Another unique year is coming to an end, and already those of us involved in agriculture have been planning for 2005, which undoubtedly will be different from 2004. In the months between now and planting time, we’ll all be involved in learning as much as we can about the season recently concluded. Many of us will share lessons learned during 2004 with audiences throughout the Midwest, so please accept our open invitation to attend one or more educational programs to gain additional insight.

As always, the contributing authors for the Bulletin extend our heartfelt thanks to all of our readers for your continued support, and we thank many of you for your commitment to share information with us. This may sound like a tired refrain, but your input is invaluable. So keep it coming during 2005. We appreciate being able to extend your knowledge to all of our readers.

Although this is the last printed issue of the Bulletin in 2004, keep your eyes open for updates published on our Web site (http://www.ipm.uiuc.edu/bulletin) before issue no. 1 of 2005 is available in March. For those of you who have subscribed to receive e-mail notification of updates, watch your inbox. We may make more use of this feature than we have in the past. For nonsubscribers, check into our Web site now and then. We will try to keep everyone apprised of developments regarding soybean rust and western corn rootworms (among other plant disease and insect topics), as well as timely topics regarding weed management, crop production, and crop protection.

On behalf of all of the authors and other contributors to the Bulletin, I thank you for your continued interest in our efforts. We look forward to further interactions in 2005. Please enjoy the coming holiday season to the hilt (I know I will). Be happy, be safe, and take care of yourselves and your families.—Kevin Steffey

More About the Corn Rootworm Management Distance Education Workshop

In last month’s issue of the Bulletin (issue no. 24, November 5, 2004), we wrote about a corn rootworm management workshop that we will deliver via distance education technology. We have lined up the presenters, and plans for the program are taking shape. The presenters will be

- Kevin Steffey and Mike Gray, University of Illinois
- Larry Bledsoe, Purdue University
- Jon Tollefson, Iowa State University
- Ken Ostlie, University of Minnesota
- Lance Meinke and Bob Wright, University of Nebraska

Sue Ratcliffe, facilitator for the North Central IPM Center, has contacted IPM coordinators throughout the north-central region, as well as a few in other...
states, alerting them about the pro-
gram, which will be delivered on
February 4 and 11, 2005. State con-
tacts will work with extension per-
sontel in their respective states to
make certain that all interested parties
have an opportunity to participate. The
programs, delivered on two consecu-
tive Fridays, will differ in content, so
plan to participate in both. The Febru-
ary 4 workshop will focus on root-
worm situation reports and insecticide
efficacy trials conducted in 2004. The
February 11 workshop will focus on
several issues, including but not lim-
ited to these:

- Performance of soil- and seed-
  applied insecticides
- YieldGard Rootworm corn (includ-
  ing insect resistance management)
- Adult corn rootworm suppression
  programs (including the develop-
  ment of resistance in western corn
  rootworm populations)
- The variant western corn rootworm
- The extended diapause trait in
  northern corn rootworms
- Management recommendations for
  2005 and beyond.

During the next few weeks, watch for
announcements about these work-
shops. Given the corn rootworm man-
agement issues that occurred in 2005
and the ever-changing challenges
posed by corn rootworms, you won’t
want to miss this unique opportunity
to interact with experts from through-
out the Midwest. If you have any
questions about the workshops, don’t
hesitate to contact one of us.—Kevin
Steffey and Mike Gray

New Crop Management
Conferences Planned by
University of Illinois Extension

Producers, agribusiness dealers, crop
scouts, and farm managers will want
to attend one of the new Crop Man-
agement Conferences being delivered
this winter by University of Illinois
Extension. This new programming
effort is designed to provide in-depth,
current information about a wide
range of crop production topics. The
dates and locations for the conferences
are February 8–9, Keller Convention
Center, Effingham; February 22–23,
Hamilton Inn, Jacksonville; and
March 1–2, Kishwaukee College Con-
vention Center, Malta.

Each conference will address crop
production topics pertinent to the
southern, central, or northern Illinois
region where it is held. The format
will include numerous concurrent
sessions to enable attendees to partici-
pate in three or four sessions focused
on different topics. Subjects to be
discussed include soybean rust, insect
management in corn and soybeans,
wheat management, problem weeds,
crop rotation, tillage, crop insurance,
and GPS. Each concurrent session will
be conducted for 80 minutes, provid-
ing time for in-depth discussion, audi-
ence interaction, and questions and
answers. Some sessions will be re-
peated. Presenters will be Extension
specialists and educators. Continuing
education units for Certified Crop
Advisers have been applied for.

