

Wisconsin Crop Manager

Volume 14 Number 2 --- University of Wisconsin Crop Manager --- February 15, 2007

Table of Contents

What's New/Coming Events

UW-River Falls Field Scout Training Class..... 1

Insects and Mites

Learn More About Western Bean Cutworm
--Distance Education Course, February 28th1-3

Learn More About Soybean Aphid Biological Control
--Distance Education Course, March 6th4-6

Soils

Organic Soil Management Meeting March 5th in
Lancaster 6

Papers and Presentations from the 2007 WI Fertilizer,
Aglime, and Pest Management Conference
Available Online..... 6

Weeds

RoundUp Ready Alfalfa Calculator6-7

Extras

Organic Soil Management Flyer9

UW-River Falls Field Scout Training Class

Bryan Jensen, IPM Program

The University of Wisconsin-River Falls, UW-Extension and the Integrated Pest Management Program will co-sponsor the IPM Field Scout Training Class to be held on the UW-River Falls campus, March 13-14, 2007. Topics covered include, pest identification and biology, damage symptoms, economic thresholds and scouting techniques for insects, weeds, plant pathogens, herbicide injury and nutrient deficiency symptoms for corn, alfalfa, soybean and wheat. CCA Credits will be applied for in the areas of pest and nutrient management.

Non-student registration fee is \$100/person and covers the cost of the training and copies of the Field Crop Scout Training Manual and Ontario Weeds. To register, send a check payable to UW-Extension to Bryan Jensen, Dept. of Entomology, 1630 Linden Drive, Madison, WI 53706. *Registration is limited and is available on a first-come, first-served basis.* For more information call Bryan Jensen at (608) 263-4073 or email at bmjense1@facstaff.wisc.edu

Learn More About Western Bean Cutworm in Corn –Distance Education Course, Wednesday February 28th, 2007

Eileen Cullen, Extension Entomologist

In the January 2007 issue, Volume 14(1), of the *Wisconsin Crop Manager* newsletter, I updated readers that a western bean cutworm workshop will be presented Wednesday February 28th via distance education technology

<http://ipcm.wisc.edu/WCMNews/tabid/53/EntryID/203/Default.aspx>

I posted 11 UW-Extension County offices currently offering this upcoming program
<http://ipcm.wisc.edu/WCMNews/tabid/53/EntryID/204/Default.aspx>

Following is information for farmers, consultants and others to contact a host site and reserve space to learn more about Western Bean Cutworm in corn. February 28th is the first of two exciting workshop events in field crop insect pest management, (See companion article in this issue for details on the March 6th Soybean Aphid Biological Control

Online copy available at <http://ipcm.wisc.edu/wcm>

Workshop). It is not too late to sign up to host or attend either course.

Western Bean Cutworm Short Course A Distance Education Short Course - February 28, 2007, 9:00 a.m-12:00 noon (CST)



Western bean cutworm larva (photo courtesy of Jim Donnelly, Ag View FS, Inc.).



Western bean cutworm injury to corn ear, DeKalb County, Illinois, 2006 (photo courtesy of Randy Espe, Pioneer Hi-Bred International, Inc.).

Until 2000, the western bean cutworm occurred no farther east than western Iowa. From 2000 through 2006, the range of this corn ear-attacking pest expanded rapidly to the east. From 2000 through 2004, western bean cutworms were found farther east in Iowa annually. Moths were found in pheromone traps for the first time in Illinois and Missouri in 2004.

In 2005 and 2006, an extensive pheromone trap network coordinated by specialists at Iowa State University provided ample evidence that the range of the western bean cutworm had expanded as far east as Indiana, Michigan, and Ohio. Reports of significant damage caused by western bean cutworms to corn ears have been common in Iowa for a few years, and noticeable injury was documented in some areas of Illinois, Minnesota, and Wisconsin in 2006. As the distribution of the western bean cutworm continues to expand and the insect becomes an established pest in new

areas, corn growers will have to include this pest in their corn insect management plans.

