SOYBEAN DEFOLIATORS

BRYAN JENSEN, UW DEPARTMENT OF ENTOMOLOGY AND DIVISION OF EXTENSION

A few insects to be thinking about in the very near future. First, Japanese beetles should soon be emerging or have already done so by the time you are reading this article. At this point in time it is hard to tell how well they overwintered. My guess is well enough. Japanese beetles are showy and feed in groups on the upper part of soybean plants. Furthermore, damage is usually concentrated along field margins. All this makes Japanese beetles easy to spot. The economic threshold is not species specific and is applicable to all soybean defoliators. That threshold is 30% defoliation during pre-bloom and 20% defoliation on reproductive soybean. It does indicate that vegetative soybean are more resilient than soybeans in the reproductive stage of development. Be careful not to overestimate defoliation. Estimates should be made on a whole plant basis. Lower, undamaged leaves can compensate for damage on upper leaves. Therefore, % defoliation should be estimated based on the entire leaf area on each plant. This usually significantly lowers our defoliation estimates. Also, keep in mind that an insecticide application now will affect natural enemies of soybean aphids which could potentially make aphid establishment easier. Same goes for two-spotted spider mites if the weather ever dries out and warms up.

There are several “worms” commonly found in soybean at this time of year and a few which are uncommon. I would classify the latter as eye-catchers. Green cloverworm and soybean loopers are commonly found and occasionally exceed the defoliation threshold. The problem with these insects is they are less “showy” and found in the mid to upper canopy. If on the occasion the threshold is exceeded, please verify their presence. Don’t just base your recommendation on % defoliation. Like other insect pests we need to consider the potential for future yield loss. Make sure the insects are present and are not at the end of their larval life stage.

Soybean attract a lot of insects. One of which was identified by PJ Liesch, Insect Diagnostician with the Department of Entomology. The silver-spotted skipper isn’t necessarily new to soybean production but is uncommon and unusual in
its appearance and feeding habits. The adult is a butterfly and larvae can grow up to 1.5 inch and feeds on several legumes. Larvae are green-ish and have a large black head. A diagnostic feature for these larvae is a very prominent constriction behind the head making the head look even more oversized. Larvae tend to form their own shelter by rolling up leaves when feeding. This is usually what catches people’s attention.

Although I have not received a call regarding thistle caterpillars, I have seen several adults (painted lady butterfly) this spring and Iowa has reported some damage on soybean. If you recall this insect migrated into the Midwest and was common a few years ago. Larvae are usually dark colored but do vary in color. The will have bristly spines and will also roll leaves up to feed.

WISCONSIN WINTER WHEAT DISEASE UPDATE- JUNE 28, 2019

DAMON SMITH, EXTENSION FIELD CROPS PATHOLOGIST, DEPARTMENT OF PLANT PATHOLOGY, UNIVERSITY OF WISCONSIN-MADISON

The Badger Crop Docs have been busy scouting production wheat fields and University of Wisconsin-Madison winter wheat variety trials and management trials around the wheat growing region of Wisconsin. Wheat heading and anthesis was very uneven this season. At several locations we visited, we could observe some varieties still in anthesis, while others had finished flowering for some time. Even within plot, variability existed. This variability has resulted in some difficulty in managing diseases.

Fusarium Head Blight Starting to Show Up

We are beginning to see Fusarium head blight (FHB or scab) showing up in many of the locations we have visited. More scab is apparent in the southern locations, especially in the Arlington area. As you might expect it does vary by variety, but in susceptible varieties incidence is running in the 5-10% range, with more expected to become apparent next week. The primary challenge managing scab this season, has been the uneven anthesis timing. Applications of fungicides for man-
Aging scab should begin at anthesis and continue until about 7 days after the start of anthesis. Uneven anthesis across a field can complicate the fungicide application timing, as some heads might be at the right growth stage while others might be still in the boot or already past anthesis. Multiple site-years of research in Wisconsin and the Midwest show that if fungicide is applied before anthesis or 10 days or more after anthesis, poor control of FHB will be achieved with a corresponding unacceptable reduction of vomitoxin. As we get closer to harvest, it will be important to scout your wheat for scab and determine how much damage is present. Careful harvest and cleaning will be necessary in these fields to make sure vomitoxin limits come in below thresholds where dockage and rejection occur for your elevator. Be sure you are familiar with your elevators dockage policies before hauling loads of grain. Each elevator has different rules and regulations.

