UW Research to be Highlighted at Agronomy/Soils Field Day on August 22nd

Carrie Laboski, Professor and Extension Soil Fertility/Nutrient Management Specialist, UW-Madison

The UW Departments of Agronomy and Soil Science invite you to the Arlington Agricultural Research Station on August 22nd to learn the latest in agronomic research being conducted in the College of Agricultural and Life Sciences. Topics range from advances in crop biotechnology, to soil, crop, and pest management practices that will improve farm profitability and enhance environmental quality. There will be more presentations to see than time to see them! The lunch time presentation will focus on Wisconsin’s demographics and implications for agriculture. A special after lunch only session will highlight agricultural technology: UAVs for crop scouting and autonomous machines. Between tours you can visit with specialists from the UW Soil & Forage Analysis Lab, Nutrient & Pest Management Program and SnapPlus. Posters highlighting additional research will also be displayed. Certified Crop Advisor continuing education credits are being requested.

The field day starts at 8:00, concludes at 2:45, and will be held rain or shine. The Public Events Building at the Arlington Ag Research Station is located on Hwy 51 about 5 miles south of Arlington. GPS coordinates: 43.300467, -89.345534

To help us organize a successful event, if you are considering attending please complete a RSVP at https://go.wisc.edu/uwtu24. The Badger Crops Club will provide lunch ($5 donation).

For more details, see the attached flyer at the end of this pdf. We look forward to seeing you on August 22nd.
we move into the warmer portion of the growing season. It is important to also scout for waterhemp seedlings in fields where PRE-emergence herbicides were sprayed at planting, as the soil residual activity of these herbicides fade away.

Figure 2. Waterhemp seedling emerging in Chippewa county, WI (picture taken on 05/23/2018).

Glyphosate (Group 9), ALS-inhibiting herbicides (Group 2; e.g.: Pursuit, Classic, FirstRate), and PPO-inhibiting herbicides (Group 14; e.g., Cobra, Flextar, Cadet, Ultra Blazer) are the three primary herbicide sites-of-action (SOA) used for broadleaf weed control POST-emergence in Roundup Ready soybeans. Growers who suspect they have a glyphosate-resistant waterhemp problem should use a tank-mixture of glyphosate and a herbicide from Group 14 and/or Group 2 for effective POST-emergence control. To have success using Group 14 or Group 2 herbicides, waterhemp height should be less than 4 inches at application. Soybean fields with emerged waterhemp where glyphosate has struggled in the past should get top priority for spraying.

Group 14 herbicides are likely the best choice for POST-emergence control of glyphosate-resistant waterhemp in Roundup Ready soybeans. Growers must be aware that they may need to adjust their application practices to maximize the effectiveness of these herbicides. Group 14 herbicides are contact, cell membrane disrupters that require good spray coverage for best control. It is important to read the product label to know the required carrier volume and adjuvant selection to enhance the efficacy of the selected product.

Liberty (Group 10) in Liberty Link soybeans or Dicamba (Group 4) in Xtend soybeans are effective options for POST-emergence control of glyphosate-resistant wa-
terhemp, assuming one of these traits is adopted. With Liberty (contact herbicide), weeds must be treated when they are small (<4 inches) and spray coverage is important for control like for Group 14 herbicides. With dicamba, off-target movement via particle and/or vapor drift and tank-contamination are current concerns.

Because of waterhemp’s late and extended emergence window, the use of a soil residual herbicide from Group 15 (e.g., Dual II Magnum, Outlook, Warrant, Zidua) tank-mixed with the POST-emergence program is encouraged to control later flushes of waterhemp. See herbicide label for rates, application window, and restrictions.

Several effective herbicide options are available for waterhemp control in corn. Thus, we urge growers on a corn-soybean rotation to proactively manage waterhemp in corn years, including late escapes that may not impact corn yield but will replenish the soil seed-bank for subsequent years. This will increase the odds of successful control of waterhemp in subsequent soybean years. Remember, “no seed no weed”!

See our YouTube Video for “Tips on Waterhemp Management in Soybeans”.

To read this article on their blog, click here.