So, what is known about this pest, and what do we need to know? On February 28, 2007, entomologists from Illinois, Iowa, Nebraska, and Wisconsin will present a short course focused on western bean cutworms. The short course will be delivered via distance education technology to sites in at least four states.

The content of the program will be:

- 8:30 – 9:00 AM – Check in
- 9:00 – 9:30 AM – **Review of Situation 2000 – 2006 Iowa, Illinois Wisconsin, elsewhere**
 - Dr. Marlin Rice, Iowa State
 - Dr. Kevin Steffey, University of Illinois
 - Dr. Eileen Cullen, University of Wisconsin
- 9:30 – 10:00 AM – **History and Biology of the Western Bean Cutworm**
 - Dr. Gary Hein, University of Nebraska
- (tentative)
- 10:00 – 10:15 AM – Break
- 10:15 – 10:45 AM – **Look Alikes – Moths and Larvae... How to Differentiate WBC Moths and Larvae From Look-Alikes**
 - Dr. Marlin Rice, Iowa State
- 10:45 – 11:00 AM – **Discussion of Economic Impact**
 - All Speakers
- 11:00 – Noon – **Managing Western Bean Cutworms – Trapping, Degree Days, Scouting, Making Management Decisions and Options for Control**
 - All Speakers

A question-and-answer session will conclude the program, which is being sponsored by the North Central IPM Center. The program is being designed for delivery to local or regional Extension offices (contact the office in your area for information) or to businesses or educational organizations that choose to host the programs. Registration for both this western bean cutworm workshop on February 28th; and a March 6th program on soybean aphid biological control (see companion article this issue) is open at the North Central IPM Web site <http://ncipm.org/teleconference/>

Requirements for host sites for both of these short courses are a telephone line and a method of viewing PowerPoint slides. For groups, a teleconference device for audio and a way of projecting the PowerPoint slides are recommended. Access to the Internet is not necessary during delivery of either program. However, site coordinators will have to download the PowerPoint presentations in advance to have the files ready on the dates of the respective programs.

We are excited about being able to bring these types of programs to you, and we invite all interested parties to consider hosting a site. If you have any questions about the short course, please contact Eileen Cullen at (608) 261-1507 or cullen@entomology.wisc.edu

**Wisconsin Host Sites for the February 28th
Western Bean Cutworm Workshop, Please contact
Host Agent directly to reserve your space.**

**2.5 Certified Crop Advisor Continuing Education Units
applied for.**

UW-Extension Clark County

Nick Schneider
Clark County Crops and Soils Agent
Location:
517 Court St. Room 104
Neillsville, WI 54456
Call 715-743-5121 to confirm attendance
or email nick.schneider@ces.uwex.edu

UW-Extension Dane County

David Fischer
Dane County Crops and Soils Agent
Location:
West Madison Research Station
8502 Mineral Point Rd.
Verona, WI 53593
Call 608-224-3716 to register
or email david.fischer@ces.uwex.edu

UW-Extension Dodge County

Matt Hanson
Dodge County Crops and Soils Agent
Location:
Dodge County Administration Building, rooms H and I
127 E. Oak St.
Juneau, WI 53039
Call 920-386-3790 to register
or email matt.hanson@ces.uwex.edu

UW-Extension Fond du Lac County

Mike Rankin
Fond du Lac County Crops and Soils Agent
Location:
UW- Fond du Lac
Rm. 242 Admin/Extension Bldg.
400 University Dr.
Fond du Lac, WI 54935
Call 920-929-3171 to register
or email michael.rankin@ces.uwex.edu

UW-Extension Grant County

Ted Bay
Grant County Crops/Farm Management Agent
Location:
Youth & Ag Center
916 E. Elm Street
Lancaster, WI 53813
Call 608-723-2125 to register
or email ted.bay@ces.uwex.edu

UW-Extension Green Lake County

Carla Heiman
Green Lake County Agriculture Agent
Location:
Green Lake County Courthouse
492 Hill St.
Green Lake, WI 54941
Call 920-294-4032 to register
or email carla.heiman@ces.uwex.edu

