



Volume 23 Issue 9
December 2020

PIONEER PREMIUM SEED & TREATMENTS, CROP INSURANCE, AGRONOMY SERVICES, FIELD DAYS, SEED WHEAT, SEED DELIVERY, AND PERSONAL SERVICE



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2021 CORTEVA CASH PROGRAM

If you fund a Corteva TruChoice Crop Protection prepay account (minimum of \$7500) and pay for your Pioneer seed by Feb, 26th 2021 you will earn Corteva Cash equal to 2% of your seed invoice value and can use this cash to purchase Corteva Agriscience crop protection products.

PIONEER 2021 INFINITY PROGRAM

For 2021 Pioneer is continuing the three levels of the Infinity Program from last year. They are Platinum, Gold, and Silver. Benefits and qualifications for each are listed. It's not too early to start planning for 2021.

YOY= year over year PY = Prior Year



Silver Level

QUALIFIERS

Invoice & Payment by Feb 26th 2021

BENEFITS

50% Replant
Pioneer Seeds App
Financing: Prime -1 @ 12% discount

WHY 50 DEGREES FAHRENHEIT?

The form of nitrogen that can potentially be lost from soils due to wet conditions is nitrate (NO_3^-) (Figure 1). The form applied as anhydrous ammonia is NH_3 , which is quickly converted to ammonium (NH_4^+) when it comes in contact with water in soil. Because ammonium is a positively charged ion, it is attracted by electrostatic forces to negatively charged soil. Ammonium is not leached or lost by denitrification (conversion to a nitrogen gas). Therefore, it stays in soil even if the soil becomes excessively wet. Nitrate, which is produced by soil microbes from ammonium in a process called nitrification, is a negatively charged ion and is leachable and subject to denitrification.

cold soil temperatures (examples of soil temperature effect on nitrification are shown in Table 1 and Figures 2 and 3). The optimum temperature for nitrification is approximately 90°F. Below 50°F the rate slows rapidly, but nitrification continues until 32°F. Soil temperature cannot be controlled, but because soils cool in the late fall, and if ammonia application is held off, then nitrification in the fall is reduced. The later you wait to apply the better—colder soils mean less nitrification and a great probability that soil temperature will not rebound to warm levels.

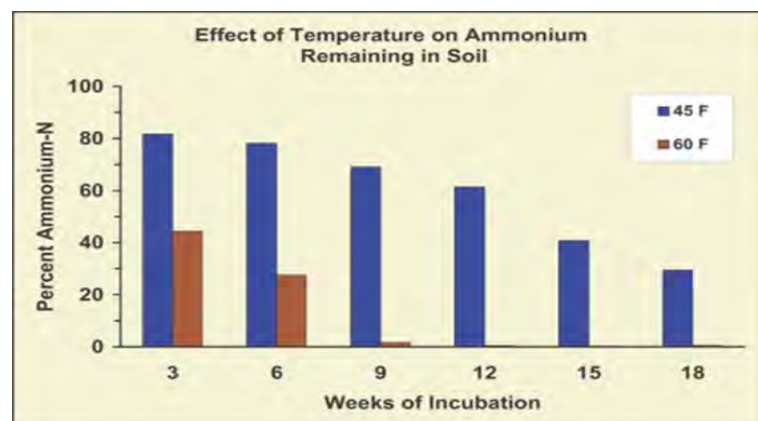


Figure 2. Aqua Ammonia Incubated in Soil at Controlled Temperature.

Waiting for cold soils or use of a nitrification inhibitor does not guarantee that fall-applied ammonia will be a successful application practice. Warm fall conditions might occur, or warm and wet conditions may occur the next spring (a time period with historically high potential for wet soils and nitrate loss is May through June). However, if you decide to apply anhydrous ammonia in the fall then waiting until soils are cold is better than applying early.

Continued on page 2

ORDER AND PAY FOR YOUR 2021 PIONEER SEED NEEDS BY

FEBRUARY 26TH 2021 TO RECEIVE UP TO 15% OFF!



More videos can be seen @ Pioneer Seeds.

This month's topic is **TOURING A CORN RESEARCH FACILITY!** type this into the search bar and it will show up for you.

