

Upcoming Dates

January 26th, 2023

SFAL 2nd Annual Missouri Ag Stewardship Conference (Concordia, MO)

2023 Missouri Corn Growers Winter Meetings

- **Feb. 9th**—District 5 (Marshall, MO)
- **Feb. 18th**—District 4 (Butler, MO)
- **Feb. 23rd**—District 2 (Carrollton, MO)

February 24th, 2023

- 2nd Cash Payment Discount Deadline for 2023 seed
- Deadline to fund Corteva TruChoice chemical account for Early Pay Savings

September 30th, 2023

Last day to spend TruChoice funds



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NEW YEAR UPDATES & REMINDERS

It's hard to believe another year has come and gone. We hope everyone had a safe, healthy, and happy holiday season! We took time over the holiday season to recharge and spend time with family, and we hope you did as well. We thank you for your business in 2022 and look forward to working with you in 2023!

SEED SUPPLY | We have a good amount of corn and soybean seed in so far. Our bulk bins are full of the new A-Series Enlist E3 Soybeans (P37A18E, P42A84E, P44A91E). Soybeans that have been delivered are 90% germ and good seed quality. Seed size is varying between varieties, but if you have any specific questions on seed size please feel free to give us a call. Supply on most of the corn products look good. Due to high-demand, supply of P1222AM is tight. Final seed allocations will be assigned to our agency in the next few weeks. If there are any adjustments that have to be made on invoices, we will give you a call.

PMZ DRY & MOLY DRY | We will be offering PMZ Dry for corn and Moly Dry for soybeans again this spring. Many of you have used these products the last few years. If you plan to use it again this year or are interested in trying it, please let us know so we can make certain we have adequate supply on hand.



Christmas 2022

AGRONOMY RESOURCES

Pioneer has a wealth of agronomy resources available to farmers. Below are a few great resources to take advantage of. Visit www.pioneer.com/us/agronomy-science for more resources & info.

Forward-thinking Farming

The **Forward-Thinking Farming webinar series** launched in 2020, and features agronomic knowledge and expertise of the Pioneer agronomy team. Each episode is led by a Pioneer Agronomy Manager and industry experts, and is focused on the tools, technology, and agronomic practices of Pioneer to help farmers be successful and evolve into the future.

WALKING YOUR FIELDS NEWSLETTER

The **Walking Your Fields® Newsletter** connects you to your local Pioneer agronomist throughout the growing season to provide local, in-season agronomy and crop management tips. It's quick and concise information to help add value to your overall farm management strategy.



Local Agronomy Podcasts

Local agronomists providing timely conversations to help maximize your farming decisions.



Online Agronomy Library

The latest on-farm research and best management practices. You can easily search by topic, season, or crop.

PRODUCT SPOTLIGHT

P0953AM

P0953AM is a 109 corn hybrid. This product had extreme yield in 2021, especially for an early maturing product. We had very limited supply in 2022, but it handled the drought conditions better than anticipated. It has great standability and has handled wind events well. This product is geared for the productive acre and is a good high-yielding option to get started on in harvest.

P44A91E

P44A91E is a group 4.4 maturity Enlist soybean. It's a leader product for high yielding acres in the mid-group 4 range. It has a good disease package with above average SDS tolerance and harvest standability.

AGRONOMIST Q&A: BIOLOGICALS

Answered by Pioneer Field Agronomist, Jami Deters

1. There's a lot of talk about biologicals, foliar feeds, etc. What are they and what do they do?

It's almost an everyday occurrence for me now to hear one of my reps or a customer ask me about a new biological company or biological product that they just heard about. When we talk about biologicals in agriculture, we are referring to a diverse group of products that are derived from naturally occurring microorganisms, plant extracts, organic matter, or other sources. We can separate them into four major categories according to how we use them.

1. **BIOSTIMULANTS** – These products stimulate plant growth, nutrient uptake, or enhance natural soil or plant processes. An example would be humic acids or sugars like sucrose.
2. **BIOPESTICIDES** – These are products that have fungicidal properties or provide insect protection. An example would be the biofungicides we use in our LumiGEN seed treatment lines.
3. **BIOFERTILITY** – Products in this category help with nutrient breakdown and uptake into the plant or have actual nutritional values to the plant or soil. An example would be seaweed extract or sea salts.
4. **LIVE BIOLOGY** – Products here would include actual live fungi or bacteria that can work either in the soil or in the plant. Examples would be Mycorrhizal Fungi or Trichoderma products. The rhizobia we use for soybean inoculants would be considered a biological and fall into the Live Biology category, so almost every farmer has been using biologicals already whether they realized it or not.

