

# Wisconsin Crop Manager

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Joe Lauer, UWEX Corn Specialist, will talk about this corn crop and what mid to late season production management practices may still enhance yields.

Ann MacGuidwin, UW Nematode Researcher, will describe the Soybean Cyst Nematode situation in Wisconsin and what growers should be aware of to limit the problem.

For more information contact Don Genrich at 608-339-4233 or Jeff Breuer at 608-846-3761.

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## Midwest Strip-tillage Expo 08, Arlington, August 12

Dick Wolkowski, Extension Soil Scientist

**(Note: This is a synopsis of an announcement made in March. The July issue of the *Wisconsin Agriculturalist* erroneously reported the event date as August 19.)**

Farmers and conservation agency personnel are encouraged to join tillage specialists and equipment company representatives on August 12 for the Midwest Strip-Tillage Expo 08. This year's Expo will be held at the Arlington Agricultural Research Station located about 20 miles north of Madison. The event is being organized by the College of Agricultural and Life Sciences at University of Wisconsin-Madison and University of Wisconsin Cooperative Extension.

The program will include concurrent educational presentations and field demonstrations starting at 9 am and repeated at 1 pm. Registration begins at 8 am. After lunch a panel of veteran strip-tillers will discuss their experiences and techniques. Field demonstrations will offer farmers a chance to compare features of a variety of strip-tillage equipment and related products, including auto-guidance systems and fertilizer application equipment. Manufacturer's representatives will be on hand to answer questions.

There is no charge to attend the Expo. Lunch will be available on site for a nominal cost. Certified Crop Advisor CEU's will be available for the educational presentations.

For more information on the field day go to: <http://www.soils.wisc.edu/extension> or contact Dick Wolkowski, Extension Soil Scientist at [rpwolkow@wisc.edu](mailto:rpwolkow@wisc.edu)

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## Agronomy Crops Field Day 2008

**July 30th, 9 a.m. to 3:30 p.m.**

### Hancock Agricultural Research Station

The Central Wisconsin Agronomy Crops Field Day will be held at the Hancock Agricultural Research Station on Wednesday, July 30<sup>th</sup>, beginning promptly at 9 a.m.

Several field crop research and demonstration projects will be featured on a wagon tour of the Station Wednesday morning. Lunch will be available at a cost of \$5 person. A special tour of the new Potato & Vegetable Research Storage Facility will be conducted during the afternoon. The field day is sponsored in part by the Juneau - Adams - Marquette Area Corn and Soybean Growers Association, Hancock Agricultural Research Station and UW - Extension. Presentation topics will include:

Mike Casler, USDA Forage Researcher, will discuss the development of switchgrass in Wisconsin as a bioenergy crop.

Shawn Conley, UWEX Soybean Specialist, will provide the latest information on soybean production and management issues.

Kevin Flyte, Waushara County Land Conservation Department, will be presenting information on current conservation programs.

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## AGRONOMY/ SOILS FIELD DAY

Wednesday, August 27, 2008

### Arlington Agricultural Research Station

- Tours and Exhibits of Current Crops and Soils Research
- Tours depart from the Public Events Facility at 8:30am, 10:30am, and 1:00pm
- Lunch and refreshments available

#### Tour A: Forage Tours

- Alfalfa yield & quality responses to early harvest (Dan Undersander)
- Switchgrass improvements for biomass production (Mike Casler)
- Farming for nitrogen: Intercropping clover & corn (Ken Albrecht)

#### Tour B: Soils Tours

- Fertilizer management considerations for fall 2008 (Carrie Laboski & John Peters)
- Managing soil quality (Dick Wolkowski)
- Fifty years of continuous corn research: What have we learned? (Larry Bundy)

#### Tour C: Corn & Soybean Tours

- Trouble with doubles, gaps, & peepers in corn (Joe Lauer)
- Do emergence patterns matter in soybean? (Shawn Conley)
- Technological advances in weed management (Chris Boerboom)

#### LUNCHEON SPEAKER @ 12:15pm

“Improving Cellulosic Biomass Production”

- Natalia de Leon Gatti
- Great Lakes Bioenergy Research Center, UW-Madison

The Arlington Research Station is located on Hwy. 51, about 5 miles south of Arlington and 15 miles north of Madison. Watch for Field Day signs. In the event of rain, presentations will be held inside.

For more information contact the Dept. of Agronomy 608/262-1390 or the Dept. of Soil Science 608/262-0485.

