# Thelife

**Summer 2021** 

by NuTech Seed

## 2022 SEED GUIDE INSIDE

New choices, great performance

## INPUTS THAT ENHANCE YIELD

Our agronomists weigh in

#### UNIQUE RETREATS

Places to unwind on the farm

#### **GIVING BACK**

Livestock auction benefits an lowa family



Nullech Seed

# THE CLOCK IS TICKING.



2X FASTER UPTAKE than competitor fungicides



2 MODES OF ACTION
Preventive and curative



STRONG CONTROL of resistant diseases



## **Aproach® Prima**

Onmira<sup>™</sup>active

#### **FUNGICIDE**

## Save your crops & your cash, now.

Disease moves fast to destroy crops and yield. You need a fungicide that works just as fast. The good news? Aproach® Prima fungicide quickly surrounds each leaf and stem to protect the whole plant. It's proven to improve grain quality and increase yield.

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#### TO OUR READERS



# IT'S A SEASON OF OPPORTUNITY AND GROWTH

his may be one of the most exciting times to be involved in production agriculture. For some, this season will be a chance to capitalize on skills and lessons learned, and execute with conviction. For others, it's a chance to regroup, refocus and forge new relationships to build from. And for all of us, it's a chance to show why we're here – to demonstrate our ability to build up something special where few others can, to exemplify what it means to never stop asking, "How can we do things a little bit better?"

As a partner, we're right here with you. We all build our businesses to thrive, yet we spend a lot of the time managing challenges and risk. That is how we create businesses that grow and flourish, but you don't have to do it alone. We ensure that our team of expert seed professionals continually learn and improve as our world becomes even more complex. Make use of our expertise, experience and passion for what we do to help tackle what's ahead.

I'm genuinely excited for you to dig into this year's product guide. Our product line is outstanding. I have never represented a more robust and high-performing portfolio. I'm confident we will continue to impress our friends with these high-performance options and help even more new friends thrive, too. Highlights of this year's portfolio (that we can't help boasting about) include our new Qrome® corn releases and an enhanced lineup of Enlist E3® soybeans.

Just as your business evolves and grows, ours does the same, but our values and the Lifestyle remain the core drivers of what we do. Success, enjoyment and family is not just what we stand for, it's the reason we all chose to build our businesses, it's what connects us in the NuTech Lifestyle and it's why we continuously and tirelessly drive forward. Every field, every season is another life we can touch and impact. It's about growing a lot more than crops.

Listen to someone explain what they do for a living and you'll find some have a job, some have a career and others have a passion they follow. Those who follow a passion are the ones who embrace the essence of the NuTech Lifestyle. They recognize the simplicity on the other side of complexity, and they tell their story with energy and emotion. When you talk with someone who's part of NuTech, it's that passion that comes through. We're so glad to be able to share it with you.





# PRODUCT ISSUE

# The Life

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New faces, mid-season scouting and more. It's going to be a busy summer!

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Reducing the risks for early-planted soybeans

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## Using inputs to enhance yield

NuTech agronomists and customers share effective strategies for getting more out of every acre.





A lot of our customers were really able to maximize the early planting window this year, taking advantage of the fact that there's no plant-back restriction for Enlist E3® soybeans when using

Enlist<sup>™</sup> herbicides for burndown. The fields look great!



For the 2021-22 season, we're putting special focus on NuTech dealers, featuring more opportunities than ever to help share the NuTech Lifestyle and performance. Stay tuned for more!



#### **WALKING THE FIELDS**

We love getting out and touching base with you, evaluating current products and seeing the corn today! Our product team is also busy looking at new products to see which ones will make the grade to join our lineup.



#### **CELEBRATING THE SUCCESS OF AN OUTSTANDING 2021 SEASON** AND GETTING READY FOR THE COMING YEAR

We're educating our team on all the new options in seed treatments and fungicides to help keep your acres healthy.



