Shawn P. Conley, State Soybean and Wheat Extension Specialist  
John Gaska, Outreach Specialist  
University of Wisconsin, Madison

Delayed corn planting coupled with frequent rainfall events and poor planting conditions have postponed soybean planting across many parts of WI. Since we are rapidly approaching the hybrid maturity switch date for corn in southern WI (May 20th, given 2014 costs and prices) three common questions have arisen regarding soybean plantings. These are:

1. When during the planting season should a producer switch to an earlier maturing soybean variety?

In southern Wisconsin, full-season soybean varieties (>1.8RM) out yielded earlier maturing varieties (<1.8RM) by 15 bu per acre at early May planting dates compared to only 2 to 5 bu per acre at late May planting dates. In northern Wisconsin, late maturing varieties (1.7 to 1.9RM) also out yielded early maturing varieties (<1.7RM), however the difference was not as great. Switching to an earlier maturing variety when planting after the first week of June will reduce the chance of damage from an early fall frost (Fig. 1.). Unfortunately growers will realize a yield penalty if they choose to move to an earlier maturity group and lowered seeding rates (Table 1.). It is also important to note that if you do choose to switch to an earlier maturity group soybean, do not use a variety that is more than 0.5 RM earlier than you normally would plant.

2. When is the latest soybeans can be planted in Wisconsin and still expect a grain yield?

Research from the 1990’s in southern Wisconsin indicates that in two out of three years, grain can be harvested from soybeans planted as late as June 26, although the yields are usually minimal and not generally economically feasible. The frequency of harvesting grain from soybeans planted this late can be increased by using early maturing varieties (<1.8RM) in southern Wisconsin, and <1.0RM in northern production areas. A planting date of June 20 in southern Wisconsin and June 15 in northern Wisconsin, using early maturing varieties, was considered to be the latest practical date. However today’s grain prices coupled with opportunities for late-season discounted treated soybean seed may entice growers to push the planting date window in 2014.

3. What should my target plant population be in my late planted soybeans?

To maximize yield potential in late planted soybean, growers should target a stand of 180,000 plants per acre in row spacing’s ≤ 20inches. Wider row spacings and reduced plant stands will lead to reduced yield potential due to decreased canopy development. Planting too few seeds can also lead to...
a lower physical pod set and harvest issues. To achieve 180,000 plants per acre a grower may have to plant up to 200,000 seeds per acre (assuming 90% germ).

### Soybean Planting Date by Maturity Group Considerations for 2015

Article coauthored by Dr. Shawn P. Conley and Adam Gaspar

Early May planting in Wisconsin has been documented to increase soybean seed yield due to increased light interception (Gaspar and Conley, 2015). In theory, earlier planting can potentially intercept greater amounts of solar radiation due to a longer growing season and therefore longer maturity group (MG) soybean varieties may be better suited to maximize yield if they can mature before a hard fall frost. Unlike 2013 and 2014, 2015 may provide growers with an opportunity to plant their soybean crop earlier than ever before. Yet, in some instances (weather or logistical problems) planting will be delayed or replanting may be needed. Therefore, investigating the effect of different MG’s at multiple planting dates across the state would provide WI growers with BMP’s for soybean establishment regardless of planting timing.

To answer this question field trials were initiated at Arlington, Hancock, and Spooner, WI in spring of 2014. The five planting dates at each location were planting roughly on: (1) **May 7th**, (2) **May 20th**, (3) **June 1st**, (4) **June 10th**, and (5) **June 20th**. Planting after June 20th is not recommended in WI. Two varieties within each MG from a 2.5 all the way down to a 00.5 were tested depending upon the location and planting date. Two varieties within each MG from a 2.5 all the way down to a 00.5 were tested depending upon the location and planting date and are displayed in Table 1.

<table>
<thead>
<tr>
<th>Planting Date</th>
<th>Arlington</th>
<th>Hancock</th>
<th>Spooner</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (May 7th)</td>
<td>2.5, 2.0, 1.5</td>
<td>2.5, 2.0, 1.5</td>
<td>1.5, 1.0, 0.5</td>
</tr>
<tr>
<td>2 (May 20th)</td>
<td>2.5, 2.0, 1.5</td>
<td>2.5, 2.0, 1.5</td>
<td>1.5, 1.0, 0.5</td>
</tr>
<tr>
<td>3 (June 1st)</td>
<td>2.0, 1.5, 1.0</td>
<td>2.0, 1.5, 1.0</td>
<td>1.0, 0.5, 0.0</td>
</tr>
<tr>
<td>4 (June 10th)</td>
<td>2.0, 1.5, 1.0</td>
<td>2.0, 1.5, 1.0</td>
<td>1.0, 0.5, 0.0</td>
</tr>
<tr>
<td>5 (June 20th)</td>
<td>1.5, 1.0, 0.5</td>
<td>1.5, 1.0, 0.5</td>
<td>0.5, 0.0, 00.5</td>
</tr>
</tbody>
</table>

