MANGANESE DEFICIENCY IN WINTER WHEAT IS SHOWING UP IN EASTERN WISCONSIN

CARRIE LABOSKI, PROFESSOR AND EXTENSION SOIL FERTILITY/NUTRIENT MANAGEMENT SPECIALIST, UW-MADISON

The extended cool and wet spring appears to be causing manganese (Mn) deficiency in winter wheat in some fields in Eastern Wisconsin. Wheat has a high relative need for Mn, similar to soybean, but deficiency is not often observed in Wisconsin. The deficiency manifests as lighter colored lines parallel to the leaf margins and may have some necrotic spots. It is unlikely that an entire field will be uniformly deficient.

Manganese deficiency is usually associated with neutral to high pH soils that are also high in organic matter. Soil tests for Mn are not accurate if soil organic matter levels are greater than 6.0%; in these soils Mn availability is considered low if soil pH is greater than 6.9. On soils with organic matter content less than or equal to 6.0%, Mn is considered low when soil test values are less than 11 ppm. Tissue testing can be used to confirm deficiency. Sample the newest fully developed leaf from 50 plants prior to heading. Manganese is considered sufficient if the tissue concentration is 25 to 100 ppm.

In the photos, the wheat is being grown on a Sebewa silt loam which is poorly to very poorly drained. In fall 2016, this field tested 6.7% organic matter (with a
range of 3.7 to 10.8%) and pH of 7.8 (range 7.6 to 8.2). Because the organic matter is over 6.0%, and pH is greater than 6.9, the availability of soil Mn is considered low and Mn deficiency in soybean and wheat might be expected. However, the grower has not had issues with Mn deficiency in this field in the past, which suggests the wet fall and extended cool and wet spring may be causing low availability of Mn. The Mn level in the tissue was 6.1 ppm, which is substantially below the sufficient range of 25 to 100 ppm. Wheat grown on another field on this farm was showing similar deficiency symptoms and was growing on a well-drained Sisson fine sandy loam with a soil organic matter of 3.6 % and pH of 7.6. While Mn was not tested on this soil, the deficiency symptoms indicate that Mn availability was low. If you suspect Mn deficiency, take plant tissue and soil samples to confirm the diagnosis. A foliar application of 1.25 lb Mn/a in a sulfate form or 0.2 lb Mn/a in a chelate form will likely increase yield. If the deficiency is severe, multiple applications at 7 day intervals may be needed to remedy the deficiency. Consider leaving a couple of strips untreated to evaluate the efficacy of the foliar application.

SOYBEAN GALL MIDGE

BRYAN JENSEN, UW DEPARTMENT OF ENTOMOLOGY AND DIVISION OF EXTENSION

Although not currently found in Wisconsin, the soybean gall midge was detected in 66 counties in Nebraska, South Dakota, Iowa and Minnesota (Figure 1) during the 2018 growing season. It is a new soybean insect pest that was essentially unknown prior to last year. Yield losses on some of the heavily damaged fields was near 100% w/in 100 feet of the field border and damage decreased to 20% at 200-400 feet from the edge. My point is not to unreasonably alarm people but rather to indicate a potential problem we need to be looking for.

Adult soybean gall midges are about ¼ inch long with dark and light-colored banding on their legs. Damage was more severe along field edges indicating the adult is a weak flier that migrates from field borders. Eggs are usually laid at the base of the soybean plant and several larvae, which are not very mobile, can exist at a single feeding site. Larvae are initially translucent but turn orange as they mature. Swollen stems (galls) and darkened feeding areas are often the first symptoms. After prolong feeding, larvae can girdle the plant which are easily snapped off at the base. Symptoms of plant necrosis were first found in late-June through early July 2018. Frequency and severity increased through August. Perhaps there are two or more generations/year.

As you might expect, little is currently known about this new pest. For now, the best (and only) management practice is identification. There has been little correlation between frequency, severity, planting date and maturity group. Foliar insecticides have been tried but unsuccessful so far.

Please be vigilant and look for symptoms. Contact your local County Extension Educator, or Bryan Jensen (bmjense1@wisc.edu) if you find symptoms.
Figure 1. Counties in red indicates the presence of soybean gall midge in 2018. Source: Justin McMechan, Tom Hunt and Robert Wright, University of Nebraska; Erin Hodson, Iowa State University; Adam Varenhorst, South Dakota State University and Bruce Potter, University of Minnesota.

Note darkened feeding area at the base of the soybean plant on the left. Plant on right indicates several feeding larvae. Inset is a single larvae. Photo courtesy of Dr. Justin McMechan, University of Nebraska.

