnews@illinois.edu

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Also in This Issue

- **A Tribute to Kevin Steffey, Extension Entomologist Extraordinaire, 66**
- **Standing Water in Fields and Corn Rootworm Survival, 66**
- **University of Illinois Weed Science Field Day Rescheduled, 68**
- **Some Additional Thoughts on Managing Weeds Before Planting, 68**
- **Wheat Disease Update, 68**
- **Should I Switch from Corn to Soybean? (Continued), 69**
- . . . and more

New Editor, Same Mission

It is amazing how fast things can sometimes change. In last week's issue, Dr. Kevin Steffey announced his retirement from the extension ranks at the University of Illinois and unveiled the plans for a new chapter in his career. I only had the pleasure of working with Dr. Steffey for a few months, but I know he will be greatly missed around here and across Illinois as a whole. It seems like just yesterday he and I submitted an article announcing my new position as a soybean extension specialist. Now I am writing again about a new role of responsibility.

With this issue of *the Bulletin* I have assumed duties as the executive editor, a role Dr. Steffey fulfilled very successfully for many years. He tirelessly solicited and contributed articles to make this newsletter a valuable source of information and a guide for your farming decisions.

I will work hard to continue the mission of delivering timely and relevant pest and crop information to you. While Dr. Steffey's leadership and contributions will be missed, fortunately there are many people who contribute to the content and production of *the Bulletin*. I know these people will help the transition appear smooth. For the remainder of this growing season, my goal is to continue production and timely delivery of the newsletter as planned. For successive years, I will evaluate the content and delivery methods used and look for ways to increase our ability to deliver relevant information in the best format possible. There are several possibilities to change the direction and format in this digital age of "instant communication." I would like to hear your thoughts on how the newsletter can be improved as we move forward. If you have suggestions or questions, please contact me: davisv@illinois.edu, 217-244-9479. Thanks in advance for your valuable input. —
Vince M. Davis

INSECTS

Make Plans to Attend Summer Crops Training Center Updates

The dates have been set for the annual summer *Crops Training Center Updates* at the University of Illinois Northern Illinois Agronomy Research Center, located near Shabbona in DeKalb County. All sessions will be of interest to grain producers, agribusiness dealers, and crop scouts. The first session, from 9:00 a.m. to noon on Wednesday, June 3, will focus on corn nematode management, including proper field sampling and research results. The discussion will be led by Dr. Terry Niblack, University of Illinois Extension nematologist. Participants will have the opportunity to view corn nematodes under a microscope. A western bean cutworm trapping protocol and an emerald ash borer update will also be presented.

At least 20 reservations are needed by June 1 for the program to be held. Registration that morning begins at 8:30 a.m. The cost is \$30 (lunch not provided); walk-in-registration is \$40. Register online and pay with a credit card at web.extension.uiuc.edu/whiteside, or send your reservation and check to University of Illinois Extension, Whiteside County Unit, c/o Greg Clark, 100 E. Knox Street, Morrison, IL 61270 (phone 815-772-4075).

Please make your check payable to University of Illinois Extension. A workshop brochure is available from Whiteside County Extension and other Extension offices in northern Illinois.

Additional workshops at the Crops Training Center will be **Monday, July 6** (sprayer technology and field pest updates) and **Tuesday, August 11** (soil fertility and results of the state-wide field phosphorus and potassium surveys; soybean rust and fungicide updates).

To reach the research center, go 1 mile east of Shabbona on Route 30, then 5-1/2 miles north on University Road. Continuing education units will be available for Certified Crop Advisers. —*Dale Baird*

A Tribute to Kevin Steffey, Extension Entomologist Extraordinaire

As readers of *the Bulletin* know by now, my close friend, mentor, and colleague retired last week and began a new career in the private sector. Kevin will be missed by many, but most especially by the clientele he served so very well for 30 years at the University of Illinois. It was my distinct pleasure to work with Kevin for over 21 years. We both greatly enjoyed our on-farm corn rootworm research collaborations with producers through the years. His departure leaves a very big hole in the applied field crop research and extension entomology program, a hole will not be filled. Because of continuing budgetary challenges and shifting priorities, this scenario (loss of applied research and extension positions) has taken place at many of our land-grant institutions during the past 20 years.