The registration fee is $75 per person
in advance (7 days prior to the confer-
ence) or $100 per person at the door.
The fee includes lunch, refreshments,
and supporting materials for both days.
There is no one-day registration fee.

To register for the Effingham confer-
ence, contact Robert Bellm at (618)
692-9434. To register for the Jackson-
ville conference, contact the Morgan-
Scott Extension Unit at (217) 243-
7424. To register for the Malta confer-
ence, contact Dave Feltes at (309)
792-2500). Conference brochures
will be available soon at Extension
offices.—Jim Morrison

2005 Crop Protection
Technology Conference—
Don’t Forget to Register

On behalf of the planning committee
for the 57th annual Illinois Crop Pro-
tection Technology Conference (Uni-
versity of Illinois, Urbana, January 5
and 6), I extend our invitation to those in the crop produc-
tion and protection arenas to take part
in this annual conference. We are very
pleased with the number of registrati-
ons received thus far. This confer-
ence continues to grow in popularity
because of the flexibility of the format
and the chance for attendees to inter-
act with crop production experts
across the Corn Belt. Participants have
the ability to tailor their own programs
and select from among 65 hours of
Certified Crop Adviser (CCA) con-
tinuing education credits (41 credits in
IPM, 6 credits in soil and water, 13
credits in crop production, 2 credits in
crop management, and 3 credits in
nutrient management). By attending
the keynote session and selecting the
symposia and specialized sessions of
most interest, participants can earn up
to 10 CCA credits.

To register, visit the following Web
site address: https://www.conted.uiuc.
edu/fmpro/cptc_reg_2005.html. This
site describes four easy ways to regis-
ter for the conference.

1. Fill out the interactive Web form
   and click the submit button.
2. Fax a registration form from the
   Web site to (217) 333-9561 (avail-
   able 24 hours a day).
3. Mail a registration form and pay-
   ment to:
   Cashiering Office
   University of Illinois
   162 Henry Administration Building
   506 S. Wright Street
   Urbana, IL 61801
4. Call (217) 333-2880 or toll-free
   (877) 455-2687 to register by
   phone. A registration form and
   check or credit card information
   must then be received at the above
   address.

For information about program con-
tent, please contact program co-chairs
Mike Gray (megray@uiuc.edu, 217-
333-6652), Suzanne Bissonnette
Consistency Ratings for Corn Rootworm Control Products


Another approach that can be used is to calculate a consistency rating for each product. We often receive questions from farmers about consistency of a given insecticide under varying growing seasons and locations. Table 1 provides consistency percentages for products tested in our experiments at DeKalb, Monmouth, and Urbana during the 2004 growing season. For each product, 20 roots (4 replicates, 5 roots per replicate) were rated for larval injury on the Iowa State 1-to-6 scale. Root ratings of 1 to 2 signal that very minor larval injury or root scarring occurred. A rating of 3.0 is the commonly accepted economic injury index and indicates that some pruning (light to moderate) has taken place but never the equivalent of one node. Ratings of 4, 5, or 6 indicate that 1, 2, or 3 nodes of roots, respectively, have been destroyed. Typically, when root injury is 4 or greater, plants become more predisposed to lodging, goosenecking, and ultimately may suffer significant yield losses.

Consistency ratings in Table 1 reveal the percentages of plants that were rated from 1 to 3 on the Iowa State 1-to-6 scale. The greater the percentage, the more consistently a given product performed at a satisfactory level. We believe that to assess the overall performance of a rootworm control product, it makes sense to look at the actual root-injury ratings as well as the consistency percentages. We also know that yields are the bottom line. However, yield data are often difficult to interpret because of complicated interactions involving severity of root injury, root regeneration differences among hybrids, soil moisture levels, percentage lodging, and summer temperatures (particularly during anthesis). In determining which root protection products are likely to perform the best under intense rootworm larval pressure, we encourage you to look at both root ratings and consistency percentages. In addition, we encourage our readers to look at data sets on corn rootworm product efficacy maintained at other land-grant institutions.