Sponsored by the UW-Madison College of Agricultural and Life Sciences and the UW Cooperative Extension

{Certified Crop Advisors: 3.5 CEU credits requested}

**Click here to see PDF >>>**

[http://ipcm.wisc.edu/Portals/0/Blog/Files/30/597/AGRONOMY\\_FIELDDAY1.pdf](http://ipcm.wisc.edu/Portals/0/Blog/Files/30/597/AGRONOMY_FIELDDAY1.pdf)

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## Corn Rootworm Beetles and Silk Clipping

Bryan Jensen- IPM Program

This could be one of those years when it pays to scout corn fields for silk clipping caused by Western and Northern corn rootworm beetles. Both species are attracted to pollinating fields and are capable of clipping silks prior to fertilization resulting in poor ear fill. The concern this year would be over variable planting dates. During “normal” years, the majority of our corn acreage pollinates over a relatively short period of time. Although beetles are attracted to pollinating fields their numbers are diluted over large acreage and few fields have problems. Those fields, or areas of fields, which do have problems are those which pollinate well before or after the majority of acres have been pollinated. Adult rootworm beetles are mobile and will migrate to these fields in numbers potentially high enough to cause economic silk clipping.

This growing season is anything but normal. We’ve had variable corn planting dates, replanting dates, delayed development, etc. This situation could cause localized or even more general concerns about silk clipping. Crop advisors should begin checking for adult beetles before 70% of the plants are in the process of silking. Count the number of beetles on 10 random plants in five separate areas for a total of 50 plants. Record the number of beetles per plant and the number of plants with silks clipped to 1/4 inch or less. In addition, record the number of plants that haven’t begun to silk, the number with fresh silk and the number with brown silk. Typically, it will take an average of 5-6 beetles per plant and silks being clipped within 1/4 to 1/2 inch of the tip of the husk.

As of this writing it is unknown what the beetle populations will be or the outcome and timing of crop development. However, do keep an eye out for high risk fields.

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## Giant Ragweed and Nightcrawlers

Chris Boerboom, Extension Weed Scientist

Drs. Emilie Regnier and Kent Harrison are weed scientists and Dr. Clive Edwards is an entomologist at The Ohio State University. They recently wrote this summary of research that they have conducted on giant ragweed and nightcrawlers, which explains the reason that giant ragweed is so persistent. I thought you would appreciate the opportunity to read this interesting information.

### Introduction and Scope of Importance

Giant ragweed has been a weed of major importance in Ohio and Indiana corn and soybean fields for over 20 years, and it seems to be increasing westward and has been ranked as one of the ten most problematic weeds of agronomic crops in Illinois, Kentucky, Missouri, Minnesota, Nebraska, Oklahoma, and Tennessee. It is among the most competitive annual weeds of corn and soybean, with a weed population of one plant per 10 square feet causing crop yield losses ranging from 50 to 75%. Since the mid-20th century, giant ragweed has migrated from its native range in North America to Europe, South America, and Asia, where it is regarded as an exotic invasive weed of agricultural fields, field borders, grasslands and natural

areas. Giant ragweed produces copious pollen in late summer and early fall that is a major cause of hay fever in humans.

### Not your “typical” weed

Like many important agricultural weeds, giant ragweed has a summer annual life cycle that is completed between the months of March and October in Ohio. However, giant ragweed is unlike many of our major weeds in that its seeds are comparatively large, seed production per plant is relatively low, and once buried in soil, the seeds do not remain viable for long periods of time.

Giant ragweed seeds serve as food sources for various organisms including insects, rodents, and birds, and almost 90% of its unburied seeds are destroyed during the first six months after the plants shed their seeds. Given these apparent weaknesses in its reproductive capacity, we are interested in finding out why giant ragweed is such a persistent and growing problem. Since the time between seed shed and seed burial seems to represent the weakest link in giant ragweed’s life cycle, we have concentrated much of our research on investigating what happens to the seeds during this critical period.

### Current Research: The Role of Earthworms in Giant Ragweed Spread and Survival

The common nightcrawler (*Lumbricus terrestris*) is known throughout most of the U.S. as a popular fishing bait and beneficial inhabitant of agricultural soils. It lives in permanent, vertical burrows and feeds on plant litter, which it collects from the soil surface and stores inside its burrow. As the plant litter softens and decays inside the burrow, it becomes palatable to the earthworms. The earthworms build a ‘midden’ over the top of the burrow, a mound of castings and organic debris that seals the opening. Middens are usually easily distinguished from the surrounding soil and indicate the presence of nightcrawlers.

