VOLUME 4
ISSUE 3

SUMMER
2023

Quarterly
Newsletter

*the*SeedScoop

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Upcoming Dates

June 30th
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August 1st
Miami Field Day for Pioneer Customers

August 16th
Final Entry Deadline for NCGA Yield Contest

September 30th
Deadline to spend TruChoice chemical prepay funds

November 30th
- NCGA Yield Contest Harvest Submission Deadline
- Missouri Soybean Association Yield Contest Harvest Submission Deadline (no pre-entry needed)

CONTACT US

KNIPMEYER SEED
PO Box 360 | 902 E 1st St.
Concordia MO 64020

JEFF KNIPMEYER
660-229-2656
Jeff.Knipmeyer@plantpioneer.com

LAUREN KNIPMEYER
660-641-6675
Lauren.Knipmeyer@plantpioneer.com

FIND US ON SOCIAL MEDIA:
@KnipmeyerSeed

SUMMER REMINDERS

Planting season has wrapped up for the most part, with only double crop soybeans left to plant in our area. Here's a few summer reminders to keep in mind over the next several weeks.

WHEAT SUPPLY | Wheat supply is typically limited, especially as we continue later into the summer. With wheat prices still attractive, demand is higher than normal. If you haven't placed a wheat order yet, give us a call as soon as possible so we can get enough supply spoken for.

CEREAL RYE | If you think you'll be putting in cereal rye (or other cover crops) this fall, please give Jeff a call and let him know approximately how many acres you will be seeding so we can get an order placed.

AGRONOMY TEXT UPDATES | During the growing season, Jeff sends out weekly agronomy text updates from our Pioneer Field Agronomist, Jaime Farmer. If you are not currently on the distribution list and would like to be, please give Jeff a call to be added.

YIELD CONTESTS | If you would like to enter one of your corn hybrids or soybean varieties into the NCGA or MSA Yield contests, please let us know so we can get you entered before the contest deadlines pass (see dates to the left). Entry fees are paid for by Pioneer.

SUMMER VISITS | This year was the smoothest and earliest planting season we've experienced in several years. Although it's still dry, both corn and soybeans went in well and were able to establish good initial stands with little to no replant situations. Now, we pray for rain over the next couple months to give us a good crop. Please let us know where we can be of service to you during the summer months. Jeff will be looking at fields and test plots all summer. If there's any fields you specifically want him to look at, please give him a call. We want to thank you again for your support and choosing to do business with us.

MIAMI FIELD DAY

Several of you attended the Miami Field Day for Pioneer customers in 2019. Pioneer is hosting a customer field day again this year on Tuesday, August 1st. Formal invitations will be going out this summer, and we will get RSVPs from you at that time. However, we wanted you to go ahead and mark the date on your calendar now and take a look at some of the topics that will be covered. We hope you can make it!

WHEN: Tuesday, August 1st, 2023
WHERE: Miami Research Station (Miami, MO)
TIME: 9am Registration, 9:30am Tour Begins

► *Field Day Topics* ◄

- Pioneer's Short Stature Corn
- Building on the A-Series Advantage
- New Corn Chemistry
- Industry Leading Seed Treatment
- Soybean Crop Protection
- Digital Tools
- New Traits for Pioneer corn

PRODUCT SPOTLIGHT

P13050AM

P13050AM is a new 113 day corn hybrid with excellent drought tolerance. This new hybrid looks like it will be a good fit on those in-between and upland acres, with more top end yield potential than some of the traditional drought tolerant hybrids.

P42A84E

P42A84E is a 4.2 maturity Enlist E3 soybean. This is a versatile soybean that works well on both thinner ground and productive soils. It has excellent harvest standability and above average SDS tolerance.

UNEVEN CORN FIELDS—WHAT CAUSED IT?

While most fields had good initial stands of corn this year, we have visited several corn fields that were experiencing unevenness throughout the field. This was caused by one of three different things (or a combination), depending on your situation. Below are the three different scenarios we've consistently seen this year. If you experienced any of these, hopefully it can help you make adjustments for future years and have a better idea what might have happened in your field.

