



The Chem Gro Crop Watch, Issue #5, 3/28/18

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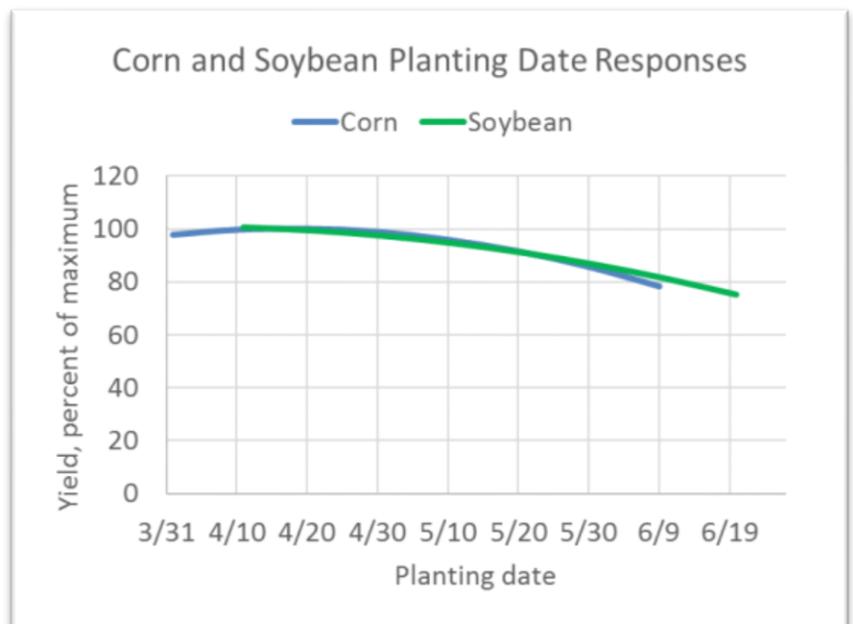
To Plant or Not to Plant, that is the Question

It's almost April and it looks like we will be headed into a cold, wet spring this year as planting season approaches. With bare soil temperatures in the top 2" of soil only getting around 43 degrees it seems as though it might still take some time for us to get into the fields for planting. Like always, I would like break down this article into a few subtopics of interest relating to this time of the year. So feel free to jump around to whatever sections interest you the most as I will be talking about planting date, seed and in furrow products, and we will wrap this up by talking a little bit about first pass chemistry's.

Planting Date

Plant earlier plant more, that seems to be the motto of every seed company in the industry now but is it really worth it or is it all just seed company propaganda? First, lets talk about ground temperature. For corn and soybeans, the general standard for optimum planting temperature is right around 50 degrees and while it is possible for germination to occur below that 50 degree mark it might take some time. That is not to say that neither corn nor soybeans will germinate at colder temperatures it just takes longer for the necessary processes to occur within the seed for that to occur. Below is a yield potential graph from Emerson Nafziger at the University of Illinois.

Traditionally, we would think that we would see a more rapid decrease in yield potential loss in corn compared to soybeans as planting date is delayed, but as you can see that is not necessarily true as both corn and soybeans yield potential curves are similar to about May 20th. This, in a way, verifies the soybean seed industry claims that earlier planting produces bigger yields. This makes sense as soybeans are considered short-day plants and respond to nights getting longer by starting their reproductive cycle. This means that flowering



in soybeans occurs around the same time for soybeans that are of the same relative maturity group, regardless of when they were actually planted. So earlier planted soybeans have more time to grow and increase their yield potential. Corn on the other hand is a day-neutral plant and will start to go into its reproductive cycle without any influence from day length. In fact, growing degree days are a better indicator of when corn will reproduce and it follows that the earlier you plant, the more opportunity you have to put on growth and in turn, produce more yield. As far as an actual planting date is concerned, I am going to disappoint and elect not to do so as your planting conditions are going to be more of a factor in that plant or no plant decision than anything. This means we must check our soil temperature to see if we have reached that 50-degree mark. Make sure your soils are at the right moisture levels to plant because there is no reason to plant in a soil that is too wet and will inevitably lead to issues with sidewall compaction from your planter. One good test for both tillage and planting is to take soil from the top 2 to 3 inches of a field, ball it up, and try to form a ribbon like demonstrated below. If the ribbon breaks before it reaches ½ inch in size than your soil is ideal for tillage and planting.



