Wisconsin Crop Manager

Volume 23 Number 11- - - University of Wisconsin Crop Manager - - -May 12, 2016

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BeanCam: Soybean Replant App Ends the Guesswork

Shawn P. Conley, Soybean and Wheat Extension Specialist, Department of Agronomy

A new Soybean Replant App for iPhones and Android devices helps growers make a data-driven decision to replant or stick with the current crop.

The app calculates plant stand (population) by averaging five plant count samples taken randomly within a soybean field during the VC, V1 or V2 growth stage. The app then provides **expected yield percent at harvest with or without replanting.**

You simply snap five photos and the app does the rest.

The calculated values give growers the hard data needed to decide if replanting makes economic sense.

The app also provides the historical median frost date for the closest township within Wisconsin. So growers will know if a replanted crop should mature before the median frost date.

This way, growers can know if it's worth the time, money and risk to replant before committing to that plan.

This powerful, easy-to-use app is the result of a joint effort between the University of Wisconsin College of Agriculture and Life Sciences (UW CALS) and the Wisconsin Soybean Marketing Board (WSMB).

Click here to get the iPhone app.

Click here to get the app for Android devices.

Figure 1. The Soybean Replant App is easy to use and reliable. Just take five photos in random spots in your field and the calculator will do the rest.

Think Twice About Replanting Soybeans

Adam P. Gaspar, Shawn P. Conley, & John M. Gaska
Deptartment of Agronomy
University of Wisconsin-Madison

Soybean planting date trends have steadily shifted earlier within the Northern Corn Belt while inclement weather, insect pressure, and disease pressure associated with spring planting can require replanting some years (USDA-NASS, 2011). Furthermore, recent studies have reported similar yields among reduced plant stands due to the soybean plants compensatory ability (Carpenter and Board, 1997) and diminished yield potential of replanted or essentially later planted soybeans (Conley et al., 2012; De Bruin and Pedersen, 2008). Ultimately, producers would like to know the poten- tial yield gain or loss from replanting sub-optimal plant stands to help determine if replanting is economical. Therefore the objectives of this study were to:

- determine the threshold for replanting soybean plants
- evaluate replanting options
- quantify the effect of seed treatments and planting date on replant decisions

This study was conducted in 2012 and 2013 at the Arlington Agricultural Research Station, Arlington, WI. Twelve different replant scenarios were planted in 15 inch rows during early May, late May, and mid-June. The replanted portions of the plots were in- terseeded between the rows of the initial soybean stand. ApronMaxx RFC and Cruiser- Maxx (Syngenta Crop Protection) seed treatments were used to compare a fungicide only seed treatment with one that also contains an insecticide. To view the full study, please follow the link below:

http://www.coolbean.info/library/documents/Soybean-Replant_2014_FINAL.pdf

Alfalfa Weevil

Bryan Jensen
UW Extension and IPM Program

Based on May 9th degree day accumulations (map below), the southern Mississippi River valley area of Wisconsin has reached 300 Weevil Degree Days (base 48 F). Now is the time scouting for alfalfa weevils within that zone. The rest of Wisconsin will eventually follow. For near real-time degree day accumulations, please navigate to the UW Extension Ag Weather Site and click on "Thermal Models".

Adult weevils overwinter in plant debris along fence rows, grassy waterways, woodlands, etc. During the first warm spring days, adults become active and females start to lay eggs. At 300 weevil degree days (Base 48°F) eggs hatch and early signs of tip feeding should start to be noticeable. 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 and allow more time to reach a control decision if needed.

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 an early harvest if the timing is correct. Timely cutting is still our best control option. For those fields with heavy first crop weevil feeding, plan to check second crop regrowth for feeding. Larvae and/or adults can survive harvest and cause significant damage to regrowth.

Figure 1. Alfalfa Weevil D.D. from 1 Jan to 9 May 2016

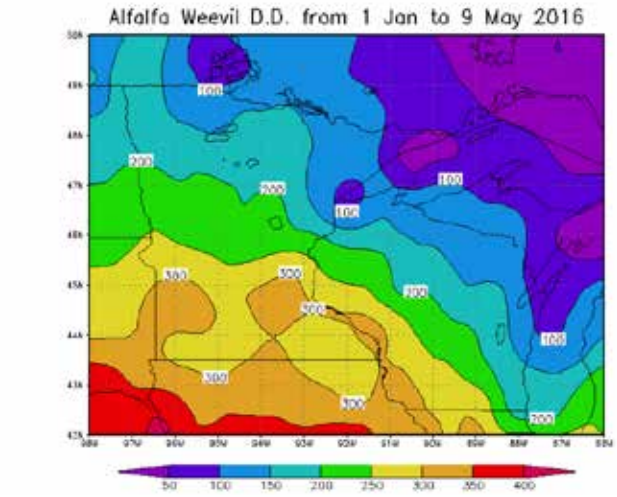

Figure 2. Alfalfa weevil larvae

Figure 3. Early symptoms of alfalfa weevil feeding

Black Cutworms in Corn

Bryan Jensen
UW Extension IPM Program

DATCP's Pest Bulletin has been reporting some substantial black cutworm moth flights the last couple weeks from their pheromone trap network and have predicted an anticipated cutting date of May 20th. Although migrating adult populations may not always correlate with field damage, it does provide an excellent warning system and gives us plenty of time to prepare.

