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THE SEED CONSULTANT

A QUARTERLY NEWSLETTER NEWS AND VIEWS FROM THE FIELD

PLANTING DEPTH IS CRITICAL TO ACHIEVING HIGH YIELDS

One of the most critical management practices

OPTIMUM PLANTING DATES FOR SOYBEANS

Recent research helps with timing

IF YOU ARE GOING TO GROW CORN, YOU ARE GOING TO NEED NITROGEN

Timing and placement are key

2022 REPLANT AND RETURN GUIDELINES

The dates you need to know for the upcoming planting season

PLANTING DEPTH IS CRITICAL TO ACHIEVING HIGH YIELDS

By Matt Hutcheson, CCA
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Planting is one of the most critical management practices of the year because it sets the stage for the entire growing season. There are several key aspects of planting, one of which is planting depth. Invariably, every year Seed Consultants' agronomists come across problems that are caused by variable and improper planting depth. Planting depth is critical because it impacts germination, seedling development, crop root development, emergence, and ultimately crop yields.

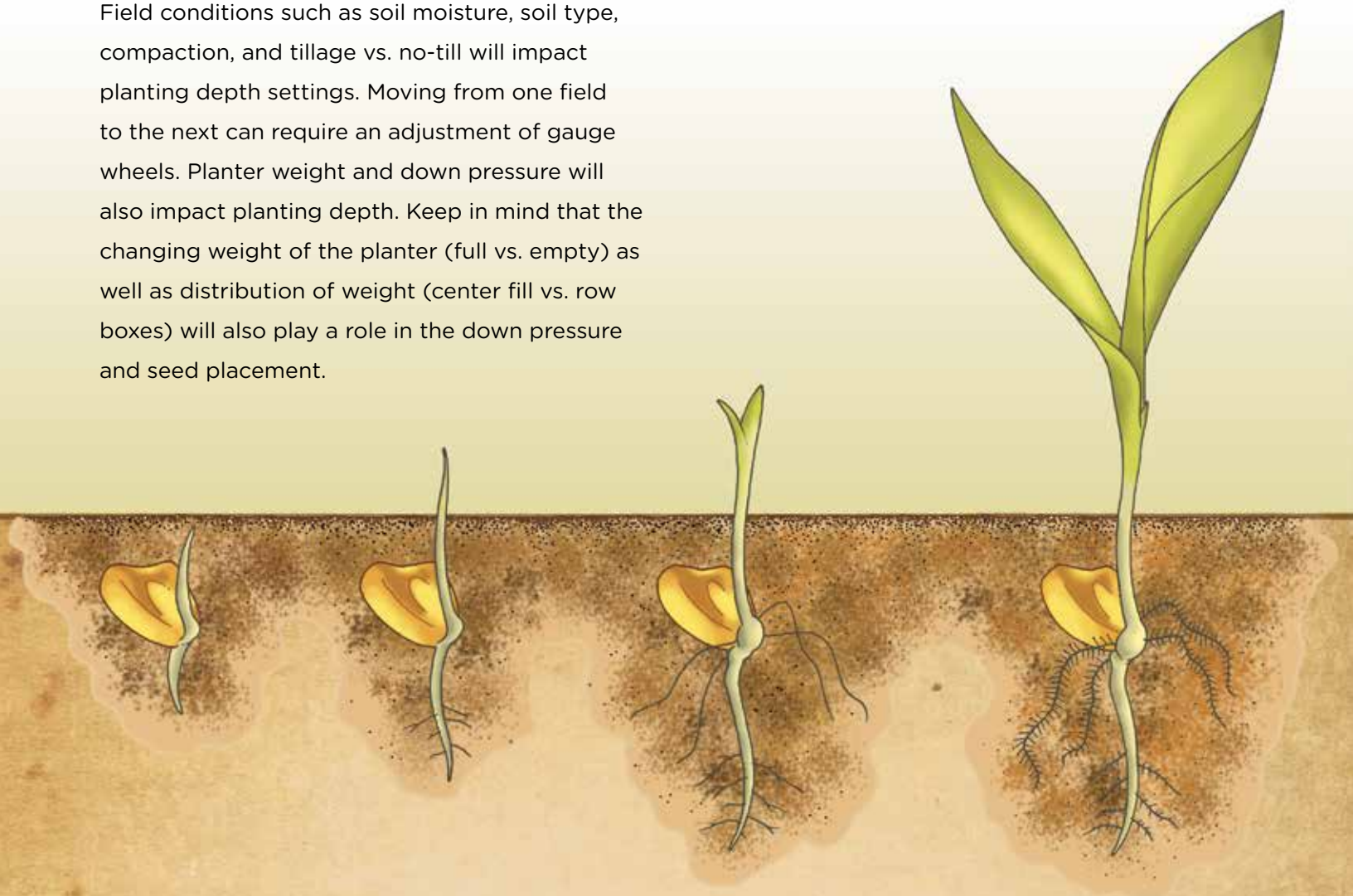
For corn, seed needs to be planted no shallower than 1.5 inches below the soil surface. Typically, the suggested range is 1.5 to 2 inches, however, some studies and growers have seen success at depths up to 3 inches. It is important to make sure that corn is planted into adequate soil moisture for germination. In addition, corn needs to be at least 1.5 inches deep for the proper early development the root system. After germination, as the coleoptile nears the soil surface, it senses light and signals the plant to stop elongation of the mesocotyl as well as signaling development of the root system. Corn that is planted shallower than 1.5 inches does not give the plant enough room between the seed and the soil surface to properly signal for and develop its root system. A shallow nodal root system can lead to decreased water and nutrient uptake as well as increased root lodging and standability problems later in the growing season.