There are a multitude of biological companies in the marketplace right now with an abundance of product offerings. Corteva has also invested significantly into the biologicals space and has acquired a few biological companies—the most recent one being Stoller Group Inc.,—one of the largest independent biologicals companies in the industry. This acquisition positions Corteva as one of the largest players in the biologicals market. Corteva expects the biologicals market to expand more than three times by 2035 – from today's \$9 billion market size to \$30 billion. This would represent about 20-25% of the overall crop protection market. Corteva leadership sees these biological and conventional solutions working side-by-side to deliver efficacy and profitability for farmers. Unfortunately, there have been unscrupulously marketed products that have over-promised results or misled customers about their effectiveness. Corteva is committed to test all biological products with the same scientific rigor as with traditional crop protection products to confirm their modes of action, reliability, safety, and efficacy.

2. What biological products does Corteva/Pioneer offer to use on corn, soybeans, and wheat?

Pioneer is no stranger to the world of biologicals. We have included a biological fungicide component in our LumiGEN seed treatment offerings in both corn and soybeans for several years now. These biologicals enhance the disease protection package for young soybean seedlings and help with stand establishment and seedling vigor.

Corteva recently introduced a stand-alone biological product called Utrisha-N, which is a nutrient efficiency biostimulant that can be used on a multitude of crops, including corn, soybeans, & wheat. Utrisha-N is a live bacteria that is applied as a foliar treatment and enters the plant through the stomata. Once in the plant, the bacteria replicate and colonize in the leaves of the plant. The bacteria use a natural byproduct in the plant as its energy source that doesn't affect any other aspect of the plant's normal growth process. The bacteria convert Nitrogen gas (N₂) from the atmosphere into ammonium (NH₄⁺) then it feeds back to the plant continuously throughout the lifecycle of the crop. Utrisha-N enhances yield potential by improving the plants efficiency and access to Nitrogen.

3. Where are growers seeing Utrisha-N increase yields AND provide a return on their investment?

We have been able to test some of the Utrisha-N in the field the last two seasons and have seen some positive results. The most exciting results that I have seen have been on high-yielding soybean acres in my area. We have known for years that soybeans can struggle producing enough Nitrogen during pod fill in high-yield environments (say +65 bu/ac.). Many high yield growers have been applying Nitrogen around R3 to help supplement Nitrogen needs with good results. Utrisha-N is typically applied with a post herbicide treatment on the beans which gives the bacteria in Utrisha-N time to colonize in the plant and hit peak Nitrogen production by the critical R3 growth stage. The great part about the Utrisha-N is that it doesn't interfere with the rhizobia in the soil like applied Nitrogen fertilizers can. I have multiple growers that are seeing 3-5 bushel increases with the Utrisha-N application for a strong return on their investment.

On corn, we have seen minimal response on high-yield corn acres, mostly because I don't think Nitrogen is a limitation on these acres, so supplementing more isn't likely to generate a response. We have seen some positive results on acres where growers aren't pushing Nitrogen rates quite as much and where Nitrogen may be limiting our yield potential, so in those scenarios we can see a benefit from supplementing more with Utrisha-N. We have also seen positive results on soils that are low in organic matter and don't have much mineralization in season as a result. It's important to note here that we are not promoting using Utrisha N as a Nitrogen replacement in your fertility program, but rather as a supplement to your existing Nitrogen management strategy.

4. What are important things to keep in mind when managing biologicals and adding them to your management practice?

Utrisha-N is a biological product that contains a live bacteria, so it's critical that it is handled properly to keep from damaging the bacteria prior to application. Extreme temperatures can kill the bacteria, so don't store Utrisha-N where extreme hot or extreme cold can be an issue. Some water sources can contain lethal amounts of chlorine in them, so it may be advisable to have your water source tested prior to adding a biological like Utrisha-N to your plans. It is also always important to check on the compatibility of Utrisha-N with any other ingredients you may include as tank mix partners. Overall, Utrisha-N is compatible with many herbicide programs and shouldn't be a limitation in most situations.

