

Wisconsin Crop Manager

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Soybean Emergence and Germination Issues

Shawn Conley, State Soybean and Small Grains Specialist

A new YouTube video is up about common issues growers may have concerning soybean emergence and germination, discussed by Wisconsin State Soybean and Wheat Extension Specialist Dr. Shawn Conley. In a spring field, Shawn gives tips on seeding depth, soil compaction issues, loss of cotyledon at emergence, frost damage, and general stand assessment.

[Click here to watch the video.](#)

Despite the Weather 2018 Weed Emergence Only One Week Behind

Mark Renz Extension Weed Scientist, Agronomy Department, University of Wisconsin-Madison

Knowledge of weed emergence is important as it can help in the selection and optimization of early season weed control. While typically weed emergence is consistent from year to year, the past four years have been highly variable. Weather patterns drive these differences, and this spring's weather has been far from typical. So how has the cold, then hot, then wet spring impacted weed emergence?

The short answer is about a one week delay. Of the 22 CCA listed weeds, only five species have yet to emerge. While these five species were all emerged at this time last year, many of these species typically don't emerge until the middle of the May and I expect to see them germinating this week. For example crabgrass was not present in the field, but I have observed it emerging from soils in urban areas next to the sidewalk. This is a great example of how site specific emergence can be.

Below are some interesting species specific observations from Arlington Wisconsin. Note that the earlier emerging species like Canada thistle and kochia are close to

Weed name	Emergence and range (1998-2000) Arlington WI	2018 estimated emergence at Arlington WI
PERENNIALS		
hemp dogbane	April 28 th	May 10 th
field horsetail	April 28 th	May 9 th
yellow nutsedge	May 12 th	May 12 th
purple loosestrife	May 1 st	May 8 th
Canada thistle	April 16 th	May 1 st
horsenettle	May 26 th	Not yet emerged
ANNUALS		
common mallow	April 23 rd	May 12 th
Eastern Black Nightshade	April 30 th	May 11 th
green foxtail	May 3 rd	May 11 th
giant foxtail	April 27 th	May 11 th
kochia	March 25 th	May 1 st
ladysthumb smartweed	April 22 nd	May 10 th
velvetleaf	April 28 th	May 11 th
wild radish	April 12 th	May 8 th
wooly cupgrass	April 30 th	May 11 th

a month late while later emerging species like yellow nutsedge and giant foxtail are a week or less late. Will this persist throughout the season? Ask me in September.....

Black Cutworm

Bryan Jensen, Department of Entomology and IPM Program

Unusual spring. Agree? Corn development is everywhere from early emergence to fields that haven't been planted. Couple that with a migratory insect and we have an approaching black cutworm season that is hard to predict. DATCP's Pest Bulletin indicates a continuing flight of moths into the state. Their pheromone network has also indicated that some locations had (or are having) intense flights. However, the location of those intense flights are spread out and do not show a clear pattern. Other states to our south have also indicated similar trends. That is to say, spotty captures with some traps reporting high numbers.

Where do we go from here? I am not sure my message would be that different from other years. Black cutworms are not a key insect pest on corn in Wisconsin. Rather, I would classify them as an occasional pest. However, a pest that is capable of causing a range of economic injury on seedling corn. Those years and locations are hard to predict.

For starters, if you don't have an electronic subscription to the Wisconsin Pest Bulletin, get one. Typically, DATCP will provide an anticipated "cutting date" that is based on flight arrival as well as historical and projected temperatures. That estimate provides a valuable advance warning. Scouting fields prior to the anticipated cutting date will also give you clues on the potential for damage in that field. Early instar black cutworms are not capable of cutting corn seedlings. However, they will feed on emerged leaves. Once larvae are large enough they will be capable of cutting corn seedling up to (approximately) V3. Larger seedlings are also damaged when cutworm larvae burrow in to the plant below ground. The economic threshold is if 2-5% of the plants are being cut. That threshold of course is based on economics and this year we are probably looking at the higher end of the threshold.

Wisconsin does have a lot of corn planted. You can improve your chances of locating those infestations by focusing on fields with significant soybean residue, low growing broadleaf weed infestations and wet areas of fields.