Soybean seed should be planted at a depth of 1 to 1.5 inches. As with corn, it is critical to plant the soybean seed at the proper depth into adequate soil moisture to ensure germination and emergence. Soybeans must take up 50% of their weight in water to germinate, therefore, ensuring they are planted at enough depth to imbibe moisture is the key to uniform emergence. Planting soybean seed too shallow can result in

inconsistent soil moisture at the seeding depth and uneven emergence. Some studies have shown that planting at 1.5 to 2 inches provides more even emergence, however, soybeans should not be planted deeper than 2 inches.

Planting depth should be set properly and checked regularly throughout the planting season. Planting depth will vary throughout the season based on changing conditions and equipment will need to be adjusted periodically. Field conditions such as soil moisture, soil type, compaction, and tillage vs. no-till will impact planting depth settings. Moving from one field to the next can require an adjustment of gauge wheels. Planter weight and down pressure will also impact planting depth. Keep in mind that the changing weight of the planter (full vs. empty) as well as distribution of weight (center fill vs. row boxes) will also play a role in the down pressure and seed placement.

Planting depth is something that is easy to set at the beginning of the season and overlook as time goes on. Each year agronomists visit fields with standability problems and yield loss that could have been avoided if more attention was given to planting depth in the spring. The crop begins the season with its highest yield potential, it only makes sense to take the time to plant it at the correct depth so that it has the best change to achieve that potential.



Planting depth is critical because it impacts germination, seedling development, crop root development, emergence, and ultimately crop yields.

OPTIMUM PLANTING DATES FOR SOYBEANS

By Jordan Bassler
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There has been a push in recent years to plant soybeans "early". But what does this mean and when is the best time to plant your soybeans for success? April 1? May 1? The answer to this question has the potential to be very different depending on territory and individual farming operations. Luckily, many universities have been performing research on the optimum planting date. The following dates are what several have found:

- **Ohio State –**
  May 1 through middle of May
- **Michigan State –**
  April 20 through middle of May
- **University of Lincoln-Nebraska –**
  April 28 – May 13
- **Iowa State –**
  Last week of April through first week of May

According to Michigan State University, soybean yields increased by 1.2 to 2.6 bushel when planted before the middle of May. None of their locations showed a significant yield loss by planting between April 20 and the middle of May. Yield loss of 0.4% per day was realized when planting after the middle of May and jumped even higher to 1.2% per day when planting after the middle of June.