Contact Information

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Planter Test Stand



Get your meters calibrated and repaired. We have a planter test stand for checking the accuracy of vacuum, finger pickup, and Kinze brush meter units.

This is something that I suggest should be done on a planter at least every other year. Contact Mike, Tye, or Korey for details and to schedule your test. We would really like to do these this winter instead during the spring rush

MERRY CHRISTMAS AND HAPPY NEW YEAR!

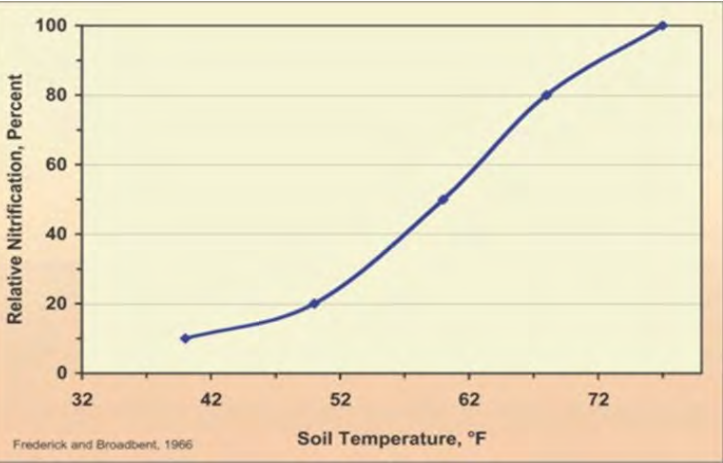
As we approach the end of another year, we would like to take this opportunity to say Thank You for the business that you have given to us this past year. We appreciate your loyalty and friendship that you have shared with us. We want to continue to earn the opportunity to build a lasting relationship with you.

From all of us at Wildcat Agri Services we want to wish everyone a Merry Christmas and a happy, healthy, and prosperous 2021!



WHY 50 DEGREES FAHRENHEIT? CONTINUED

Figure 3. Effect of Soil Temperature on Nitrate Formation



Influence of Soil Temperature on Nitrification

Temperature Sequence	% Nitrification
Continuous @ 80°F for 24 days	100
12 Days at 80°F-12 days at 40°F	96
8 Days at 80°F-8 days at 60°F-8 days at 40°F	74
12 Days at 40°F-12 days at 80°F	62
Continuous at 60°F for 24 days	59
8 Days at 60°F-8 days at 80°F-8 days at 40°F	56
8 Days at 40°F-8 days at 60°F –8 days at 80°F	45
Continuous at 40°F for 24 days	29

NITROGEN CONSIDERATIONS

Now is the time to reflect on what worked well last growing season and what needs tweaked going into next season. Nitrogen fertilizer is one of the most expensive and essential costs associated with corn grain and dry matter production. Root uptake o nitrogen , in either the amonium or nitrate form, supports the entire demand for plant growth and grain yield, Nitrogen fertilizer, after it is applied to the soil, can be taken up by the corn plant, incorporated into soil organic matter, consumed by micro-organisms, immobilized by soil colloids, vaporized into the atmosphere, denitrified and lost as nitrogen gas, or leached from the corn root zone, The corn producer’s goal is to apply the proper amount of nitrogen at the proper time in the proper manner so that the corn plant uses the highest percentage of this nitrogen fertilizer for grain and dry matter yield. Maximum efficiency is desired because reduced nitrogen update by the corn plant often reduces yield.

AG RISK MANAGEMENT

Crop Insurance today offers...Lots of choices, if you want a crop insurance agent that can help you make choices from a farmers perspective contact

Steve McGinn 316-284-1935



FOLLOW PIONEER ON TWITTER

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HAVE SOMETHING TO SELL?