The photograph of Kevin here was taken in the early 1980s, not long after he began his career at the University of Illinois. It shows him in a producer's field scouting for insects—something he enjoyed very much. Through the years, Kevin brought passionate leadership to many significant Univer-

sity of Illinois Extension programs, including the “*Spray School*,” which later morphed into the *Crop Protection Technology Conference*. With a few other extension specialists in the Department of Crop Sciences, Kevin also was a key player in creating the very successful *Corn and Soybean Classics*. During the past several years, Kevin began to provide regional leadership for extension entomologists in the north-central states. Many of them provided moving tributes to Kevin prior to his departure from our campus.

Kevin exemplified a philosophy that the first extension entomologist in Illinois, Pete Petty, encouraged his colleagues to follow: “Work hard and play hard.” I look forward to seeing Kevin at future Entomological Society of America meetings. As he indicated in his last article for *the Bulletin*—he will continue to be an entomologist. —*Mike Gray*

Standing Water in Fields and Corn Rootworm Survival

Due to the very wet spring and the severe storms that plagued most of the state on May 15, many fields are saturated, and large portions of some have standing water. How will these flooded conditions affect corn rootworm survival? Many articles have been written on this topic in *the Bulletin* through the years. In general,

survival of corn rootworms depends on the duration of the standing water, its temperature, and the point in the season when “ponded” conditions develop. If flooding occurs very soon after larval hatch, and before larvae can establish in root systems, a high percentage of larvae succumb to these environmental conditions. The timing of larval hatch varies considerably, but in most years it typically occurs near the end of May across central Illinois. In some years with very cool springs, hatch has occurred as late as mid-June in central Illinois (June 12, 1996; June 13, 1997). Certainly, a late hatch that extreme has been the exception. However, the very cool spring experienced thus far may result in a delayed hatch and also occur at a point when saturated soil conditions no longer exist, improving corn rootworm survival.

A review of the accumulated degree-days (base 52 °F) from January 1 indicates that for several locations in Illinois, a delayed hatch is a distinct possibility. When 684 to 767 degree-days (base 52 °F) have accumulated from January 1, approximately 50% of corn rootworm larvae should have begun to hatch (Levine et al. 1992. *Journal of Economic Entomology* 85: 2425–2432). By May 18, only 296, 162, and 119 degree-days had accumulated for Belleville, Champaign, and Freeport, respectively. For Champaign, these degree-day accumulations are considerably below the 11-year



Kevin Steffey, recently retired University of Illinois Extension entomologist.

average of 305 for this location. However, above-average temperatures for the next week to 10 days could result in a typical hatch by late May.

A few published papers on standing water and corn rootworm survival may shed some light on this topic:

- Riedell, W.E. and Gerald R. Sutter. 1995. "Soil moisture and survival of western corn rootworm larvae in field plots." *Journal of the Kansas Entomological Society* 68(1): 80–84. In 1993, researchers conducted an experiment near Brookings, South Dakota, using artificial infestations of western corn rootworm eggs. Heavy precipitation (early to mid-June) resulted in saturated soil conditions in experimental plots. One of the replicates that was most affected by the rain had a 10-fold reduction in western corn rootworm emergence as compared with the other three blocks.

- Hoback, W.W., T.L. Clark, L.J. Meinke, L.G. Higley, and J.M. Scalzitti. 2002. "Immersion survival differs among three *Diabrotica* species." *Entomologia Experimentalis et Applicata* 105: 29–34. When third instars (western corn rootworms) were placed into vials containing dechlorinated tap water with reduced oxygen levels in dark chambers, 50% of larvae were dead after 26 hours at 25 °C. Lowering water temperature improved survival of third instars. At 10 °C, approximately half of third-instar western corn rootworms survived 72 hours in the water-filled containers. Less mature larvae (western corn rootworms) survived immersion better—50% of second instars survived for 56 hours at 25 °C.