ACHIEVING 100 BU/AC YIELDS IN SOYBEANS

INCREASING YIELDS IN SOYBEANS

Improvements in genetics and management have driven substantial gains in soybean yields in the U.S. over the past 50 years, at a rate of 0.48 bu/acre/year. U.S. average soybean yields topped 50 bu/acre for the first time in 2016 and again in 2018 and 2020.

- 100 bu/acre has often served as a target yield level for farmers wanting to see how high they can push yields with optimized management and the newest genetics.
- Across all the on-farm genetic and agronomic trials Pioneer conducts each year in the U.S. and Canada, it has not been unusual for a few entries each year to top 100 bu/acre.
- Beginning in 2018 however, the number of plots exceeding 100 bu/acre increased dramatically. This number declined in 2019 due to weather challenges but hit a new high in 2020.
- A total of 115 on-farm soybean trial entries exceeded 100 bu/acre in 2020, 107 of which were planted to A-Series soybean varieties (Figure 1).
- 100 bu/acre was achieved with 40 different Pioneer® brand varieties from maturity group 1.8 to 4.8. Yields greater than 100 bu/acre were achieved over a relatively wide geography from 2013 to 2018, including 19 U.S. states

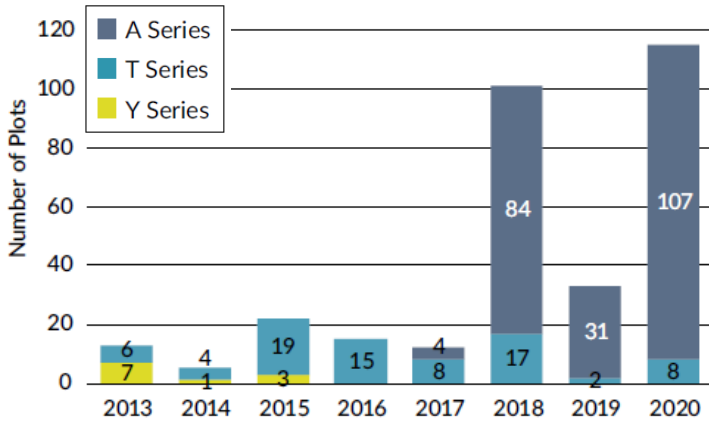


Figure 1. Series of Pioneer brand soybean varieties used in Pioneer on-farm trial entries exceeding 100 bu/acre, 2013-2020.

AGRONOMIC PRACTICES IN SOYBEANS

100 bu/acre yields were achieved in several different environments and with a range of different agronomic practices. Analyses of management practices used in yield contest winners in other crops have produced similar findings (Jeschke, 2019), indicating that there is no single one-size-fit-all formula for achieving high yield potential.

- **PREVIOUS CROP** | The vast majority of 100 bu/acre plots (92%) were planted to corn the prior season, while 4% were planted to soybeans and 4% to another crop.
- **TILLAGE** | The most common tillage system used at locations with 100 bu/acre plots was conventional tillage, followed by no-till.

SEEDING RATE

- Seeding rates used in plots yielding above 100 bu/acre ranged from 110,000 seeds/acre to 225,000 seeds/acre, with most of the 100 bu/ac locations using seeding rates in the 140,000-170,000 seeds/acre range. (Figure 2).
- Average seeding rate was slightly higher among no-till locations (156,000 seeds/acre) than conventional till locations (149,000 seeds/acre).