The consistency percentages in 2004 reveal a theme that we have repeated for several years. It remains clear that the insecticidal seed treatments (Cruiser and Poncho 1250) did not provide the level of consistency that producers seek in a corn rootworm control product. The pyrethroid products Capture 2EC (liquid bifenthrin) and Empower (granular bifenthrin) also did not provide consistent levels of root protection. The YieldGard Rootworm (Golden Harvest H-8588RW) treatment provided 100% consistency in the DeKalb and Monmouth experiments. In Urbana, the YieldGard RW treatment dropped in consistency to 60%. The level of rootworm pressure at all three locations was similar, so the reduction in consistency at the Urbana site was

### Table 1. Consistency percentages for corn rootworm control products, University of Illinois, 2004.

<table>
<thead>
<tr>
<th>Products</th>
<th>Rate²³</th>
<th>Placement</th>
<th>Consistency percentages¹</th>
<th>DeKalb⁴</th>
<th>Monmouth⁵</th>
<th>Urbana⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aztec 2.1G</td>
<td>6.7</td>
<td>Band</td>
<td>100</td>
<td>70</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Aztec 4.67G³</td>
<td>3.0</td>
<td>Band</td>
<td>75</td>
<td>80</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Aztec 4.67G³</td>
<td>3.0</td>
<td>Furrow</td>
<td>85</td>
<td>70</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Capture 2EC</td>
<td>0.37</td>
<td>Band</td>
<td>20</td>
<td>60</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Cruiser</td>
<td>1.25 mg/seed</td>
<td>On seed</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Empower²</td>
<td>8.0</td>
<td>Band</td>
<td>0</td>
<td>N⁰</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Empower²</td>
<td>8.0</td>
<td>Furrow</td>
<td>15</td>
<td>N⁰</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Force 3G</td>
<td>4.0</td>
<td>Band</td>
<td>90</td>
<td>60</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Force 3G⁵</td>
<td>3.0</td>
<td>Band</td>
<td>75</td>
<td>90</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td>Fortress 2.5G</td>
<td>7.4</td>
<td>Furrow</td>
<td>95</td>
<td>90</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Fortress 5G⁵</td>
<td>3.7</td>
<td>Furrow</td>
<td>80</td>
<td>85</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Lorsban 15G</td>
<td>8.0</td>
<td>Band</td>
<td>55</td>
<td>85</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Lorsban 4E</td>
<td>2.4</td>
<td>Band</td>
<td>80</td>
<td>65</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Nufos 15G</td>
<td>8.0</td>
<td>Band</td>
<td>70</td>
<td>95</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Poncho 1250</td>
<td>1.25 mg/seed</td>
<td>On seed</td>
<td>20</td>
<td>20</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>YGRW⁷</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Check</td>
<td></td>
<td></td>
<td>10</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

¹Consistency percentages indicate the percentage of roots that were rated as 1, 2, or 3 on the Iowa State 1 to 6 root injury rating system.
²Rates of application for band and in-furrow placements are ounces per 1,000 feet of row.
³Rates of application for seed treatments are milligrams of active ingredient per seed.
⁴Planting dates were April 28, April 27, and April 19 for DeKalb, Monmouth, and Urbana, respectively.
⁵Hybrid was Golden Harvest H-8588RW (YGRW). All other treatments were applied to Golden Harvest H-8799 (non-transgenic isolate).
somewhat of a surprise. The planting date at Urbana was the earliest, albeit only by 1 week. We will continue to examine the reduced performance of the YieldGard RW treatment at the Urbana site.

If you have any questions concerning these experiments, don’t hesitate to give us a call or send us an e-mail message.—Mike Gray

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**PLANT DISEASES**

**Asian Soybean Rust Confirmation in Louisiana Raises Concern of Potential Impact of This Disease in Illinois**

*Note: This article was first published on the Bulletin Web site as an update to issue no. 24 (November 5, 2004). It has been modified to reflect the additional states in which soybean rust has been observed.*

As widely reported on November 10, 2004, Asian soybean rust was confirmed for the first time in the continental United States. Soybean rust is a fungal disease of soybeans that infects leaves and can cause defoliation and significant yield losses. The soybean rust reported in Louisiana was Asian soybean rust, the aggressive species of rust (*Phakopsora pachyrhizi*), not the relatively mild American soybean rust (*P. meibomiae*). Since the discovery in Louisiana, the Asian form of soybean rust has been confirmed as far east as Florida and South Carolina and as far west and north as Arkansas and southeastern Missouri.

As has been said many times, the question has been not whether soybean rust will arrive in the continental United States, but when. Now we know when for the continental U.S., but we still do not know when soybean rust will arrive in Illinois—it may be in 2005 or not for another few years. Nor do we know how much damage it can or will cause in Illinois. The yield losses in Illinois may be significant, but they also may be much less significant than some have suggested. There are many questions that will not be answered before this disease arrives in Illinois. Regardless, the risk of soybean rust’s occurring in Illinois in 2005 has now increased substantially with the discovery of the disease in Louisiana.