The following are some points to keep in mind regarding corn rootworm survival and standing water. If saturated or flooded conditions exist while corn rootworms are in the egg stage, overall survival will not be greatly affected, particularly if the water remains cool. Likewise, if larvae have been able to establish within corn root tissue, they are better able to survive short durations of standing water. If flooded conditions in fields occur during larval

hatch, anticipate significant reductions in corn rootworm numbers. Warmer conditions will decrease survival of larvae even further.

If extreme planting delays occur (into early to mid-June), starvation of corn rootworm larvae may occur following hatch. A 1989 article by Terry Branson (*Journal of the Kansas Entomological Society*, 62[4]: 521–523) indicates that first instars must quickly locate a suitable host to begin feeding on. If first-instar western corn rootworms fail to locate a host within 24 hours following hatch, 45% of them will fail to establish successfully and reach the adult stage. According to Branson, after 3 days of starvation following hatch, only 4.7% of western corn rootworms reached the adult stage.

For now, producers should *not* assume that corn rootworm densities have been negatively affected by the wet weather and delays in corn planting this spring. As planting resumes in many areas of the state, standard corn rootworm management practices are still warranted, including the use of Bt corn rootworm hybrids or soil insecticides.—*Mike Gray*

Scientific Advisory Panel Report on Pioneer's Optimum AcreMax Seed Mix Refuge (Refuge-in-a-Bag) Request Available On-Line

There have been many articles in the popular press about the outcome of discussions in February by a FIFRA Scientific Advisory Panel concerning their charge to evaluate the potential risks for resistance development by using a seed mix refuge of Optimum AcreMax for corn rootworm protection. Contrary to the tone of some of the articles, very significant challenges remain to implementing this concept for managing corn rootworm resistance, especially at the lower range of seed mixture refuges. The full report (meeting minutes) is available at www.epa.gov/scipoly/sap/meetings/2009/february/232009finalreport.pdf. The overall report is quite lengthy and not an easy read. Provided below are

quotes from the summary of panel discussions and recommendations (pp. 6–8 of the report).

- "Overall, the Panel concluded that there are uncertainties with the scientific data supporting Pioneer's proposed seed blend, Optimum® AcreMax™ 1, and clear problems with reducing the refuge size."

- "The Panel generally agreed that data presented by Pioneer and data found in the public literature provide no compelling evidence to reduce the proportion of non-Bt plants (either as a seed blend or spatial refuge) from 20% and there was strong concern with the request for any reduction in the refuge size with a seed blend of 5% or less."

- "Data were not presented that supported a claim that potential yield losses justify a seed blend of no greater than 5%."

- "The Panel supported the recommendation to conduct additional research with various percentages of seed mixtures to determine any effects on yield."

- "Therefore, the Panel concluded that, based on the current science, it would be reasonable to commercially use 20% seed blend refuges while research suggested by the committee and other research projects are conducted to examine the performance of the seed blend strategy."

- "The Panel agreed with EPA that there is uncertainty with regard to whether the mode of action of Cry34/35Ab1 is through a toxic or repellent mechanism."

- "In summary, most Panel members believed that corn rootworm biology seems to lend itself to the seed blend concept and that while the seed blend refuge concept has merit, the Panel had concerns regarding the reduction in refuge size. However, the Panel also believed that it is vital to preserve the Bt CRW biology and was significantly concerned about the proposal to move to both a seed blend refuge and a drastic reduction in refuge at the same time."