IF YOU WANT TO ADVERTISE FARM EQUIPMENT OR FARM RELATED ITEMS YOU MAY DO SO FREE OF CHARGE. DEADLINE IS THE LAST DAY OF EACH MONTH. SEND YOUR AD TO SUSANNAH.MCGINN@PLANTPIONEER.COM

1993 JOHN DEERE 7800 7780 Hr. StarFire 3000 FS1 2600 receiver, Schaben 300 gal. saddle tanks, Call 316-371-0546

400 GAL. DEMCO SADDLE TANKS. 7R & 8R mounting brackets. \$1850 OBO 316-641-4694

WESTERN LAND ROLLER TAILWATER PUMP. 3 PHASE MOTOR 5 HP. 316-650-2678

1996 - 9500 4-WHEEL DRIVE JD COMBINE with 925 flex head, straw chopper and spreader, 3579 separator hours, new front tires, always shedded. Also available 925 rigid head & 643 corn head. Call for information 316-796-0537 or 316-208-9468

1200 FEET OF GATED 8” PVC PIPE. 620-386-0569

MISC. ALUMINUM IRRIGATION Fittings \$25 each. Line valves \$50 each. 8 & 10 inch size. 316-284-1935

IRRIGATION GEAR HEAD 6-5 RATIO. 620-386-0569

BERKELEY 8X6 PUMP w/trailer. \$1000. 316-772-0147

PRECISION PLANTING PARTS—Call Mike for pricing on parts. 316-772-7171

ACHIEVING 100 BU/ACRE 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 (Figure 1). U.S. average soybean yields topped 50 bu/acre for the first time in 2016 and again in 2018.

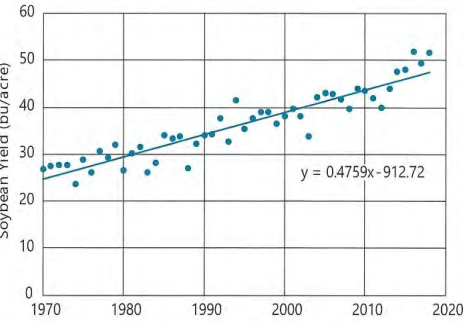


Figure 1. U.S. average soybean yields, 1970-2018 (USDA-NASS).

Across all of 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. In 2018, however, the number of plots exceeding 100 bu/ acre increased dramatically. The majority of these plots were planted to new Pioneer ® brand A-Series soybean varieties (Figure 2 below)

PIONEER ON-FARM TRIAL RESULTS

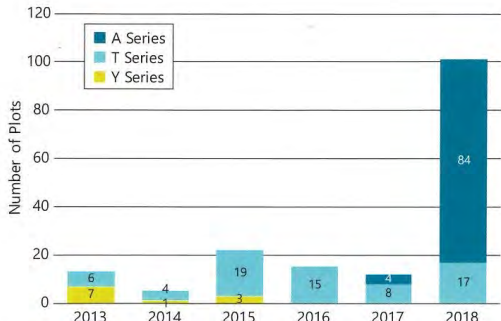


Figure 2. Series of Pioneer brand soybean varieties used in Pioneer on-farm trial entries exceeding 100 bu/acre, 2013-2018.

Yields over 100 bu/acre were achieved over a relatively wide geography of 17 U.S. states from 2013 to 2018.

AGRONOMIC PRACTICES

100 bu/acre yields were achieved in a range of 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 , indicating that there is no single one-size-fits-all formula for achieving high-yield potential.

TILLAGE

The most common tillage system used at locations with 100 bu/ acre plots was conventional tillage, followed by no- till (Figure 3).

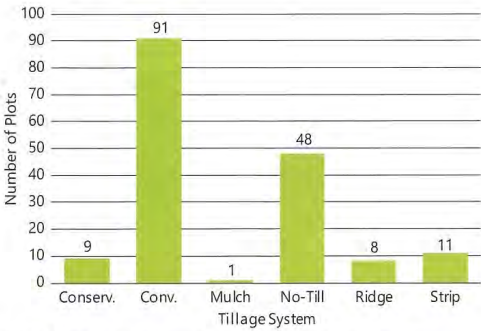


Figure 3. Tillage practices used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

PREVIOUS CROP

The vast majority of 100 bu/acre plots were planted to corn the prior season - 155 of 168 - while 9 were planted to soybeans and 4 to another crop.

SEEDING RATE

Seeding rates used in plots yielding above 100 bu/acre ranged from 110,000 seeds/ acre to 200,000 seeds/acre, with an average of 157,000 seeds/acre (Figure 4).