The Soybean Flowering-Summer Solstice Fallacy

Shawn Conley, State Soybean and Small Grains Specialist

Every agronomist has been ingrained with the knowledge that soybean is considered a “short-day” plant and will not flower until after June 21st a.k.a. the summer solstice. This belief has held true for decades; however, with agronomists now preaching the virtues of early soybean planting, coupled with the power of Twitter, we now see pictures and evidence of soybean flowers occurring as early as June 1. This empirical evidence has prompted many to question the foundational belief.

In soybean, floral induction occurs when soybean leaves can measure the night length (from dusk to dawn), and thus begins when unifoliolate leaflets appear at stem node 1 (V0) and a young trifoliolate leaf appears at node 2, with induction continuing thereafter in every subsequent leaf (Wilkerson et al. 1989; Fehr and Caviness, 1977). If soybean is planted early enough, flower initiation can then be triggered on the front of the summer solstice (Figure 1). This response is dependent upon the maturity genes present in the adapted cultivars and region of country, however given the germplasm available to farmers in the north central region it is plausible that any soybean planted in this region would flower “early” if planted early.

In 2018 we have experienced exceptionally warm temperatures after V1 that have significantly hastened the calendar date of R1, because the temperature sensitivity of floral evocation (development of floral meristems into flowers – the first such visible flower leading to an R1 stage call), though floral induction in itself is not very temperature sensitive. In NE in 2017, the website program SoyWater (SoySim) predicted that an Apr 24 planting date would lead to the R1 stage dates for MGs 1, 2, 3, & 4 to occur on Jun 12, 14, 17, & 19; however, this year (2018), SoyWater (SoySim) is predicting for the same planting date of Apr 24 and near similar MGs, R1 stage dates of June 05, 10, 13, & 16! Those R1 stage predictions were (as Dr. Specht recall) 3-5 days later a couple of weeks ago, so not only a warm spring, but also this exceptional heat wave in the last few days has hastened floral evocation. R1 is likely to be earlier in all NC USA areas that have experienced both early soybean planting and a much warmer than normal spring. Early soybean flowering has many management implications including shorter herbicide label timings for dicamba (up to R2) and glyphosate products (through R2) (FYI it usually only takes 3-5 days to go from R1 to R2) and earlier risk for white mold infection. In 2018 it is paramount that you scout and don’t just rely on the calendar for spray applications!

Literature cited:

Wisconsin Winter Wheat Disease Update – June 6, 2018

Damon Smith, Extension Field Crops Pathologist, Department of Plant Pathology, University of Wisconsin-Madison

The Wisconsin Field Crops Pathology Team has been busy scouting and rating diseases of winter wheat this past week across the major wheat growing region of the state. To be honest, it has been pretty boring for our group. We have seen virtually no disease in uniform variety trials or in production fields. This is good news for farmers, for sure.

We have not yet confirmed any stripe rust infections in the state of Wisconsin, this season. Reports from farmers and consultants are also consistent with our observations. This is a considerable change from last season, when we found our first stripe rust pustules at the end of March. This early epidemic in 2017 resulted in some considerable yield loss from stripe rust on winter wheat. Definitely not the case this season. We have also seen extremely low levels of Septoria leaf blotch in the lower portions of the canopy on some varieties. Cool dry weather is preventing this disease from really moving up the canopy. No other foliar diseases have been confirmed on winter wheat this season.

As for the Fusarium head blight (FHB; scab) situation, risk as calculated by the Fusarium Risk Tool, has dissipated over the past week. Two weeks ago, risk of FHB had been estimated to be high on susceptible cultivars. However, cool dry weather has driven the risk to low levels across much of the major wheat production area of Wisconsin. Risk is high still along the Lake Michigan shore and up into Door County. Also elevated and high risk are estimated in Northwest Wisconsin on susceptible cultivars. The situation should be monitored closely in these areas on any crop heading into anthesis. Most of the wheat we have looked at across the southern, south-central, and north-eastern wheat production area of the state is through anthesis or will be by the end of the week. The FHB risk is forecast to be low through this period, in these areas. We will begin scouting for FHB damage in the next week or so, but we anticipate FHB to be mostly low in many areas, with some isolated pockets of higher levels.

It is important to continue scouting over the next couple of weeks. We are transitioning away from making fungicide spray decisions, but it is important to determine the level of FHB present in a particular field, so that proper harvest preparations can be made. We will continue to update you on what we find over the next couple of weeks. However, this is the lowest level of disease on winter wheat I have seen since I have been in Wisconsin. Scout, Scout, Scout!