This report offered by the Scientific Advisory Panel is just that—advisory. The US Environmental Protection Agency will offer a full response later this year regarding this request for a new approach to resistance management for corn rootworms.—*Mike Gray*

WEEDS

University of Illinois Weed Science Field Day Rescheduled

Farmers and researchers alike have experienced planting delays resulting from this spring's persistent and abundant precipitation events. Because of the delays, we have rescheduled the University of Illinois Weed Science Field Day to **Wednesday, July 8**. The field tour will begin at 8:00 a.m. at the University of Illinois Crop Sciences Research and Education Center, located immediately south of the main campus. Please contact us at 217-333-4424 if you have any questions.—*Aaron Hager and Doug Maxwell*

Some Additional Thoughts About Managing Weeds Before Planting

While many species of winter annual weeds are nearing completion of their life cycle, summer annual weed species appear to be thriving in fields where no weed management operation has occurred. Giant ragweed plants taller than 12 inches populate numerous fields, very dense populations of common lambsquarters are common, and waterhemp is enjoying the ample precipitation and soon-to-be-increasing air temperatures forecast for later this week.

In no-till situations, planting herbicide-resistant hybrids and varieties lets farmers plant first and spray weeds later (perhaps even as late as after crop emergence) with a nonselective herbicide such as glyphosate or glufosinate. Prior research has demonstrated that delayed burn-downs can sometimes provide satisfactory weed control, but this practice introduces significantly more risk for loss of crop yield po-

tential than if weeds are adequately controlled prior to planting. Following are a few additional thoughts about managing weeds before planting.

- Glyphosate-resistant populations of horseweed (aka marestail) and waterhemp occur across many areas of Illinois. Both species can be (and currently are) present before corn or soybean is planted. Failure to adequately control these glyphosate-resistant populations before planting could lead to significant challenges after the crop has emerged, especially in soybean, where very few alternative postemergence herbicide options exist. Tank-mix partners with glyphosate or alternative herbicides will be needed to control glyphosate-resistant weeds prior to crop planting. More tank-mix partners or alternative herbicide options are possible before planting than after planting.

- Growth regulator herbicides used prior to planting generally have labeled waiting intervals that must elapse between application and planting. If you intend to plant before the labeled interval will have elapsed, omit the growth regulator from the burn-down application and replace it with another herbicide and/or increase the rate of the nonselective herbicide, if possible. Be cautious about which herbicide alternative you include with glyphosate. Herbicides that are more contact in activity may sometimes antagonize glyphosate, especially on large weeds. Alternatively, nonselective contact herbicides used for burn-down, such as paraquat or glufosinate, often provide improved burn-down of existing vegetation when other contact herbicides, such as metribuzin or atrazine, are tank-mixed with them.

- Large weeds generally require a higher herbicide application rate for adequate control to be achieved. A 12-inch giant ragweed plant, for example, will be more difficult to control than the 2-inch giant ragweed growing adjacent to it. Delaying a burn-down application until after crop planting might necessitate an even higher application rate.

- For glyphosate-based burn-downs, it is advisable under the current challenging conditions to add the full recommended rate of AMS. Be cautious about including “replacement” additives or blends that do not provide sufficient AMS. While most glyphosate products are formulated with a surfactant, some products require the addition of NIS. Be sure to check the respective product label for additive recommendations or requirements.—*Aaron Hager*

PLANT DISEASES

Wheat Disease Update

Scab. Fusarium head blight (scab) is starting to rear its ugly head in wheat fields in portions of southern Illinois. This comes as no surprise, as some fields in southern Illinois were beginning to flower at a time when the risk for scab was high there based on the wet weather at the time. (See “Wheat Scab Alert” in issue 7 of *the Bulletin*, May 8.) For fields in central and northern Illinois that have not yet begun flowering or that are beginning to flower this week, scab risk is currently low (check the Fusarium head blight risk assessment tool for current risk of scab at www.wheatscab.psu.edu/). Remember that the window for fungicide application to protect against scab is very small. The recommended timing is Feekes 10.5.1 (early flowering). Once the crop is beyond this stage, fungicides should not be applied to protect against scab. Once symptoms begin to appear (as is now true in southern Illinois), no treatments can be applied. The only management practice that can be done in symptomatic fields is to set the combine to blow as much light and shriveled grain as possible out of the back of the combine at harvest to reduce the amount of deoxynivalenol (DON) contamination.

Fungal leaf diseases. Currently, no wheat rust diseases have been reported in Illinois. Symptoms of leaf blights caused by the *Stagonospora/Septoria* complex and powdery mildew have been observed in lower leaves, but

flag leaves have been relatively free of disease thus far.