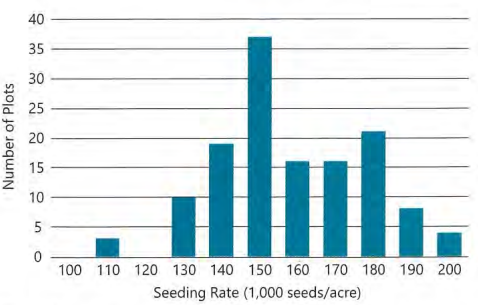


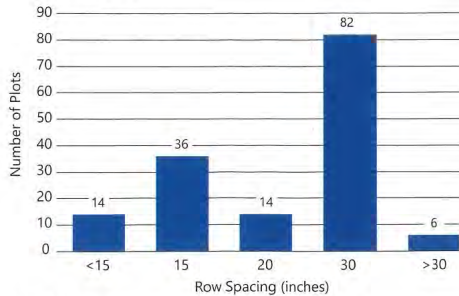
Figure 4. Seeding rate used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

Average seeding rate was slightly higher among no-till locations (159,000 k/ac) than conventional-till locations (152,000 k/ac).

Seeding rates differed among the 4 states with the most 100 bu/acre plots:

» The average seeding rate across Illinois and Indiana locations was 149,000 seeds/acre.

» The average seeding rate across Kansas and Nebraska locations was 170,000 seeds/acre.



Seeding rates in Kansas and Nebraska are similar to those documented in a larger, multi-year survey of high-yield soybean production in these states, which found an average seeding rate of 174,000 k/acre.

ROW SPACING

Over half of the 100 bu/acre plots were planted in 30-inch rows with most of the rest in 15-inch rows or other narrow row configurations and a few in rows wider than 30 inches (Figure 5).

Geographic distribution of row -spacing practices roughly corresponded with findings of recent USDA surveys, with 30-inch rows most common from Illinois west and narrower rows more common from Indiana east.

Planting Date

Recent research has shown the importance of early planting for maximizing soybean yields. Most trial locations with 100 bu/acre plots were planted in the latter half of April through the first half of May (Figure 6).

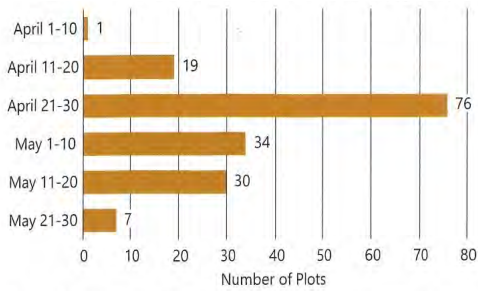


Figure 6. Planting date of Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

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

Achieving 100 bu/acre Yields in Soybeans

Mark Jeschke, Ph.D., Agronomy Manager

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 (Figure 1).
- U.S. average soybean yields topped 50 bu/acre for the first time in 2016 and again in 2018.

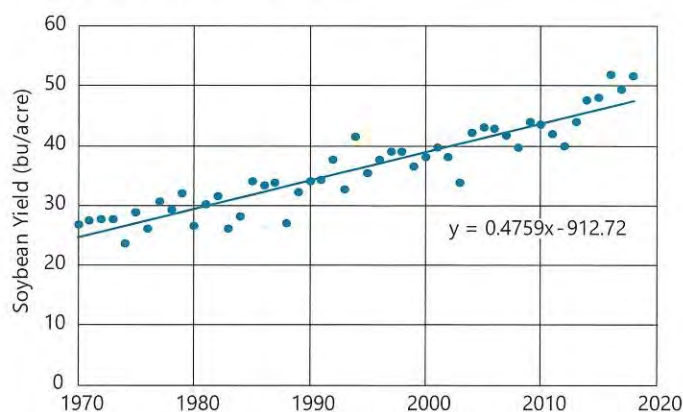


Figure 1. U.S. average soybean yields, 1970-2018 (USDA-NASS).

- 100 bu/acre has often served as a target yield level for farmers seeking to see how high they can push yields with optimized management and the newest genetics.
- Across all of 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.
- In 2018, however, the number of plots exceeding 100 bu/acre increased dramatically. The majority of these plots were planted to new Pioneer® brand A-Series soybean varieties (Figure 2).