#### **WELCOMING A FEW NEW FACES TO THE TEAM**

We are excited to welcome Josh Egan to the NuTech team! Josh has been with Corteva Agriscience (formerly Dow AgroSciences) for 14 years. He started as a territory manager for Mycogen Seeds in the same area he will be covering now, northwest-central Illinois. Josh spent six years in Indianapolis serving as allocation manager for Mycogen Seeds and U.S. Seeds demand manager. As demand manager, he worked with all the seed brands and crops and got to know what was then the Pfister leadership team. For the last five years, Josh has served as district sales leader for Mycogen Seeds and then Brevant Seeds in Illinois.

Josh resides in Walnut, IL — where he was born and raised — with his wife, Amber, son Kile (18) and daughters Ryley (15) and Caitlyn (11). His hobbies include playing and coaching basketball and supporting his daughters with showing Arabian horses.



#### **LAUNCHING OUR NEW PRODUCT PORTFOLIO FOR 2022 PLANTING**

We think you'll find a lot to like in this year's Seed Guide. We are blessed and honored to continue to advance as a team and keep delivering new options for your farm.





## Unscramble each summertime word.

Then arrange the letters in the circles to answer the question!

ATRELOWNEM \_ \_ \_ LIPPSOEC \_ \_ \_ \_ GNWSIMIM \_\_\_\_ CAVITAON \_ \_ \_ \_ \_ LYFFRIE \_ \_ \_ \_ \_ NUSSNIHE \_ \_ \_ \_ \_ \_ \_

What's the best thing about summer?



## CHECK OUT ALL THE FUN FARM GAMES AT MYAMERICANFARM.ORG

- Features games for kids ages pre-K through grade 5
- Wide range of activities that reinforce STEM skills, teach kids about the world of ag and more
- ★ Sponsored by Corteva Agriscience



## SUMMER CRAFT: MAKE YOUR OWN SUNCATCHER

## What you'll need:

- Thick paper (such as construction paper) or posterboard
- Crayons Scissors

Tape

- Glue String
- Paperclip



## Step 1: Make a frame

- Draw or trace a circle or square about 6 inches across onto your paper or posterboard.
- Cut out your shape.
- Measure about ½ inch from the edge of your shape, then draw another of the same shape inside (a circle inside your circle or a square inside your square).
- Cut out the inside shape, so you are left with a frame.

## Step 2: Make a pattern

- Using another piece of heavy paper or your scraps, cut out strips about ½ inch wide. Make sure the strips are long enough to fit all the way across your frame - horizontally, vertically or diagonally.
- Arrange the strips over your frame, leaving space in between them. You can arrange your strips however you like! Make a shape that looks like a star, the sun or the first letter of your name!
- Once you have your pattern arranged, glue the pieces into place.
- Trim off any strip pieces that are hanging off the frame.
- Apply a thin layer of glue all over one side of your pattern—this will be the back of your suncatcher.
- Tear off a piece of parchment paper that is a little bit bigger than your pattern and lay it on the glue side.
- Let the glue dry for a couple of minutes, then cut off any extra parchment paper hanging over the edges.







## Step 3: Add colors

- With the back side of your suncatcher facing you, use crayons to fill in the areas of parchment paper in your pattern.
- Colored chalk works well, too. Bright colors will catch the sun best!



## Step 4: Display

- Tape a loop of string to the top of your frame. Unfold a paperclip to make a hanger.
- Find a sunny window to hang your creation!





Show us your suncatcher!

Parents: Share your photos with NuTech











Share the photos that remind you why it's so important to take a moment to take it all in. a new season.

> Enter your photos in our *Have you* seen the corn today? Photo Contest for a chance to win great prizes. Show your unique perspective on pausing to appreciate all the Lifestyle has to offer.

**Enter and vote for your favorites** August 1 to September 6, 2021!

When you see the corn today, what do you see? Show us!