UW-Extension Monroe County

Bill Halfman
Monroe County Agriculture Agent
Location:
Monroe County Farm Building Complex
Human Services Building, Room 409
14301 County Hwy B, WI
Call 608-269-8722 to register
or email bill.halfman@ces.uwex.edu

UW-Extension Outagamie County

Kevin Jarek
Outagamie County Agriculture Agent
Location:
2265 W. Brewster St.
Appleton, WI 54914
Call 920-832-5121 to register
or email kevin.jarek@ces.uwex.edu

UW-Extension Portage County

Ken Schroeder
Portage County Agriculture Agent
Location:
Portage County Courthouse Annex
1462 Strongs Ave.
Steven's Point, WI 54481
Call 715-346-1316 to register
or email ken.schroeder@ces.uwex.edu

Shawano County

Tom Anderson
Shawano County, Agricultural Agent
Location:
Shawano County Courthouse, Room 4B
311 North Main St.
Shawano, WI 54166
Call 715-526-6136 to register
or email thomas.anderson@ces.uwex.edu

Walworth County

Peg Reedy
Walworth County Agriculture Agent
Location:
Extension office
100 W. Walworth St.
Elkhorn, WI 53121
Call Peg at 262-741-4951 or Brian Smetana at 262-741-7903 to register
or email peg.reedy@ces.uwex.edu

Learn More About Soybean Aphid Biological Control –Distance Education Course, Tuesday March 6th, 2007

Eileen Cullen, Extension Entomologist

In a previous issue, Volume 13(29), of the *Wisconsin Crop Manager* newsletter, I updated readers that a soybean insect management workshop will be presented via distance education technology.

<http://ipcm.wisc.edu/WCMNews/tabid/53/EntryID/192/Default.aspx>

Following is more detail, and a list of 11 UW-Extension County programs statewide offering the program. Please contact the host Agent in a county near you to sign up and reserve your space.

Email alerts will be sent to *Wisconsin Crop Manager Newsletter* subscribers and posted to the web site each time a new Wisconsin host site is added prior to the March 6th event.

Managing Soybean Aphids in 2007--How Will Biological Control Contribute? March 6, 2007, 8:30 a.m. to 12:30 p.m.



Soybean aphids, Kendall County, Illinois, 2005 (photo courtesy of Gary Bretthauer, University of Illinois Extension).



Insidious flower bug adult feeding on a soybean aphid (photo courtesy of Bob O'Neil, Purdue University).

My colleague, Kevin Steffey (Extension Entomologist, University of Illinois Champaign-Urbana) wrote the following update on this exciting learning opportunity. I post Kevin's article here for our WI audience as you make plans to attend the March 6th workshop:

There is potential for a soybean aphid outbreak in 2007, and soybean growers and their advisers need to be ready. Because natural enemies play a significant role during soybean aphid outbreaks, an understanding of the interactions of pests, predators, parasitoids, and pathogens and the effects of control measures on these interactions is crucial. In addition, Midwestern entomologists currently are exploring the possibility of releasing specific parasitoids from Asia into North American soybean fields in hopes of regulating soybean aphid populations, research that is funded by the North Central Soybean Research Program. The current status of the research and potential future prospects will be discussed during the short course.

People attending this short course will have the opportunity to hear from and interact with the researchers who have been involved in the development all of the current soybean aphid management guidelines. Following is the agenda for the program:

- Brief history and biology of soybean aphids--Dr. David Voegtlin, Illinois Natural History Survey
- Review of the situation with soybean aphids in the Midwest--Dr. David Ragsdale, University of Minnesota
- Biological control of soybean aphids--What is it, and what do we have to work with in the Midwest--Dr. Robert O'Neil, Purdue University
- The players: Predators, parasitoids, and pathogens, Dr. Dan Mahr, University of Wisconsin
- Practices to conserve and use natural enemies in soybean aphid IPM--Dr. Matthew O'Neal, Iowa State University
- Foreign exploration for natural enemies--Dr. Kim Hoelmer, USDA-ARS, Delaware
- Host specificity testing--Dr. George Hemipel, USDA-ARS, Minnesota
- Studies with non-target aphids--Drs. Claudio Gratton and Cory Straub, University of Wisconsin
- Preparing for soybean aphids in 2007: Management guidelines and the potential for biological control--Drs. Chris DiFonzo, Michigan State University; and Marlin Rice, Iowa State University

A question-and-answer session will conclude the program, which is being sponsored by the NCSRP and facilitated by the North Central IPM Center.

