At the beginning of July, the weather finally became conducive for POST-emergence herbicide applications in southern Wisconsin, including for dicamba application in Xtend (dicamba-tolerant) soybeans. Typically, injury from micro-rates of dicamba (via tank-contamination, particle and/or vapor drift) in susceptible crops tends to show at 10-14 days after the incident (see: Soybean Injury From Dicamba A4161). Driving around the southern part of Wisconsin this past week, I have noticed a couple instances of dicamba injury in soybeans (I estimate less than 15 total injured acres).

Non-Xtend soybeans injured by dicamba in south-central Wisconsin.

Last year, Dr. Kevin Bradley, Professor and State Extension Weed Scientist with the University of Missouri, kept track of the estimates of dicamba-injured soybean acreage across the United States (see: A Final Report on Dicamba-Injured Soybean Acres). This year, EPA (Environmental Protection Agency) and others have requested Dr. Bradley to continue the effort.

Dr. Bradley is in communication with the State Departments of Agriculture regarding official complaints but is also attempting to track dicamba-injured acres that are not being officially reported. Thus, if you have noticed dicamba injury in your soybeans and/or other susceptible crops in Wisconsin, regardless on whether an official
complaint was/will be filed with the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCAP), it would appreciated if you could send me an email (rwerle@wisc.edu) describing the county, crop and number of dicamba-injured acres or plants (if referring to vegetable or ornamental crops). Pictures of the dicamba-injured crop would also be of extreme value.

The information sent to me will be kept confidential and only used to update Dr. Bradley’s estimates and hopefully provide valuable information to decision-makers this fall to support their decision on whether to extend EPA registrations for Engenia, FeXapan and Xtendimax herbicides in Xtend soybeans.

Soybean Meal Value Variation: A Case Study in U.S. Swine

Shawn P. Conley, Extension Soybean and Small Grains Agronomist, University of Wisconsin-Madison

Soybean [Glycine max (L.) Merr.] is the most important oilseed crop in the U.S., grown mainly as a protein and oil source for animal and human consumption. Upon seed delivery, elevators do not typically analyze soybean seed for quality; however, enduser processors do. The quality characteristics of soybean meal (SBM) can ultimately affect the local soybean per ton price offered to soybean producers after soybean processors begin to receive and valuate the new crop soybean seed. Soybean meal is commonly used as feed source for non-ruminant species (swine) due to its high protein concentration, excellent amino acid (AA) profile and adequate supply (Cromwell, 2000). However, substantial variation in SBM composition has been observed among meals produced in different countries or areas within a country (Lagos and Stein, 2017). The location of U.S. production thus appears to have a great influence on soybean seed as a result of cultivar selection and weather and therefore, by extension to meal composition as well.

Region-specific agricultural management, in-season weather conditions, and their interactions greatly affect soybean seed yield and composition (Mourtzinis et al., 2017), which in turn can affect SBM composition. Many underlying weather and environmental factors have been suggested to explain this variation, including in-season temperature variance (Yaklich and Vinyard, 2004). The effect of temperature on seed composition is especially pronounced during seed fill (Kane et al., 1997), and particularly so from R5 to R8 (Mourtzinis et al., 2017). Obviously, compositional differences, as shaped by environmental and management factors, ultimately affect seed and meal composition and amino acid balance. The resultant SBM value will thus vary and can potentially affect the per bushel price offered locally, regionally, and nationally each year.

To read the rest of this case study, click here.

To Spray or Not to Spray Fungicide on Corn for Grain or Silage?

Damon L. Smith, Extension Field Crops Pathologist, University of Wisconsin-Madison

Treating field corn, for grain, with fungicide has become a common practice in the Midwest. With so many fungicide programs and formulations, and the re-emergence of yield-limiting corn diseases, like northern corn leaf blight (NCLB) and gray leaf spot (GLS), foliar fungicide application has demonstrated an ability to reduce foliar disease severity and increase grain yield under some circumstances.

How do I know if disease is active at the time I want to spray? While I hate talking about threshold levels for managing disease, it can be helpful in your decision making process to know what might be severe. While scouting look in the lower portion of the canopy… (read more)

It’s Time to Check for Corn Rootworm Damage

Bryan Jensen, UW Extension, UW-Madison Integrated Pest Management Program

The next 2-3 weeks will be a good time to start spot-check continuous corn fields for corn rootworm feeding injury. Peak damage will usually occur by late July. Waiting longer increases the risk of regenerated roots masking injury.