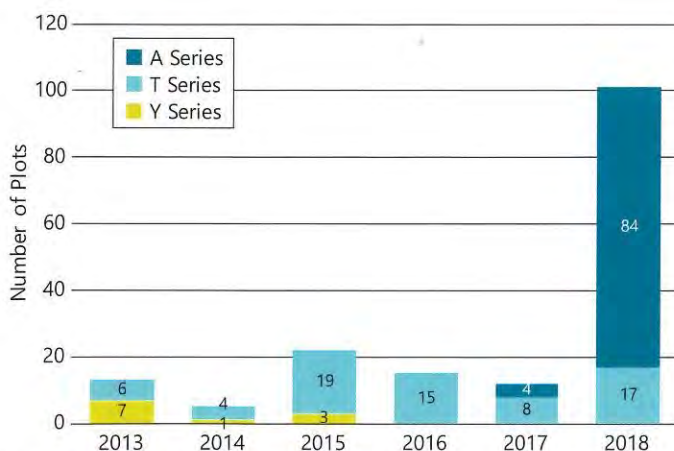


Figure 2. Series of Pioneer brand soybean varieties used in Pioneer on-farm trial entries exceeding 100 bu/acre, 2013-2018.

PIONEER ON-FARM TRIAL RESULTS

- A total of 101 on-farm soybean trial entries exceeded 100 bu/acre in 2018, 84 of which were planted to A-Series soybean varieties (Figure 2).
- 100 bu/acre was achieved with 35 different Pioneer brand varieties from maturity group 2.3 to 5.2 (Table 1).
- Yields over 100 bu/acre were achieved over a relatively wide geography from 2013 to 2018, including 17 U.S. states and 2 Canadian provinces.

Table 1. Pioneer brand soybean varieties used in 2018 Pioneer on-farm trial entries exceeding 100 bu/acre.

Variety/Brand ³	Plots	Variety/Brand ³	Plots
P23A15x (RR2X)	1	P37A69x (RR2X)	3
P24A80x (RR2X)	3	P37A78x (RR2X)	1
P25A54x (RR2X)	1	P37T51PR (Plenish, R)	1
P25A70R (R)	2	P38A98x (RR2X)	3
P26A61x (RR2X)	1	P38T42R (R)	1
P27A17x (RR2X)	1	P40A47x (RR2X)	11
P27T59R (R)	8	P40T84x (RR2X)	1
P28A94x (RR2X)	1	P42A52x (RR2X)	4
P28T71x (RR2X)	4	P42A96x (RR2X)	7
P29A25x (RR2X)	5	P44A72Bx (BOLT, RR2X)	1
P31A22x (RR2X)	16	P44T63R (R)	1
P33A24x (RR2X)	5	P45A23x (RR2X)	1
P33A53x (RR2X)	3	P46A16R (R)	1
P33T72R (R)	1	P46A57Bx (BOLT, RR2X)	1
P35A33x (RR2X)	1	P48A60x (RR2X)	4
P35A91Bx (BOLT, RR2X)	2	P49A34x (RR2X)	1
P36A18x (RR2X)	2	P52A26R (R)	1
P37A27x (RR2X)	1		

PIONEER® BRAND SOYBEAN VARIETIES TOPPING 100 BU/ACRE IN ON-FARM TRIALS IN 2018 INCLUDED:

- 27 varieties with Roundup Ready 2 Xtend® Technology
- 8 varieties with glyphosate tolerance
- 3 varieties with BOLT® Technology
- 3 varieties with Peking SCN resistance source (P25A70R, P27A17x, P27T59R)
- 1 Pioneer® brand Plenish® high oleic soybean variety

AGRONOMIC PRACTICES

- 100 bu/acre yields were achieved in a range of 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-fits-all formula for achieving high-yield potential.

Previous Crop

- The vast majority of 100 bu/acre plots were planted to corn the prior season – 155 of 168 – while 9 were planted to soybeans and 4 to another crop (data not shown).

Tillage

- The most common tillage system used at locations with 100 bu/acre plots was conventional tillage, followed by no-till (Figure 3).