Potato Leafhoppers

Bryan Jensen, Dept. of Entomology and Integrated Pest Management Program, University of Wisconsin-Madison

Although the Arlington Agricultural Research Station is a small sample size, it appears we have received a migration potato leafhopper lately. No surprise based on the preceding warm weather. I am sure DATCP’s Pest Bulletin will have more to add on potato leafhopper populations when their newsletter comes out.

It does serve as a warning to start scouting alfalfa. Typically, when the migration does arrive we will go through a period of population buildup if weather is favorable (hot/dry). At this point I am not overly concerned about second crop, however scouting will tell you for sure. Third cut would typically be when we should be sweeping on a regular basis. By this point in time we would have completed at least one generation and potentially see a significant increase in damage potential. New seedings are a different story. They should be spot-checked now. New seedings are as attractive to adults as established stands are and there is a longer time between harvest which allows numbers to increase.

In established stands avoid automatic stubble spraying after harvest even if populations are high. Leafhopper adults will leave the harvested field because its food...
Early Season Below Ground Corn Insects

Bryan Jensen, Dept. of Entomology and Integrated Pest Management Program, University of Wisconsin-Madison

As people are getting out to monitor corn health and emergence, I thought I would take a few minutes to review some general damage characteristics of seed corn maggot, wireworm, and white grub. Frankly, it isn’t easy to diagnose the problem(s) because damage isn’t always “text book”. Decisions need to be made on a range of symptoms form several plants, field histories, degree day accumulations and often times your instinct.

Seed corn maggots have multiple generations each year. This growing season, I think the first generation will be the only generation which will cause emergence issues. First generation peak occurred approximately May 7 in southern Wisconsin. Obviously, the peak will be sometime after that as you move north. Knowing the timing of this flight period may help with seed corn maggot diagnosis because damage should be concentrated on fields planted within a relatively narrow time frame for your area. Not a wide range of planting dates. Field histories may help with diagnosis as well. The adult is mobile and tend to seek out fields with green and/or livestock manure applied as well as fields which are recently tilled prior to planting to lay eggs. The immature maggot will feed on either the germinating corn seed (and soybean) or the emerging shoot. All damage is below ground. Above ground symptoms include skips in the row and cotyledons with small holes. Soybean injury may include “snakeheads”, feeding scars on the cotyledons and holes in the unifoliate leaves. Dig up areas with poor germination to verify that seed was planted. Expect to see a range of these symptoms. Not just one or the other. Also, seed corn maggot injury is usually random within a field. Assuming the entire field was treated the same. If not?

Use that information to help confirm your diagnosis.

True white grubs are a complex of several species with similar damage symptoms and a three-year life cycles. One year as the adult June (or May) beetle and two growing seasons as the immature grubs. White grubs do not feed on seed but will feed on corn roots and perhaps the underground portion of the stalk. Above ground symptoms are stunted plants which commonly exhibit nutrient deficiency symptoms because of the root feeding. Also, newly emerged leaves may be wilted as a result of below ground feeding. White grub feeding is usually clumped within a field. These areas may be where there were previous grass weed escapes or along field edges where females dropped in from surrounding food sources to lay eggs. Grubs can usually be found in the soil around damaged plants.

Wireworm larvae will feed on ungerminated seed (similar to seed corn maggot) but also on the underground portion of the stalk. Above ground symptoms will depend where the larvae are feeding. If feeding is at the growing point the whorl leaves will look wilted. If feeding is above the growing point there will be holes in the leaves. These foliar symptoms can be confused with hop vine borer, common stalk borer, black cutworm, sandhill cutworm and bill bug. Verify wireworm feeding by digging up seed and or injured plant. Unfortunately, wireworms will move down in the soil profile if conditions are dry and/or summer temperatures return.

Expect to see a range of symptoms from wireworm feeding that include skips in the row, holes in the leaves and wilted whorl leaves. Feeding will also be spotty. Areas with a greater chance of injury include where there was previous grass weed escapes. Rotation may also help determining if wireworms are to blame. Corn planted after alfalfa or sod are likely fields to have injury. Because of wireworm’s multiple year life cycle, damage may be as severe in second or third year corn.