Nightcrawlers are widely distributed in agricultural soils of the central and eastern U.S., where it improves soil physical and chemical properties for crop growth. It is not native to the United States and was probably introduced from Europe with the settlers. Nightcrawler populations increase in the absence of tillage and can be as high as 15 earthworms per square foot in some no-tillage fields.

We have found that nightcrawlers actively gather and store giant ragweed seeds in its burrow by grasping the seed with its mouthparts and burying it inside its burrow or middens. In field experiments in Ohio, over two-thirds of the giant ragweed seedlings that emerged in spring came directly from nightcrawler burrows. These findings suggest that the earthworm-giant ragweed association is an important factor in the survival and spread of giant ragweed. This seed foraging behavior by nightcrawlers and its effect on giant ragweed seedling distribution have been confirmed in controlled experiments and surveys of giant ragweed populations.

Nightcrawlers behave as a seed dispersal agent for giant ragweed and this behavior may protect the seeds from predation by rodents, insects, and birds. The earthworms do not forage exclusively for giant ragweed seeds, but also collect and store other seeds in the same size range.

### A summary of research results thus far:

- In plots excluding vertebrate seed predators, nightcrawlers began collecting and burying giant ragweed seeds immediately after their dispersal thus shortening the exposure time of seeds on the soil surface to as little as 1 or 2 days. By 20 days after dispersal, the earthworms had collected and buried 95% of giant ragweed seed in their burrows and middens.
- Earthworms buried seeds from 0.2 to 8 inches deep. Most of the seeds were buried in the upper 4 inches of the soil, which represents the depth limit from which giant ragweed seedlings can emerge, but some seeds were buried below 4 inches, where giant ragweed seeds tend to remain dormant.
- Earthworms buried over two-thirds of giant ragweed seeds dispersed naturally by a giant ragweed stand. An earthworm burrow contained an average of 127 seeds, and earthworms buried an estimated total of about 500 seeds per square foot.
- Giant ragweed seedlings were aggregated in nightcrawler burrows in no-tillage corn and soybean fields in Ohio, Indiana, and Illinois, indicating that when nightcrawler and giant ragweed occur together, the earthworm is likely to bury giant ragweed seeds and thereby influence seed survival and seedling distribution.
- Nightcrawlers collected and buried seeds of 10 other weed and crop species by the same behavior, but exhibited preferences among them. Giant ragweed, bur cucumber, and sunflower seeds were preferred over common cocklebur and tall morningglory seeds.

### Summary and Conclusions

Our research has shown that nightcrawlers forage actively for giant ragweed seeds, that it is capable of burying the majority of the seed produced by a stand of giant ragweed, and that it distributes seeds over a range of depths thus influencing seed dormancy and seedling emergence. It also suggests that seed burial by nightcrawlers protects seeds from predation and exerts a strong influence over giant ragweed populations in subsequent years. With the introduction of nightcrawlers in the U.S., it appears that giant ragweed has acquired a new mechanism of spreading and survival, which may help explain its persistence and expansion as a major weed problem in the U.S.

## UW-Extension/Madison Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Ann Joy, Amy Gibbs, and Brooke Weber,  
Plant Disease Diagnostics Clinic

The PDDC receives samples of many plant samples from around the state. The following diseases/disorders have been identified at the PDDC since July 9, 2008:

PLANT	DISEASE/ DISORDER	PATHOGEN	COUNTY
<b>FIELD CROPS</b>			
Corn	Anthracnose	<i>Colletotrichum graminicola</i>	Lafayette
Soybean	Root rot	<i>Phytophthora sojae</i> , <i>Pythium</i> sp., <i>Fusarium</i> sp.	Kewaunee
<b>FRUIT CROPS</b>			
Cherry	<a href="#">Bacterial Canker</a>	<i>Pseudomonas syringae</i>	Iowa
Raspberry	Anthracnose	<i>Sphaceloma necator</i>	Marquette
	Raspberry Leaf Spot	<i>Cylindrosporium rubi</i>	Marquette
<b>VEGETABLES</b>			
Cauliflower	<a href="#">Root Rot</a>	<i>Pythium</i> sp.	Dakota (MN)
Rhubarb	<a href="#">Root Rot</a>	<i>Pythium</i> sp.	Brown
Tomato	<a href="#">White Mold</a>	<i>Sclerotinia sclerotiorum</i>	Monroe, Waushara

For additional information on plant diseases and their control, visit the PDDC website at [pddc.wisc.edu](http://pddc.wisc.edu)