Black cutworm

True Armyworm

Bryan Jensen, Department of Entomology and IPM Program

The True Armyworm state of affairs is similar in many respects to the 2018 black cutworm situation. A migratory insect, a range of planting dates & crop development and especially a patchwork of high armyworm catches in Wisconsin and neighboring states to the south.

What is different is the types of cropping situations where armyworms are attracted. Other than being highly attracted to corn that is no-tilled into alfalfa, armyworms prefer to lay eggs in areas of corn fields with grass cover. These areas could be early season weeds or grass cover crops. Larvae may also crawl into corn (sometimes soybeans) from areas with grass cover. Somewhat different from black cutworms is that the migrating generation of armyworm moths may cause significant defoliation in isolated corn fields.

Depending on the timing of adult migration, damage to seedling corn may be found well into June. The second generation, also hard to predict, may be found from late June through early August in a typical year. If 50% of corn seedlings have injury, control maybe be warranted if larvae are still relatively small. Indicating significant feeding may yet to come. Once larvae reach an inch or longer they will soon pupate and spraying is not advised.

Wheat and other small grains are also at risk. Damage may also be concentrated in lodged areas. Check all fields closely by looking for both leaf defoliation and head-clipping. An economic threshold of 3 or more larvae/square foot has been established. However, crop stage and presence of head-clipping may influence your decision.

Armyworm larvae have a tan head w/ numerous vein-like lines in the compound eyes. Body color and intensity can be very diverse and but alternating light to darker color lines are usually noticeable. Typically, the “belly” is lighter colored than the rest of the body. Larvae are mostly nocturnal feeders. during the day larvae often rest deep within the corn whorl. Abundant frass in the whorl can be a give-away to their presence.



Armyworm larvae

Seedcorn Maggot

Bryan Jensen, Department of Entomology and IPM Program

The adult flight of seedcorn maggot has recently peaked in southern Wisconsin while the central and northern areas are now peaking. Keep this time period marked in the back of your mind in case you run across corn and/or soybean field with poor plant stands at a later date. There are many, many reasons for reduced stands. Please remember that seedcorn maggots is one. If it is seedcorn maggot damage, you should notice a range of above ground symptoms that include small holes in either the first and/or second leaf as well as missing plants. In soybeans, you may also find “snakeheads” (plants with a hooked hypocotyl and no cotyledons) for a short period of time. In corn you still be able to find the seed coat for a number of weeks after planting indicating the seed was planted and that something was feeding on it. Feeding injury is usually uniform across fields and is may be more severe under the 2018 cool/wet planting conditions. Corn and soybeans which are planted into a green manure or in fields with heavy applications of livestock manure may have higher than expected levels of damage.

Alfalfa Weevil

Bryan Jensen, Department of Entomology and IPM Program

“Better late than never” may not apply to this situation. Accumulated degree days suggests that now is the time to start scouting for alfalfa weevil damage in the southern areas of Wisconsin. Although hard to predict, central and northern Wisconsin are 1-2 weeks away from scouting.

Adult weevils overwinter in plant debris along fence rows, grassy waterways, woodlands, etc. During the first warm spring days (yes we have had a few!) adults become active and females start to lay eggs. At 300 weevil degree days (Base 48°F) eggs start hatching and early signs of tip feeding should start to be noticeable and is the perfect time to initiate scouting.

Alfalfa weevils go through 4 larval instars. Maximum feeding should occur between 600 and 800 weevil degree days. Scouting at 300 degree days will give you a heads up on damage potential allowing more time to consider a control decision if needed. I no longer consider alfalfa weevil a key alfalfa pest for several reasons. However, each year there are heavy local populations that require treatment, fields that have heavy damage that are overlook and fields that are treated unnecessarily.

A treatment threshold of 40% tip feeding is suggested. This is not to advocate treating at 40% defoliation but rather when 40% of the stems have signs of weevil feeding. If you are over the suggested threshold consider a timely harvest especially if you are not putting additional stress on the stand. Timely cutting is still our best control option.

If an early harvest is not practical, consider treating fields with severe damage and rescouting remaining fields at a later time. For those fields with heavy first crop weevil feeding (which are not treated) plan to check second crop regrowth for feeding. Larvae and/or adults can survive harvest and cause significant damage to regrowth.



