Identifying Optimal Soybean Planting Dates Across The U.S.

Shawn P. Conley, Soybean And Wheat Extension Specialist, Department Of Agronomy, University Of Wisconsin

This is a summary of a 6 page report you may view or download here. Read the full article by clicking here.

- Across the U.S., planting 12 days earlier than what was practiced during 2007–2016 would have resulted in a 10% greater total yield.
- Southeastern state producers could adjust planting dates by 30 days earlier than those typically used.
- Soybean producers in Iowa and Ohio could have experienced a 0.4 and 1.1 bu/ac yield increase, respectively during the past decade by 8–10 days earlier planting, respectively.
- In Nebraska, Illinois, and Wisconsin, producers appear to be already using near optimum planting dates.
- Minnesota, North Carolina, and Kansas would have experienced the greatest monetary gains from earlier planting that could have reached ca. U.S.$0.9–1.5 billion.
- Overall, planting date adjustment across the continental U.S. from 2007–2016 would have resulted in a cumulative gain of ca. U.S.$9 billion.

Note that the typical planting date is the average planting date in farmer's fields (since trial planting dates are similar to farmers planting dates), while optimum planting date is the date that planting would have resulted in highest yield (based on our analysis). [continue online]
decisions regarding crop destruction here are a few considerations for assessing your spring 2019 winter wheat stands.

As you look across your wheat landscape vibrant green patches will be interspersed with drab brown areas. The brown areas do not necessarily indicate those plants are dead.

**Arlington Winter Wheat Variety Trial – Roadside Assessment (pictured above)**

Planting Depth and Tiller Assessment

Growers and consultants can either reassess in a week or pull plants from the field and place in warm environments. Milk houses and kitchens work perfect. Root regrowth will appear from the crown and will appear as vibrant white roots as shown in the next picture.

If plants do not recover our critical threshold for turning over a field is 12 to 15 live plants per square foot. Below this threshold (< 12 plants per square foot) is an automatic replant decision.

In regards to N application timing for winter wheat that decision is pretty darn simple. Research from Dr. Carrie Laboski’s program indicates that the optimal time to apply nitrogen to wheat in WI is green-up regardless of tiller count. For more detailed information check out her blog article here: Time your spring nitrogen applications to maximize winter wheat yield.

Also remember that wheat grain in itself is only part of the revenue you capture with winter wheat. The price of winter wheat straw remains strong and roughly ~11% less acres of winter wheat were established last fall than the previous year (2017/18). Please consider that revenue stream before any replant decisions are made.

If you decide your wheat crop is not worth keeping (i.e. you can tell your neighbors your planted a planned cover crop last fall) please remember to terminate it a minimum of two weeks before you establish your next cash crop. Click for more details on **Cover Crop Do’s and Don’ts**

**Soybean Planting Date And Maturity Group Considerations Moving Into 2019**

Adapted from original article written by Dr. Adam Gaspar And Dr. Shawn P. Conley, 2017

Summary: Early planting is critical for higher yields through increased light interception, and can be further maximized by planting longer MG’s. However, variety selection heavily based upon the MG is not the “silver bullet” for increasing yields. Yet, it does provide a strong “potential” for higher yields with no additional dollars spent, especially in early planting situations. Therefore, growers should give consideration to MG when select-
How Thick Should I Plant My Corn? What Are Other Farmers Doing?

Dr. Joe Lauer, UW-Madison Agronomy and Extension State Corn Specialist

Farmers continue to increase corn plant populations in Wisconsin and the U.S. Midwest. Every year as part of the Objective Yield Survey, the USDA-NASS counts plants in September at 150 locations in Wisconsin. Similar data collection is done in other corn producing states of the U.S. Midwest. Corn plant density in Wisconsin during 2018 was the highest ever measured at 30,650 plants/A. In 2018, Illinois had the highest plant density at 32,000 plants/A, followed by Iowa (31,100) and Minnesota (30,900).

In 1982, corn plant density ranged from 19,400 to 22,200 plants/A. Minnesota has consistently had higher average corn plant density than other states (Figure 1). In Wisconsin plant densities were 20,300 plants/A in 1982. Plant density has since increased at the rate of 267 plants/A*yr. Iowa and Illinois have had the greatest rates of change at 308 plants/A*yr.

Adjusting plant density for your fields is one of the key production decisions for producing high yielding corn. Clearly farmers are adjusting plant densities higher. Farmers still have numerous questions about plan density including:

1. What plant density achieves maximum yield (MYPD)?
2. What plant density achieves the economic optimum (EOPD)?
3. Are the MYPD and EOPD the same for grain and silage?
4. Do hybrids differ for MYPD and EOPD?
5. Do fields differ for MYPD and EOPD?
6. How does risk change, especially during years of drought or lodging?
7. What happens to plant bareness?
8. Do precision farming variable rate technologies make a difference?

Over the next few articles we will try to address some of these questions. There is likely no standard recommendation for achieving MYPD or EOPD given that hybrid, environment, and economics (grain price and seed price) affect these measures. Rather MYPD and EOPD are moving targets where if we can get to within 95% of these values, it might just have to be good enough.

One approach that might be useful for your farm is to plant fields with a target plant density based upon your experience. Then for one round (or pass) in a couple parts of the field, increase plant density 10% (Figure 2). If harvest yield is affected, then adjust plant density the following season. If not, you are out the difference of ROI for seed.

Figure 1. Corn plant density changes over time for states in the U.S. Midwest Corn Belt. The rate of change (slope) in plants/A*yr since 1982 is reported for each state. Data derived from USDA-NASS.

Figure 2. An example of using reference strips for testing maximum yield plant density. Plant most of field to plant density based upon experience. In one strip (ideally 2 or 3) increase plant density 10%. Measure yield at harvest.
The 2019 Wisconsin Soybean Yield Contest Is Announced!

Shawn P. Conley, Soybean And Wheat Extension Specialist, Department Of Agronomy, University Of Wisconsin

The Wisconsin Soybean Association (WSA) Soybean Yield Contest is organized to encourage the development of new and innovative management practices that highlight the importance of using sound cultural practices in Wisconsin soybean production systems.

Read the full article at: https://coolbean.info/wp-content/uploads/sites/3/2017/10/2019_WSMB_Soybean_Yield_Contest_Entry_Form.pdf

---

Wisconsin Herbicide Mode Of Action Chart

Daniel H. Smith, Nutrient and Pest Management Program, University of Wisconsin-Madison

The Nutrient and Pest Management and the Wisconsin Cropping Weed Science programs have recently updated the Wisconsin Herbicide Mode Of Action Chart.

This 4 page publication provides herbicide mode of action, group number, site of action, chemical family, active ingredient, and example trade names for herbicides currently registered in Wisconsin. The second page of the chart details registered herbicide combination products in Wisconsin including the trade name, active ingredients, trade name examples included in the premix, and site of action group.

With the widespread occurrence of herbicide-resistant weeds, it’s important that farmers and crop advisors select effective herbicides from multiple sites of action. The intent of this publication is to help farmers and crop advisors understand the different sites of action and products registered in Wisconsin and assist with their herbicide selection.

More info on the Wisconsin Cropping Weed Science program can be found here: http://www.wiscweeds.info/

The Herbicide Mode of Action chart can be found here: https://ipcm.wisc.edu/download/pubsPM/Herbicide-Mode-of-Action.pdf

---

Brown Midrib and Leafy Corn Silage Performance + A New BMR Economics Calculator

Dr. Joe Lauer, UW-Madison Agronomy and Extension State Corn Specialist

Commercial corn hybrids grown in Wisconsin are often marketed to dairy farmers as “silage-specific.” In the UW Corn Performance Evaluation Trials, conventional hybrids have similar yield and quality as bio-engineered corn hybrids. However, we often see yield and quality differences between silage-specific “leafy”, brown midrib (bmr), and conventional/bio-engineered hybrids. In addition, companies often market newer 3rd- and 4th-generation silage-specific hybrids implying that breeding progress has improved performance.

Brown midrib corn (picture above) has a distinctive brown midrib on the corn leaf. These hybrids typically have greater digestible energy in the stover (stalks and leaves). Leafy hybrids have 2-5 more leaves above the ear compared to conventional hybrids.

Figure 1 shows the relationship between Milk per Acre (yield) and Milk per Ton (quality) for bmr and leafy hybrids. In most years leafy hybrids tend to be average for Milk per Acre and below average for Milk per Ton. BMR hybrids tend to be below average for Milk per Acre and above average for Milk per Ton. For either hybrid type there does not seem to be a trend for newer generation hybrids.

Both bmr and leafy hybrids have lower than average starch content compared to the overall mean of all hybrids in the trial ultimately affecting both yield and quality (Figure 2). Leafy hybrids have average ivNDFD, while bmr hybrids have above average ivNDFD.

Many research reports have concluded that bmr corn silage increases milk production in cows. Our data consistently shows higher Milk per Ton, but lower Milk per Acre yield due to lower forage yield primarily due to grain yield. Since there is typically no premium paid for higher quality corn silage, I have often said, “Buy all of the bmr corn silage you can buy, but be careful about growing..."
it on your farm. " Breeding progress has likely improved silage-specific corn hybrids, but there is a corresponding genetic improvement going on with conventional and bio-engineered hybrids as well.

The BMR Corn Silage Calculator: What are the economic trade-offs for yield and quality?

To better understand the economic effect of bmr corn in dairy operation, Dr. Randy Shaver et al. have developed a spreadsheet that can be downloaded here and here. This MS Excel spreadsheet calculates milk production of brown midrib (BMR) corn silage hybrids versus conventional hybrids. The spreadsheet calculates differences based cow herd size. Dr. John Goeser (Rock River Labs and adjunct UW faculty) has produced a video explaining how to use the spreadsheet here.

Article is from Dr. Lauer’s Corn Agronomy blog.

Vegetable Crop Updates Newsletter April 3, 2019

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

Welcome to the first edition of the University of Wisconsin-Madison Extension Vegetable Crop Updates Newsletter! In this issue, we address management and implications of potatoes left in the field from 2018, access to the 2019 Commercial Vegetable Crop Production Management guide (A3422), and updates on Food Safety Modernization Act with relevance to hops.

Update 1, April 3, 2019
• Managing potatoes left in the field from 2018
• Access to the 2019 WI Commercial Vegetable Production Guide
• FSMA Update for Hops

WSMB Free Soybean Cyst Nematode Testing Program Is Back In 2019

By Ann Macguidwin, Damon Smith and Shawn P. Conley, UW-Madison Agriculture Specialists

The WI Soybean Marketing Board (WSMB) sponsors free nematode testing to help producers stay ahead of the most important nematode pest of soybean, the soybean cyst nematode (SCN). Eggs of SCN persist in the soil between soybean crops so a sample can be submitted any time that is convenient. The soil test report indicates the number of eggs in the sample and is useful for selecting the right variety for the next soybean crop. Retests of fields planted with SCN-resistant varieties over multiple years shows how the nematode population is responding to variety resistance and provides an early warning should the nematode population adapt to host genetics.

In the spring of 2012, the WSMB expanded the nematode testing program to include other pest nematodes in addition to SCN. These nematodes are less damaging to soybean than SCN but can cause enough yield loss to...
warrant treatment. As is the case for SCN, there are no rescue treatments for nematodes so the primary purpose of this year’s soil test is to plan for next year’s crop. Soil samples collected in corn for nematode analysis have predictive value for explaining yield if they are collected before the corn V6 growth stage. Sampling early in the season will provide information about the risk potential for the current corn crop AND the next soybean crop.

The assays used to recover nematode pests other than SCN in soil require that the nematodes are alive. So, it is important to keep the samples moist and at least room temperature cool. Collecting a sample that includes multiple cores ensures that there will be plenty of root pieces to assay. It is not necessary to include live plants in the sample.

The soil test report will indicate which pest nematodes are present and at what quantities and their damage potential to soybean and corn based on the numbers recovered.

For more information on SCN testing and management practices or to request a free soil sample test kits please contact: Jillene Fisch at (freevecntest@mailplus.wisc.edu) or at 608-262-1390.

Remember the first step in fixing a nematode problem is to know if you have one! The WSMB sponsored nematode testing program provides you that opportunity. So Wisconsin farmers…”What’s you number?”

If you want to know what a SCN “HG” test is, here is a new video from UW IPM

[Watch the UW IPM video channel](https://youtu.be/fTFCyC8Hd4)

[Click to view more information on our WI SCN testing program or visit The SCN Coalition.](#)