

Wisconsin Crop Manager

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WSMB Continues Enhanced Nematode Testing Program for 2014

Shawn Conley, Soybean and Wheat Extension Specialist

Four out of every five animals on earth today is a nematode so it is not surprising that agricultural fields are home to many nematode species. Fortunately, most nematodes are beneficial to crop growth and soil health because their activities help decompose crop residues and cycle nitrogen and other nutrients. Pest nematodes do not threaten yield if their numbers remain low. The key to avoiding population explosions of nematode pests is to be proactive – know what the situation is and take appropriate measures when nematode numbers indicate a problem is brewing.

The WSMB sponsors free nematode testing to help producers stay ahead of the most important nematode pest of soybean, the soybean cyst nematode (SCN) (Figure 1). Eggs of SCN persist in the soil between soybean crops so a sample can be submitted any time that is convenient. The soil test report indicates the number of eggs in the sample and is useful for selecting the right variety for the next soybean crop. Retests of fields planted with SCN-resistant varieties over multiple years shows how the nematode population is responding to variety resistance and provides an early warning [should the nematode population adapt to host genetics](#).

In 2014, the WSMB is again offering the expanded nematode testing program to include other pest nematodes in addition to SCN. These nematodes are less damaging to soybean than SCN but can cause enough yield loss to warrant treatment. As is the case for SCN, there are no rescue treatments for nematodes so the primary purpose of this year's soil test is to plan for next year's crop. Soil samples collected in corn for nematode analysis have predictive value for explaining yield if they are collected before the corn V6 growth stage. Sampling early in the season will provide information about the risk potential for the current corn crop AND the next soybean crop.

The assays used to recover nematode pests other than SCN in soil require that the nematodes are alive. So, it is important to keep the samples moist and at least room temperature cool. Collecting a sample that includes multiple cores ensures that there will be plenty of root pieces to assay. It is not necessary to include live plants in the sample. The soil test report will indicate which pest nematodes are present and at what quantities and their damage potential to soybean and corn based on the numbers recovered. Free soil sample test kits are available now and can be requested at freescntest@mailplus.wisc.edu.

For more information on SCN testing and management practices to help reduce the losses from this pest, please contact: Shawn Conley: spconley@wisc.edu; 608-262-7975 or visit www.coolbean.info.

Factors to Consider While Assessing your 2014 Winter Wheat Crop

Shawn Conley, Soybean and Wheat Extension Specialist

As the snow begins to melt and we finally put the 2013/14 winter behind us, many growers and consultants alike are beginning to venture out to their winter wheat fields to assess winter injury. Though it is a premature to make any rash decisions here are a few considerations for assessing your spring 2014 winter wheat stands.

1. As you look across your wheat landscape vibrant green patches will be interspersed with drab brown areas. The brown areas do not necessarily indicate those plants are dead.



2014 Arlington WI Winter Wheat Variety Trials

Growers and consultants can either reassess in a week or pull plants from the field and place in warm environments. Milk houses and kitchens work perfect. Root regrowth will appear from the crown and will appear as vibrant white roots as shown below.



Spring Root Regrowth in Winter Wheat

If plants do not recover our critical threshold for turning over a field is 12 to 15 live plants per square foot. Below this threshold is an automatic replant. For more detailed information on assessing winterkill please view [Wheat Stand Assessment, Winterkill Yield loss, and Nitrogen Application](#).

2. Evaluate tiller number and make the N timing decisions. It is important to remember that the functional purpose of spring N is to 1. stimulate tillering and 2. provide crop nutrition. If ample tillering (> 70 tillers per square foot) has occurred growers can delay N applications up to pre-joint (Feekes 4-5; Zadoks 30). This practice will aid in minimizing early spring N loss. Applications of N made after this growth stage may lead to wheel track damage. If growers have < 70 tillers per square foot it is important to get across those fields as soon as possible to minimize yield loss due to low tiller/head counts. For more information on tiller counts and spring N timing please view my YouTube video entitled: [Wheat Stand Assessment and Nitrogen Timing](#).
3. Lastly remember that wheat grain in itself is only part of the revenue you capture with winter wheat. The price of winter wheat straw remains strong so please consider that revenue stream before any replant decisions are made.

2014 WI Soybean Yield Contest is Announced

Shawn Conley, Soybean and Wheat Extension Specialist

The Wisconsin Soybean Marketing Board launches the 5th annual Wisconsin Soybean Yield Contest. The objective of this program is to encourage the development of new, innovative management practices and show the importance of sound cultural practices in Wisconsin soybean production.

Wisconsin soybean growers have until September 1, 2014 to enter the Wisconsin Soybean Yield Contest. Two winners from each of four geographical districts in the state will receive awards (Image 1.). "Please note the divisional lines were redrawn for 2014 based on a rolling 10 year average yield". The first place award in each district includes a \$1,000 cash prize; second-place honors include a \$500 prize. Winners will be selected for having the highest soybean yield based on bushels per acre at 13% moisture. The awards ceremony is scheduled for January 29, 2015 during the Corn/Soy Expo at WI Dells.