Virus symptoms on leaves and bacterial mosaic. Some reports of flecking, mosaic patterns, and discoloration of wheat leaves have been observed and reported in portions of the state. In some cases, leaf discoloration (purple to reddish) has been attributed to barley yellow dwarf virus (BYDV), which is transmitted to wheat leaves by aphids that can feed on them in the fall and/or spring. Generally, fall infection of BYDV is more severe and can cause stunting and yield losses. At this point in time, no treatment is recommended for control of BYDV. For control next season, choose a variety with resistance to BYDV. Insecticide seed treatments may also help prevent aphid feeding in the fall, which can reduce the risk of fall BYDV infection.

In addition to the BYDV symptoms, flecking and mosaic patterns on leaves have been reported. In some cases these may be due to wheat spindle streak mosaic virus (WSSMV) or wheat soilborne mosaic virus (WSBMV). Both viruses are transmitted to wheat by a fungal-like organism, *Polymyxa graminis*, which is a soilborne parasite of wheat roots. Symptoms of these viral diseases are usually best observed earlier in the spring, because plants tend to recover from the symptoms as temperatures begin to rise. Viruses may not always be the causal agent, however. Recently, bacterial mosaic (caused by the bacterium *Clavibacter michiganense* subsp. *tessellarius*) was confirmed in Illinois in samples sent to the University of Illinois Plant Clinic. Symptoms caused by bacterial mosaic can be very similar to those caused by WSSMV and WSMV; diagnosis using symptoms alone is thus difficult. So far, bacterial mosaic has been confirmed in wheat samples from Wayne and Madison counties that were sent to the Plant Clinic and in a sample from Mason County (Mason County confirmation came from Kelli Basset with Pioneer Hi-Bred). The only other known reports of this disease in Illinois came

in 1990, where it was reported in Gallatin and Clay counties. No control recommendations are available for bacterial mosaic; however, because the pathogen could possibly contaminate seeds, it is recommended that you not save any seed from affected fields for planting. —*Carl A. Bradley*

CROP DEVELOPMENT

Should I Switch from Corn to Soybean? (Continued)

It seems we just can't catch a break from Mother Nature this spring. The May 18 USDA NASS weather and crops report indicated Illinois has planted 20% of corn and 1% of soybean acres. The five-year averages are 70% for corn and 50% for soybean, so we are extremely behind the typical planting schedules. Moreover, many of the acres that were planted last week received excessive rainfall. The decision to keep a low stand or replant some areas or entire fields will likely be a consideration many farmers will face on the few acres planted in the beginning of last week. The only consolation is we seem to be in a 7- to 10-day stretch of much-needed warm and dry days. Here are some of my thoughts regarding the question many producers may be asking.

So should I switch? This is a difficult decision for farmers to make when much winter effort has been spent planning and preparing for a particular crop, with crop management practices for particular fields. Emerson Nafziger wrote about economic considerations of this decision based on yield expectations in issue 7 of *the Bulletin* (May 8), and I encourage you to read his comments. If you are thinking of switching to soybean in fields where you grew soybean in 2008, additional considerations are the potential levels of soilborne diseases and whether you have already applied a preemergence herbicide and/or nitrogen in preparation for corn. If the previous crop was soybean but the field hasn't been in soybean for longer than 3 years, you can plant soybean

again and achieve full yield. However, variety selection will be particularly important. I wrote about the value of variety selection in issue 4 (April 17). Most important in that article is the suggestion to use the University of Illinois Variety Testing program (vt.cropsci.illinois.edu/soybean.html) and the Varietal Information Programs for Soybeans (www.vipsoybeans.org/v4/vphome/vipshome.cfm?CFID=5416214&CFTOKEN=58099722) in addition to information from your seed supplier to select varieties.

