



# PEST MANAGEMENT & CROP DEVELOPMENT

## BULLETIN

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### Last Issue for 2002

Are we approaching the end of 2002 already? Seems like only yesterday when we published our first issue of the *Bulletin* in March. The months have whizzed by, another growing season is behind us, and we'll soon be ready to face a new year, with new (and old) pest management challenges and much more to learn. In agriculture we're learning all the time, but it always seems regenerative to begin a new year with an attitude of improving by learning.

Why the focus on learning? Education and information have always been the dual objectives of the *Pest Management & Crop Development Bulletin*. Consequently, we, the authors, use the *Bulletin* as one of our primary media to share what we learn with everyone who reads our articles. With reports from the field, we try to keep you abreast of pest developments throughout Illinois and elsewhere in the Midwest. With results from our applied research efforts, we try to keep you abreast of the latest developments in pest management technology and techniques. We hope you rely on our articles to help you prepare for and manage pest problems in ways that are both economic and environmentally sound.

Whether or not you realize it, your inputs and reports to us are among the most important elements of the *Bulletin*. The continual sharing of information via e-mails and telephone calls keeps us apprised of crop development and pest situations throughout the state, and we try to oblige all reports by sharing them with others. Your help is invaluable. So please continue to communicate with us, and let us know what you think about our reporting and crop management recommendations.

Since 1997, the availability of the *Pest Management & Crop Development Bulletin* on the Web has significantly improved our ability to share information. Comparable use statistics are available from 1998 through the present month, and the "growth" of the *Bulletin* on the Web has been nothing short of astonishing. In 1998, the total number of successful requests for the *Bulletin* was 48,472, an average of 4,039 successful requests per month. In 2002 through October, the total number of successful requests for the *Bulletin* was 683,264, an average of 68,326 successful requests per month (through 10 months). We are delighted by this pattern of use of our information, and we expect to grow even more. Consequently, we will continue to make improvements to make the *Bulletin* as user-friendly and functional as possible. Please don't hesitate to offer suggestions about how we can improve our delivery and presentation of information.

On behalf of all of the authors and other contributors to the *Bulletin*, I thank you for your continued interest in our efforts and for the support you have provided for so many years. We look forward to working with you again in 2003. Please have a happy and safe holiday season.—Kevin Steffey

## Check Out Our Redesigned IPM Web Site

After a couple of years of talk and several months of diligent work by our IPM webmaster, I am pleased to announce that our IPM Web site is now available for your viewing. Michael Greifenkamp, our IPM webmaster, has been working feverishly since April 2002 to repopulate the new site with the information that had been placed on the old site. You can see the results of his efforts at <http://www.ipm.uiuc.edu>. This is the same URL as before; the old site is still available, for a short while, at <http://www.ipm.uiuc.edu/indexold.html>. The design for the new site was created by Chuck McKenna, founder of MACMEDIA. Chuck also designed the farm.doc Web site (<http://www.farmdoc.uiuc.edu>) at the University of Illinois. We intend to more fully integrate the IPM Web site, the farm.doc Web site, and the *Agronomy Handbook* Web site (<http://web.aces.uiuc.edu/aim/IAH/>) in the near future.

We doubt that our IPM Web site will ever be complete; IPM information changes too frequently for us to believe that we have reached the end. Therefore, watch our site as it grows and changes, and please let me or Mike Greifenkamp ([grfnkmp@uiuc.edu](mailto:grfnkmp@uiuc.edu)) know what we can do to improve the site. In the meantime, please enjoy what our IPM Web site has to offer.—*Kevin Steffey*

## Reminder: 2003 Illinois Crop Protection Technology Conference, January 7 and 8

This is the last reminder to register for the 2003 Illinois Crop Protection Technology Conference. The 2003 program will be conducted at the Illini Union on the University of Illinois campus (January 7 and 8). Highlights of the conference include the following:

*Keynote session:* Homeland Security and Ag Bio-Terrorism (0.5 CCA credit in Pest Management)