Scenario 1: Anhydrous Burn

With the abnormally dry spring, we have seen a lot of fields that experienced NH3 burn from spring applied anhydrous. Typically, the recommendation is waiting 5-7 days to plant after application of the NH3. This year, we've seen fields with 3 weeks between application and planting still experience NH3 burn. This has resulted in stunted root growth and stunted corn plants, which has been exemplified by the dry conditions. In some areas, this even resulted in dead plants where the anhydrous burn actually killed the radicle and the seedling died. In general, the anhydrous burn severity varied greatly depending on the amount of time between application and planting, and the amount of NH3 applied. For example, 170lbs of spring applied NH3 wasn't quite as detrimental as 220lbs of spring applied NH3. Figure 1 shows an example of a corn plant Jeff dug that shows burning of the radical and lateral seminal roots.

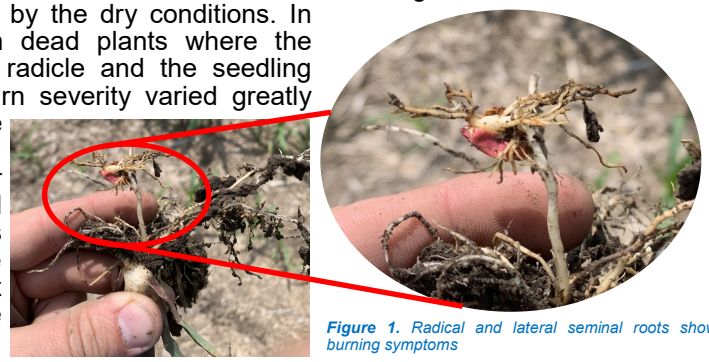

Figure 1. Radical and lateral seminal roots show burning symptoms

Scenario 2: Inadequate Planter Downforce

The dry conditions we started to see mid to late April created some difficulty in getting uniform seeding depth. Guys started planting when we had good conditions and very quickly saw their fields get dry and hard. Many didn't get out to check seeding depth on a field by field basis or make planter adjustments as conditions changed. As a result, several guys have corn planted less than a 1/2 inch deep in spots of the fields where we had hard soil. We then ran into the situation where the corn planted at 2 inches had enough moisture to germinate, but the shallow corn sat in dry soils and took a rain to get germinated. Consequently, corn was uneven and variable throughout the field as soil conditions and moisture changed. Figure 2 on the left shows two different plants dug up that were planted 1 inch deep.

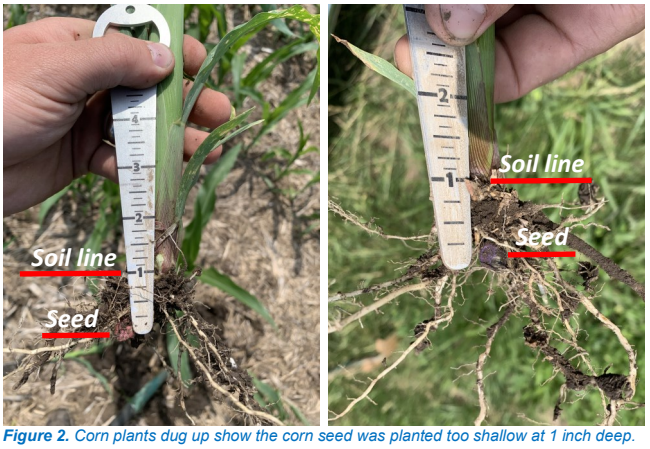

Figure 2. Corn plants dug up show the corn seed was planted too shallow at 1 inch deep.

Scenario 3: In the field a day or two early

The previous 4-5 years have been wet springs, and if guys didn't take advantage of a small planting window, they sat on the sidelines for a while before the next dry opportunity to plant corn. This year, it gave some guys anxiety about getting corn planted. We've seen several fields where we were planting a day or two early, before soil conditions were actually fit to be planted. Therefore, the corn was planted a pinch wet, and it created sidewall compaction resulting in a lot of tomahawk roots. Many years we get rain afterwards and the corn roots can penetrate better through the compaction. However, with us being abnormally dry this spring, those plants couldn't grow past the compaction and now have restricted root growth. We've seen corn plants with tomahawk roots that are 2 feet shorter than corn in other parts of the field that had fit soil conditions at planting and no root growth restrictions.

Figure 3. Roots showing signs of sidewall compaction

Key Takeaways: Unfortunately, the anhydrous burn, poor planting depth, and root restrictions will continue to haunt us. While fields are appearing to even out or "grow out of it", all of these scenarios will likely reduce our top end yield potential in those affected fields and take a toll on the stress tolerance and nutrient uptake of the crop. We've already noticed that these affected fields have been the first to show nutrient deficiencies and roll under stress due to restricted root growth. It will be something to keep in mind this fall when the combines start rolling in those specific fields.