Mid to late July in Wisconsin is the time you can validate your corn rootworm management decisions by checking for root damage. This is the time period just after feeding damage would have occurred, and just before regrowth would start to mask the damage.

Some growers have elected to change their rootworm control practices because of low corn prices and very low beetle populations. Digging and rating roots for injury...
during this time period can confirm efficacy and hopefully relieving anxiety questioning if the made the correct choice. Evaluating roots will also give you a heads up on any Bt resistance problems you may have.

Short field video about digging for corn rootworm CRW damage:

Dig a 6-7 inch ball of roots and pressure wash all the soil off to expose damage. To quantify root damage use the Nodal Injury Scale developed by J. Oleson, Y. Park, T. Nowatzki and J. Tollefson at Iowa State University. This is an excellent rating system. More information is available at http://www.ent.iastate.edu/pest/rootworm/nodeinjury/nodeinjury.html. Essentially, the injury scale uses a decimal system. The number to the left of the decimal indicates the number of complete nodes (or equivalent number of nodes) of roots pruned back to within 1 ½ of the stalk. The number to the right of the decimal indicates the % of the next node of roots pruned. A root rating of 1.2 indicates the equivalent on one complete nodes of roots is pruned and 20% of the next.

Video on root damage scoring:

Relating injury to yield loss can be difficult because of several variables which include, weather, hybrid, etc. Typically, a field rating of greater than 0.75 indicates economic yields loss. Ratings less than 0.25 will probably not have economic loss. Injury between 0.25 and 0.75 is a gray area. Economic loss will be dependent on the factors mentioned above as well as compaction, general plant health and future environmental conditions.

Surveying roots on first year corn will give you information regarding the prevalence and/or severity of damage from the rotation resistant western corn rootworm. Although damage to first year corn was originally diagnosed in Wisconsin during the 2002 growing season, its incidence has diminished. Also, there have been no reports of first year corn injury outside of southern Wisconsin. As we stress the need to revive IPM practices for corn rootworm, this information can give corn growers and crop consultants information needed to make an informed decision in rotated corn.

One of the first tools needed for resistance management is documentation. Making a practice of evaluating roots from Bt CRW hybrids will give you the information needed to make appropriate management decisions that will help delay resistance. It is unlikely we can “turn the clock back” on resistance to individual Bt CRW proteins so early detection will be important. Resistance could be expected if you have a field average NIS of 1.0 and you have been using a single Bt toxin for two consecutive years or more. Or, if a field average, NIS rating of 0.5 or higher is noticed in a field that has used a pyramid Bt CRW toxin for at least two consecutive years. If resistance is expected, please contact your county extension agent as well as your seed dealer.

A frequently asked question I get is how reliable is lodging as a predictor of larval feeding?

The short answer is that corn lodging is a very poor indicator of rootworm damage. Corn can lodge because of several causes. Rootworm feeding can be a reason but you still have to dig/wash roots to verify. Incidentally, you may have corn that is standing straight yet have significant rootworm feeding.

Gear Up: Western Bean Cutworm

Bryan Jensen, UW Extension, UW-Madison Integrated Pest Management Program

It is that time of the year to start thinking, if not scouting for Western bean cutworm. Degree days suggest the moth flight is underway, although not peaking, in southern Wisconsin. Female moths will seek late vegetative corn or corn in the early stages of pollination. Eggs are laid in clusters each having several eggs/mass. After hatch larvae will disperse w/in and across rows and will begin to feed on corn pollen or move down to silks when available. Larvae will enter at the ear tip and feed on
developing kernels causing direct yield loss and perhaps create a site for ear molds to grow on damaged kernels.

Scout fields for eggs and larvae by monitoring a minimum of 20 consecutive plants in each of 5 locations. However, larvae will be difficult to find because of their small size. Because of the long adult flight period several visits per field may be necessary. Eggs are typically laid on the upper leaf surface and on leaves in the top 1/3 of the plant. If scouting on sunny days, the egg mass can be easier to spot because of the shadow it creates on the leaf when backlit by the sun. After hatching larvae will consume their egg shell making them difficult to spot.

When eggs are first deposited they are white and eventually turn a dark purple color just prior to hatch. Treatment is suggested when approximately 5% of the plants have an egg mass. Keep in mind the flight period is extended and you should try to time the foliar insecticide for first egg hatch. Our foliar insecticides will not kill eggs nor will they kill larvae which have entered the ear.