- Integrated Food and Ag-Biosecurity Command and Control Concept
  - Homeland Security in Illinois: An Agenda
  - Decision Making in Times of Uncertain Crises: Consumers' Risk Attitudes and Risk Perceptions
  - National Plant Pest and Disease Network: Increased Vigilance for Agricultural Security
- Six symposia (four presentations within each symposium)
- Environmental Stewardship and Spray Drift (1.0 CCA credit in Pest Management)
  - Invasive Species (1.5 CCA credits in Pest Management)
  - Improving Water Quality and Natural Resources (1.5 CCA credits in Soil and Water Management)
  - Key Pest and Crop Management Issues (1.0 CCA credit in Pest Management)
  - Stewardship of Transgenic Technologies (1.5 CCA credits in Pest Management)
  - New Developments in Crop Protection Products: A University's Perspective (1.5 CCA credits in Pest Management)
- Fifteen seminars (smaller group interactions)
- Conflict ... An Opportunity for Development
  - Economics of Site-Specific Management (1.5 CCA credits in Crop Management)
  - Biology and Control of Selected Problem Weeds (1.5 CCA credits in Pest Management)
  - Aquatic Weed Management (1.5 CCA credits in Pest Management)
  - Earthworms and Soil Management Practices (1.5 CCA credits in Soil and Water Management)
  - Disease Interactions: SCN, SDS, and BSR: What's Going on Here? (1.5 CCA credits in Pest Management)
  - Stress and the Common Corn Plant (1.5 CCA credits in Crop Management)
  - Managing Birds, Deer, and Small Rodents in the Field (1.5 CCA credits in Pest Management)
  - Getting It Right the First Time: Calibrating Field Sprayers (1.5 CCA credits in Pest Management)
  - Transmission of Bean Pod Mottle Virus in Soybeans by Bean Leaf Beetles and Western Corn Rootworm Adults (1.5 CCA credits in Pest Management)
  - Herbicide Fate as Influenced by the Soil Environment (1.5 CCA credits in Soil and Water Management)
  - Winter Annual Weed Management (1.5 CCA credits in Pest Management)
  - CSI: Crop Symptom Investigation (1.5 CCA credits in Pest Management)
  - Drift Reduction Tools and Techniques (1.5 CCA credits in Soil and Water Management)
  - Understanding Herbicide Modes of Action: Invaluable in Diagnosing Herbicide Injury and Preventing Resistance Development (1.5 CCA credits in Pest Management)
- The presentations will be offered by a variety of experts from the University of Illinois, United States Department of Agriculture, Penn State University, Washington State University, Illinois Department of Agriculture, Illinois Environmental Protection Agency, Purdue University, Illinois Natural History Survey, University of Minnesota, Iowa State University, and Kansas State University. In addition, several speakers from the private sector will play an important role in this conference.

For your convenience, we are providing a preregistration form in this issue of the *Bulletin*. In addition to mailing in the completed form, you can register by

- calling Conferences and Institutes at (217)333-2880 or toll-free at (877)455-2687,
- faxing this form to Conferences and Institutes at (217)333-9561, or
- going online at <https://www.conted.uiuc.edu/fmpro/cptc2003.html>.

Registration numbers are up this year. So please register early and keep this trend moving in a positive direction! We look forward to welcoming you to the 2003 Crop Protection Technology Conference.—*Mike Gray and Kevin Steffey*

### Register for the University of Illinois Corn and Soybean Classic Meetings

Please don't forget to register for the 2003 University of Illinois-sponsored Corn and Soybean Classic meetings that will begin in mid-January. The 2003 sessions will mark the sixth consecutive year these multidisciplinary conferences have been held. The response of our clientele each of the five previous seasons has been very positive, and attendance has continued to grow at these regional conferences. We believe we have another informative program for 2003 with speakers who will address critical issues in the crop production and protection arenas. The format of these meetings calls for short presentations by each speaker, usually lasting about 25 minutes. Following the morning and afternoon sessions, panel discussions with the audiences are scheduled for 30 minutes. Every attempt will be made to enhance the interaction with the audience. So if you have questions for which you are seeking answers, please come to one of these six regional meetings and query the speakers.