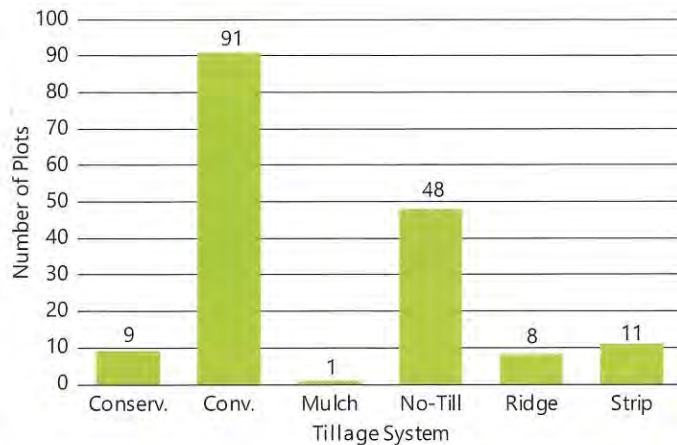


Figure 3. Tillage practices used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

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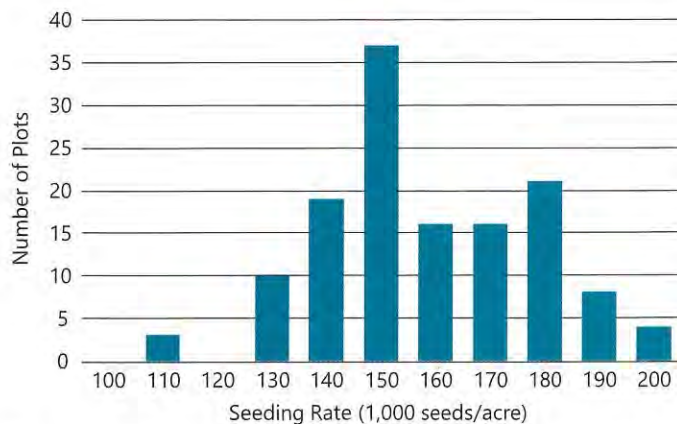


Figure 4. Seeding rate used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

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- Seeding rates differed among the 4 states with the most 100 bu/acre plots:
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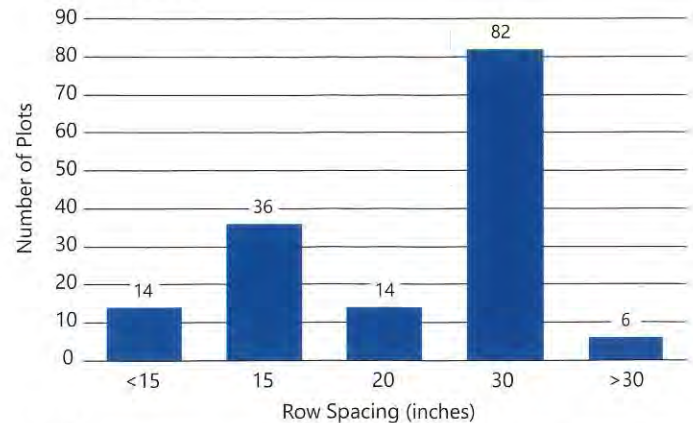


Figure 5. Row spacing used in Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

Row Spacing

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Planting Date

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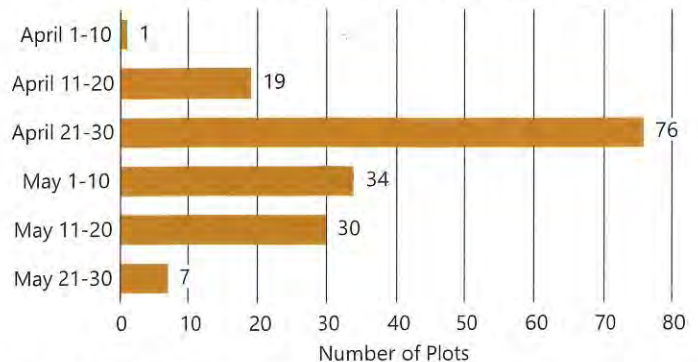


Figure 6. Planting date of Pioneer on-farm trials with entries exceeding 100 bu/acre, 2013-2018.

Other Practices

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