For field-specific predictions, we encourage you to use the Sporecaster smartphone application. These predictions will be most accurate for your specific location. Information about Sporecaster and how to download can be found by clicking here. Sporecaster takes into account crop phenology, in addition to weather parameters, to make field-specific recommendations. The maps below are based on weather only and you must determine if your crop is currently phenologically at risk for infection. For more information on white mold and how to manage it, see my previous post.**

---

**These maps are for guidance only and should be used with other sources of information and professional advice when determining risk of white mold development.

---

**Wisconsin White Mold Risk Maps- July 8/15**

Damon L. Smith, Extension Field Crops Pathologist, University of Wisconsin-Madison

To view the Wisconsin White Mold Risk Maps for July 15, click here.

To view the Wisconsin White Mold Risk Maps for July 8, click here.

**No worries just yet. More of a feeling than anything else. Based on a few calls and emails, be on the lookout for armyworms. The summer generation can be cryptic. Corn is tall and unless you are actively scouting populations can “magically appear.” Wheat is not out of the woods until combined and oats could be an excellent habitat for the summer generation. Throw pastures on the list as well.** Based on your location in Wisconsin, you may be at the tail end of the spring generation or starting the summer generation now. Infested fields are hard to predict so spot checking all field is a good idea especially if you have grassy weeds that have escaped control.

Armyworm larvae have tan heads with a net-like pattern of lines, yellow belly, faint orange stripes on sides and darker striping on back. The intensity of striping can vary from those which are faint to those which are so dark colored that lines are not easily visible. Base your identification by looking at several individuals.

Economic thresholds and guidelines for corn is to treat when either 75% of the plants have one armyworm/plant or 25% of the plants have two or more larvae AND
the larvae are 1 inch or less in length. Treating in small grains is suggested if there are 3 or more armyworms/sq ft. But be careful of head clipping.

Two-spotted Spider Mites

Bryan Jensen, UW Extension, UW-Madison Integrated Pest Management Program

Some may think this article should fall in the category of “sleeping with the light on” but I am not so sure. We’ve had some relatively hot dry weather lately and I think spot checking for spider mites would be a good practice in the very near future if not now. Spider mites are not something you want to miss because populations can be hard to control once they get out of hand. Especially if dry weather continues.

Places I would concentrate scouting efforts on would be field areas where there are obvious symptoms of drought stress including sandy knolls as well as field edges. Look for plant symptoms called stippling and/or spider mites themselves. Although spider mites are hard to see use magnification (10X) and look on the undersides of leaves. Also, hold a white sheet of paper under leaves and tap leaves to dislodge the mites onto the white sheet of paper.

Hybrid Winter Rye Forage Trial Results – 2018

Shawn P. Conley, Extension Soybean and Small Grains Agronomist, University of Wisconsin-Madison

A research trial was established in the fall of 2017 at the Arlington Agricultural Research Station, Arlington, WI to help determine the value of hybrid winter rye as a forage. Three hybrid winter rye varieties were tested along with one winter triticale variety. The first cutting was taken at Feekes 10.1 (head emergence), and a second cutting was taken at Feekes 11.1 (kernel milky ripe).

To view the results of the Hybrid Winter Rye Forage Trial, click here.

True Armyworms Continued

Bryan Jensen, UW Extension, UW-Madison Integrated Pest Management Program

Just the name “armyworms” conjures up images of defoliated corn fields. Well, this summer they are living up to their names in isolated fields. To be sure, there has been a range of damage from the curiosity, to economic damage to near complete defoliation.

Armyworm do not overwinter in Wisconsin. Migrating adults usually arrive early spring and this migration is usually not a single event but rather a sequence of arrivals over a period of time. Armyworm larvae have tan head yellow belly with faint orange stripes on their sides and darker striping on the sides and back. Overall color intensity may range from individuals which may have faint coloration to those which are extremely dark colored.

Right now we appear to be in the middle to end of the second generation which is sometimes called the summer generation. Some references suggest the possibility of a third generation but I think that is doubtful for Wisconsin.

Typically, armyworms are attracted to grassy areas to lay eggs and this may explain some of the infestations. However, it doesn’t explain all of them. Wheat and other small grains are at risk until harvest. Before considering an insecticide application look at the PHI to make sure that the insecticide fits with your harvest plans. Many if not most insecticides have along PHI which may prevent timely harvest. Pastures should also be monitored. If larvae run out of a food source they can move to adjacent crops and/or lawns. They may also move from adjacent marshes into fields.