Following are dates, locations, certified crop advisor credit (CCA) information, and a list of the presentations that will be given at each Classic meeting.

#### Dates and Locations

- January 14—Bloomington (Interstate Center)
- January 15—Rochelle (Hickory Grove Banquet Center)
- January 16—Moline (Mark of the Quad Cities)
- January 21—Mt. Vernon (Holiday Inn)
- January 22—Collinsville (Holiday Inn)
- January 23—Springfield (Crowne Plaza)

#### Topics and Speakers

- Tackling the Jungle of Winter Weeds—Christy Sprague
- The Future of Weed Control in Soybean: How Many Options Will There Be?—Aaron Hager
- New Tests for Soybean Cyst Nematode (and So What?)—Terry Niblack
- Getting to the Root of Soybean Seedling Diseases—Dean Malvick
- Can You Improve Your Marketing Performance?—Darrell Good
- Tillage for Corn and Soybean—Emerson Nafziger
- Japanese Beetles and Western Corn Rootworms: The One-Two Insect Punch of 2002—Michael Gray
- Corn Borers in Illinois: Past, Present, and Future—Kevin Steffey
- Fertilize Correctly: It Pays in Many Ways—Robert Hoelt

#### Certified Crop Advisor Credits

- Nutrient management—1.0 credit
- Soil and water management—1.0 credit

- Crop management—0.5 credit
- Integrated pest management—4.0 credits

A preregistration form is provided in this issue of the *Bulletin*. You also can register by calling Conferences and Institutes at (217)333-2880 or toll-free at (877)455-2687. If you register on or before January 3, 2003, the fee is \$35. If you register after January 3, the fee is \$50. The fee includes lunch and a proceedings booklet. Make checks payable to the University of Illinois.

If you are mailing or faxing the registration form, please note that you cannot register more than one person on the same form. Each person must fill out a separate form. However, multiple forms can be mailed in the same envelope, and you may write one check to cover the total payment. Mail the form (along with credit card information or your check) to: Cashiering Office, University of Illinois, 162 Administration Building, 506 S. Wright Street, Urbana, IL 61801. Fax the form (along with your credit card information) to Conferences and Institutes at (217)333-9561. If you prefer to pay by check, fax in the form and mail your check to the Cashiering Office. You can register on site (\$50) by bringing the form and your payment when you attend your chosen conference. On-site registration will begin at 8:15 a.m., and each conference will adjourn at 3:15 p.m. Travel schedules may require a change in the order of speakers.

If you have questions about registration or scheduling, please contact Conferences and Institutes at (217)333-2880. If you have questions about the program content, contact Bob Hoelt at (217)333-4424. We hope to see you at one of the Classics.—*Mike Gray and Kevin Steffey*

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## 2003 University of Illinois Corn and Soybean Classic Registration Form

Three ways to register:

1. Mail the registration form and method of payment to: Cashiering Office, University of Illinois, 162 Administration Building, 506 S. Wright St., Urbana, IL 61801.
2. Call (217) 333-2880 or toll free (877) 455-2687 to register by phone. Registration form and check or credit card information must then be received at the above address.
3. FAX your registration form to Conferences and Institutes at (217) 333-9561.

UFAS Account # 1-3-64923-0660 FEIN# 37-6000511 Rev. '03 Corn Classic

**I will attend on:**

- Jan. 14 (Bloomington)     Jan. 15 (Rochelle)     Jan. 16 (Moline)  
 Jan. 21 (Mt. Vernon)     Jan. 22 (Collinsville)     Jan. 23 (Springfield)

Name: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ County: \_\_\_\_\_  
State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Telephone #: \_\_\_\_\_ FAX #: \_\_\_\_\_  
E-mail: \_\_\_\_\_

### Registration Fee

<b>On or Before January 3, 2003</b>	<b>\$35</b>	\$ _____
<b>After January 3, 2003</b>	<b>\$50</b>	\$ _____

Registration fee includes lunch and a proceedings booklet.