What is the Situation with Rusts in Wisconsin on Winter Wheat?

We have observed very low levels of both leaf rust and stripe rust. Stripe rust has been observed at extremely low levels, at less than 5% incidence in only one variety at both the Fond du Lac and Sharon uniform variety trial locations. Leaf rust has been observed at similar levels on several varieties in the Arlington uniform variety trial. The late arrival of both of these rusts in Wisconsin will likely result in little yield impact. A fungicide application IS NOT recommended at this point in the season.

Tan Spot is Present At Many Locations

Tan spot has been observed in the lower canopy of wheat at all locations we have visited. The heaviest pressure has been at the Sharon and Arlington locations, with minimal pressure at the Fond du Lac and Chilton locations. Tan spot is remaining in the lower canopy in wheat treated with a fungicide. At Arlington, wheat in several research trials not treated with fungicide have significant tan spot on the flag leaves. If tan spot has reached the flag leaf at this point, yield may be negatively affected. With that said, a fungicide is NOT recommended at this time of season.

Figure 2. Stripe rust on the flag leaf of winter wheat.

Figure 3. Cephalosporium stripe on winter wheat.
Cephalosporium Stripe Present in Sharon and Fond du Lac

We have also observed Cephalosporium stripe in both the Sharon and Fond du Lac uniform variety trials. This is a newer disease of winter wheat in Wisconsin, but has been observed over the past 2 seasons at the Fond du Lac location. This is the first year we have observed Cephalosporium stripe at the Sharon location. At this location, pressure is uniform and significant on several varieties. We observed incidence ranging from 0 to 90% depending on the variety. We believe that pressure is higher this year due to winter heaving and cool wet conditions this spring. No in-season management is available for Cephalosporium stripe. However, noting which fields and locations in fields that have symptoms will help for future decisions about winter wheat management in those areas. Varieties with genetic resistance are available. Also longer rotations and better grassy-weed control can help reduce the severity of Cephalosporium stripe. For more information about Cephalosporium stripe CLICK HERE AND SCROLL DOWN TO THE CEPHALOSPORIUM STRIPE SECTION.

JULY IN WISCONSIN, TIME TO THINK ABOUT WHITE MOLD RISK IN SOYBEANS

DAMON SMITH, EXTENSION FIELD CROPS PATHOLOGIST, DEPARTMENT OF PLANT PATHOLOGY, UNIVERSITY OF WISCONSIN-MADISON

In Wisconsin, the first week of July brings us a heightened awareness of white mold in soybeans, and its management. In 2017 we had one of the most epic white mold epidemics on record. While 2018 wasn’t quite as significant of a white mold-year, we did have significant pockets of the disease in Wisconsin. With the late planting and cool, wet weather we have had in 2019, are we in for a bad white mold year? Yes, I think it could be possible.

Weather in 2017 was incredibly cool for the majority of the time. This had two effects which were responsible for the extreme white mold epidemic in 2017. First, soybeans moved extremely slow through each growth stage. This meant that the flowering window went on for about twice as long as normal for many of the varieties of soybeans we grow here in Wisconsin. This extended flowering period resulted in an extended period of time that soybeans were susceptible to infection.

Remember that the white mold fungus infects soybeans through open and senescing flower, by spores that are born from small mushroom-like structures called apothecia (Fig. 1). This extended bloom period meant that the window of opportunity for the fungus was also extended. Couple this with the fact that those same cool conditions were also optimal for the fungus to infect and grow. It was a double whammy in 2017.
Weather in 2018 was warmer, before and during bloom. This pushed soybean plants through growth stages quickly, leaving them less susceptible to infection by the white mold fungus impaired to 2017. The warmer weather was also less conducive for the fungus. Thus, we saw only pockets of white mold in 2018.