For more detailed information regarding the program and contest rules please visit www.coolbean.info or [2014 Wisconsin Soybean Yield Contest Rules](#).

Entry forms can be found at [2014 Wisconsin Soybean Yield Contest Entry Form](#).

A list of the [2013 winners and a management summary](#) of their practices is also provided.

For more information please contact Dr. Conley at spconley@wisc.edu. Good luck and have a safe and productive 2014 growing season!



New Pub: Oat Yield and Quality in Wisconsin

Spyridon Mourtzinis, Shawn P. Conley, and John M. Gaska
Department of Agronomy, University of Wisconsin-Madison

Oat cultivation in Wisconsin has declined considerably in the last eight decades; nevertheless, it continues to be an important crop in the north central states where 65% of the oats harvested for grain in the United States each year are produced.

To read the full article follow the link below:

http://www.coolbean.info/library/documents/OatMgmtFungicide_2014_FINAL.pdf

Plant Disease Diagnostic Clinic (PDDC) Update 3/22-3/28

Brian Hudelson, Ann Joy, Erin DeWinter and Joyce Wu, Plant Disease Diagnostics Clinic

The PDDC receives samples of many plant and soil samples from around the state. The following diseases/disorders have been identified at the PDDC from March 22, 2014 through March 28, 2014.

Plant/Sample Type, Disease/Disorder, Pathogen, County

FRUIT CROPS,

Plum, [Plum Pockets](#), *Taphrina communis*, Walworth

VEGETABLES,

Beet, Southern Sclerotium Root Rot, *Sclerotium rolfsii*, Vernon

For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.

Glyphosate-resistant Horseweed in Wisconsin

Ross Recker (Graduate Research Assistant), John Buol (Undergraduate Research Assistant), and Vince Davis (Assistant Professor) Department of Agronomy, UW-Madison

Glyphosate-resistant weeds continue to be a major threat to corn and soybean production across the Nation. A pro-active survey of late-season weed escapes in corn and soybean fields was conducted throughout Wisconsin in 2012 and 2013. One objective of the survey was to identify areas where populations of glyphosate-resistant weeds may exist.

In 2012, a population of horseweed (*Conyza Canadensis*) collected from Jefferson County, and glyphosate screening in the greenhouse confirmed it was glyphosate-resistant with a 6-fold tolerance compared to a susceptible population. This announcement and more information about horseweed biology and management were previously reported and can be read [here](#).

During the 2013 late-season survey, another putative glyphosate-resistant horseweed population was collected from Columbia County. Again whole-plant dose response experiments were recently conducted in the greenhouse and results confirm this population is also nearly six-fold glyphosate-resistant (Figure 1).

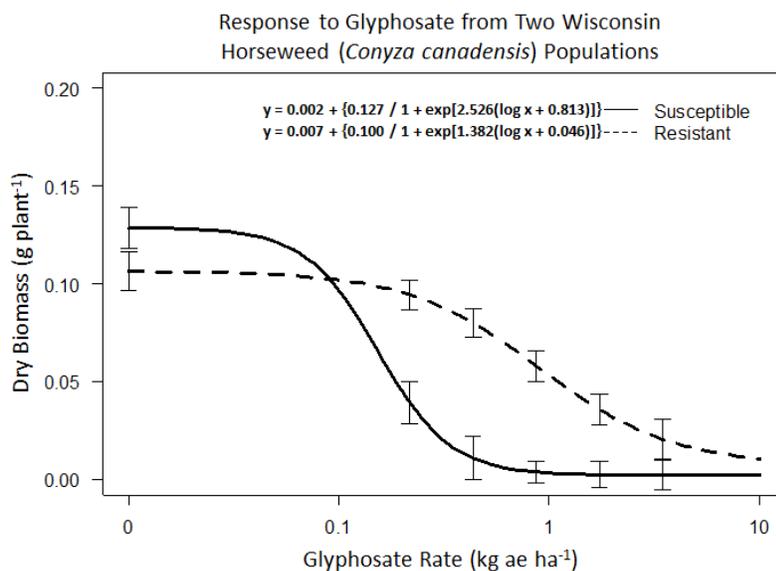


Figure 1. Shoot dry biomass of Columbia County horseweed and susceptible horseweed following treatment with glyphosate at doses up to 3.48 kg ae ha⁻¹ as estimated by a four-parameter log-logistic regression function.

The horseweed seeds were collected from mature plants in a soybean field with a history of no-till, corn/soybean rotation, and glyphosate use. These plants displayed symptomology at the time of collection including shortened internodes (Figure 2)

and were scattered randomly at low densities in about a 2 to 3 acre patch. If you have horseweed or other weeds that survive postemergence applications, you should have concern about herbicide resistance. Contact your local county Ag Extension Agent who can help you further evaluate the situation and plan a pro-active resistant management program so you can take action against herbicide resistance.



Figure 2. Horseweed plant late in the 2013 growing season that was not controlled with a previous postemergence glyphosate application in a no-till soybean field in Columbia County, Wisconsin.

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