First, examine the infestation level of soybean cyst nematode (SCN) and choose a variety with an appropriate type of SCN resistance. It is best to choose a variety with a different genetic source of SCN resistance than you planted last year. Because PI88788 is the predominant type of SCN resistance available among commercial soybean varieties, this will require some attention and careful selection. If switching sources of SCN resistance is not possible, at least use a different variety. Another consideration is the level of infestation from *Pythium*, *Phytophthora*, *Rhizoctonia*, and *Fusarium* in your previous soybean seedlings. This is where your early-season scouting notes from last year are needed. *Phytophthora* and *Rhizoctonia* are more problematic in warmer soils, so they may be a bigger concern than *Pythium* as the date progresses. Again, choose varieties with appropriate resistance to potential diseases, particularly for fields with a history of previous problems.

If you have already applied nitrogen in preparation for planting corn, this does not prevent you from planting soybean. In fact, a high-yielding soybean crop requires more nitrogen than corn. However, soybean produces half to three-quarters of its own nitrogen through fixation from symbiotic bacteria (*Bradyrhizobia japonicum*). Nitrogen fixation (root nodulation) will either not occur or will occur at a low rate where nitrogen was applied, so the extra nitrogen will typically not increase soybean yield. Do not expect any benefit to your soybean

crop from the nitrogen you applied for corn. With the high price of nitrogen fertilizers, this is a major economic consideration in switching from corn to soybean. Lastly, having already applied a preemergence corn herbicide is the one thing that may put a halt to switching to soybean. There are legal restrictions regarding planting soybean in the same season following some corn herbicides (e.g., atrazine), though other herbicides may allow it. You will need to check the herbicide label for rotation restrictions.

My closing thought is not directly about agronomic decision-making but on our actions that can influence it. I know that when the weather allows, the pressure to till, fertilize, spray, and plant will push many of you to work long hours on low sleep. Please work deliberately and safely to protect yourself, your workers, and your loved ones. Sleep deprivation could affect agronomic concerns like crop damage and economic losses, for instance, should one hastily grab the wrong seed, or the wrong jug of herbicide because it has a name similar to the right one (pointed out by Aaron Hager in issue 5 on April 24). No one wants to begin with potential injuries from hasty actions, so be careful. I wish for everyone to have a safe spring. — *Vince M. Davis*

Replanting Corn

Corn planting in Illinois continues its slow progress, with only 20% of the crop planted by May 17. While drying weather is finally here this week and planters are starting to move in places, several of the short periods during which we made some planting progress were ended by heavy rainfall events. This means that some stands are not very good, and some of those that haven't been in the ground long enough to emerge will struggle. As much as we'd rather not have to think about this, especially with the poor start to the planting season, some of the fields in Illinois that were planted in recent weeks will need to be replanted.

One question that is increasingly heard as planting is delayed or when replanting is certain is whether to go to an earlier-maturing hybrid. If the first-choice hybrid is midseason to slightly later than midseason—about 111-, 113- and 115-day RM in northern, central, and southern Illinois, respectively—there is little reason to switch to an earlier hybrid if planting can be done by the end of May in northern Illinois or by the end of first week of June in central and southern Illinois. The cushion—the difference between expected GDD accumulation and the GDD requirement for a given corn hybrid—may be zero or even negative when planting such hybrids very late. But late-planted corn accumulates fewer than the normally required number of GDDs, which means that the cushion may not need to be as large. This drop in GDD requirement is not very consistent across years, and it is often proportional to yield loss from late planting, perhaps because hot, dry weather late in the season both speeds development of late-planted corn and decreases yield. But early-maturing corn planted late is likely to be hurt even more by weather-related problems than mid-maturity hybrids would be, and both will be damaged by early frost. This suggests that going to earlier hybrids, especially if they are not adapted, may provide little or no benefit when planting is late.

We had a lot of experience in 2008 replanting drowned-out spots in fields, and there's not much that needs to be said on this topic. If the spots are large enough, simply replant them once soils have dried enough. Waiting long enough for soils in low spots to be in good shape can be a test of patience, but such areas will likely need to be harvested later than the rest of the field anyway, so there's little to be gained by pushing to plant while soils are still wet. When soil at the depth of planting forms a ball that deforms instead of crumbling when pressed with your thumb, it is still too wet. The first planting is usually completely dead in such areas, so there's no concern about competition from older plants.