This brings us to 2019. Now we might be rotated back into fields that had high white mold pressure in 2017. This means there is a lot of inoculum potential in fields where soybeans are planted this season. The wet and cool spring has delayed planting, pushing soybean growth stages back. Cooler temps will also slow soybean development. This means that soybeans may be at very susceptible growth stages, longer and later in the season. This could set us up for significant white mold, but we need to pay attention to what the weather is doing as soybeans move through the flowering growth stages.

Predicting White Mold

The flowering growth stages are a critical time to manage white mold in-season. You can view a fact sheet and video on the subject. As you probably know, timing in-season fungicide sprays at the correct time during the soybean bloom period can be extremely difficult. To help solve this decision-making issue, models were developed at the University of Wisconsin-Madison in conjunction with Michigan State University and Iowa State University to identify at-risk regions which have been experiencing weather favorable for the development of white mold apothecia. These models predict when apothecia will be present in the field using combinations of 30-day averages of maximum temperature, relative humidity, and wind speed. Using virtually available weather data, predictions can be made in most soybean growing regions. To facilitate precise predictions and make the model user-friendly, we have launched the Sporecaster smartphone application for Android and iPhone.

The purpose of the smartphone app is to assist farmers in making early season management decisions for white mold in soybean. The best time to spray fungicides for white mold is during flowering (R1 and R3 growth stages) when apothecia are present on the soil surface.

Sporecaster uses university research to turn a few simple taps on a smartphone screen into an instant forecast of the risk of apothecia being present in a soybean field, which helps growers predict the best timing for white mold treatment during the flowering period.

University research has indicated that the appearance of apothecia can be predicted using weather data and a threshold of percent soybean canopy row closure in a field. Based on these predictions and crop phenology, site-specific
risk values are generated for three scenarios (non-irrigated soybeans, soybeans planted on 15” row-spacing and irrigated, or soybeans planted on 30” row-spacing and irrigated). Though not specifically tested we would expect row spacings of 22 inches or less to have a similar probability response to fungicide as the 15 inch row-spacing.

The Sclerotinia apothecial models that underlie the Sporecaster prediction tool have undergone significant validation in both small test plots and in commercial production fields. In 2017, efficacy trials were conducted at agricultural research stations in Iowa, Michigan, and Wisconsin to identify fungicide application programs and thresholds for model implementation. Additionally, apothecial scouting and disease monitoring were conducted in a total of 60 commercial farmer fields in Michigan, Nebraska, and Wisconsin between 2016 and 2017 to evaluate model accuracy across the growing region. Across all irrigated and non-irrigated locations predictions during the soybean flowering period (R1 to early R4 growth stages) were found to explain end-of-season disease observations with an accuracy of 81.8% using the established probability thresholds now programmed in the app.

Not only can users run predictions of risk during the soybean bloom period for any field, you can also set up visual maps to look at multiple sites simultaneously. An example for the state of Wisconsin can be found in figure 2, which represents risk for July 1, 2019 for non-irrigated soybeans. Figure 3 illustrates statewide risk for irrigated sites with soybeans planted to 30” row-spacing for July 1, 2019. Currently, if soybeans are flowering, risk is moderate in the southern third of Wisconsin for non-irrigated soybeans. Risk is high in the central and northern tiers of the state. For irrigated soybeans planted to 30” row-spacing, risk is high in the southern and central portions of the state. Areas in the far north have reasonably low risk. Fields planted to narrower row-spacing, under irrigation would be at higher risk than that represented by figure 3. Check back to this blog regularly as I will post maps like these with interpretation of risk for Wisconsin as we move through the season.

What to Spray for White Mold?

If you have decided to spray soybeans for white mold, what are the best products to use? Over the last several years we have run numerous fungicide efficacy trials in Wisconsin and in conjunction with researchers in other states. In Wisconsin, we have observed that Endura applied at 8 oz at the R1 growth stage performs well. We have also observed that the fungicide Aproach applied at 9 fl oz at R1 and again at R3 also performs comparably to the Endura treatment. Other fungicide options also include Omega and Proline. You can...
view results of past fungicide evaluations for Wisconsin by CLICKING HERE. If you would like to run tailored estimations of return on investment for various fungicide programs, you can use another smartphone application called Sporebuster.

What is Sporebuster?

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. Once Sporecaster recommends a fungicide application, Sporebuster can be used to determine a profitable program.

