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Contents

2018 UW Waterhemp Challenge: Comparison of Soil Residual Soybean Herbicides

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Waterhemp management in soybeans was a challenge for several farmers in 2018. As we finalize harvesting our crops, it's important to properly **map the fields infested with waterhemp** and start developing an effective management plan for 2019.

The use of PRE-emergence herbicides is a foundation for waterhemp control in soybeans. According to our SURVEY conducted earlier this year, the use of a single POST herbicide pass is still a common weed control strategy for several farmers in Wisconsin. Unfortunately, as many learned this year, this strategy will likely not work if glyphosate-resistant waterhemp is present in the field.

In 2018 we conducted a study to evaluate and demonstrate the effectiveness of multiple PRE-emergence soybean herbicides. This was a joint effort between the UW-Madison Nutrient and Pest Management Program (NPM; Dan Smith and Richard Proost) and my team (WiscWeeds; Maxwel Oliveira, Victor Ribeiro, Sarah Striegel, Nikola Arsenijevic, and Ryan DeWerff). The study was conducted at UW Lancaster Ag Research Station, in Lancaster, Grant County, southwest WI in a field with natural and significant waterhemp and common lambsquarters infestation. Treatments consisted of PRE-emergence soybean herbicides containing one, two and three different active ingredients and/or sites of action. Herbicides were sprayed the day after soybeans were planted. Since we wanted to evaluate the residual activity of the PRE-emergence herbicide treatments throughout the season, no POST-emergence herbicides were sprayed to the research plots.

Our intent was not to promote one product versus another, instead, demonstrate the value of using an effective PRE-emergence herbicide program. Three well-attended and well-received plot tours were held at the research site in the summer. Per request of those who attended and also from several of those who could not attend the plot tours, we decided to make our 2018 findings available.

To download the 2018 Preliminary Report of the "UW Waterhemp Challenge: Comparison of Soil Residual Herbicides" (PDF file) click HERE.

While these results should be taken with a grain of salt (only one year of data), they clearly indicate the value of PRE-emergence herbicides and the programs that don't work. Moreover, the herbicide rates used in the study are the ones recommended by our industry colleagues and supported by us for a typical Wisconsin Silt Loam soil, thus, valuable information for decision-makers. In this publication we also include site and study information, pictures of plots, and the equivalent rate of single active ingredient products in the premixes evaluated (herbicides with multiple active ingredients).

When selecting a PRE-emergence herbicide program, we challenge agronomists and farmers to balance efficacy

(using our results and their experience), product cost, and rotation restrictions. We also encourage farmers to compare their use rates with the ones used in our study (recommended by industry representatives and respective product labels), assuming Silt Loam soils. The residual activity of a PRE-emergence herbicide is dependent on the rates applied; cutting rates is not a recommended strategy when attempting to manage troublesome weeds like waterhemp.

This same study will be replicated in at least two Wisconsin locations in 2019. Stay tuned for additional research findings related to our waterhemp control studies and also plot tour opportunities in 2019!

Key Take-Home from the "2018 Comparison of Soil Residual Soybean Herbicides Study":

- Several PRE-emergence soybean herbicides evaluated provided good levels of waterhemp and lambsquarters control. The onset of waterhemp emergence in the research site was noticed in the first week of June. Because of excessive rainfall in the spring, soybean planting was delayed and happened on 05/24/2018 at the research site; thus, the application of our PRE-emergence treatments (05/25/2018) matched the time waterhemp started to emerge, explaining the overall satisfactory level of weed control observed in most treatments (perfect timing!).
- Group 2 herbicides (e.g., Pursuit, Classic, First Rate) applied alone were effective on lambsquarters but NOT on waterhemp. The use of imazethapyr (e.g., Pursuit, Extreme, Thundermaster), which is a common practice in Wisconsin, did not provide satisfactory control of waterhemp. When using imazethapyr (which is an effective herbicide for control of several weed species) as part of the PRE-emergence herbicide program for waterhemp control, the tank mixture with or selection of herbicides that contain other effective active ingredient(s) is recommended.
- PRE-emergence herbicide programs containing multiple effective sites of action are recommended to broaden weed control spectrum and to lower selection for additional herbicide resistance.

Always read, understand and follow the pesticide label.

Acknowledgements: we would like to thank Mimi Broeske, UW-NPM Senior Editor, for developing the publication layout. Thanks to Doug Wiedenbeck and the UW Lancaster Ag Research Station staff for their support. This study was partially funded by the Wisconsin Soybean Marketing Board.

Wisconsin Soybean Variety Performance Trials

Shawn P. Conley, Adam C. Roth, John M. Gaska, and Damon L. Smith Departments of Agronomy and Plant Pathology University of Wisconsin, Madison

The Wisconsin Soybean Performance Trials are conducted each year with the producer's needs in mind. Our objective is to give producers the information to select varieties that will satisfy their specific goals and are most likely to perform best under their management practices. In this pdf, you will find the results of the Wisconsin Soybean Variety Performance Trials as well as how they were conducted in terms of growing conditions, data collections and so on.

Click here to view the Wisconsin Soybean Variety Performance Trials.