Table 1. Maturity Group’s tested within each location and planting date.
Let’s start with the easy and redundant part, get your soybeans in the ground ASAP to maximize yield. This is evident again in this trial, where Figure 1 shows the effect of planting date across all MG’s (varieties) tested in 2014. If the soil is fit, soil temps are near 50 °F, and the forecast is favorable….. get the planter rolling!

Figure 1. Dots represent the mean yield within each planting date for each location. The average yield loss per day for delaying planting past May 7th is presented in the legend.

However, the question still remains for many producers, should I use a longer maturity variety in early planting situations (very possible in 2015) and should I switch to an earlier maturing variety when planting is delayed?

Table 2. Effect of Maturity Group on Yield tested within each location and planting date.

<table>
<thead>
<tr>
<th>Planting Date</th>
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<th>Hancock</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 (May 7th)</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>2 (May 20th)</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>3 (May 30th)</td>
<td>NS</td>
<td>**</td>
<td>NS</td>
</tr>
<tr>
<td>4 (June 10th)</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>5 (June 20th)</td>
<td>**</td>
<td>NS</td>
<td>NS</td>
</tr>
</tbody>
</table>

Based upon the 2014 data, only 2 out of 15 location x planting date combinations displayed a significant effect of MG on yield (Table 2). So the moral of the story is that within a realistic MG range for your region and planting date, variety selection should be based heavily upon the varieties past local and regional performance, disease package, and etc. Variety selection heavily based upon the MG is not a silver bullet to frequently increasing yields.

However, there are always caveats…… Growers may consider trying a slightly longer maturing soybean on a portion of their acres because there is a “potential”, but not guarantee, for higher yields with no additional dollars spent. Within planting date 1, there was no significant MG effect, but MG 2.5 did yield the highest numerically in Arlington and Hancock with no fall frost damage, while the same is true for MG 1.5 in Spooner. The longest MG tested within each planting date in our study numerically yielded the highest through June 10th (planting date 4).

On the back end of the planting season, the inverse was seen. Within planting date 5 at Arlington and Hancock, MG 1.5 did not mature before the first fall frost and was the lowest yielding. Therefore, growers may consider switching to an earlier maturing variety as planting is delayed into June. If switching to an earlier maturing variety, don’t use a variety less than 0.5 MG earlier than a full season variety (2.5 in southern WI) in early June. However, if planting is delayed into mid to late June then a variety that is greater than or equal to a full MG earlier should be considered.

Acknowledgements: The authors would like to thank the Wisconsin Soybean Marketing Board and DuPont Pioneer for supporting this research.

Herbicide Resistance Management for Giant and Common Ragweed

Liz Bosak, Outreach Specialist, Department of Agronomy, University of Wisconsin

Weed scientists across the Midwest and Mid-south have identified eleven species of weeds that are of most concern for herbicide resistance because of their ability to compete with crops and to develop resistance to different herbicide sites of action (SOA). They are common waterhemp, Palmer amaranth, horseweed (marestail), giant ragweed, common ragweed, common lambsquarters, kochia, Italian ryegrass, barnyard grass, johnsongrass, and giant foxtail. All of the species have shown resistance to between two and nine herbicide sites of action.

Herbicides are typically classified in two ways by (1) mode of action or (2) site of action. The mode of action is generally how the herbicide inhibits plant growth and development. The site of action is specifically which biochemical pathway in the plant that the herbicide disrupts. Each site of action is associated with a number and the number is located on the first page of most herbicide labels. The TakeAction herbicide classification chart clearly displays the herbicides and premixes by sites of action, http://wcws.cals.wisc.edu/wp-content/uploads/sites/4/2013/03/FactSheet_TakeAction_HerbicideClass_2013.pdf

A successful resistance management plan will include multiple effective sites of action applied at the full rate to weeds less than four inches in height.