Information that drives Sporebuster is based on research from 2009-2016 from across the upper Midwestern US. Statistical models were developed based on these data that included white mold pressure and yield response from fungicide for 10 common fungicide programs.

DON’T LET FUSARIUM HEAD BLIGHT KEEP YOU DOWN – PREPARE NOW TO HARVEST THOSE SCABBY WHEAT FIELDS

DAMON L. SMITH, EXTENSION FIELD CROPS PATHOLOGIST, UNIVERSITY OF WISCONSIN-MADISON
SHAWN P. CONLEY, EXTENSION SOYBEAN AND SMALL GRAINS AGRONOMIST, UNIVERSITY OF WISCONSIN-MADISON

Fusarium head blight (FHB) or scab has been observed at moderate to high levels in some Wisconsin winter wheat fields this season. Incidence and severity have been variable by location, susceptibility of the wheat variety, and if a fungicide was applied at or shortly after anthesis. Generally, we have observed more FHB in the southern and south-central wheat growing areas of the state, but it can be found just about everywhere we have visited this year. It is important to scout your maturing wheat crop and consider how much damage from FHB might be in a field as you prepare for harvest. While FHB can cause direct yield loss, the fungus that causes this disease can

Figure 1. FHB on some wheat heads. Note the bleached and reddened appearance of infected kernels.
also produce deoxynivalenol (also known as DON or vomitoxin). Assessing wheat fields now can assist you in determining how much vomitoxin might be expected at harvest. However, it is possible to find high levels of vomitoxin in finished grain, even if FHB levels were low.

What does scab look like? Diseased spikelets on an infected grain head die and bleach prematurely. Healthy spikelets on the same head retain their normal green color. Over time, premature bleaching of spikelets may progress throughout the entire grain head. If infections occur on the stem immediately below the head, the entire head may die. As symptoms progress, developing grains are colonized causing them to shrink and wrinkle. Often, infected kernels have a rough, sunken appearance, and range in color from pink or soft gray, to light brown. As wheat dries down, visual inspection of heads for scab will become more difficult.

Why is identifying scab important? Scab identification is important, not only because it reduces yield, but also because it reduces the quality and feeding value of grain. In addition, the FHB fungus may produce mycotoxins, including DON or vomitoxin, that when ingested, can adversely affect livestock and human health. The U.S. Food and Drug Administration has set maximum allowable levels of DON in feed for various animal systems, these are as follows: beef and feedlot cattle and poultry < 10ppm; Swine and all other animals < 5ppm. In addition, local grain elevators test for DON and discount loads of grain for unacceptable levels of the mycotoxin. Be sure to check with your local elevator about their thresholds for docking grain and discount schedule based on the level of DON detected BEFORE you bring a load for delivery.

What should I do to prepare for wheat harvest?

1. Scout your fields now to assess risk. Wheat is maturing rapidly. As maturity progresses it will be increasingly difficult to assess the incidence and severity of the infection. Understanding a field’s risk will help growers either field blend or avoid highly infected areas so entire loads are not rejected.

2. DO NOT spray fungicide now. Research has demonstrated that the window of opportunity to manage FHB with fungicides is at the beginning of anthesis and only lasts about 7 days. Applications later than 7 days after the start of anthesis are not effective in controlling FHB. In addition, most fungicide labels do not allow a pre-harvest interval (PHI) suitable for a late application on wheat. Any application now would be off-label.

3. Adjust combine settings to blow out lighter seeds and chaff. Salgado et al. 2011 indicated that adjusting a combine’s fan speed between 1,375 and 1,475 rpms and shutter opening to 90 mm (3.5 inches) resulted in the lowest discounts that would have been received at the elevator due to low test weight, % damaged kernels, and level of the mycotoxin deoxynivalenol (DON; vomitoxin) present in the harvested grain.

4. Know your elevators inspection and dockage procedure and discount schedule (each elevator can have a different procedure and discount rate).

5. Scabby kernels does not necessarily mean high DON levels and vice versa. For example, in a 2014 fungicide evaluation very low visible levels of FHB were observed for all treatments. However, when the finished grain was tested for DON, significant levels were identified for all treatments. Be sure to test and know what levels of DON are in your grain even if you didn't see a high level of visible disease. Also, don’t assume that because a fungicide
was used, there will be no DON.