Planting soybeans earlier has potential benefits including increased yields, better weed control due to canopy closure earlier in the season, easier and earlier harvest, and the possibility of using cover crops in the fall. However, where there are benefits, there are also risks. Planting soybeans early runs the risk of increased insect feeding. Cold soils do not promote fast growth, and this allows insects a longer period of time to feed on the plant. Other risks include reduced stands, frost, and weather events. Reduced stands can

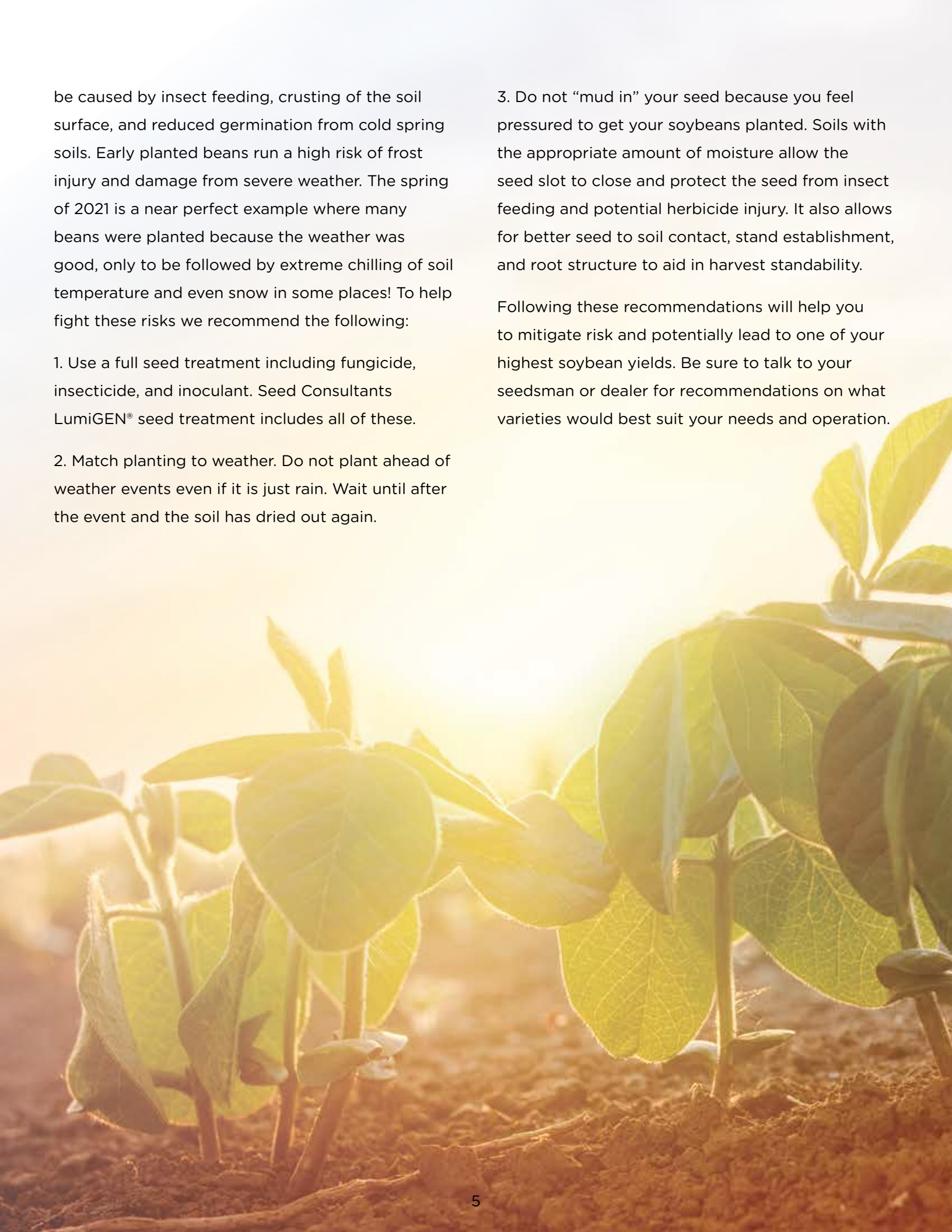
be caused by insect feeding, crusting of the soil surface, and reduced germination from cold spring soils. Early planted beans run a high risk of frost injury and damage from severe weather. The spring of 2021 is a near perfect example where many beans were planted because the weather was good, only to be followed by extreme chilling of soil temperature and even snow in some places! To help fight these risks we recommend the following:

1. Use a full seed treatment including fungicide, insecticide, and inoculant. Seed Consultants LumiGEN® seed treatment includes all of these.

2. Match planting to weather. Do not plant ahead of weather events even if it is just rain. Wait until after the event and the soil has dried out again.

3. Do not "mud in" your seed because you feel pressured to get your soybeans planted. Soils with the appropriate amount of moisture allow the seed slot to close and protect the seed from insect feeding and potential herbicide injury. It also allows for better seed to soil contact, stand establishment, and root structure to aid in harvest standability.

Following these recommendations will help you to mitigate risk and potentially lead to one of your highest soybean yields. Be sure to talk to your seedsman or dealer for recommendations on what varieties would best suit your needs and operation.



IF YOU ARE GOING TO GROW CORN, YOU ARE GOING TO NEED NITROGEN

By Bill McDonald, CCA
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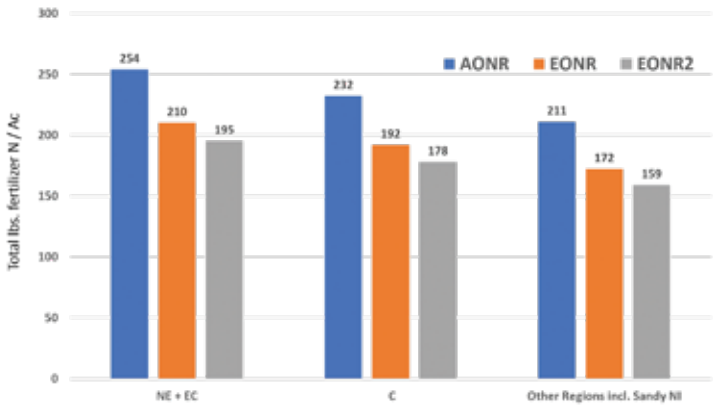
For many years, most universities have agreed that it takes 1 pound of nitrogen to produce 1 bushel of corn, in a corn/soybean rotation. They have since moved to a different model. This model includes an Agronomic Optimum N Rate (AONR) and an Economic Optimum N Rate (EONR). The AONR represents the total amount of Nitrogen required to maximize yield while the EONR represents the maximum dollar return from the nitrogen cost. As one would expect, the AONR is a little higher than the EONR. The EONR will usually decrease as N prices increase and will usually increase as grain prices increase depending upon the (Nitrogen price per unit: Grain price) ratio. The way the ratio is figured is by taking the price per unit of N and divide it by the price of grain.

Example: UAN (28%) costs $550 and there are 560 units of Nitrogen per ton (550 divided by 560 = 0.98)
The price of corn is $6.00
98 divided by 6 = .16
.16 is the N: Grain ratio

The ratio is usually around .10 to .12 but this year the ratio is slightly off.

Purdue University began using this model in 2006. They have developed different recommendations for different geographical areas.