In those relatively rare cases when stand loss is more or less uniform across a field, the replant decision can be assisted by data on the expected yield increase from replanting. Over the past four years we have accumulated data on both planting date and plant population from six locations around Illinois in order to create new numbers to aid in the replanting decision. **Table 1** has the results of this work from the two northern Illinois sites.

The data in the table are given as percent of maximum yield to take into account the different yield potentials in different fields. While these data are from northern Illinois, the planting date response in southern Illinois was similar. Plant population response differed slightly, with highest yields in southern Illinois produced at about 33,000 plants. The change to lower-than-optimum populations, however, was similar across years at most locations, so the data can be used at any Illinois location.

To determine the advisability of replanting, first find the expected yield (percent) at the existing combination of the first planting date and the population remaining in the damaged stand. If the date and populations are between two lines or columns on the table, simply estimate. Then estimate the yield for a full stand planted on the replant date.

Here is an example: A stand planted on April 25 is now at 22,500 healthy plants per acre, uniformly distributed. Estimating halfway between 20 and 25 (thousand) and halfway between April 20 and 30 gives an estimated 83% of maximum yield. If I replant on May 25 at the population of 35,000 to give maximum yield (this was dropped slightly to take seed cost into account), I can expect a yield of about 81% of maximum. In this case the yield expected from replanting is actually less than would be expected from keeping the existing stand.

If there were only 20,000 plants from an April 25 planting, then replanting on May 25 would be expected to produce

Table 1. Corn yields (percent of maximum) at different planting dates and plant populations, based on data from 8 site-years in northern Illinois, 2005–08.

Planting date	Yield (% of maximum) at varying plant populations (000s per acre)						
	10	15	20	25	30	35	40
April 1	56	66	76	84	91	96	99
April 10	59	69	78	86	92	97	100
April 20	61	71	79	86	92	96	99
April 30	61	70	79	85	90	94	96
May 10	60	69	76	82	87	90	92
May 20	56	65	72	77	82	84	85
May 30	51	59	66	71	75	77	77
June 9	45	52	58	63	66	68	68

about 2 percentage points more than leaving the reduced stand. Multiply the expected yield from this field by .02 to see how many bushels this would amount to. If yield from the field is expected to be 200, then replanting would be expected to increase yield by 4 bushels per acre. If this would be expected to cover replant costs (possible only if replant seed were free), replanting would be indicated.

In cases where the numbers show that replanting would likely result in little yield benefit, it is advisable to use some common sense and experience before finalizing the decision. Factors in favor of replanting in such cases include non-uniformity in plant size; poor distribution of plants, with a lot of row sections where two or more plants are missing together; signs of disease or other damage on surviving plants; and a gut feeling that replanting in this particular field is likely to do well. It is important to make the replant decision based on estimated effects on net income, not on an emotional basis or a need to “make the field look better.” At the same time, listening to one’s gut isn’t always a bad thing, especially when an objective process shows that the outcome of replanting is likely to be a wash.

Factors that work against replanting in cases of little expected yield increase include high cost of replant seed; droughty soil where late-planted corn has typically come under a great deal of stress in past years; fields where foliar diseases are likely to be a problem with later-planted corn (for example, those with trees on two or

three sides); soils that are still not really dry enough at the time of replanting, where damage from replanting is likely to decrease yield; and high costs of drying the wet grain that typically results from late planting.

Stand problems that vary widely across the whole field are a serious challenge when making a replant decision. If less than a fourth or so of the field has very low stands while the rest of the stand is good, it might be feasible to “patch-plant” those sections affected. The patch-planting operation is as much art as science, especially with a 16- or 24-row planter, where the whole width is used even if only three or four rows need replanting. Some newer planters allow individual units or sections to be shut off, but it would be a tedious operation to do this by sight, and many people would decide instead to simply plant the whole width wherever some replanting is needed.