- Check enclosed (Payable to the University of Illinois)  
 I prefer to pay by credit card (Complete the following information):

American Express     Visa     MasterCard     Discover

Credit card#: \_\_\_\_\_ Expiration date: \_\_\_\_\_

Signature: \_\_\_\_\_

**NOTE:** If paying for more than one person, please **enclose a completed registration form for each person** (one check may be written to cover total payment).

# 2003 ILLINOIS CROP PROTECTION TECHNOLOGY CONFERENCE

JANUARY 7 – 8, 2003

ILLINI UNION

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

## Conference Registration Form

### Four ways to register:

1. **Mail** the registration form and payment to: Cashiering Office, University of Illinois, 162 Administration Building, 506 S. Wright St., Urbana, IL, 61801.
2. **Call** 217-333-2880 or toll free 877-455-2687 to register by phone. Registration form and check or credit card information must then be received at the above address.
3. **Fax** your registration form to 217-333-9561.
4. **Online** registration at <http://www.conted.uiuc.edu/cptc>

UFAS Acct # 1-3-64833-0660 - FEIN# 37-6000511 - Rev. '03 Crop Tech

Registration Fee		
On or Before December 20 <sup>th</sup>	\$90	\$ _____
After December 20 <sup>th</sup>	\$105	\$ _____

Registration fee includes one copy each of the *2003 Illinois Agricultural Pest Management Handbook (IAPMH)* and the *Proceedings* of the conference and a complementary Illini Crop Pro CD that contains the 2003 IAPMH, the Proceedings, the 2003-2004 Illinois Agronomy Handbook, and the complete 2002 Pest Management and Crop Development and Pest Management Bulletin.

Name: _____
Organization: _____
Address: _____
City: _____ County: _____
State: _____ Zip: _____
Telephone #: _____ Fax #: _____
E-mail: _____
<input type="checkbox"/> Check Enclosed (Payable to the University of Illinois)
<input type="checkbox"/> I prefer to pay by credit card (complete the following information):
<input type="checkbox"/> American Express <input type="checkbox"/> Visa <input type="checkbox"/> Mastercard <input type="checkbox"/> Discover
Credit Card #: _____ Expiration Date: _____
Signature: _____

**NOTE:** If paying for more than one person, please **enclose a completed registration form for each person** (one check may be written to cover total payment).

## INSECTS

### Historical European Corn Borer Data Available on the Web

We have published the results of our annual fall survey of second-generation European corn borers for many years in the *Bulletin* and in the past in the proceedings of the Crop Protection Technology Conference (formerly the Illinois Agricultural Pesticides Conference, formerly the Custom Spray Operators Training School Manual). We also have shared information from these fall surveys with people at numerous conferences, workshops, and regional and local meetings. Now, after a couple of years of hard work, you can see data from these annual fall surveys for yourself on the Web. I am extremely pleased to direct you to this information, and I hope you find it both educational and useful.

Getting the data from fall surveys of second-generation European corn borers in Illinois from 1943 through 2001 was a massive undertaking. The people involved in this process are too numerous to mention. However, I want to thank some of the key players who have helped bring our ideas into being. Charles Guse, currently a Ph.D. candidate in the Department of Natural Resources and Environmental Sciences, was responsible for overseeing the creation of the electronic database many years ago. Susan Ratcliffe, currently the North Central Regional IPM Facilitator, began working with personnel in Information Technology and Communication Services (ITCS, College of ACES, UIUC) a couple of years ago to begin development of a Web site for our fall survey database. Finally, David Stigberg with ITCS, with help from some programmers, brought everything to fruition. And all of this was made possible by a grant (Illinois IPM On-Line) from the Illinois Council on Food and Agricultural Research (C-FAR).