Be sure to check equipment and make sure your settings are all correct and be sure to think about your planting depth because corn should only be planted between 1 1/2 to 2 inches deep and soybeans should be planted about 1 to 1 1/2 inches deep. Look at the weather forecast and be aware of any cold spells that might lead to frost or cold conditions which will slow your crops growth. Make sure that the first portion of water that your seeds receive while in the soil isn't cold and by that, I mean look ahead in you weather forecast and check to see when the next rainfall event will be and if the temperature will drop at that time or go up. This is important because, given time, your seeds will take up enough soil moisture to begin germination but if the first water they receive is from a cold rain, the very nature of that seed changes and your crop might start off the season stressed. These factors will make the difference in your planting success and could mean the difference between planting now or waiting another week.

Seed and In Furrow Products

What you put on your seed and what you put with it can make a big difference when you are making that decision to plant. When I talk about seed and in furrow products I am really talking about seed treatments and starter fertilizers.

Seed treatment is a useful tool in agriculture because it is the easiest way to guarantee that whatever product you want to have around or in the seed when it is planted gets there. Products range from fungicides to insecticides and even biologics, all of which are designed to help seed fight off pests and emerge uniformly even in less than ideal situations. One example of this is Monsanto's Acceleron seed treatment, which at its most basic package, includes a

fungicide which prevents early season diseases and has a plant health benefit which gets our crops growing quicker. Another product that has proven itself as a seed treatment is BioForge ST. What is unique about BioForge is that it is not a pesticide but a biostimulant which acts to promote growth and reduce crop stress. As a product, it has been shown by multiple university studies to work in field and can lead to better yields. If you have any questions about seed treatments and which ones might work for you feel free to ask any one of our seed salesmen which product might work for you.

Starter fertilizers have been around for decades and the idea has come and gone as the years have gone by but lately the topic has reemerged. As farmers have began planting earlier and earlier, the need for a readily available source of nutrients in cold early spring soils has become apparent. Our old go to starters such as 10-34-0, 3-18-18, and 6-24-6 have become more common as more and more planters are being fitted with in furrow or 2x2 starter systems. This placement allows us to put nutrient down in close proximity to the plants where a little fertilizer can go a long way. This also opens up the possibility of delivering micronutrients to the root zone of a crop where it can be utilized all season long. In addition to micronutrient, pesticides and biotimulants can be added to the mix to provide additional protection and plant health benefits to the plant. An example of two such products is Ethos XB and EndoPrime. Ethos XB contains an insecticide to create a zone of protection around the root zone and a biological component designed to suppress early season diseases. EndoPrime on the other hand works with 4 beneficial fungal strains which colonize the plant roots to enhance the plants nutrient uptake ability throughout the growing season.

Together, seed treatments and starter fertilizers work to promote early season growth to help your crops overcome poor early season conditions which might have prevented farmers in the past from planting earlier. That is not to say that by putting seed treatments on your soybean and corn seed you will be able to go into the fields in March and plant with confidence, but it can help ease your mind when planting in mid-April and less than ideal weather pops up.

First Pass Chemical Considerations

It would be foolish to talk about planting any crop without at least touching on your first pass chemical plans. After all, the most successful herbicide plan is to start clean and so you can stay clean. With this in mind, it is best to look over your initial chemical plans to make sure changes don't have to be made. Check problem fields for winter annuals and make sure that you have an appropriate burndown herbicide planned for fields, like the one on the right, that are starting to get a little bit of color from winter annual weeds. If tillage is your plan then make sure that the winter annuals will not interfere with your tillage pass. If an issue does look like it will occur, be sure to change your plans and have a burndown chemical added into the tank mix and get it sprayed early so that you may allow for the chemical to do its job.

Remember that certain chemicals such as 2,4D have planting restrictions and might need to be applied a week or two ahead of planting. If you have cover crops and you are only looking to get the soil health and nutrient



reduction benefits from them, then make sure to terminate them earlier in April before they start to get to much vertical growth. By terminating early, you will also allow for more chemical to get to the soil which will help you utilize your first pass chemical to the fullest.

Final Thoughts

I would like to finish off by wishing everybody a safe and productive spring this year. Maybe one of these days the clouds will open, the sun will come out, and we will be back in the fields ready to do some work. As I eluded to earlier, the ideal planting date may not be as set in stone as we once might have thought and a whole host of factor come into play when making that plant or no plant decision. If you ever have any questions or concerns about when you should be planting, don't hesitate to call or stop by and ask anybody here at Chem Gro what we think and we will go over all of your plans to see when the best time for you might be. Like always, my job is to give you the best advice possible, what you do with it is up to you.