In most cases of patch-planting, the dropped population should be set to no more than the number of seeds needed to restore the most thinned place in the field to its full stand. If it is possible to change planting rates from the tractor seat, that would be helpful, but of course it would get tedious having to change this frequently after estimating on the go how many plants are missing. There is also the issue of planting right over the old row to try to damage it or between the old rows in order to keep both stands.

I saw one patch-planted field in 2008 that had double stands in perhaps a

fourth of the field. That may not have been a huge problem under the great conditions we had in 2008, but it would be a big problem under average weather. Leaving the option to cultivate out, or perhaps to direct a herbicide to kill, the less desirable stand (old or new) in different parts of the field makes sense to a few people, but the inability to guess whether to leave or destroy the old stand at planting often carries over to an inability to make that choice when both stands are present. —*Emerson Nafziger*

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

Northern Illinois

Widespread precipitation halted field work on Wednesday, May 13, limiting most of the region to only two days of field work the week of May 10. Limited field activity was observed over the weekend, with activity increasing on Tuesday, May 19. Planting progress is extremely variable throughout the region. The eastern portion of the region has been wetter, resulting in less progress. Estimates range from 60% corn planted in Ogle County to 25% planted in DeKalb County. Areas northwest of Ogle may be farther along in planting.

Population stands of emerged corn appear uniform, but the plant color is yellowish-green. Warmer temperatures and sunshine should alleviate that problem. Bill Lindenmier, Ogle County crop systems educator, reported a light frost on May 17 and 18, but there have been no reports of frost damage on emerged corn.

Wheat and alfalfa appear good and have been growing rapidly.

U of I Extension Newsletter Service
University of Illinois
at Urbana-Champaign
1917 S. Wright St. Ext., MC-710
Champaign, IL 61820

Just a reminder that the first of the 2009 Crops Training Center summer sessions will be held **Wednesday, June 3**, from 9:00 am to noon at the Northern Illinois Agronomy Research Center in Shabbona. The session will focus on corn nematode management. Presenters include Dr. Terry Niblack, University of Illinois Extension specialist, and area extension educators. Pre-registration is requested by June 1 and can be made by contacting Greg Clark, Whiteside County Extension Unit (gmclark@illinois.edu, 815-772-4075). Cost is \$30 per person (walk-in registration is \$40), and Certified Crop Adviser CEUs have been applied for.

Southern Illinois

Finally some sunshine! Field conditions are gradually improving, and by Tuesday there was some activity in the better-drained fields. If weather predictions hold, there should be some planting progress made at least through the early weekend.

Corn planted in late April to early May is at V-3. Corn planted just prior to the

last round of storms is struggling to get out of the ground, and poorly drained areas will probably not make it.

Wheat pollination is pretty well completed in fields planted on time last fall, and late-planted fields should be completing pollination by early next week. Fusarium head scab can be observed in the earliest flowering fields.

Alfalfa that has not yet been harvested is now well into bloom stage.

West-Central Illinois

“Rain, rain,” seems to be the theme in the west-central region, with corn planting extremely variable. Some farmers are done, while others have yet to start. The western and southern parts of the region are likely 40% to 55% done with corn, but the eastern side is only 5% done. Some corn has emerged; other fields will need to be rotary-hoed to break up the crust that formed from pounding rains on the weekend. Soil erosion is very evident in most fields.

A few soybeans have been planted around the region, but planting is very limited.

Wheat varies from Feekes 8 (flag leaf visible) to full head, and fungicides are being sprayed due to the frequent rains.

Alfalfa is anywhere from late vegetative stage to bud, and some fields likely need to be cut to maintain quality.

Contributing Authors

Dale Baird, dlbaird@illinois.edu,
815-978-2844

Carl A. Bradley, carlbrad@illinois.edu,
217-244-7415

Vince M. Davis, davisv@illinois.edu,
217-244-7497

Mike Gray, megray@illinois.edu,
217-333-6652

Aaron Hager, hager@illinois.edu,
217-333-4424

Emerson Nafziger, ednaf@illinois.edu,
217-333-4424