The program is being designed for delivery to local or regional Extension offices (contact the office in your area for information) or to businesses or educational organizations that choose to host the programs. Registration for both this soybean aphid biological control

program on March 6th; and a February 28th program on western bean cutworm in corn (see companion article this issue) is open at the North Central IPM Web site <http://ncipm.org/teleconference/>

Requirements for host sites for both of these short courses are a telephone line and a method of viewing PowerPoint slides. For groups, a teleconference device for audio and a way of projecting the PowerPoint slides are recommended. Access to the Internet is not necessary during delivery of either program. However, site coordinators will have to download the PowerPoint presentations in advance to have the files ready on the dates of the respective programs.

We are excited about being able to bring these types of programs to you, and we invite all interested parties to consider hosting a site. If you have any questions about the short course, please contact Eileen Cullen at (608) 261-1507 or cullen@entomology.wisc.edu

Wisconsin Host Sites for the March 6th Soybean Aphid Biological Control Workshop, Please contact Host Agent directly to reserve your space.

3.0 Certified Crop Advisor Continuing Education Units applied for.

UW-Extension Clark County

Nick Schneider
Clark County Crops and Soils Agent
Location:

517 Court St. Room 104
Neillsville, WI 54456
Call 715-743-5121 to confirm attendance
or email nick.schneider@ces.uwex.edu

UW-Extension Dane County

David Fischer
Dane County Crops and Soils Agent
Location:

West Madison Research Station
8502 Mineral Point Rd.
Verona, WI 53593
Call 608-224-3716 to register
or email david.fischer@ces.uwex.edu

UW-Extension Dodge County

Matt Hanson
Dodge County Crops and Soils Agent
Location:

Dodge County Administration Building, rooms H and I
127 E. Oak St.
Juneau, WI 53039
Call 920-386-3790 to register
or email matt.hanson@ces.uwex.edu

UW-Extension Fond du Lac County

Mike Rankin
Fond du Lac County Crops and Soils Agent
Location:

UW- Fond du Lac
Rm. 242 Admin/Extension Bldg.
400 University Dr.
Fond du Lac, WI 54935
Call 920-929-3171 to register
or email michael.rankin@ces.uwex.edu

UW-Extension Grant County

Ted Bay
Grant County Crops/Farm Management Agent
Location:

Youth & Ag Center
916 E. Elm Street
Lancaster, WI 53813
Call 608-723-2125 to register
or email ted.bay@ces.uwex.edu

UW-Extension Green Lake County

Carla Heiman
Green Lake County Agriculture Agent
Location:

Green Lake County Courthouse
492 Hill St.
Green Lake, WI 54941
Call 920-294-4032 to register
or email carla.heiman@ces.uwex.edu

UW-Extension Jefferson County

Tim Bender
Jefferson County Crops and Soils Agent
Location:

UW Extension Building
864 Collins Rd.
Jefferson, WI 53549
Call 920-674-7295 to register
or email tim.bender@ces.uwex.edu

UW-Extension LaCrosse County

Steve Huntzicker
Portage County, Agriculture Agent
Location:

Hazel Brown Leicht Memorial Library
201 Neschonoc Rd.
West Salem, WI 54669
Call 608-785-9593 to register
or email steve.huntzicker@ces.uwex.edu

UW-Extension Outagamie County

Kevin Jarek
Outagamie County Agriculture Agent
Location:

2265 W. Brewster St.
Appleton, WI 54914
Call 920-832-5121 to register
or email kevin.jarek@ces.uwex.edu

UW-Extension Pierce County

Greg Andrews
Pierce County Agriculture Agent
Location:

Pierce County Office Building
Multipurpose Room
412 West Kinne Street
Ellsworth, WI 54011

Call 715-273-3531 to register
or email greg.andrews@ces.uwex.edu

UW-Extension Shawano County

Tom Anderson
Shawano County, Agricultural Agent
Location:

Shawano County Courthouse, Room 4B
311 North Main St.
Shawano, WI 54166

Call 715-526-6136 to register
or email thomas.anderson@ces.uwex.edu

Organic Soil Management Meeting March 5th in Lancaster

Rhonda R. Gildersleeve, Iowa County Extension
Agriculture Agent

UW Extension IN Grant and Iowa Counties and Southwest Technical College co-hosting a soil management workshop for transitioning and certified organic farmers on March 5, 2007 at the Grant County Extension Office in Lancaster. The program will run from 12:30 to 3:00 p.m. Interested area farmers are invited to attend.

The program will feature a panel of speakers, including Marlin Carl, Stitzer area hay and grain farmer, Tom Weaver, Certified Crop Advisor and dairy nutritionist with KOW Consulting, Cuba City, and Kevin Shelley, UW Area Nutrient & Pest Management Specialist and organic grain farmer in Dane County. Each panelist will relate their experiences and viewpoints on managing soils for organic production.

There is no charge to attend. However, pre-registration for the meeting is requested to ensure that we have enough resource materials available for those who attend. Please contact Ted Bay in Grant County at (608) 723-2125, Rhonda Gildersleeve in Iowa County at (608) 935-0391, or Kevin Raisbeck, SW Technical College at (800) 362-3322, ext. 2741 to register your attendance.

See flier attached as last page of WCM

Papers and Presentations from the 2007 Wisconsin Fertilizer, Aglime, and Pest Management Conference Available Online

Carrie A.M. Laboski, Dept. of Soil Science

Papers and presentations from the 2007 Wisconsin Fertilizer, Aglime, and Pest Management Conference are now available online at:

<http://www.soils.wisc.edu/extension/wfapmc/>

The 2006 and 2007 Proceedings from the Conference are available as a searchable pdf document. The 2005 – 2007 Proceedings papers and PowerPoint presentations are also completely searchable via an internet database. You can search by year and subject, author, or keyword. For example, searching for nitrogen yields 18 papers from the past three Conferences. All papers and presentations can be printed for your convenience.

One great feature about this website is that you don't have to remember many details about a presentation that you saw at the Conference in order to find it online. Another benefit is that it is much quicker to find materials online than it is to look through the paper Proceedings. The best part is that even if you couldn't attend the Conference or couldn't get to every presentation that you wanted to, you can still find educational materials that provide relevant agronomic information that will help you do your job better.

If there are other features that you would like to see on this website, please contact me (laboski@wisc.edu) or our webmaster, Bonner Karger (bskarger@wisc.edu).

Roundup Ready Alfalfa Calculator

Mark Renz
Extension Weed Scientist

At the 2006 Pest Management Update meetings held throughout Wisconsin there was quite a bit of interest about the cost of using Roundup Ready Alfalfa. While the technology fee is very clear (\$125/bag) it becomes much more difficult to calculate the real cost as the seeding rate, potential yield loss from traditional herbicides, and cost of the herbicide need to be considered. To help producers understand the potential costs and benefits of this new technology Dan Undersander has created a calculator that can help you estimate the differences in costs between RR alfalfa and standard alfalfa varieties. It is currently available at the following URL:

http://www.uwex.edu/ces/forage/pubs/economics_RR_alfalfa.xls

This calculator can be downloaded to your computer as it is an excel spreadsheet. When you first open up the spreadsheet, values will be pre-entered into the cells. These values are what we feel are accurate estimates of the costs, use patterns, and yield throughout Wisconsin. The

beauty of this calculator is that it allows the user to change any of the data in table 1. This will allow the user to enter specific information for a field or farm and provide a more accurate analysis of the costs.