Black cutworm is the most common cutworm pest species in Midwest corn, especially in late planted fields. However, incidence and severity varies greatly from year to year and field to field. This year it will be well worth your time and effort to spot check corn fields for cutworm activity. Knowing which fields to concentrate on can save time. Although black cutworms can be active in any corn field, they do tend to key on certain field characteristics to lay eggs. Those keys include an attractiveness to soybean residue, significant broadleaf weed growth (especially winter annuals like the chickweed species) and low lying/wet fields.

Although DATCP has suggested a May 20th cutting date, you will see signs of cutworm leaf feeding prior to that date. Damage to corn varies according to the cutworm size and the corn growth stage. Small cutworms (first to third instars) can only feeding on foliage. This damage is not considered economic at this point but can be a sign of future stand loss. Mid-sized larvae can start cutting small (V1-V2) corn. If cut above the growing point these plants can survive. Late instar larvae have a difficult time cutting larger corn (V3-V4 +), instead they will burrow into the base of the stalk below ground. Above ground symptoms are often called "wilted whorl" or "dead heart". That is, the newly emerging leaves are wilted and/or dying while the older leaves remain green for a while. These plants are unlikely to survive.

To get an accurate assessment of black cutworm damage, count the number of cut plants in 50 consecutive plants in each of 5 areas of a field and collect 10 larvae. Treatment is suggested when 2-5% of the plants are cut and before the later instars (roughly 1 inch) are present. Although some seed treatments and Bt hybrids may control/suppress black cutworms, when population reach these levels they are not working and foliar controls would be suggested. Knowing the size of larvae is important. Late instar larvae will not feed much longer, and as a result, will not cause significant economic injury. If damage is spotty, spot treatments may be a good option.

Black cutworm larvae are grayish-black and lack obvious identifying characteristics. As a result, they may be confused with other insects found in corn fields. Crane fly larvae do not feed on corn but are similar in color. Depending on the specie, crane fly larvae are tapered at each end. Dingy cutworms are foliar feeders and are only a pest when numbers are unusually high. Dingy cutworms overwinter as larvae and these individuals may appear more developed than black cutworms because of their size. However, proper identification can be made by looking at the tubercles (black dots) on their backs. Black and dingy cutworms will each have 4 prominent tubercles (raised black dots)/segment. The tubercles of black cutworms which are closest to the top center of the body of will be 1/2 to 1/3 the size (see picture below) of the other pair. The four tubercles on dingy cutworms we be similar in size.

Figure 1. Size/ orientation of tubercles on black cutworms

Figure 2. Leaf feeding

Figure 3. Cut plant

Figure 4. Wilted whorl/ dead heart

Corn Agronomy: To replant, or not to replant, that is the question

Farmers are faced with replanting decisions every year. Cold temperatures, wet or crusted soils, and/or pesticide or fertilizer injury may reduce seed germination and seedling emergence. After emergence, stands may be further reduced from insects, diseases, wind, frost, hail, and/or flooding. Stands too dense or non-uniform because of planter malfunctions or variable seeding depth may warrant replanting.

The major decision facing a farmer is whether it is more profitable to keep the original stand using a full-season hybrid or replant. Replanting may result in an optimum stand, but it would be planted at a later than desired date using a shorter season hybrid.

To minimize losses, information must be collected and evaluated quickly. You'll first need to estimate three factors: stand population, plant health, and evenness of spacing. Then compare the yield potential of the existing stand to the yield potential of a late-planted stand. When deciding whether to replant, you'll also need to consider replanting costs, seed availability, rotation restrictions from previous herbicide applications, and possible alternative crops. Base your replant decision on proven agronomic facts rather than emotion.

Steps in the process:

1.) Determine plant population

2.) Evaluate plant health

3.) Assess the unevenness of stands

4.) Compare the yield of a reduced stand to that of a replanted stand

5.) Calculate replanting costs

6.) Factor in risks of replanting

Corn Agronomy: What is happening in the corn plant during the month of May?

Good progress has been made planting corn in Wisconsin. Corn planted was at 56 percent complete, one day behind last year, but 10 days ahead of the five-year average. Corn emerged was at 6 percent, the same as last year, and 4 days ahead of the five-year average. There was some concern that corn planted before April 20 might have experienced some imbibitional chilling due to cool weather towards the end of April. However, the crop has emerged well and there is currently more concern about black cutworm damage. To view the full blog post, please follow the link below:

http://wisccorn.blogspot.com/2016/05/B070.html?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+blogspot%2FmbfLa+%28Corn+Agronomy%29

Wisconsin Winter Wheat Disease Update – May 6, 2016

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

Brian D. Mueller, Graduate Research Assistant, University of Wisconsin-Madison

Winter wheat in research plots, and also adjacent production fields, was scouted in southern and south central Wisconsin during the week of May 2. Wheat at these locations ranges from Feekes 5 to Feekes 7. Wheat in general looks very good. Weather in the major wheat production area of Wisconsin has been generally dry this spring. This has resulted in very little disease pressure. We have been actively scouting for stripe rust considering reports from other states and have been unable to find any trace of rust, even in susceptible cultivars. As mentioned in a previous post, Septoria leaf blotch has been identified in low levels at some locations, however, the dry weather has lead to little progress of this disease. Powdery mildew has also been nearly nonexistent at this point.