6. DON can be present in the straw so there is concern regarding feeding or using scab infected wheat straw. DO NOT use straw for bedding or feed from fields with high levels of scab (Bissonnette et al., 2018; Cowger and Arellano, 2013). If in doubt, have the straw tested for DON levels.

7. Do not save seed from a scab-infected field. Fusarium graminearum can be transmitted via seed. Infected seeds will have decreased growth and tillering capacity as well as increased risk for winterkill.

8. Do not store grain from fields with high levels of scab. DON and other mycotoxins can continue to increase in stored grain.

9. Harvest in a timely fashion to minimize elevator discounts and balance dockage due to FHB. Click here to read about some recent research on optimizing harvest timing in winter wheat.

10. For more information on Fusarium head blight click here.

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**ARMYWORMS IN JULY**

BRYAN JENSEN, UW DEPARTMENT OF ENTOMOLOGY AND DIVISION OF EXTENSION

A phone call from Shawn Conley indicated some possible armyworm problems in soybean after a rye cover crop. Sounds out of the ordinary?? Maybe not. Consider what is happening. The moths are attracted to the rye cover crop to lay eggs and when that is crimped or sprayed what is left for the larvae to feed on? Soybeans. Yes, some insects have a very narrow host range and will die before feeding on other plants. Armyworms are not one of them. Although they “prefer” grasses they will feed on many other plants.

In this situation use the common insect defoliation threshold of 30% feeding in vegetative stage soybean or 20% feeding in reproductive stage soybean. A few key things to consider before spraying.

Get an accurate assessment of defoliation over the whole plant, don’t just key on upper leaves. What size are the larvae? If they are early instars there is still a lot of “preventable yield loss” that may occur. If are advanced instars (>1.25-1.5 inches), although it may be hard to hold off spraying, they will be pupating soon. The larger larvae will also be difficult to kill. Many times, however, populations are of mixed age making it difficult to reach a treatment decision.

Three tachinid eggs on a true armyworm larve Robert J. Bauernfeind, Kansas State University, Bugwood.org
Carefully look for small white eggs on the outside of several armyworm. There is a tachinid parasitoid which can eventually slow feeding and kill the larvae. If abundant, consider not spraying and let nature takes its course.

Also, not to downplay the importance of scouting corn, now it is a good time to scout small grains. Armyworm have a habit of sometimes clipping heads just prior to harvest. Don’t automatically assume they will, but if they do, read the insecticide labels carefully before reaching a decision. Pre-harvest intervals may be long and not appropriate for the anticipated harvest schedule.

WISCONSIN CORN TAR SPOT UPDATE FOR JULY 11, 2019 - FRASS HAPPENS!

DAMON SMITH, EXTENSION FIELD CROPS PATHOLOGIST, DEPARTMENT OF PLANT PATHOLOGY, UNIVERSITY OF WISCONSIN-MADISON

Figure 1 shows the calculated risk from Tarspotter for July 11, 2019, for various locations in Wisconsin. Figure 2 shows the risk for locations in southern and south-central Wisconsin. As you can see, the present risk remains generally high for tar spot development in all locations examined. However, risk percentages have dropped over the last week, for the most part. The continued elevated risk is due to the fact that the humidity was high over the last weekend, despite warmer temperatures. As temperatures climb and conditions remain dry, expect risk to decline. Tar spot is favored by persistent temperatures between 60 and 70 F and high relative humidity averaging above 75% for a 30-day period.

Frass Happens!

That’s right folks, frass or bug poop is a common reality in corn fields. With all of the hype concerning tar spot, it has gotten folks out scouting corn. This is a good thing. However, we have received many samples in our diagnostic clinic that were submitted for tar spot confirmation. So far, these have all been con-
firmed to be insect frass or bug poop (Fig. 3). We have also scouted fields in Dane co., Walworth Co., Grant Co., and Lafayette Co. and have not observed tar spot in any fields visited. We have seen lots of insect frass though.