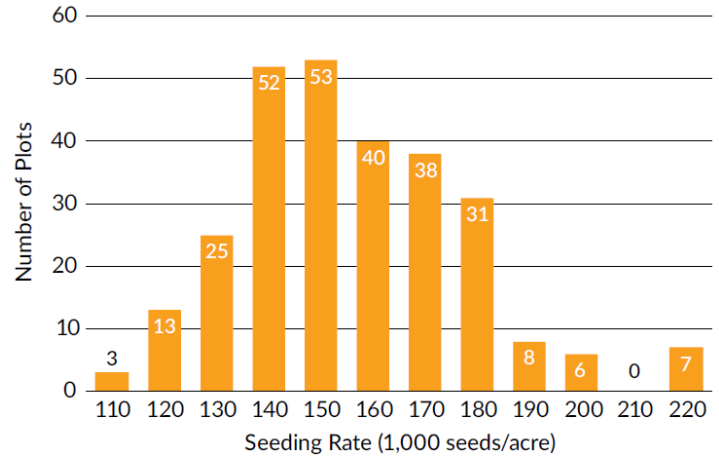


Figure 2. Seeding rate used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2020.

Recent research has shown the importance of early planting for maximizing soybean yields (Van Roekel, 2019). Most trial locations with 100 bu/acre plots were planted in the latter half of April through the first half of May (Figure 3).

Other management practices employed at locations with 100 bu/acre plots included foliar fungicides, foliar insecticides, and supplemental nitrogen applications.

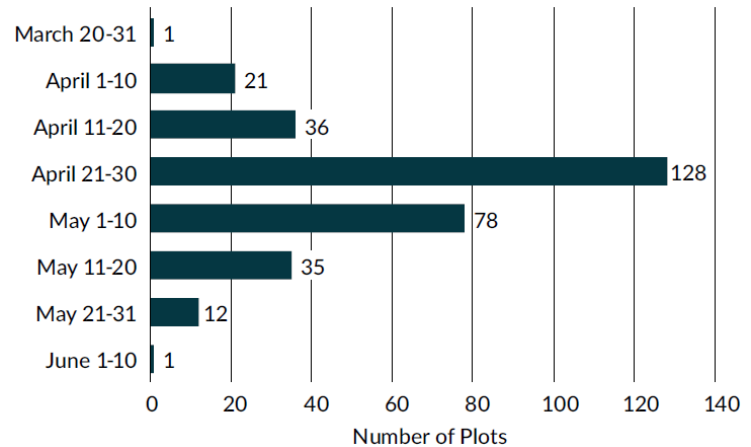


Figure 3. Planting date used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2020.

The data above represents several states in the U.S., but it does a good job providing a large data set for growers to see management trends and commonalities in high yielding soybeans. Speaking for our area locally, the locations where we see some of the highest yielding soybeans, growers are consistently doing the following things:

- Planting timely (with a goal of late April through the first part of May)
- Using full seed-treatment (Standard Treatment + ILeVO)
- Applying fungicide and insecticide over the top in-season (R3 is the ideal timing)
- Planting 145,000-160,000 seeds/acre (rates vary depending on soil type, but this range tends to be the sweet spot)

MO AG STEWARDSHIP CONFERENCE

Sustaining Land & Profit on Missouri Farms

The Santa Fe Agri Leaders are hosting the 2nd Annual MO Ag Stewardship Conference on Thursday, January 26th. It will be held at the Concordia Community Building from 8:30am to 2:30pm. This conference will focus on sustaining land and profit on Missouri farms. Lunch & refreshments will be included and CCA credits available. Listed below are featured speakers and topics.

Register online at www.santafeagrileaders.org
or contact

Brittany Hemme at 660-674-2220.

Phil Needham | Author, Consultant, & Ag Entrepreneur

Achieving high yielding wheat in Missouri and how to optimize your planter set up

David Kleinschmidt | Agronomist & Consultant

Soil health practices and soil functions to improve your farm and land

Drexel Atkisson | NRCS Soil Health Specialist

Understanding the relationship between soil health, regenerative practices, and warm season natives in your pasture

KNIPMEYER SEED SURVEY

Thank you to everyone who has completed the Knipmeyer Seed customer feedback survey. If you haven't had the time yet to complete the survey, please take 5 minutes to do so. This survey is beneficial for us, as well as our Pioneer management. Any comments, suggestions, or concerns that you have, we would like to hear them. If you did not receive the survey by email or text, please call or text Lauren and she can send the link to you to complete.

All answers are anonymous.

Thank You!

SWEET CORN

We will have conventional sweet corn again this spring in 6oz packets. We'll have this available both at the office and when we deliver corn. If you need a large amount of sweet corn (i.e. 5lb. bags), let us know so we can add it to our order.