CAN BRAND OR GENERIC HERBICIDES BE TANK-MIXED? PART 2

DR. RODRIGO WERLE ASSISTANT PROFESSOR & WEED SPECIALIST DEPARTMENT OF AGRONOMY

Last month we released a blog post entitled “Can brand or generic herbicides be tank-mixed?” and in the first paragraph we wrote “This past week we received several questions regarding herbicide tank mixtures. One common
question was whether brand and/or generic S-metolachlor/metolachlor, atrazine and/or mesotrione-based products could be tank-mixed.

After speaking with industry colleagues, I learned that in the original blog post we described several important aspects to consider when developing a custom herbicide tank mix but did not actually answer if S-metolachlor/safened metolachlor, atrazine and/or mesotrione-based products could be tank-mixed; herein I will attempt to address this question.

As always, the answer is “it depends”.

Lumax EZ is a popular pre-mix corn herbicide that contains S-metolachlor, atrazine and mesotrione. Lumax EZ herbicide can be sprayed PRE and early-POST in corn (according to the label: “Postemergence applications to field corn must be made before crop reaches 12 inches in height”).

If a grower decides to make his/her own “Lumax-equivalent” custom tank mix, that tank mix can be sprayed before corn emergence. After corn emergence, there is a caveat to be considered; the label of mesotrione-based products such as Callisto, Explorer, Mesotrione 4SC and Meso Star state the following restriction: “DO NOT apply this product post-emergence in a tank mix with emulsifiable concentrate grass herbicides, unless specifically directed under one of the tank mix section of this label, or crop injury can occur”.

S-metolachlor-based products such as Duall II Magnum, Medal EC and Brawl, and safened metolachlor-based products such as Me-Too-Lachlor and Stalwart C labeled for use in corn fall under the emulsifiable concentrate grass herbicides formulation category and thus SHOULD NOT be tank-mixed with the aforementioned mesotrione-based products for POST-emergence applications in corn.

Q&A:

Can S-metolachlor/safened metolachlor be tank-mixed with atrazine and sprayed POST-emergence in corn? YES

Can mesotrione be tank-mixed with atrazine and sprayed POST-emergence in corn? YES

Can S-metolachlor/safened metolachlor be tank-mixed with mesotrione and sprayed POST-emergence in corn? NO

Can S-metolachlor/safened metolachlor, atrazine and mesotrione be tank-mixed and sprayed POST-emergence in corn? NO

Additionally, pay attention to the: i) geographic restrictions (for instance atrazine use is prohibited in parts of Wisconsin), ii) maximum use rate of a pesticide per application and iii) total pesticide use within a season. Always follow the most restrictive tank mix instructions for the products involved.

Check our 2018 post “Geographic Restrictions for Corn and Soybean PRE-emergence Herbicides in Wisconsin” for additional geographic restriction information.

Once this post is released there will likely be a “Part 3” coming next because I will certainly forget to address something important; going through the label exercise is not a simple task! That’s when experience comes into play. Growers should always consult an expert before spraying a custom herbicide tank mix.

Always read the product label before spraying.
TRUE ARMYWORM
BRYAN JENSEN, UW DEPARTMENT OF ENTOMOLOGY AND DIVISION OF EXTENSION

It is time to start monitoring for armyworms. There have been several significant flights in WI and in states to our south. Will it be worse than last year? I don’t have that answer. First generation armyworm damage is hard to predict in terms of timing, location and severity.

Adult armyworm moths are attracted to grassy areas to lay eggs. Consider scouting all corn and wheat fields but especially those with significant grassy weed growth, corn no-tilled in to alfalfa and fields with a grass cover crop. Although larvae typically feed on grasses they do not feed exclusively on grasses. Soybean and alfalfa could have significant damage if there are no other foods sources.

Armyworm larvae have a tan head with numerous vein-like lines in the compound eyes. Body color and intensity can be quite diverse but alternating light to darker colored lines are usually noticeable. Typically, the “belly” is lighter colored than the rest of the body.

Armyworm larvae feed nocturnally and damage from small larvae may not be evident at first. In corn, look in the whorl for either damage or an accumulation of frass. In wheat and other small grains, look for early signs of feeding and/or larvae on the soil surface.

Seedling corn can be resilient to insect defoliation. If 50% of corn seedlings have injury, control maybe be warranted if larvae are still relatively small. Once larvae reach an inch to 1 ¼ inch in length they will soon pupate, and spraying is not advised. That may sound simple but many times the infestation has different size caterpillars.