Average agronomic optimum N rates (AONR) and economic optimum rates (EONR) for corn following soybeans in selected geographic regions in Indiana based on 166 trials conducted from 2006 to 2021. EONR was calculated using $5 corn. The EONR (orange) used .75/unit of nitrogen while the EONR2 (grey) used a cost of $1/ unit of N. For complete details of Purdue's study go to: https://agry.purdue.edu/ext/corn/news/timeless/nitrogenmgmt.pdf.

The University of Kentucky has done similar studies since 2018.

	Nov-21	Aug-18	Aug-19	Aug-20
Grain ($/bu)	$5.54	$3.58	$3.97	$3.60
N ($/lb)	$0.94	$0.37	$0.43	$0.37
Price Ratio	0.17	0.10	0.11	0.10
EONR (lb/a)	150	165	164	166
RON - EONR	$929	$638	$704	$642
RON - AONR	$911	$633	$699	$637
EOY (bu/a)	193	195	195	195
AOY (bu/a)			196	

RON is Return on Nitrogen/ EOY is Economic Optimum Yield/ AOY is Agronomic Optimum Yield.

The green highlighted area is based on current fertilizer and grain prices as of November 2021 using projected yields. The other highlighted areas are based on actual numbers. The grey is 2018, the yellow 2019 and the blue is 2020.

Other Universities are conducting similar studies with similar results but all will admit that there are many variables that can impact the amount of nitrogen that is available to a corn crop. For example, at one site near West Lafayette that Purdue conducted the 10 year average, AONR is 197 lbs. N/Ac but it ranged from 130 to 262 lbs. N/Ac. The unanswered questions are: How will the weather impact the amount of nitrogen released from the mineralization of organic matter, cover crops and manure. Cold and/or dry conditions could reduce the amount of available nitrogen. Will rainfall amounts be too heavy for drainage to carry the water off in a timely manner. Will the weather allow for the release of nitrogen when it is need most?

At the end of the day, the only thing that we can control to any degree, is the amount that of N applied, its timing and its placement. Sidedress is still a great tool because we can predict a little better what the yield potential is and adjust the amount of N to apply.

Sources:
Purdue University
Dr. Josh McGrath, Professor University of Kentucky

PRODUCT USE GUIDE

Part of growing healthy crops is making sure they are protected with the right products. Visit the product page on our website to view our product use guide for information about insect control and herbicide tolerance to support technologies in our seed.

THE BEST PART OF HAVING A CHOICE IS GOING WITH A BETTER OPTION.

Enlist E3® SOYBEANS

Seed Consultants

The superior technology of Enlist E3® soybeans isn't a stroke of luck. It isn't a coincidence or happy accident. Enlist E3 soybeans are designed to be better. From Day 1, our goal has been to give you the ability to make a choice. A better choice.

And when it comes to what you get with that choice, you aren't leaving anything on the table. We've gotten used to saying the words "and" and "also" – a lot. Because it's better weed control that's also good to your neighbors. It's a wider application window and it has near-zero volatility.

With Enlist E3 soybeans, you get a choice, and it's a choice that's being made on millions upon millions of acres. So, choose better at SeedConsultants.com.

CORTEVA™ agriscience

SEED CONSULTANTS 2022 REPLANT AND RETURN GUIDELINES

All replant paperwork must be received into the office by **July 1, 2022**.

Growers must contact and allow the seedsmen to assess the stand and approve all replant.

GENERAL GUIDELINES

-No replant credit, if seed is planted prior to insurance guidelines.

-Must replant in 2022; no credit for 2023.

-Delivered replant seed is subject to a delivery charge.

-Subject to product availability.-Subject to change without prior notice.

SOYBEANS

- Grower must allow enough time for planted beans to emerge
- No replant if seed is still viable
- Lumigen FST/IST (Inoculated)... 100% replant
- Lumigen Base...75% replant
- Untreated...0% replant

CORN

- All traited hybrids...100% replant
- All treated hybrids...100% replant
- Untreated hybrids...0% replant
- Organic...0% replant
- Replant of replant 1/2 of list price

2022 SEED CONSULTANTS RETURN GUIDELINES

No return on treated soybeans.