For an overview and an explanation for the fall surveys of second-generation European corn borers in Illinois, go to [http://www.ipm.uiuc.edu/fieldcrops/insects/european\\_corn\\_borer/fall\\_survey.html](http://www.ipm.uiuc.edu/fieldcrops/insects/european_corn_borer/fall_survey.html). From this site, you can link to farm.edu (<http://space1.itcs.uiuc.edu/webstie/farmedu>, also developed with funding from a C-FAR grant), which includes the European corn borer database from 1943 through 2001. The data from the 2002 fall survey of second-generation European corn borers will be added soon.

When you get to the Web site, click on "European Corn Borer, 1943–2002" in the left panel. When the new Web page loads, you should see an outline map of Illinois that includes all counties and crop reporting districts (as created by the Illinois Agricultural Statistics Service). At the site you will be able to view data collected from individual counties, for crop reporting districts, or for the state. For individual counties or specific crop reporting districts, you can select the county or district of interest from the menus provided, or you can click on the county or district in the outline map. If you do the latter, the county or district of interest will be indicated in yellow. You also can view data for all years or for selected years (e.g., 1950–1975, 1990–2000). In the lower portion of the panel, you can access specific information for a given year for either individual counties (default) or crop reporting districts. The information is presented in both graph and colored map formats. The manner in which the data are presented (class options—natural break, quantile, equal interval, standard deviation) can be changed, and the options are explained when you click on "Class Options," then "Help." For a brief explanation about how to use and navigate the Web pages, click on "Help" in the upper right of the panel titled "European Corn Borers."

We sincerely hope you find the historical information about European corn borer densities in Illinois useful. We suspect that the data can be used in many ways, including determination of economic impact of corn borers and planning for use of Bt corn for management of European corn borers. Please feel free to use the data in any manner you deem appropriate. If you develop slides or hand-out sheets from the Web site, please attribute the source of the information—University of Illinois, Extension Entomology, Department of Crop Sciences and Illinois Natural History Survey. Also, as always, please don't hesitate to contact us if you have questions or if you desire more information.—Kevin Steffey

### Butterflies and Bt Corn: Allowing Science to Guide Decisions

If you want the complete story regarding Bt corn and monarch butterflies, go to <http://www.ars.usda.gov/sites/monarch/index.html>. This excellent report was prepared as an informational and educational service by scientists with USDA-ARS, Cornell University, University of Guelph, Iowa State University, University of Maryland, University of Nebraska, Purdue University, and Monarch Watch. From the Web site, you also can download a printable version of the 12-page report. The report provides an excellent and objective overview of the controversy regarding the potential effect of Bt corn pollen on monarch caterpillars. As the title indicates, the emphasis is on science, and the report provides many references and links to track down additional, more detailed information. Kudos to the developers of this information.—Kevin Steffey

## Corn Rootworm Transgenic Hybrids: More Questions Than Answers for 2003

Much uncertainty surrounds the potential availability of transgenic corn rootworm hybrids for the 2003 growing season. We continue to wait for a decision from the U.S. Environmental Protection Agency (US EPA) that would allow Monsanto Company to commercialize the first transgenic hybrids for corn rootworm management. A Scientific Advisory Panel was held in Arlington, Virginia, during August 28 to 29, 2002, to offer advice and counsel to the US EPA as part of the registration process as outlined by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The panel offered several recommendations to US EPA. Some of the key recommendations follow:

- “It was the consensus of the Panel that large-scale studies on male movement and fitness from beetles produced from both MON 863 (Monsanto’s transgenic corn rootworm event) and isolines are of particular importance.”
- “The Panel did not recommend developing a demarcation line between low and moderate dose. Instead it concluded that determining the impact of each transgenic event on selection intensity is important for determining appropriate refuge size.”
- “The Panel concluded that the use of *SS* (homozygous susceptible) survival rates was sufficient to demonstrate that MON 863 is not high dose, because *SS* survival is so much higher than that expected at 25H the LC99 (lethal concentration to 99% of a population).”
- “The Panel differed on what percent refuge would be appropriate, conservative, and workable. The majority of the Panel members concluded that an appropriate, conservative, approach for an insect resistance management plan

(IRM) plan would involve a refuge size of approximately 50%. Because important data are lacking and because grower adoption rates are likely to be low initially, these members viewed the 20% refuge as premature.”