In wheat and other small grains, damage may be concentrated in lodged areas or areas with dense growth. 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. If you do choose the option of treating with a foliar insecticide, choose one with a pre-harvest restriction that fits within your harvest schedule.
HERBICIDE ROTATION RESTRICTIONS BEFORE PLANTING INDUSTRIAL HEMP

DR. RODRIGO WERLE ASSISTANT PROFESSOR & WEED SPECIALIST DEPARTMENT OF AGRONOMY

With the growing interest in producing industrial hemp in Wisconsin and beyond, it is important to pay close attention to rotation interval restrictions when planting this crop in conventional production fields where herbicides are adopted. Though no synthetic herbicides are labeled for weed control in industrial hemp in the United States at this time, it’s important to keep in mind that herbicides sprayed in previous crops can have an impact on the industrial hemp crop establishment and development. Moreover, the pesticide label is the law and should be followed accordingly.

Below you will find a comprehensive list of herbicides commonly used in corn-soybean rotations and their respective plant rotation restrictions (in months after application) for industrial hemp planting according to their respective labels. Note that the most restrictive interval for each product is listed below (for some products the rotation restriction may be shorter depending upon rate used, geography, soil pH, annual precipitation, etc.; please double check the label). Since industrial hemp is a new crop and thus not part of current label languages, its rotational restrictions fall under “other crops” when searching for this information in the product labels. See video “Weed Talk: 2019 Industrial Hemp Herbicide Carryover Considerations” for more information.

Rotation Restrictions Before Planting Industrial Hemp (in Months After Application):

0 months = Cadet, Cobra, Glyphosate 4 Plus, Glyphosate 5.4, Gramoxone SL 2.0, Roundup PowerMAX

1 month = Fusilade DX, Resource, Select Max

1.5 months = Harmony SG

3 months = 2,4-D (e.g., 2,4-D Amine, Barrage HF, Salvo, Shredder 2,4-D LV4)

4 months = Assure II, dicamba (e.g., Clarity, Engenia, Fexapan, Status, XtendiMax)

6 months = Liberty 280

9 months = Confidence, Harness, Outlook, Sharpen, Verdict, Warrant

12 months = Aim, Authority Elite, Boundary, Cinch, Command 3ME, Dual II Magnum, Parallel

18 months = Anthem, Anthem Maxx, Armezon, Authority MTZ, Balance Flexx, Basis Blend, Beacon, Callisto, Callisto GT, Corvus, Dimetric DF 75%, FirstRate, Halex GT, Impact, Instigate, Lumax EZ, Prefix, Prequel, Raptor, Require Q, Resolve DF, Resolve Q, Resolve SG, Rowel, Solstice, Spirit, Valor SX, Valor EZ, Vise, Zemax, Zidua, Zidua SC

24 months = Prowl H2O

26 months = Hornet, SureStart II, TripleFLEX
30 months = Authority Assist, Authority First, Canopy, Classic, Enlite, Envive, Rowel FX, Sonic, Synchrony, Trivence, Valor XLT

36 months = Authority Maxx, Authority XL, Permit

40 months = Extreme, Optill, Optill PRO, Pursuit, Torment

We will soon release an in-detail publication with additional information on how herbicide rates and soil characteristics influence rotational Industrial Hemp crop restrictions. Stay tuned!

Always read, understand and follow the pesticide label.

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**WISCONSIN FRUIT NEWS- VOLUME 4, ISSUE 5**

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

**WFN–Vol 4, Issue 5 (June 7, 2019)**

- Strawberry angular leaf spot
- Grape downy mildew
- Chloryprifos update
- Apple thinning update
- Door County Report

The home website for the UW-Madison Fruit Program is [https://fruit.wisc.edu](https://fruit.wisc.edu)

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**VEGETABLE CROP UPDATES NEWSLETTER, JUNE 9, 2019**

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

**Update 7 – June 9, 2019**

In this issue the UW-Madison Division of Extension Vegetable Crop Updates Newsletter #7:

- Vegetable and potato production status updates
- Vegetable insect pest updates
- Potato disease forecasting updates
ARE YOUR BEANS “FEELIN THE BURN”?