PLOTS *in* PROGRESS

We planted four corn test plots and two soybean test plots this year in our local area. We've listed planting information below. If you'd like to walk through these plots during the growing season and look at new hybrids and varieties, please feel free to reach out. Yield results will be published in our fall newsletter.

CORN

Planted: 4/7/23
Population: 32.5K
Tillage: Convent.
Location: Hwy 20
13 Hybrids:

- P0859AM
- P0953AM
- P09944AM
- P1027AM
- P1164AM
- P1170AM
- P1222AM
- P13050AM
- P1359AM
- P14830AM
- P1608AM
- P1742Q
- P17677AM

CORN

Planted: 4/11/23
Population: 30K
Tillage: Convent.
Location: I-70
14 Hybrids:

- P0859AM
- P0953AM
- P09944AM
- P1027AM
- P1164AM
- P1170AM
- P1222AM
- P13050AM
- P14830AM
- P1413AM
- P1548AM
- P1608AM
- P1742Q
- P17677AM

CORN

Planted: 4/12/23
Population: 32K
Tillage: Convent.
Location: Hwy AA
9 Hybrids:

- P0953AM
- P09944AM
- P1027AM
- P1164AM
- P1170AM
- P1222AM
- P13050AM
- P14830AM
- P1608AM

CORN

Planted: 4/18/23
Population: 34K
Tillage: Convent.
Location: Hwy YY
10 Hybrids:

- P0859AM
- P09944AM
- P0995AM
- P1164AM
- P1170AM
- P1222AM
- P13050AM
- P14830AM
- P1548AM
- P1608AM

SOYBEAN *Enlist E3*

Planted: 5/1/23
Population: 150K
Tillage: No Till
Location: Hwy 23
6 Varieties:

- P34A98E
- P37A18E
- P38A28E
- P40A23E
- P42A84E
- P44A91E

SOYBEAN *Enlist E3*

Planted: 5/3/23
Population: 148K
Tillage: No Till
Location: Hwy T
5 Varieties:

- P37A18E
- P40A23E
- P42A84E
- P44A91E
- P46A09E

EARLY SEASON DROUGHT EFFECTS

It's no secret that we are very dry across our area. While some in the area have received beneficial rain over the last week and a half, others have seen minimal amounts. Regardless of rainfall totals the past two weeks, we are still behind on yearly averages and continue to be in a drought situation. The drought monitor map has our area in a D1 (Moderate Drought) to a D3 (Extreme Drought), depending on where you're at. The severity and the duration are critical factors to consider when trying to understand the impact of early season drought. With all that being said, there's been a lot of questions on how this early season dry weather will effect both the corn and soybean crop.

Early Drought Effects on Corn

The need for water by the corn plant increases throughout the season, peaking at silking. The corn at V4 is utilizing .10 inches of water per day, while the stuff at V8 is utilizing .18 inches of water per day. Drought stress lasting 4 or more consecutive days is likely to reduce yield. In the early vegetative stages (emergence to V12) this impact would be 1-3% of estimated yield loss per day of stress once drought stress has persisted for 4 consecutive days. Drought stress is indicated when the uppermost, fully expanded leaf is visibly wilted. When we get to the later vegetative stages this month (V12-Tassel) this estimated yield loss would be a bit higher at 2-5% per day. As most of you are aware, the **most** impactful point of the season to experience drought stress is during the reproductive and early grain fill growth stages where yield losses are estimated to be between 3-9% per day, depending which growth stage you are at. Here's to praying we can get some much-needed moisture soon and we don't have to worry about these drought impacts on our fields later this growing season. If your curious on how to manage for drought and looking for additional info on what is occurring during this early season drought, let us know and we can get you a copy of a Pioneer Crop Focus article with more detailed information.