Alfalfa Weevil Larvae



Alfalfa Weevil Adult

Early signs of weevil feeding

Strategies for Late Termination of Cereal Rye Cover Crop

[Rodrigo Werle](#) (UW-Madison Extension Cropping Systems Weed Scientist) and [Dan Smith](#) (UW NPM Southwest Wisconsin Regional Specialist)

Fall-planted cereal rye is increasingly used as a cover crop to protect the soil during winter and spring in corn and soybean cropping systems across the Midwest. Our [recent survey](#) indicated that 77% of Wisconsin farmers and Ag professionals are interested in cover crops.

Fall-planted cereal rye is growing rapidly in southern Wisconsin and it's important to have a termination plan in mind prior to crop establishment. The following pictures demonstrate cereal rye growth in 10 days:

[To view the pictures and rest of the article, click here.](#)

New smartphone app: Sporecaster, The Soybean White Mold Forecaster

Damon Smith, Field Crops Extension Pathologist, University of Wisconsin-Madison, Roger Schmidt, Nutrient and Pest Management Program, University of Wisconsin-Madison, Shawn Conley, Soybean Extension Agronomist, University of Wisconsin-Madison

Sporecaster is a new smartphone application designed to help farmers predict the need for a fungicide application to control white mold in soybean. The app, which is free to use, was developed with support from the Wisconsin Soybean Association and Wisconsin Soybean Marketing Board. It was programmed by personnel in the UW-Madison Nutrient and Pest Management Program.

Here are the links to get the free app. Scroll down to watch tutorial videos and to see some screen shots.

Android install : <https://play.google.com/store/apps/details?id=ipcm.soybeandiseasecalculator>

Apple install: <https://itunes.apple.com/us/app/sporecaster/id1379793823?mt=8>

The purpose of the 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 (small, mushroom-like structures) are present on the soil surface. Apothecia release spores which infect senescing soybean flowers, leading to the development

of white mold.

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.

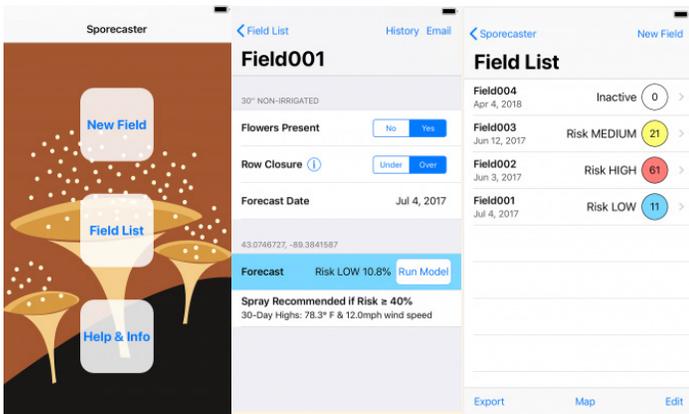
Video: Sporecaster, Soybean White Mold Forecaster app tutorial –



Video: Sporecaster, Interpreting White Mold Risk Forecasts –



Screen shots from iPhone version:



<http://ipcm.wisc.edu/apps/sporecaster/>

Wisconsin UWEX Vegetable Crop Update Issue 4

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

[Vegetable Crop Updates newsletter #4](#)

In This Issue:

- national late blight updates
- hop downy mildew confirmed in WI
- potato powdery scab

Wisconsin UWEX Vegetable Crop Update Issue 5

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

[Vegetable Crop Updates newsletter #5](#)

In This Issue:

- national late blight updates and preparing for late blight control 2018
- more hop downy mildew seen in WI hops (Dodge and Pepin Counties)
- potato crop progress updates.

UW/UWEX Plant Disease Diagnostic Clinic (PDDC) Update May 11

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 May 5, 2018 through May 11, 2018.

The 5/11/18 PDDC Wisconsin Disease Almanac (i.e., weekly disease summary) is now available at:

<https://pddc.wisc.edu/wp-content/uploads/sites/39/2018/05/FullTable051118.pdf>

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