SHAWN P. CONLEY, SOYBEAN AND WHEAT EXTENSION SPECIALIST, DEPARTMENT OF AGRONOMY

Weed management has been a significant challenge for many farmers and retailers in 2019. The challenges range from short planting windows to shorter pre-emergence and post emergence herbicide application windows to early soybean flowering. As we approach the end of growth stage cutoffs for herbicide applications in early planted soybean can we expect any damage from herbicides and especially the Group 14 herbicides? Well unfortunately the answer to that question is the good ole Extension cop-out answer “Well folks that depends”…..

1. What we mean by that is as follows:
2. What growth stage was the soybean crop at?
3. Where in the United States are you located?
4. Was the crop stressed before or more importantly after the application?
5. What rate, a.i., adjuvants, carriers, tank mix partner, etc are we dealing with?
6. What soybean variety did you plant?
7. What phase is the moon in….well not really… but you all get the point.

Generally speaking as the soybean growth stage approaches R1 (flowering) the risk for yield loss increases. However this is a highly regional response as we have documented differential yield responses from a +1.2% yield gain in the south to a -4.7% to -4.1% yield loss from the I-states north (Table 1). Furthermore as we transition from specifically using lactofen as a "herbicide" to a tool in white mold management we also note a differential response. In a recent meta-analysis where Dr. Smith focused on the 6 oz lactofen rate at R1

<table>
<thead>
<tr>
<th>Region</th>
<th>Yield Level</th>
<th>45 bu a⁻¹</th>
<th>60 bu a⁻¹</th>
<th>75 bu a⁻¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Yield (%)</td>
<td>$9</td>
<td>$12</td>
<td>$15</td>
</tr>
<tr>
<td>South</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td>31</td>
<td>47</td>
<td>57</td>
</tr>
<tr>
<td>I-states</td>
<td>-4.7</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>North</td>
<td>-4.1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1. Percent relative yield change and break-even probabilities for Lactofen applications (12 fl. oz per a + 1‰v/v COC) at V4 soybean compared to no application at multiple yield levels and soybean sale prices for studies between 2012 and 2014.
Figure 1. Yield response to white mold management by disease pressure.

application he noted a 3.7% yield loss in low-to-moderate disease pressure, but a significant yield increase in high-pressure situations (Figure 1). In Dr. Smith’s meta-analysis he does want to emphasize they noticed A LOT of variability among varieties and environments tested as you can see by the error bars around treatments in Figure 1.

In summary we would expect some level of yield loss in these late “hot” applications; however in terms of long-term weed management we would rather see you take a small yield hit than allow herbicide resistant weeds go back to seed and replenish the weed seed bank. This is even more critical with expected tighter phytosanitary regulations centered around weed seeds.

I FINALLY GOT MY SOYBEANS PLANTED AND NOW THEY LOOK SICK!

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

SHAWN CONLEY, SOYBEAN AND WHEAT EXTENSION SPECIALIST, DEPARTMENT OF AGRONOMY, UNIVERSITY OF WISCONSIN-MADISON

The 2019 growing season has been nothing but full of challenges for Wisconsin farmers and farmers throughout the Midwest. Weather and grain markets have not improved, combined with late-planting of all crops, including soybeans. Dryer weather recently has allowed many to catch up a bit on planting, but now the weather is turning wet again. With this wet weather right after planting, we start to get concerned about several seedling and early-season diseases that can show up, and the performance of seed treatments used to protect soybeans against the pathogens that cause these diseases.
What are the Pathogens of Primary Concern?

Soybeans are susceptible to several early diseases. A detailed list of those important in Wisconsin can be found [HERE](#). You will notice in that list that there is an array of fungi and water-molds that can affect soybeans, compromising stands. More recently we have been very interested in tracking the water-molds. These organisms include Pythium and Phytophthora. Pythium can cause diseases such as Pythium seedling blight and root rot while Phytophthora can result in Phytophthora root and stem rot of soybean. When it comes to both of these diseases, several species within each pathogen genus can affect soybeans in Wisconsin. In fact, The Wisconsin Department of Agriculture, Trade and Consumer Protection Pest Survey Program and the Plant Industry Bureau Laboratory has tracked water-molds in soybean fields from since 2008. The latest results of these surveys can be found by [CLICKING HERE](#). You will notice that there are actually two Phytophthora species and more than 5 Pythium species that can affect soybeans in Wisconsin. With the diversity of pathogens in the state and the wet spring we are having, it is no wonder that seedling issues are present in Wisconsin.

Will Seed Treatments Cure Poor Soybean Emergence?