- “Other Panel members differed with the majority. A few Panel members were supportive of a 20% refuge. Their justification for supporting this figure was that it was compatible with the current refuge recommendation for Bt corn resistant to European corn borer, the 20% refuge amount would set the stage for IRM recommendations that would be compatible for both ECB and western corn rootworm, and it was noted that a simpler IRM strategy would be less confusing to growers, and ultimately would increase compliance.”
- “It was the consensus of the Panel that there was not sufficient data to support in-field strips over immediately adjacent blocks or vice versa to delay resistance during a three-year period.”

Other interesting portions of the Scientific Advisory Panel Meeting minutes include the following observations:

- “Overall, the majority of the Panel felt that even though there are limitations with the IRM plan, the experiments to address these questions should be conducted after commercialization. It was also pointed out that some of these experiments are already underway by members of NCR-46 (technical research committee on corn rootworms) and their associates.”
- “The reason for commercializing MON 863 before conducting the above experiments is that significant benefits of the MON 863 technology over currently available options for growers would be lost if MON 863 were not commercialized. These benefits include:

1. Equivalent to or better than soil insecticides in terms of plant damage.
2. Reduced applicator, handler, and farm worker exposure to insecticides.
3. A narrow spectrum of activity could possibly eliminate or greatly reduce the environmental concerns generated by broader spectrum insecticides.
4. The technology is easy to use and does not delay planting.
5. The technology does not require special application equipment, the need for calibration, or the disposal/return of containers.
6. Performance consistency is improved since each plant is protected and this protection is relatively unaffected by weather.”

Regarding the use of soil insecticides and seed treatments, the panel offered the following suggestions:

- “It was the consensus of the Panel that soil insecticides and seed treatments targeted toward corn rootworms could be used in the refuge if significant numbers of adult beetles are still produced. This is the case with currently registered soil insecticides. However, if a highly efficacious insecticide that prevented significant adult emergence were to be used, this could have a major detrimental effect on IRM.”

For additional information on the Scientific Advisory Panel recommendations regarding the use of transgenic hybrids for corn rootworms, please visit the following Web site:

<http://www.epa.gov/scipoly/sap/index.htm#august>.

Just recently, the Illinois Farm Bureau offered the following position statement with respect to the use of corn varieties that are not approved by the European Union and other “major markets” (<http://www.ilfb.org/viewdocument.asp?did=4420>):

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“The U.S. production and marketing system has had challenges meeting certain purity requirements for segregated commodities. At the same time, companies introducing new varieties have not been able to achieve approval in all of our major markets. Given the significant economic importance to Illinois agriculture of the European corn gluten market, the Illinois Farm Bureau opposes the planting of corn varieties that are not approved in the European Union and other major markets.”

So as stated at the beginning of this article, more questions than answers remain concerning the potential commercialization of transgenic corn rootworm hybrids for the 2003 growing season. Because so many producers have made or will soon make their seed selections, they are most likely moving ahead and not waiting for the US EPA. Consequently, soil insecticide use will remain very high on continuous and rotated corn acres in

many areas of the Corn Belt. With crop rotation not performing adequately as a pest management tool for western corn rootworms in the eastern Corn Belt and resistance to methyl-parathion and carbaryl confirmed in Nebraska, producers are eager to use a new pest management tool for this significant insect pest. However, even if the US EPA approves a conditional registration for transgenic corn for rootworm control for the 2003 growing season, producers in Illinois may not benefit from its availability right away.—*Mike Gray and Kevin Steffey*

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