How can you tell if it is bug poop and not tar spot? Use a little spit or some water from a water bottle. Wet the leaf and lightly rub. Bug poop will come off, tar spot will not. In addition, tar spot spots will be raised and can be felt when you rub your finger across the black spot. Frass generally won’t feel like it is raised. Continue to scout and send samples. It is always better to get a confirmation, before you spray. If it is nothing to worry about, you can save the trip and the money!

The Current Recommendation

While weather continues to be mostly conducive for tar spot, evaluate the likelihood that tar spot might develop in your field. Remember, if you have no history of the disease, then the likelihood of local inoculum being present is low. Saving the fungicide application for as as close to tassel or white silking periods will be the best option resulting in the highest return on the fungicide investment. If you have a history and you know you have a susceptible hybrid coupled with a no-till situation, then the risk is higher and you need to evaluate the economics of doing an application of fungicide as early as V6. Remember, if you do a V6-V8 application of fungicide, conditions could stay conducive later in the season for tar spot. Those early applications will “burn out” by the time the tasseling period rolls around. So if you do put a fungicide spray on at V6, you might have to come back at VT with another application to protect plants during the reproductive phase, should we stay in favorable conditions for tar spot. Keep an eye on the weather and keep scouting!

WISCONSIN SOYBEAN WHITE MOLD UPDATE - JULY 11, 2019

DAMON SMITH, SHAWN CONLEY, & ROGER SCHMIDT

Figure 1 illustrates the calculated risk of white mold for select Wisconsin locations for non-irrigated soybeans, as determined by Sporecaster for July 11, 2019. This means that if soybeans are flowering and the area between rows is filled in more than 50%, risk ranges from medium to high for the presence of apothecia and subsequent white mold development. Figure 2 illustrates calculated risk for the same locations for irrigated soybeans planted to 30-in row spacing. As you can imagine, risk is higher for irrigated soybeans planted to 15-in rows.

The UW Field Crops Pathology Team has started scouting white mold locations for apothecia. Overall, apothecia have not been observed at most locations, due to the fact that soybean canopies have not filled in to threshold. At only one location were we able to find apothecia and this location had met the can-
I’m Ready To Spray, What Should I use?

If the canopy has met threshold, soybeans are flowering, and your Sporecaster risk is high, then a fungicide might be warranted. If you have decided to spray soybeans for white mold, what are the best products to use? Over the last several years we have run numerous fungicide efficacy trials in Wisconsin and in conjunction with researchers in other states. In Wisconsin, we have observed that Endura applied at 8 oz at the R1 growth stage performs well. We have also observed that the fungicide Aproach applied at 9 fl oz at R1 and again at R3 also performs comparably to the Endura treatment. Other fungicide options also include Omega and Proline. You can view results of past fungicide evaluations for Wisconsin by CLICKING HERE. If you would like to run tailored estimations of return on investment for various fungicide programs, you can use another smartphone application called Sporebuster.

Figure 1. Sporecaster predictions for selected non-irrigated locations in Wisconsin for July 11, 2019.

Figure 2. Sporecaster predictions for selected irrigated locations with soybeans planted to 30” row-spacing in Wisconsin for July 11, 2019.
**FORAGES & GRAINS:** Potato leafhopper counts above economic thresholds in some fields

**CORN:** European corn borer treatment window now open

**SOYBEAN:** Soybean aphids remain scare

**FRUITS:** Japanese beetles appearing in orchards and vineyards

**VEGETABLES:** Squash bug adults observed in western Wisconsin this week

**NURSERY & FOREST:** Notable findings from recent nursery inspections

**DEGREE DAYS:** Growing degree day accumulations as of July 3, 2019

This post originates at the [Wisconsin Pest Bulletin website](http://www.wisconsinpestbulletin.com).

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**WATERHEMP MANAGEMENT CHALLENGE PLOT TOUR**

2019 WATERHEMP MANAGEMENT CHALLENGE PLOT TOUR (JULY 18, 2019) – O’BRIEN HYBRIDS FARM, BROOKLYN, WI

As part of our waterhemp and herbicide resistance management educational efforts, we will host a second Waterhemp Management Challenge Plot Tour on JULY 18 at the O’Brien Hybrids Farm (419 Union Road, Brooklyn, WI); see flyer attached to end of this newsletter.