In 2011 and 2013, University of Wisconsin weed scientists identified two separate giant ragweed, Ambrosia trifida, populations resistant to either glyphosate (SOA 9) http://ipcm.wisc.edu/blog/2012/06/giant-ragweed-resistance-to-glyphosate-in-wisconsin/ or ALS inhibitors (SOA 2) http://ipcm.wisc.edu/blog/2013/06/acetolactate-synthase-als-inhibitor-resistance-in-wisconsin-giant-ragweed/. In 2013, a population of common ragweed, Ambrosia artemisiifolia, was confirmed resistant to ALS inhibitors http://ipcm.wisc.edu/blog/2015/03/common-ragweed-confirmed-als-inhibitor-resistant-in-brown-county-wisconsin/. Not sure what a glyphosate resistant giant ragweed plant looks like, check out a time lapse video from Purdue University comparing susceptible and resistant biotypes of giant ragweed, two minutes fifteen seconds in length, https://youtu.be/eXTxEX5WpPw.

At this point in the season, the most important task for herbicide resistance management is to scout fields several times before and after an herbicide application. Scouting after pre-emergence applications, prior to a post-emergence timing, can ensure that the post application is on target for weed species and size. It is important to pay attention to any weed species that is becoming more abundant across the field and then to double-check that your planned herbicide program is effective at controlling that species. Also, factoring in current weed size with weather forecasts is important for scheduling that next application. After applying herbicides, the next task is to follow-up with scouting at 14 days after the post application to verify adequate control. For more information about effective scouting, please visit the TakeAction website, http://takeactiononweeds.com/manager-your-fields/scouting/.

Both ragweed species reduce crop yields because early season germination and growth interferes with crop establishment prior to canopy closure. Giant ragweed can be difficult to control with a one-pass herbicide program because seedlings can emerge from deeper soil depths where a pre-emergence herbicide may not reach and some populations tend to emerge over an extended period. For herbicide resistance management recommendations, please consult the TakeAction fact sheet at http://takeactiononweeds.com/wp-content/uploads/FactSheet_GiantRagweed.pdf. Giant ragweed tends to be more of a problem in conventional tillage systems whereas common ragweed infestations are common in reduced and no-till systems. Management recommendations for common ragweed infestations in corn and soybean are available at http://host.cals.wisc.edu/wcws/wp-content/uploads/sites/4/2013/12/FactSheet_TakeAction_common_ragweed.pdf.

Jeff Polenske, International CCA of the Year!

Bryan Jensen
UW Extension

The American Society of Agronomy and the International Certified Crop Advisers Program have recently selected Jeff Polenske, Tilth Agronomy, as the 2015 ICCA of the Year.

Jeff has over 27 years of Wisconsin crop advising experience and currently works with more than 50 clients on 50,000 acres of corn, soybean, alfalfa and wheat in Northeast Wisconsin.

You would expect if someone receives this high of an honor that they would be an asset to clients, colleagues and a leader in the agricultural community. Jeff certainly has a long list of similar accomplishments which include (but not limited to!):

- 2014 Wisconsin CCA of the Year
▪ Active membership with several local, state and national organizations. Including terms on executive boards, as officers and involvement with several committees.
▪ Co-chair for the University of Wisconsin Integrated Crop and Pest Management Program’s Advisory Committee.
▪ Technical Service Provider including certification for writing CNMP’s and Conservations Plans
▪ Participation in several applied research projects
▪ Member of nutrient management rewrite committees

Despite all the accomplishments, the one which Jeff seems to be most proud of is his mentorship to colleagues, staff and students. He continues to lay the groundwork for the next generation of crop consultants!

When you get a chance, please congratulate Jeff on a great career.

Congratulations Jeff!

June 2015 Grain and Livestock Market Outlook
Brenda Boetel – Department of Agricultural Economics, University of Wisconsin-River Falls
715-425-3176

Corn
▪ Corn rated as good or excellent is at 74%, compared to 76% last year.
▪ Dollar has been down and lower against the dollar index, which has boosted corn and soybean prices.
▪ Traders tend to focus on value of the dollar when there is little supply and demand information.
▪ Export shipments have been lower than needed to meet current USDA forecasts of 1.825 BB.
  Commitments are also lagging.
▪ Price has rallied the first week of June and may break the two-month downtrend.
▪ Market is still oversold.
▪ RFS for ethanol was cut and will require 3.75 billion fewer gallons of corn-based ethanol, which would be
▪ 1.3 billion bushels of corn. The mandate hasn’t been binding recently as US has produced above it.
  For 2014 to 13.25 billion gallons from 14.4 billion
  For 2015 to 13.4 billion gallons from 15 billion
  For 2016 to 14 billion gallons from 16 billion
▪ December 2015 corn price on June 4, 2015 of $3.80 is down approximately 18% from last year’s June 4 price of $4.6175 and will likely continue downward till harvest.

Soybean
▪ Rain has been affecting western Midwest and there may be a decrease from the forecasted 87 Million acres projected plantings.
▪ Export demand for soybeans and meal is strong and continuing. Exports are on track to be 10 million higher than current USDA forecasts.
▪ USDA may drop carry by 10 million to 340 million bushels due to strong demand.
▪ Quarterly stocks report is due June 30 and will give direction for soy prices.
▪ RFS was bullish for soy oil as proposed levels for biodiesel were increased.
  ▪ For 2014 to 1.63 billion gallons from 1.28 billion
  ▪ For 2015 to 1.7 billion gallons from 1.28 billion
▪ November 2015 soybean price on June 4, 2015 of $9.1875 is down approximately 23% from last year’s June 4 price of $11.9475 and will likely continue to drop. This week’s increase has been due to weather concerns regarding planting, but even with a small decrease in acreage likely see prices continue to drop long-term.
▪ November futures prices will likely dip as low as $8.75.
Market wants beans sooner rather than later as seen in the spread and farmers are light sellers. Tiete-Parana waterway in Brazil, which typically transports 2.5 MMT of soybeans and corn, will reopen in second half of 2015. The reopening will cut transportation costs by approximately 10-15%.

**Wheat**
- Heavy rains may bring about yield losses.
- Likely see small increase in USDA ending stocks for 2014/2015 and 2015/2016 marketing years.
- New crop began on June 1.
- HRS spring wheat is at 69% good to excellent rating as of May 24.

**Poultry**
- Avian Influenza continues to impact turkey flocks in Minnesota and Wisconsin, and laying hens in Iowa.
  - Over 43.4 million birds have been affected
  - Expectations are for epidemic to be over by August.
- Chicken production has increased by 7.9% in 2015 over 2014 levels.
- Poultry stocks were up 21% from 2014.

**Pork**
- Pork production has increased by 6.8% in 2015 over 2014 levels.
- Pork stocks were up 19.8% from 2014.
- Pork exports are up 4% from 2014, but value was down 14% from 2014.
- West coast port congestion is past and the situation is returning to normal.

**Beef**
- Beef production has decreased by 3.7% in 2015 over 2014 levels.
- April beef exports were the largest since December but down 7% from 2014. Value is up 3% from 2014.
- Australia has not seen decrease in beef production and it is gaining a second tariff advantage in Japan.
- Packer margins have improved with higher wholesale beef prices. Feedlots continue to bid up calf prices higher than the feeder cattle index.
- Beef cutout values remain high although down slightly to a recent $248.48. Tight supplies though and continued strong demand may bring more record prices in June.

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**Vegetable Crop Update 6-5-15**

Amanda Gevens, Assistant Professor & Extension Vegetable Plant Pathologist

The 12th issue of the Vegetable Crop Update is now available which addresses the following topics:
- disease forecast updates (PDays and DSVs)
- importance of managing volunteer potatoes
- considering fungicides for late blight control in conventional potato of WI

Click [here](#) to view this issue.

**Vegetable Crop Update 6-10-15**

Amanda Gevens, Assistant Professor & Extension Vegetable Plant Pathologist

The 13th issue of the Vegetable Crop Update is now available which addresses the following topics:
- disease forecast updates (PDays and DSVs)
- season limits for mancozeb and chlorothalonil usage
- information resources for fungicide info for late blight control in potato

Click [here](#) to view this issue.
**Stalk Borer Management**

Bryan Jensen  
UW Extension

Insecticides is effective, timing is critical. Stalk borers overwinter as eggs laid on perennial grasses such as quackgrass and wirestem muhly during late August and September. Use your fall weed surveys to locate these area and/or concentrate your scouting efforts along fencerows, ditch banks, terraces, etc. After hatch, larvae will begin feeding inside grassy weeds as well as some broadleaf weeds. Soon those larvae will leave these early hosts and migrate into the first few rows of corn.

Stalk borers damage corn by feeding within the whorl then moving down into the stalk or by entering the plant directly into the stalk above ground. Initial feeding symptoms include light scarring of leaf tissue, holes in leaves and eventually wilted whorls. Treatments are best timed during the migration to corn but prior to larvae burrowing into the corn stalk. Larvae cannot be controlled once they have burrowed into the stalk and treatment after V7 is not suggested.


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

Brian Hudelson, Sean Toporek, Ann Joy and Joyce Wu

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 30, 2015 through June 5, 2015.

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

**Vegetables**

Tomato, Gray Mold (*Botrytis* Blight), *Botrytis cinerea*, Dane  
Tomato, Tomato spotted wilt, *Tomato spotted wilt virus*, Dane  
Tomato, White Mold, *Sclerotinia sclerotiorum*, Dane

For additional information on plant diseases and their control, visit the PDDC website at [pddc.wisc.edu](http://pddc.wisc.edu)
Wisconsin Pest Bulletin 6-11-15

Krista Hamilton, Entomologist

A new issue of the Wisconsin Pest Bulletin from the Wisconsin Department of Agriculture, Trade and Consumer Protection is now available. The Wisconsin Pest Bulletin provides up-to-date pest population estimates, pest distribution and development data, pest survey and inspection results, alerts to new pest finds in the state, and forecasts for Wisconsin’s most damaging plant pests.

Issue No. 8 of the Wisconsin Pest Bulletin is now available at:

INSIDE THIS ISSUE

LOOKING AHEAD: Continue scouting for true armyworm larvae

FORAGES & GRAINS: Potato leafhopper nymphs appearing in alfalfa

CORN: Stalk borer damage expected to increase by late June

SOYBEAN: Soybean aphids found in only four of 67 fields surveyed this week

FRUITS: Peak first flight of lesser peachtree registered in many orchards

VEGETABLES: Squash vine borer moths could begin emerging by June 16

NURSERY & FOREST: Scotch pines in Burnett County heavily infested with pine spittlebug

DEGREE DAYS: Growing degree day accumulations through June 10, 2015

Wisconsin Winter Wheat Disease Update 6/10

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

Winter wheat in much of southern and central Wisconsin is now in active anthesis or past anthesis. Spraying for Fusarium head blight (FHB) is not recommended once wheat has progressed past 7 days after anthesis. Wheat from the east central to northeast is likely approaching or at anthesis. Spraying for FHB on winter wheat in these areas is recommended. Caramba and Prosaro have proven to be the best products for FHB control, however, timing of application is critical. These products must be applied at the beginning of anthesis with good efficacy achievable up to 5-7 days after the start of this growth stage. The FHB Prediction Center is forecasting moderate to severe FHB from Fond du Lac up through Door County for ‘very susceptible’ winter wheat varieties (Fig. 1). Wheat at the susceptible growth stage is at risk and spraying in these areas is recommended. Additionally, sprays at this time will also help manage foliar diseases such as rust that may move in and reduce yield during grain fill.

Brian Mueller, graduate student in my program, observed the first pustules of stripe rust on winter wheat in Wisconsin in 2015 (Fig. 2). These pustules were found in Sharon, WI in the UW wheat variety trial on June 4. This location is west of Janesville, near the Illinois border. Pustules were located in just one plot on a single variety during that first visit. Scouting was conducted again on June 10 in wheat not treated with fungicide next to the UW variety trial at this same location. Additional stripe rust infections were observed, however, severity remains low. I suspect stripe rust will continue to increase in this area and areas to the north. Cool wet weather is predicted for the next 5-7 days. This weather pattern will be conducive for stripe rust spread.

Cephalosporium stripe (Fig. 3) has also been identified in several fields around the state. Cephalosporium stripe has been identified in winter wheat fields in Wisconsin over the last several years. Typically the disease has occurred in localized areas of the field, but in some cases it has been identified in wider areas depending on the varieties. No in-season management is available for Cephalosporium stripe. However, noting which fields and locations in fields that have symptoms will help for future decisions about winter wheat management in those areas. Varieties with genetic resistance are available. Also longer
rotations and better grassy-weed control can help reduce the severity of Cephalosporium stripe. For more information about Cephalosporium stripe CLICK HERE AND SCROLL DOWN TO THE CEPHALOSPORIUM STRIPE SECTION.

No other disease have been observed on winter wheat in Wisconsin this week. We will be scouting variety trials in the northeast later this week. We will continue to report any diseases we observe.

Registration is open for UW-Madison Integrated Pest Management Program’s two Crop Diagnostic Training Center workshops for 2015. The Diagnostic Troubleshooting Workshop will be held July 30, 2015. The Crop & Pest Management Workshop will be held August 13, 2015.

FAST and easy ONLINE registration by credit card:
https://www.patstore.wisc.edu/ipm/register.aspx

To view the full schedule with times and location:
http://ipcm.wisc.edu/downlo…/misc/2015CDTCworkshopsflyer.pdf