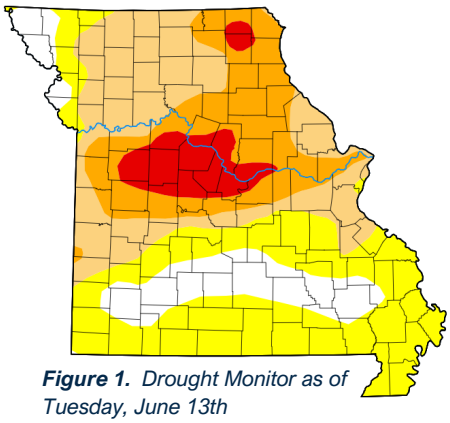

Figure 1. *Drought Monitor as of Tuesday, June 13th*

Early Drought Effects on Soybeans

Luckily for soybeans, when soybeans are in the early vegetative growth stages, drought has little impact on the soybean plant. As long as the tap root continues to dig deep and find some water, early soybean vegetative node development, after stage V1, is not really impacted by early season lack of rainfall. After soybeans hit the V1 growth stage, a new main stem node is produced about every 3-7 days within the range of normal temperatures. Lack of rainfall will, however, diminish leaflet size (i.e., leaf area) for those nodal trifoliolate leaflets that happen to be expanding during the drought period. Still, drought during vegetative development is seldom a factor in final yield determination. Fortunately for our soybean crop, unlike corn, soybeans will only accumulate <15% of its total biomass by R1 or first flower, so very little water is utilized/demanded for vegetative growth. The main concern during early season drought conditions is that soybean nodulation can suffer, which we HAVE seen this year. By V2 to V3, soybeans should have 7 to 14 healthy nodules per plant. Jaime has seen some fields this year where soybeans look yellow and stunted, and found that the nodulation is reduced in several of these scenarios. Fortunately, nodules are regenerated and replaced throughout the growing season if there is a return of more favorable weather to help the plants and bacteria recover. If you check any plants and find less than 5 nodules per plant, check back a week later to see if things have improved before becoming too concerned.

FUNGICIDE & TRUCHOICE REMINDERS

Every year we get questions on fungicide applications in both corn and soybeans. While it's still early for fungicide applications to be made, we wanted to remind everyone of a few key factors to keep in mind when making your decisions this year. As always, we are happy to assist in your fungicide application decisions if you have questions about your specific fields. Give us a call if you need assistance.

CORN

- The best timing for a corn fungicide is at tasseling (VT). There's a common preference to wait until brown silk to avoid any potential ear development issues as well as a means to prolong protection farther into grain fill. However, the VT application timing has proven to be the best bang for the buck with much data to support that. Waiting until brown silk can also pose the risk that the application occurs too late because the grower calls the applicator once they see the brown silks. By the time they get on the list, they're a ways down it. So, when the application actually gets made the corn is quite a ways into grain fill, the diseases have already ramped up in a hurry, and damage has already occurred.
- Scouting will be key over the next several weeks to assess the weather conditions and disease presence.
- Be sure to use a fungicide with multiple modes of action— products such as Approach Prima, Veltyma, or Trivapro. Even with the higher price tag, multiple mode of action fungicides have become the norm in the fungicide market and continue to provide the best return on investment.

SOYBEANS

- We are big believers in fungicide and insecticide applications year in and year out on soybeans. In our area, the higher yielding soybean fields consistently have both FST/IST foliar applications made. On a larger scale, Pioneer's on-farm trials show an average yield response to a foliar fungicide application of 2.6 bu/acre, with a positive yield response in 83% of the trials. When an insecticide is included, the average response increases to 5.3 bu/acre and a positive yield response observed in 94% of the trials.
- The best timing for fungicide in soybeans is R3. This has proven to be the most effective stage for controlling diseases in several research studies. Soybeans in R3 growth will have pods developing in one of the top four nodes that are about the length of your thumbnail (~1/4 inch).
- This year specifically, spider mites have already been seen this season. Adjusting to a better insecticide for spider mites can help avoid damaging effects. The "generic warrior" that many guys apply is not going to have much efficacy on spider mites. Our agronomists encourage leaning towards something with bifenthrin in is, such as Hero, as it is one of the pyrethroids that has some efficacy on mites.

► TRUCHOICE ACCOUNT FUNDING

Remember, for those that are using the TruChoice accounts to save money on chemical, you **CAN** add money in season and still realize your 10% or 15% savings. This is a change from past years, and is very beneficial to those of you who make your fungicide decisions in season. For those of you who plan to apply Utrisha N on your corn or soybeans, this also qualifies for the TruChoice savings and can be added in-season. Once you make your fungicide or Utrisha N application decision, talk to your chemical retailer and give us a call to run the qualified products through your TruChoice account to save some extra money. As always, let us know if you have any questions.