2018 Wisconsin Oats & Barley Performance Tests

Shawn Conley, State Soybean and Small Grains Specialist

The Wisconsin oat and barley performance trials are conducted each year to serve Wisconsin growers. Trials include released varieties, experimental lines from Wisconsin and Midwestern states, and lines from private companies. The main objective of these trials is to obtain data on how varieties perform in different locations and years. Growers can use this data to choose the best varieties to plant in their area. Breeders use this information to decide whether to release a new variety and to select parents to make new crosses. The best varieties for yield performance, disease resistance and quality are entered into the Wisconsin Certification Program. As new varieties are released to the public, older varieties with inferior qualities are removed from the recommended list and eventually dropped from the certified list as seed production declines. Additionally, varieties that perform well from other states may be recommended and/or certified in Wisconsin. Occasionally varieties are certified without being recommended to Wisconsin growers. These varieties may include commercial varieties developed by private seed companies or varieties where there is a substantial market for Wisconsin-produced seed. Thus, in Wisconsin, recommendation and certification are different things. Recommended varieties are those with superior in-state production performance.

To view the rest of this article, click here.

UW Discovery Farms 7th Annual Conference

Pigeon Falls, WI. – Register today for the 7th Annual UW Discovery Farms Conference set to be held on December 12, 2018, at the Glacier Canyon Convention Center in Wisconsin Dells, WI. Farmers, crop consultants, agency personnel and anyone with an interest in agriculture and water quality are encouraged to attend this educational day.

The theme this year is Using science to intersect production and water quality goals. UW Discovery Farms understands there are challenges intertwining conservation into field operations while maintaining economic goals, especially in depressed market time periods. This year's conference will provide the solutions and tools needed to strategize back in the field.

UW Discovery Farms provides Wisconsin farmers with credible water quality information straight from privately-owned farms, and is excited to bring together a lineup of innovators and experts to this year's event. Presentations will focus on Midwestern research with speakers from Indiana, Iowa and Wisconsin. Attendees will hear the latest data on cover crops, nitrogen and phosphorus management, and water quality.

In addition to hearing renowned applied research, attendees will get a chance to hear from and ask questions to a panel of farmers. The title of the farmer panel is Plant green, harvest green, spread green and will feature farmers who have adopted and adapted techniques to plant into a growing cover crop, interseed into corn or soybeans and successfully combine living covers and manure. At the end of the day a reality check panel will bring up all speakers and panelists from the day to get last questions answered and look for ways to put thoughts into action.

The conference will be held on December 12, 2018, from 9:00 a.m. to 3:45 p.m. at the Glacier Canyon Conference Center in Wisconsin Dells, WI. 4.5 CEUs will be available in Soil & Water Managment. Registration is now open online at www.uwdiscoveryfarms.org or call 715.983.5668. The cost is $50 for members of sponsoring organizations and $60 for non-members. Snacks, beverages and lunch are included. For more updates follow UW Discovery Farms on Facebook and Twitter. Questions? Contact Erica.olson@ces.uwex.edu.

Sporebuster, a New White Mold Fungicide Value Calculator

Damon L. Smith, Ph.D., Associate Professor and Extension Specialist, Department of Plant Pathology, UW-Madison

When a fungicide application is needed to control white mold in soybeans, Sporebuster can help determine a profitable program. You enter your expected soybean price, expected yield, and treatment cost. Sporebuster instantly compares ten different treatment plans at once to determine average net gain and breakeven probability of each. You can mark, save and share by email, the best plans for your farming operation.

The purpose of Sporebuster is to assist soybean farmers in making a fungicide program decision that is profitable for their operation. Sporebuster is meant to complement Sporecaster, which is a tool that can be used to make the decision whether a fungicide application is even needed. Once Sporecaster recommends a fungicide application, Sporebuster can be used to determine a profitable program. To learn more about Sporebuster, how to use it, and to download it, click here.

2019 IPM Field Scout Training Class

Bryan Jensen, UW Extension and IPM Program

The Madison Field Scout Training Class (354) will be held on the UW Madison Campus from January 7-11, 2019. The course is designed to provide the skills necessary for proper pest identification, crop scouting techniques as well as provide complimentary baseline information for people preparing for the state CCA exam. Additional information such as crop growth and development, pest life cycle, pest damage symptoms and economic thresholds will be covered. Pest control recommendations, although discussed, will not be highlighted in detail during this course. Crops covered will include, corn, alfalfa, soybean and wheat. Click here for the course syllabus.

Non-student registration fee is $225/person but does not cover campus parking. Online registration (preferred) for the Field Crop Scout School can be made at the PAT Store. Checks should be made payable to University of Wisconsin-Madison and sent to Bryan Jensen, Dept. of Entomology, 1630 Linden Dr., Madison, WI 53706.

For more information on this course, please contact Bryan Jensen at:

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Recent UW/UWEX Plant Disease Diagnostic Clinic (PDDC) Updates

Brian Hudelson, Sue Lueloff, John Lake and Ann Joy

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 October 13, 2018 through November, 2018.

The Recent PDDC Wisconsin Disease Almanacs (i.e., weekly disease summaries) are now available at:

November 2-November 9, 2018

October 27-November 2, 2018

October 20-October 26, 2018

October 12-October 19, 2018