Feeding in corn fields above the ear zone is particularly of economic concern. If you find signs of armyworm feeding, check five sets of 20 plants at random. Record the number of damaged plants and the number of worms per plant. Spot treat, if possible, when you find two or more armyworms (0.75-1.0 inch or smaller) per plant on 25% of the plants or one per plant on 75% of the plants. When making a treatment decision think about damage you can prevent. Don’t focus on how much damage is currently there. Large larvae will be feeding for a much shorter period of time. However, from
the reports and pictures I have received many fields had a range of different sized larvae making control decisions more difficult. Do not assume corn planted with an above ground Bt trait(s) will not have damage. Traits packages vary in their insect control spectrum and may not provide adequate control under heavy infestations.

For specific insecticide recommendations please consult A3646, Pest Management in Wisconsin Field Crops.

---

**Wisconsin UWEX Vegetable Crop Update Issue 14**

Amanda Gevens, Associate Professor & Extension Specialist, Potato & Vegetable Pathology, UW-Madison Plant Pathology Department

**Vegetable Crop Updates Newsletter #14**

- PDay and DSV disease risk for potato early and late blight
- Late blight and early blight updates for WI and nation
- cucurbit downy mildew national updates
- horticultural updates
- agenda for the Jul 26 2018 Potato Virus Detection Field Workshop in Antigo (also attached with plot maps)

---

**Wisconsin Fruit News – Volume 3, Issue 7**

Janet van Zoeren and Christelle Guédot, UW-Extension

https://go.wisc.edu/9ag6yw

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

- Insect Diagnostic Lab update
- Plant Disease Diagnostic Clinic update
- White grubs: pests of strawberry roots and foliage
- Cornell’s online diagnostic tool for berry crops
- Cranberry plant and pest degree-days: July 11, 2018
- Tissue analysis to determine nutrient status of cold-hardy wine grapes

---

**Wisconsin Pest Bulletin, Issue No. 10, July 5**

Krista Hamilton, Entomologist, Bureau of Plant Industry/Division of Agricultural Resource Management, Wisconsin Department of Agriculture, Trade and Consumer Protection

Volume 63 Issue No. 10 of the Wisconsin Pest Bulletin is now available at:


**INSIDE THIS ISSUE**

**LOOKING AHEAD:** Western bean cutworm flight off to a slow start

**FORAGES & GRAINS:** Potato leafhopper counts still below-threshold

**CORN:** Corn rootworm beetle emergence beginning in southwestern Wisconsin

**SOYBEAN:** Soybean aphid counts remain very low in surveyed fields

**FRUITS:** Apple maggot fly emergence continued for second week

**VEGETABLES:** Scouting advised for squash bug adults and nymph

**NURSERY & FOREST:** Hemlock twig rust and pear blister mite reports

**DEGREE DAYS:** Growing degree day accumulations as of July 4, 2018

---

**Wisconsin Pest Bulletin, Issue No. 11, July 12**

Krista Hamilton, Entomologist, Bureau of Plant Industry/Division of Agricultural Resource Management, Wisconsin Department of Agriculture, Trade and Consumer Protection
Volume 63 Issue No. 11 of the Wisconsin Pest Bulletin is now available at:


**INSIDE THIS ISSUE**

**LOOKING AHEAD:** Spotted wing drosophila larvae infesting berries

**FORAGES & GRAINS:** Pea aphid counts variable this week

**CORN:** Very few western bean cutworm moths trapped so far

**SOYBEAN:** Japanese beetles prevalent in the state’s soybeans

**FRUITS:** Apple maggot fly emergence well underway in orchards

**VEGETABLES:** Potato late blight risk thresholds surpassed in central Wisconsin

**NURSERY & FOREST:** Assorted reports from recent nursery inspections

**DEGREE DAYS:** Growing degree day accumulations as of July 11, 2018

---

**UW/UWEX Plant Disease Diagnostic Clinic (PDDC) Update July 13**

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 July 7, 2018 through July 13, 2018.

The 7/13/18 PDDC Wisconsin Disease Almanac (i.e., weekly disease summary) is now available at:


---

**UW/UWEX Plant Disease Diagnostic Clinic (PDDC) Update July 6**

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 June 30, 2018 through July 6, 2018.

The 7/6/18 PDDC Wisconsin Disease Almanac (i.e., weekly disease summary) is now available at: