

Post Harvest 2018 Agronomy Newsletter

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Topics:

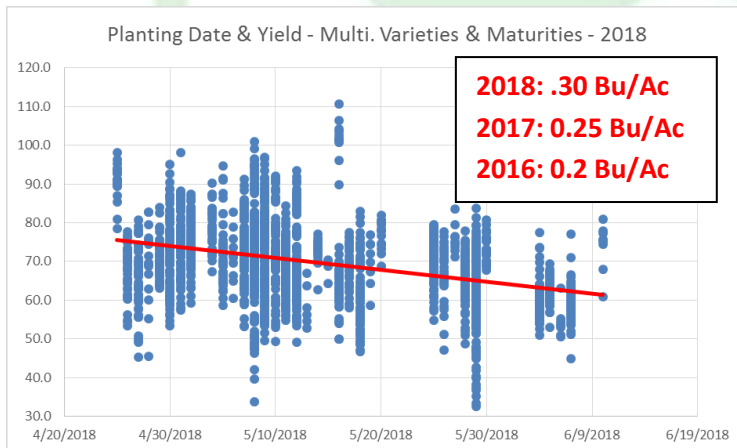
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Thank You! All of us here at Max Delagrange INC. would like to thank you for your business and the friendships we have with each one of you. It has been a challenging fall for some of you, but we appreciate you allowing us to work through these challenges together.

– Max, Dane, and Alex

Soybean Yield and Planting Date

The last several years the universities and the seed industry have placed an emphasis on planting soybeans early. The idea is that maximum yield cannot be reached without timely planting. The phrase “Early Planting” means something different to every grower. This may be due to the geography, soil type, or tillage practices. The goal of pushing for earlier planting dates is not to get everyone to plant in the first week of April, but it is to get growers to consider planting their soybeans earlier than what is normal for them. Soybeans are much more resilient than many give them credit for. However, it is more important to plant into good seedbed conditions. Planting early into a poor seedbed can offset the yield benefits that will be discussed below.



The graph to the left displays the Pioneer soybean plots in Northern Indiana in 2018. It is plotted by the planting date on the bottom axis, and the yield of each variety on the left side axis. The red line shows the general decline in yield as planting date gets later. In 2018, there was an average .3 bu/ac lost per day planting date was delayed. Over the last 3 years, the average has been .25 bu/ac per day that planting was delayed.

There are several reasons why early planting can lead to higher yields. Early planting gives the grower the ability to plant a fuller season soybean variety without delaying harvest. Full season varieties generally carry a higher yield potential. When planted early, soybeans generally end up with a shorter plant stature. They are spending less energy on plant growth, and are able to devote more to setting pods and filling them

out. Soybeans are also able to reach key reproductive stages (R2-R4) during the longer growing days of the summer. With longer days they are able to capitalize on more photosynthesis, and in theory add more yield.

While the benefits of early planted soybeans are clear, there are still many risks to be aware of. Cooler soils lead to slower germination, leaving the seed exposed to soilborne diseases such as Phytophthora, Pythium, and Fusarium. These can result in stand deficiencies that may negate any yield benefit. Bean Leaf Beetle damage is also more likely with early planting. A slow growing seedling is less able to outgrow the damage of higher beetle populations in the early season. It is our recommendation that a fungicide/insecticide seed treatment is used in these early planting scenarios to help protect the seedling from many of these risks.

Sulfur on Soybeans: Why no Response?

There was a lot of buzz this spring about a pre-plant application of AMS on soybeans. It is well known that sulfur levels are falling in soils due to cleaner air and less acid rain. In many cases the soil levels are falling below critical levels for high yielding corn and soybean crops. It would seem likely that crops would respond to an application of a product like AMS. However, a large scale Pioneer study this growing season showed that it is not a sure thing. There are several things that will factor into the likelihood of a return each year including; soil type, CEC, weather, and mineralization.

Soil texture and CEC (Cation Exchange Capacity) seem to have the largest effect on whether or not an AMS application will show a positive return. Sulfur is a mobile nutrient, meaning it can be leached through the soil profile. In coarse textured soils (sandy) or soils with a low CEC, sulfur is very mobile. With this type of soil, it is important to supply those nutrients to the crop each year since the excess is often lost through leaching. Soils with higher organic matter and CEC are able to mineralize more sulfur, as well as hang on to the sulfur that is there.

CEC	Treatment	Avg. Yield	# Locs
< 7	Additional Sulfur	68.05	2
	Grower Standard	64.55	2
7 - 14	Additional Sulfur	71.51	8
	Grower Standard	70.74	8
>14	Additional Sulfur	71.51	2
	Grower Standard	70.74	2

The weather during the growing season can have a large impact on the crop's response to a sulfur application. A favorable growing season with ample heat and moisture will lead to higher rates of mineralization. Therefore, any extra sulfur added in the AMS may not be necessary. In a year of saturated soils and cooler temperatures, mineralization

is lower. This seems to be the type of year that would favor a yield gain. The soil would not be able to supply its normal amount, so the sulfur added from the AMS would be beneficial. In cool/wet year soybean nodulation is also inhibited, which can lead to a nitrogen deficiency. It is possible that the additional nitrogen in AMS could provide a yield benefit in that type of environment as well.

To summarize, a preplant application of AMS is not a guaranteed way to add yield to your soybeans. However, in coarse textured soils low in CEC, it has shown a higher yield response. It is

not likely that there will be a yield response every year, but on certain years where mineralization is slowed it may have a larger benefit. With generally good growing conditions in 2018 and very little coarse textured soil in Eastern Allen and Dekalb counties, it was not a big surprise to see little to no yield response this year. This will be something that will be studied a great deal going forward with much more information to come.

Turning Combine Seat Observations into Action

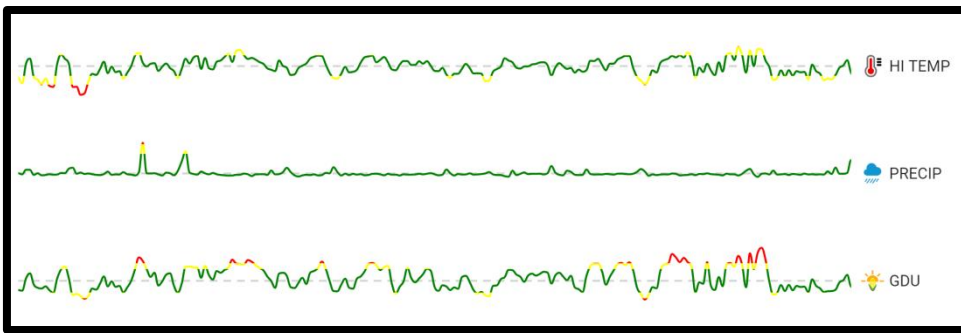
With the end of harvest recently in the rearview of many growers in the area, now is a good time to file back through all of the observations that were made from the combine seat. Harvest is not only the time of year when we bring in the crop that we have spent so much time on, but it is also a time to revisit all of the decisions that went into making that crop. From a combine seat, a grower can observe each and every field at a level of detail not possible throughout the whole year. Things like final stand, hybrid performance in certain soil types, management practices, trouble areas, and even unidentified problems all come into the picture as the combine goes through the field.

While these are still fresh in our heads, it is the best time to put these observations to paper. If a grower noticed a certain hybrid or variety performed better on one soil type vs. another, review the yield maps to confirm it. Emergence issues can often be seen throughout the entire growing season. Was this a result of poor planting conditions, a rainfall event following planting, or maybe a poor emerging hybrid? Harvest time is great for reviewing different management practices that were tested that year. Write down your observations of fungicide treatments, foliar fertilizers, different tillage practices, and any other new management practice that was implemented this year. There may even be an area of a field that the performed much lower than expectations. The cause could be a nutrient deficiency or compaction, or many other factors.

It can be helpful to compile all of these notes onto one list. Some may require more investigation. Look back through yield maps, soil tests, or crop health images to see if they confirm your initial thoughts. It may be necessary to go back several years to see if you have a pattern. While we never know what kind of growing season we will have next year, one of the best ways to make progress on our farm is to learn from our mistakes. Challenge yourself to make a plan for next year to implement something you learned through this growing season. Each year is a chance to learn more about our farm. We are always eager to help our growers get to the bottom of a problem, or test new management practices as well.

What is a “Normal” Year? How to Plan for Variability

It is safe to say any farmer would have a hard time telling you the last time we had a “normal” growing season. Year in and year out we are presented with unique challenges at different times. One year may be a wet spring and dry summer, and the next could be the opposite. Someone once said, “Normal is the average of all of the extremes.” While I am not saying that climate change is real and we are all doomed, it is important to realize that we are rarely ever presented with ideal growing conditions through a whole crop season. Knowing this, it is important



as farmers to put a plan together that takes into account the variability that we experience from year to year. The chart to the left, (April 1st-November 1st) shows how our

temperature, precipitation, and GDUs can vary throughout a growing season. Having a plan in place to help mitigate this variability helps us to “hope for the best, but prepare for the worst.”

One of the simplest ways to protect ourselves from weather variability is to plant hybrids that bring high yield potential as well as stability and stress tolerance. With the advancements in breeding the last decade or more, it is possible to have a stress tolerant hybrid with very minimal yield potential difference. Pioneer places a large emphasis on stability as a new product is coming through research. Products are scrutinized for their yield potential, but they are also screened for how well they perform across several years and a wide variety of soil types and environments. This ultimately helps the farmer by creating a product that can yield with the best on a good year, but also protect them from a devastating loss on a poor year. Two products in our lineup that fit this description are P0688AM and P0977AM.

Hybrid and variety placement can be just as instrumental in protecting against variability. High yielding but poor stress tolerant hybrids still have a fit on many of our farms, if they are placed in the right field. We put Pioneer’s hybrid ratings to the test in our local plots, and we base our placement recommendations on them. This is one of the main reasons we try to sit down with each grower and lay out a plan for hybrid placement on each farm and field. We are ultimately trying to put each and every farmer in a position where they are most likely to succeed.

Weather can sometimes throw a wrench into our plans before the season ever starts. Having a plan and several backup plans is crucial to managing the variability that we will see each year. Weather variability will affect agriculture every year, but ultimately farmers will find a way to overcome anything that is thrown at them. This has been proven time and time again.

	P0977	P0843	P0825
CRM	109	108	108
Silk CRM	110	107	111
Stalk Strength	6	8	6
Root Strength	6	5	4
Stress Emerge	5	6	5
Staygreen	6	7	8
Drought	8	8	6
Test Wt	6	6	5
Plant Ht.	7	4	6
Ear Ht.	7	6	6
Brittle Stalk	7	3	7
Husk Cover	7	5	4
Gray Leaf Spot	5	5	6
Northern Leaf	5	6	6
Goss's Wilt	5	5	7
Diplodia Ear Rot	5	5	5
Anthrax Stalk	4	6	5
Fusarium Ear Rot		6	3

Product Highlight: P0977AM

Strengths: Excellent stalks and roots, great drought tolerance, good test weight and grain quality, high yield potential with stress tolerance to back it up. Excellent complement to P0825AM on lower productivity soil!

Weaknesses: No major watchouts, below average staygreen, pale yellow color at emergence

6.2 bu/ac advantage vs. competitors in 2018!