The rewards of

hard work.

Memories

being made.



Solo Stove®



YETI® Roadie® cooler

Find complete contest rules and details at: NuTechSeed.com/hystct-photo-contest

**Each participant** will receive a *Have* you seen the corn today? t-shirt





# Are you ready TO ROCK?

NuTech Getaways are back! February 13-18, 2022

## JOIN US AT THE



#### **PUNTA CANA**

This five-star resort is an all-inclusive paradise. We can't wait to get together to enjoy beautiful beaches, fun nightlife and the unforgettable times that only happen when NuTech people get together!

It's been too long, so don't miss out! Talk to your NuTech representative about qualifying information and look for more details coming soon.



Reducing the risks for early-planted soybeans

**High-quality seed treatments offer additional** protection in less-than-ideal conditions



## The past several seasons have seen a growing trend for planting soybeans early. In some parts of NuTech territory, growers are planting as early as mid-March, well before corn.

Planting early has its advantages: Each soybean node takes about two and a half days to develop, so the longer the plants can be in the ground, the more pods they can develop and the higher the yield potential.

As an agronomist, I'm always interested to see what growers can do when they push the envelope a bit. Early planting certainly carries risks, as those of us who were shoveling our driveways in mid-April this year can attest. But most growers I talk to who've tried early planting seem to find the benefits of bringing in more bushels outweigh their worries about a late cold snap. If you're considering early planting for soybeans, there are some practices and new seed treatments that can help reduce the risk and help you sleep a little easier with those soybeans in the ground in early spring.

#### **DISEASE PROTECTION**

When seed goes in the ground early, the first big concern is damping-off diseases. When you plant early, there aren't a lot of GDUs yet. When the seed sits in the ground awhile or germinates more slowly, it's vulnerable to Pythium, Rhizoctonia, Fusarium – and the big problem we're seeing in terms of yield loss in the Central Corn Belt Phytophthora.

Fungicide seed treatments offer protection, but not all seed treatments are the same. If you're going to plant

early, a really solid seed treatment package is vital.

NuTech offers LumiGEN® seed treatments for our soybeans, which are a special recipe from Corteva Agriscience that is only available to Corteva seed brands like NuTech.

For me, the real stand-out in the LumiGEN recipe is Lumisena® fungicide seed treatment, which is just outstanding against Phytophthora. Lumisena has an additional mode of action against Phytophthora, and in field trials, the difference is obvious: Plants from seed treated with Lumisena bushel up much better than the competitive checks that were either from untreated seed or were treated with the current industry standard for Phytophthora, metalaxyl.

In comparison to metalaxyl, Lumisena provides a 1.0 bu/A bump in yield in areas with typical Phytophthora pressure, but a 4.0 bu/A increase in areas with high pressure.\* And this is based on more than 600 field trials, so it's not just a handful of grower experiences.

Other fungicides in the recipe provide additional modes of action against Pythium, Fusarium and Rhizoctonia. And, of course, another big threat when soybeans go in the ground early is sudden death syndrome (SDS), which is why we're including ILEVO® seed treatment pretty regularly in our seed treatment applications. ILEVO works below ground, protecting against the

early root rot caused by SDS, but then it also reduces the later foliar symptoms of SDS. It's compatible with the rest of the ingredients in the LumiGEN recipe, so you can really maximize your protection. To me, having so many modes of action is key – we can't expect to use the same MOAs against these diseases year after year and continue to maintain great protection.

#### **PEST PROTECTION**

Bean leaf beetles overwinter in the soil, and as soon as they wake up, they're going to make a bee line for your newly emerged soybeans. Bean leaf beetles will both feed on plants and lay their eggs, which are a vector for bean pod mottle virus. LumiGEN seed treatments for soybeans include an industry-leading insecticide that works systemically in the plant to deter feeding. The LumiGEN package also provides protection against early-season soybean aphid.