The short answer is no. In the last 10 years we have seen a significant increase in the availability and use of seed treatments in soybeans. These seed treatments can be a simple single-mode-of-action fungicide or combined with multiple fungicides, insecticides, nematicides, and/or plant growth regulators. A detailed list of seed treatment products registered in Wisconsin for soybeans and other grain crops can be found on the [What's On Your Seed fact sheet](#). While we highly recommend the use of seed treatments to combat seed rots and seedling blights, it is important to realize that they are not perfect and can fail or under-perform for many reasons. Even if you used a seed treatment on your soybean seed in 2019, you may still notice emergence issues. There are many factors that play a role in the success of a seed treatment, including the correct choice of product against the right pathogens, weather, soil type, etc. For more information on the factors that can affect seed treatments check out the fact sheet posted [HERE](#). If you are in a situation where you used a seed treatment and the stand is poor, check out this publication. This can give you some insight on what happened as you work through diagnosing the issue with your agronomist. There is not a one-size-fits-all seed treatment so it is important that if you have had issues with the performance of your seed treatment, you determine if a pathogen is involved and what species it might be. Knowing this information can help guide you in choosing the seed treatment most appropriate for controlling that particular pathogen in the future. If you need help diagnosing a potential seed decay or seedling disease, you can send a sample to the University of Wisconsin-Madison Plant Disease Diagnostic Clinic. Details on how to prepare and send a sample can be found on their website by clicking [here](#).

Does Variety Resistance Help Improve Soybean Stands?

Yes! While resistance to Pythium in soybean isn’t well understood, there are resistant varieties deployed for managing Phytophthora. Both race-specific and field resistance (lower level of resistance to all races) are available in soybean varieties marketed in Wisconsin. There are often one or more race-specific Phytophthora resistance genes in commercial soybean varieties. The genes present in specific soybean varieties are listed each year in the University of Wisconsin Soybean Variety Test Results ([UW-Extension publication A3654](#)).
Your seed dealer will also have this information.

Monitor the performance of the varieties you choose. When optimum disease conditions develop later in the growing season, scout those areas of the fields to look for stem rot development. If a large number of plants with Phytophthora stem rot are found, choose varieties with a different Rps gene and higher levels of partial resistance for next year. This pathogen does adapt to the Rps genes, but it is a slow process. Careful monitoring of plant performance is all that is needed. A listing of RPS genes and their relative effectiveness in Wisconsin can be found in the table below.

### Race-specific Phytophthora resistance genes and their effectiveness in Wisconsin

<table>
<thead>
<tr>
<th>Soybean genes</th>
<th>Phytophthora races controlled</th>
<th>Effectiveness in Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rps 1a</td>
<td>1, 2, 10, 11, 13-18, 24</td>
<td>limited effectiveness</td>
</tr>
<tr>
<td>Rps1b</td>
<td>1, 3-9, 13-15, 17, 18, 21, 22</td>
<td></td>
</tr>
<tr>
<td>Rps 1c</td>
<td>1-3, 6-11, 13, 15, 17, 21, 23, 24</td>
<td>effective in 75% of fields</td>
</tr>
<tr>
<td>Rps 1k</td>
<td>1-11, 13-15, 17, 18, 21, 22, 24</td>
<td>effective in 99% of fields</td>
</tr>
<tr>
<td>Rps 3</td>
<td>1-5, 8, 9, 11, 13, 14, 16, 18, 23, 25</td>
<td></td>
</tr>
<tr>
<td>Rps 4</td>
<td>1-4, 10, 12, 16, 18-21, 25</td>
<td></td>
</tr>
<tr>
<td>Rps 6</td>
<td>1-4, 10, 12, 14-16, 18-21, 25</td>
<td></td>
</tr>
<tr>
<td>Rps 1k, 6</td>
<td>1-11, 12-22, 24, 25</td>
<td></td>
</tr>
</tbody>
</table>

Field resistance, also called field tolerance, is present at different levels in most soybean varieties marketed in Wisconsin. For example, even if a variety has a specific resistance gene that may not be effective, such as Rps 1a, against the races of Phytophthora sojae present in a field, the variety may perform better than other varieties with this gene because it has an adequate level of field resistance to Phytophthora. Field resistance can be overcome by high disease pressure especially in the seedling stage. A final note on resistance – in field where Phytophthora sansomeana is present, Rps genes may have little effect. No data currently exists on soybean variety performance against this fairly new pathogen of soybean in Wisconsin.