During the plot tour we will showcase our research evaluating waterhemp control with several PRE and POST-emergence soybean herbicides, POST-emergence waterhemp control in the novel soybean herbicide tolerance traits (Xtend, Enlist, LLGT27), and systems approach for weed control in soybeans. Additionally, preliminary results of our 2019 waterhemp management studies in corn will be discussed.

Registration starts at 4:30 PM and the plot tour at 4:45 PM.

Please RSVP by July 16, 2019 with Nick Arneson via E-mail: njarneson@wisc.edu or phone: 402-676-1618.

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**COMBINE CLEANING CLINIC- JULY 16**

An upcoming field day on July 16th at the Marshfield Ag research station (MARS) in Stratford will provide insight into limiting the spread of weed seeds. The field day will start with Dr. Rodrigo Werle (UW-Madison and Extension Cropping Systems Weed Scientist) and Nick Arneson (UW-Madison Outreach Specialist, Cropping Systems Weed Science Program) discussing weed seed production, viability, and the spread of common weeds.

For additional details please contact Ashley (Lorence) Blackburn (North Central Regional Specialist, Nutrient & Pest Management Program, UW-Madison) at 608-381-6702. Please see the attached flyer for more information.
VEGETABLE CROP UPDATES NEWSLETTER
#13

AMANDA GEVENS, ASSOCIATE PROFESSOR & EXTENSION SPECIALIST, POTATO & VEGETABLE PATHOLOGY, PLANT PATHOLOGY DEPARTMENT

Update 13 – July 8, 2019

• Vegetable production updates
• Downy mildew and Phytophthora crown and fruit rot
• Potato disease DSVs and PDays


WISCONSIN FRUIT NEWS- VOLUME 4, ISSUE 7

CHRISTELLE GUEDOT, FRUIT CROP ENTOMOLOGY AND EXTENSION SPECIALIST, WISCONSIN-MADISON FRUIT PROGRAM

Welcome to the latest issue of Wisconsin Fruit News. This week you will find articles on:

• Plant Disease Diagnostic Update
• Insect Diagnostic Lab Update
• Apple Sooty Blotch and Flyspeck
• Black Stem Borer
• Strawberries Post-Harvest: Renovation or Rotation?
• Grape Variety Developmental Stages
• Grape Scouting Report: Grape Phylloxera or Grape Scale?
• Door County Report

PLANT DISEASE DIAGNOSTIC CLINIC (PDDC) UPDATE

BRIAN HUDELSON, SUE LUELOFF, ALEX MIKUS 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 June 29, 2019 through July 5, 2019.

According to our recent survey, waterhemp has become the most concerning weed species in Wisconsin row crop production. Glyphosate-resistant waterhemp has been confirmed in 25 counties, and PPO-resistant waterhemp has been confirmed in 4 counties.

To learn more about waterhemp management in soybean, join us for a tour at the O’Brien Hybrids Farm where we established a series of studies to showcase comparisons of PRE and POST-emergence soybean herbicides, POST-emergence waterhemp control in the novel herbicide tolerance traits (Xtend, Enlist, LLGT27), and systems approach for weed control in soybeans. Additionally, preliminary results of our 2019 waterhemp management studies in corn will be discussed.
LIMITING THE SPREAD OF WEED SEEDS

COMBINE CLEANING CLINIC

Tuesday, July 16th, 2019

Marshfield Ag Research Station
208356 Drake Ave N Stratford, WI

Weed seed production, viability and the spread of common weeds

Dr. Rodrigo Werle, Extension Cropping Systems Weed Scientist and Nick Arneson, Outreach Specialist, Cropping Systems Weed Science Program, UW-Madison

Combine cleaning demo

Dan Smith, Southeast Regional Specialist, Nutrient and Pest Management Program, UW Madison

Event from 1 – 4 pm

Questions and Registration: Ashley Lorence, North Central Outreach Specialist, Nutrient & Pest Management Program Cell: 608-381-6702

Free event!

SPONSORED BY
College of Agricultural & Life Sciences
Division of Extension
Nutrient and Pest Management Program
Wisconsin Cropping Systems Weed Science