Weather forecasts for the week of May 9 look to include some rain events. This may result in increased risk of disease onset, so this situation should be monitored carefully. We will continue to scout research plots, variety trials, and production fields for wheat diseases. As we move closer to the Feekes 8 growth stage (emerging flag leaf) the decision to spray fungicides will need to be made at that time. Remember that protecting the flag leaf from active foliar disease can be important, as that single leaf can be responsible for the majority of the grain yield of that plant. In Wisconsin, in years where leaf disease like Septoria leaf blotch or stripe rust have been active at the Feekes 8 growth stage, we have observed a significant increase in grain yield with fungicide applications at this time. However, if conditions remain dry during this growth stage, fungicide application may not be necessary. Weather over the next several weeks will guide this decision-making process. If you are interested in learning more about effective fungicides and fungicide application timing for wheat, please visit the FUNGICIDE INFORMATION webpage or also check out fungicide efficacy trial summaries from past years on the SUMMARIES webpage.

After the Feekes 8 growth stage, the next critical growth stage for making a fungicide application decision will be at Feekes 10.5.1 growth stage or the start of anthesis. This application of fungicide will be applied to target Fusarium had blight (FHB or scab). The field Crops Pathology laboratory will continue to monitor the Wisconsin wheat disease situation. Please be sure to check back periodically for any new updates.

Figure 1. Winter Wheat Grown in Wisconsin

Wisconsin Winter Wheat Disease Update – May 11

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

Brian D. Mueller, Graduate Research Assistant, UW-Madison

It was only a matter of time….

Today we confirmed the first observations of stripe rust in Wisconsin for 2016. Brian Mueller, Graduate Research Assistant in the Field Crops Pathology Lab at the University of Wisconsin-Madison found active stripe rust pustules in winter wheat in both southern and south central Wisconsin. In southern Wisconsin stripe rust was found in the Wisconsin Winter Wheat variety trial located in Sharon, Wisconsin. Stripe rust was at low incidence and severity on emerging flag leaves with some lesions manifesting as chlorotic flecks and not yet active. We speculate that the epidemic initiated recently. With the humid and rainy weather over the past several days, conditions have been ripe for symptom development. To read the full blog post about stripe rust, please follow the link below:

http://fyi.uwex.edu/fieldcroppathology/2016/05/11/wisconsin-winter-wheat-disease-update-may-11/

Wisconsin Pest Bulletin: Volume 61 Number 3 May 12, 2016

Wisconsin Department of Agriculture, Trade & Consumer Protection

Periodic rainfall during the week benefited crop establishment but slowed seasonal fieldwork across much of the state. An advancing low pressure system on Monday brought an end to the weekend warm spell, and below-normal temperatures with light to locally moderate showers lingered throughout the week. The rain boosted early-season soil moisture for emerging summer crops and eased concerns about short-term dryness in southern and central Wisconsin, but the wet weather delayed completion of spring tillage and stalled corn and soybean planting. After last week's favorable conditions allowed producers to make double-digit planting gains, statewide planting progress remains well ahead of average. Corn planting advanced 34 percentage points to 56% complete during the week ending May 8, five points behind last year but 28 points ahead of the 5-year average. Soybean planting increased 16 points to 18% complete, 12 points ahead of the 5-year average. To view the full pest bulletin issue, please follow the link below:

http://datcpservices.wisconsin.gov/pb/index.jsp

UW-Madison/Extension Plant Disease Diagnostic Clinic (PDDC) Update

Brian Hudelson, Sean Toporek, 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 April 30, 2016 through May 6, 2016.

Plant/Sample Type, Disease/Disorder, *Pathogen*, County

Specialty Crops
Hop, Carlavirus, *Unidentified carlavirus*, Dane

Vegetables
Lettuce, Downy Mildew, *Bremia lactucae*, Ozaukee
Lettuce, Powdery Mildew, *Oidium sp.*, Ozaukee
Potato, Fusarium Dry Rot, *Fusarium oxysporum*, Oneida
Tomato, Cucumber Mosaic, *Cucumber mosaic virus*, Clark

For additional information on plant diseases and their control, visit the PDDC website at pddc.wisc.edu.

Vegetable Crop Update May 6, 2016

Amanda J. Gevens, Associate Professor & Extension Vegetable Plant Pathologist

The 6th issue of the Vegetable Crop Update is now available. Click on the link below to view this update:

http://ipcm.wisc.edu/download/vgu/May-6-2016.pdf

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