TABLE 1. Inputs for the calculator. The user can change all of these values to better represent their field/farm.

Economics of Roundup Ready Alfalfa in Seeding Year

Put your numbers into columns B or C	Roundup Ready variety	Standard variety
Seed cost/ 50 lb bag (\$)	\$250.00	\$200.00
Pounds of seed per acre	12	12
Technology fee/bag (\$/bag)	\$125.00	\$0.00
Yield in seeding year (t/a DM)	3.50	3.50
Herbicide cost (\$/acre/application)	\$6.00	\$20.00
Herbicide application cost (\$/acre)	\$10.00	\$10.00
Number of herbicide applications	1	1
Value of ease of roundup use (\$/acre)	\$0.00	\$0.00
Yield depression from pursuit/raptor (t/a DM)	0.00	0.30
Expected stand life (yrs including seeding year)	3	3
Value of hay (per ton DM)	\$100.00	\$100.00
Fixed costs per acre per year	\$180.00	\$180.00
Harvesting costs per acre per harvest	\$35.00	\$35.00
Number of harvests	2	2

Once the data is entered into the spreadsheet several variables are calculated including the total seed and herbicide cost per ton of hay, total cost per ton of hay in the seeding year (assuming \$250 fixed and harvesting costs), and the profit/A in the seeding year (see table 2).

TABLE 2. Results from calculator.

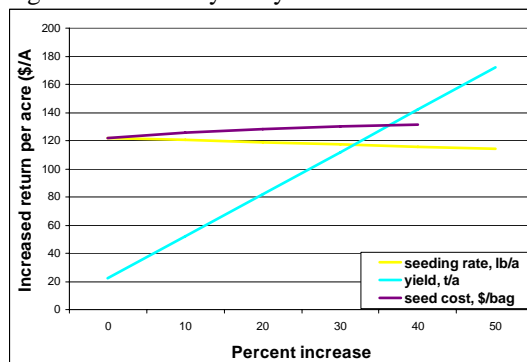
Seeding Year Production Costs/Results	Roundup Ready variety	Standard variety
Seed cost (prorated + tech fee) per acre	\$50.00	\$16.00
Total seed and herbicide cost per ton of hay	\$18.86	\$14.38
Total cost per ton of hay seeding year (Assuming \$250 fixed and harvesting costs)	\$90.29	\$85.80
Profit per acre - seeding year	\$34.00	\$49.69

*Note: spreadsheet prorates seed cost over life of stand but figures full technology fee against seeding year.

For those who truly love crunching numbers, Dan has also added a sensitivity analysis which can be accessed by clicking on that tab at the lower left-hand corner of the spreadsheet. This tool compares how changing seeding rate, yield, or seed cost will affect the return per acre. This analysis is helpful in demonstrating which variables, if increased, will result in the greatest increase in return (while the other variables remain constant). As you can see from the graph (using default values), management that

maximizes yield was by far the best variable to improve. Seeding rate (lbs/A) and seed cost (\$/bag) did not have a large influence on the return per acre (figure 1). Several studies in other states are evaluating reduced seeding rates of Roundup Ready alfalfa to offset the technology fee. Results from Michigan found no differences in yield between 4, 8 and 16 lbs/A seeding rates in 2005, but reduced yield between the 4 and 16 lbs/A seeding rates in 2006. Both sites were treated with glyphosate during establishment and harvest data was only from establishment year. Additional work needs to be conducted to see how productive these stands are over-time.

Figure 1. Sensitivity analysis.



Probably the biggest difficulty is predicting what the yield loss will be from traditional herbicides. Studies have been conducted worldwide and have shown variable results from site to site and from year to year. In Wisconsin, yield loss in the first cutting has been observed to be between 0 to >1 ton/A. Environmental conditions that stress establishing alfalfa plants are the main cause for this yield loss. While RR alfalfa varieties have not shown to be susceptible to this injury, the decision on whether to plant these varieties will remain a decision that will be need to be considered field by field