**SOYBEAN FLOWERS, HERBICIDE LABELS, AND WHEEL TRACK DAMAGE...OH MY!**

AUTHORED BY SHAWN P. CONLEY AND RODRIGO WERLE

We are starting to get the first reports of soybean beginning to flower (R1) in our early planted situations. As we enter the soybean reproductive growth phase there are a few things to keep in mind. The first is that soybean will produce flowers for ~3 to five weeks, depending upon planting date and environment. During that time soybean will abort anywhere from 20 to 80% of the flowers that they produce. Generally it is the first and last flush of flowers produced that are most likely to be aborted.
Next, the timing window for many POST-emergence herbicide applications in our early planted soybean are quickly closing if not closed already. Glyphosate labels indicate that applications can be made through R2 or full flower, however the spread of glyphosate-resistant water-hemp and other weeds across Wisconsin and beyond has led several farmers to adopt soybean varieties containing the novel herbicide resistance traits (Xtend [which confers resistance to glyphosate and dicamba], Enlist E3 [glyphosate, glufosinate and 2,4-D] or LibertyLink GT27 [glyphosate and glufosinate]), which all provide effective herbicide options for POST-emergence broadleaf weed control. The application window for the POST-emergence herbicides associated with the aforementioned traits is also linked to soybean reproductive growth stages.

In Xtend systems, the registered dicamba herbicides Engenia, FeXapan and XtendiMax can be applied through 45 days after planting or up until R1 (first bloom; in other words, don’t apply if the soybeans are flowering), whichever comes first.

In LibertyLink systems (LL, LLGT27 or Enlist E3), glufosinate herbicides such as Liberty, Scout, Interline, etc. can be applied up to bloom or R1 growth stage (don’t apply if the soybeans are at R2 stage or advanced).

In Enlist E3 systems, the registered 2,4-D herbicides Enlist One and Enlist Duo should be applied no later than R2 or full flowering stage.

When deciding the best time for a POST application, target small weeds, follow all label requirements and don’t spray under adverse environmental conditions.

Soybean developmental note: on average it takes ~ 4 days to move from R1 (beginning flower) to R2 (full flower) and ~10 days from R2 to the start of R3 (beginning pod).

Last but not least, wheel track damage made from ground applications may start to reduce yield. Sprayer wheel traffic from first flower (R1) through harvest can damage soybean plants and reduce yield (Hanna et al. 2008). Our research suggests that an adequate soybean stand (more than 100,000 plants per acre) planted in late April though mid-May can compensate for wheel tracks made when a field is sprayed at R1. Yield loss can occur, however, when wheel tracks are made at R1 or later in thin soybean stands (less than 100,000 plants per acre) or late planted soybeans. Regardless of stand, plants could not compensate for wheel tracks made at R3 (early pod development) or R5 (early seed development). The average yield loss per acre is based on sprayer boom width (distance between wheel track passes). In our trials yield losses averaged 2.5, 1.9, and 1.3% when sprayer boom widths measured 60, 90, and 120 foot, respectively. Multiple trips along the same wheel tracks did not increase yield loss over the first trip.
FIELD DAY: FROM GRAIN TO PLATE

DANIEL H. SMITH, NUTRIENT AND PEST MANAGEMENT PROGRAM – UNIVERSITY OF WISCONSIN-MADISON

An upcoming field day on June 30th in Iowa County will provide insight into small grain production and marketing. The field day will showcase speakers on the effects small grains have on soil conservation, small grain crop rotation, and using small grains in your kitchen. The field day will include a tour of the farm’s small grain production fields and grain cleaning facilities. The field day will begin around 10:30 a.m. and conclude by 3:00 p.m. A complimentary lunch will be served. The field day is free, however, registration is required. The field day is being hosted at Meadowlark Organic Farm: 3036 Ridgevue Rd. (Exit 52 on HWY 18/151) Ridgway, WI. View the flyer for more information.

WISCONSIN PEST BULLETIN, JUNE 13

KRISTA HAMILTON, ENTOMOLOGIST, WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

Volume 64 Issue No. 07 of the Wisconsin Pest Bulletin is now available at:

LOOKING AHEAD: Janesville trap captures 1,100 true armyworm moths
FORAGES & GRAINS: Alfalfa weevil counts generally low in first crop
CORN: Stalk borer caterpillars beginning to migrate into corn
SOYBEAN: Surveys for soybean aphids negative this week
FRUITS: Rose chafer beetle emergence anticipated by mid-June
VEGETABLES: Begin scouting for potato leafhopper adults and nymphs
NURSERY & FOREST: Oak leaf blister and other reports from recent nursery inspections
DEGREE DAYS: Growing degree day accumulations as of June 12, 2019

This post originates at the Wisconsin Pest Bulletin website