Here are a few key things to note:

- The Illinois Department of Agriculture, along with a team of representatives from several federal and state agencies, and University of Illinois Extension have developed a plan of action (Illinois Soybean Rust Program) to diagnose and manage Asian soybean rust if it arrives in Illinois. This plan can be found on the Web at http://www.agr.state.il.us/.
- Soybean rust is not expected to survive over the winter in Illinois or adjoining states. Spores of the pathogen must be blown up from infected plants in the far south to initiate infections in the Illinois soybean crop. Some models suggest that the overwintering sites of soybean rust may be restricted to the gulf coasts of Florida and southern Texas, or in Mexico.
- The climate over much of Illinois will not always be favorable for widespread and severe soybean rust epidemics.
- Management of soybean rust will depend in the next few years on judicious use of fungicides. Appropriate fungicides applied properly at the correct time have been shown to control rust in other countries. Applications at the earliest time possible after rust is detected will be most effective. At least 6 to 10 different fungicides should be available for soybean rust management if they are needed in Illinois for the 2005 crop.
- Highly resistant soybean varieties will probably not be available for a number of years; however, there may be varieties available sooner that have tolerance or partial resistance to soybean rust.
- Much more information on soybean rust will be presented at conferences and workshops organized by University of Illinois Extension this winter. One to keep in mind is the Illinois Crop Protection Technology Conference, where sessions will cover soybean rust in depth (http://cptc.ipm.uic.edu/). Soybean rust will also be covered at the Southern Illinois Crop Management Conference (Effingham, February 8–9), the Central Illinois Crop Management Conference (Jacksonville, February 22–23), and the Northern Illinois Crop Management Conference (Malta, March 1–2). Contact your local University of Illinois Extension office to learn more about educational programs that will cover soybean rust in your area.

What are the risks of soybean rust’s arriving in Illinois in 2005 and causing considerable damage in the state? There is no way we can know for sure because there are too many environmental, biological, and other factors involved to make a prediction with any degree of certainty. A report from the USDA-Economic Research Service, however, provides a useful outlook on the risks of soybean rust arriving in the upper Midwest and how much damage it may cause. *Economic and Policy Implications of Windborne Entry of Asian Soybean Rust into the United States* (http://www.ers.usda.gov/publications/OCS/APR04/ OCS04D02/) examines how the economic impacts of soybean rust establishment will depend on the timing, location, spread, and severity of rust infestation and on how soybean and other crop producers, livestock producers, and consumers of agricultural commodities respond to this new pathogen. The risks appear to differ in different parts of Illinois and will not be the same every year.

Dr. X. B. Yang from Iowa State University and others suggest that the incidence and severity of soybean rust in the spring in the southern United States may be an indicator of whether the disease will become a problem in Illinois or Iowa later in the season. Two
factors to consider are (1) that, to our knowledge, there have been no widespread and severe plant disease epidemics in their first year of detection after introduction into the United States and (2) that it’s likely that before an epidemic will occur in Illinois it will take time for the rust pathogen to increase its population in the South to a sufficient amount in order to be spread north.

The following Web sites offer more information on soybean rust:

USDA: www.aphis.usda.gov/lpa/issues/sbr/sbr.html

Plant Health Initiative: www.planthealth.info/rust/rust.htm

Soybean Rust: Is the U.S. Soybean Crop at Risk? www.apsnet.org/online/feature/rust/

American Soybean Association: www.soygrowers.com/rust/default.htm

University of Illinois Department of Crop Sciences: www.cropsci.uiuc.edu

—Dean Malvick

**WEEDS**

**Effects of Plant Growth Regulator Herbicides on Soybeans**

A new fact sheet that examines the effects of plant growth regulator (PGR) herbicides on soybeans has been developed by Dr. Dean Riechers and his research group at the University of Illinois. Previous research on soybean response to PGR herbicides examined the effects of exposure to only the PGR herbicide. However, if the soybeans are exposed to a PGR herbicide via residues dislodged from application equipment, they will also be exposed to the soybean herbicide being applied for weed control. It was previously unknown whether the presence of other herbicides would intensify PGR herbicide injury on soybean. This fact sheet answers this question and addresses the effects. It can be found at http://weeds.cropsci.uiuc.edu/extension/factsheets/PGR.pdf.—*Dawn Nordby and Aaron Hager*

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