For more background information on these and other insect pests please review our Field Crops Scouting Training Manual.

UW/UWEX Plant Disease Diagnostic Clinic (PDDC) Update June 1

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/disor-
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ders have been identified at the PDDC from May 26, 2018 through June 1, 2018.

The 6/1/18 PDDC Wisconsin Disease Almanac (i.e., weekly disease summary) is now available at:


**Wisconsin Fruit News- June 1**

Janet van Zoeren and Christelle Guédot, UW-Extension

https://go.wisc.edu/qqr7y5

This week in the Wisconsin Fruit Newsletter you can read about:

- First brown marmorated stink bug trap-catch of the season
- Worker Protection update and another rule revision on the horizon
- Insect Diagnostic Lab update
- Plant Disease Diagnostic Clinic update
- Organic management of spotted wing drosophila in berry crops
- Cranberry plant and pest degree-days: May 30, 2018
- Grape shoot thinning for crop load adjustment
- What is THAT???
- Grape variety developmental stages: May 31, 2018
- Post-bloom fire blight management
- Precision apple thinning part V: Measuring fruitlets and using the MSU excel spreadsheet
AGRONOMY/SOILS FIELD DAY

Wednesday, August 22, 2018
UW-Arlington Agricultural Research Station

PROGRAM

8:00  Registration ($0), coffee

8:30  Tours

Soil Fertility & Management
Pest Management
Interseeding in Grain & Forage Systems

10:30 Tours

Soil Fertility & Management
Grain Production Systems
Pest Management

12:00 Lunch Speaker: Dan Veroff

Wisconsin Population & Demographic Megatrends: Implications for Agriculture & Farming
Lunch provided by Badger Crops Club ($5 donation)

1:00 Tours

Pest Management
Interseeding in Grain & Forage Systems
Equipment Rodeo

2:45 Have a safe trip home!

TOURS

8:30  10:30 Soil Fertility & Management

Improve ROI and NUE by timing N applications for corn
Carrie Laboski

Soil sampling with banded fertilizer
Andrew Stammer

Use of a rye cover crop in dairy forage production: Environmental and yield benefits
Francisco Arriaga

Soil health in Wisconsin
Matt Ruark

8:30  10:30 Grain Production Systems

Forages: Old, new and reimagined
Ken Albrecht

Management practices that minimize the soybean yield gap on your farm
Shawn Conley

Advances in crop biotechnology at the Wisconsin Crop Innovation Center
Heidi Kaeppler

The Wisconsin corn pop-up/starter fertilizer challenge
Joe Lauer

10:30  1:00 Pest Management

Using fungicide in corn for grain and silage
Damon Smith

Weed management for annual cropping systems
Rodrigo Werle

Using an integrated approach to western bean cutworm management
Bryan Jensen

White mold management
Megan McCaghey

8:30  1:00 Interseeding in Grain & Forage Systems

Interseeding cover crops in organic corn and soybean production
Erin Silva

Interseeding legumes with Kernza
Valentin Picasso

Small grains with frost seeded clover
Lucia Gutierrez

Interseeding corn and alfalfa
Will Osterholz

1:00 Equipment Rodeo

Agriculture technology: Planting, UAV remote sensing and autonomous machines
Brian Luck, Jessica Drewry, Jeff Nelson

Visit exhibits between tours and during lunch
UW Soil & Forage Analysis Lab, SnapPlus, Nutrient & Pest Management Program and more!

Certified Crop Advisors
7.5 CEU credits requested

The Arlington ARS is located on Hwy. 51, about 5 miles south of Arlington and 15 miles north of Madison. Watch for Field Day signs.
GPS coordinates: 43.300467, -89.345534

In the event of rain, presentations will be held inside.
For more information contact the Arlington Ag Research Station at 608-846-3761 ext 101.

To help us organize a successful event, if you are considering attending please complete a RSVP at https://go.wisc.edu/uwtu24
Thanks!

The College of Agricultural and Life Sciences will make a reasonable effort to provide accommodations for participants with disabilities when notified in advance. To request a disability accommodation, please contact ars_accommodation@cals.wisc.edu or call 608-846-3761 ext.101 at least 10 days in advance of event. Efforts will be made to meet same day requests to the extent possible.