Growers may return untreated soybeans to your seedsmen, area warehouse, or dealer.

No corn returns will be accepted after June 24, 2022.

No soybean returns will be accepted after July 15, 2022.

If you have seed returns, contact your seedsmen or your local dealers before the return/replant deadlines.

Seed Consultants soybeans are covered under multiple patents that are still enforced. Please adhere to SCI guidelines and avoid pirated bin run issues.

FINANCING

SEED CONSULTANTS, INC.

TWO GREAT FINANCING CHOICES FOR 2021-2022
0% THROUGH JOHN DEERE FINANCIAL
0% THROUGH RABO AGRIFINANCE

These financing programs are only available to John Deere Financial Preferred Customers and/or RABO AgriFinance approved customers. To apply for a John Deere Financial Preferred Account or RABO account or to increase your John Deere Financial or RABO line of credit, contact John Deere Financial (800-433-8964) or RABO (888-395-8505), so the necessary paperwork may be completed with John Deere Financial &/or RABO.

JOHN DEERE FINANCIAL & RABO GUIDELINES

- Must be a John Deere Financial Preferred Customer or approved by RABO AgriFinance.
- Approval and credit limits established by John Deere Financial &/or RABO...not by SCI.
- Terms and conditions apply. See respective credit applications for full terms and disclosures.
- To increase or establish your credit line call John Deere Financial (800-433-8964) or RABO (888-395-8505).
- Must be enrolled and approved to qualify for discounts.
- Discounts applied on approval date from John Deere Financial &/or RABO.
- Signed terms of disclosure on file.
- Minimum purchase of $1,000.
- Due date of December 2022.

For John Deere Financial customers with current special terms balances at or near their credit limit, they may have an option to enable their seed purchase now and lock in their order. Contact your SCI Seedsman for details.

	DISCOUNT SCHEDULE	
Finance Plan	**John Deere Financial**	**RABO**
Purchase & Approval Date	Fixed 0%	Fixed 0%
March 2022	0%	0%
April 2022	0%	0%
May 2022	0%	0%
In Season	0%	0%

LEADER UPDATE

By Daniel Call, CCA
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In 2021 Seed Consultants had our best year of 3rd party and university yield performance in company history. We are excited to fully launch many of these new products for the 2022 planting season! These new products will bring next level yield performance to our customers. It is truly an exciting time for our organization as we move into the 2022 growing season.

Although we have no idea what obstacles we may experience this growing season, Seed Consultants has worked diligently to identify and advance products which exhibit outstanding stress tolerance and key agronomic characteristics suited to handle our customers unique growing environments. Combining these outstanding agronomics with excellent seed treatments gives our customers protection regardless of what the new growing season brings.

The ag industry is facing many supply chain issues across most input categories. Seed Consultants will be there for you this spring should you have additional seed needs. We have a good supply across most traits and maturities to fulfill your in season needs. Contact your Seed Consultants sales representative and allow us to deliver your additional seed needs giving you one less thing to worry about this spring.

Lastly, we ask that each of you have a safe spring. Be careful and take time during the spring rush to ensure you and those around you are safe. Wishing you all a bountiful 2022 growing season!

EARLY CASH DISCOUNTS

Seed Consultants offers opportunities to maximize seed cost savings through an early cash discount schedule for the 2022 planting season.

If you have any questions, please call the office at 800-708-2676.

CASH DISCOUNTS

4% ..... March

2% ..... April

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Editorial Board

Don't miss a thing

The SCI free e-newsletter comes via e-mail every Monday. The newsletter is packed full of current agronomic topics. Subscribe by sending your e-mail address to matt@seedconsultants.com or by signing up on our website at www.seedconsultants.com.