With NuTech territory under growing pressure from soybean cyst nematode (SCN), ILEVO is a great addition for pest protection, too, since it defends against SCN. The LumiGEN recipe plus ILEVO has shown a proven yield bump, especially in areas with high SCN pressure.

#### RESEARCHED AND VETTED

With every input having the potential to make a measurable difference to your income, seed treatments deserve proper attention in the research and development process. Corteva has a dedicated Center for Seed Applied Technologies that works on not only developing seed treatments, but making sure they work in the field under real conditions. That means checking that the coating isn't going to go gummy when

it gets humid out, that the seed won't catch in the planter and that the treatment recipe is consistent – so the coating is reliable whether you get it done at our NuTech plant or one of our downstream partners. And speaking of partners, we know many of our customers like to add something more to the seed treatment - another biological (although LumiGEN seed treatments do include one) or inoculant. LumiGEN seed treatments tend to be very compatible with these kinds of add-ons, so you can still customize your seed treatment.

We know so much about how these seed treatments perform because Corteva has developed a rigorous testing process, abbreviated as PASSER, that looks at six factors for every seed treatment. I'm impressed by the thoroughness, and combined with what I've seen in the field from LumiGEN seed treatments, I'm very confident in the value this package brings for early-planted soybeans.

Keep in mind, though, the benefits of seed treatments aren't limited to early-season soybean planting. Rhizoctonia and Fusarium pressures increase as soils warm, and LumiGEN seed treatments will protect against those as well. We also highly recommend the addition of ILEVO seed treatment because it's the only proven winner against both SDS and SCN. Whether you're planting early or even find yourself delayed, I recommend every bean you plant be a treated bean for maximum protection and results.

\*Data is based on 638 head-to-head comparisons between DuPont™ Lumisena® fungicide seed treatment (0.568 fl oz/cwt) and Metalaxyl (0.75 fl oz/cwt) in the top soybean-producing states through Dec. 12, 2017. Comparisons were made utilizing the same soybean variety. The foregoing is provided for informational use only. Please contact your Corteva Agriscience seed brand representative for information and suggestions specific to your operation. Product performance is variable and subject to any number of environmental, disease and pest pressures. Individual results may vary and from year to year. Product label instructions must be followed at all times.

## **Considerations for** early-plant soybeans

- Select a well-drained field with minimal residue.
- Work with your agronomist or dealer to identify the best varieties to plant early based on your fields.
- o Look for beans with a strong emergence score and good disease tolerance. You'll find plenty to choose from in the NuTech lineup.
- Plant seed that has been treated with a high-quality seed treatment that provides multiple modes of action against damping-off diseases.
- While seed treatments provide early protection, don't neglect vour in-season scouting for diseases and insects so you can treat for any issues.
  - o A good foliar fungicide at R3 can make a big difference if you're pushing for high yields.
  - o Some growers are also having a good experience adding micronutrients to select fields in-season.



Roots protected by Lumisena® fungicide seed treatment drive through the diseased disk and remain healthy

**Roots protected** by metalaxyl die or are severely injured upon contact with.

Lumisena protects roots against Phytophthora, a major disease concern if you're considering an early plant for your soybeans.

#### Plantability

Maximizing seed flow and planting

#### Regulatory

Meeting regulations and guidelines

## PASSER process

Seed Safety Ensuring treatments don't adversely affect seed germination

Application

Refining processes

properties and

## developed bv Corteva undergoes a

Every seed

treatment

## Efficacy

Evaluating protection, vigor, even in challenging

Minimizing potential people and the

thorough testing process called PASSER which checks for six key factors.

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# 2022 hybrids that are high on our list



When you peruse this year's seed guide, there are two corn hybrids I think may catch your eye. Both of these hybrids — 68A7AM and 69B9Q — fall in the 108-112 mid-season market and are great complements to any package you're putting together in that maturity. These products flower differently and go to pollen differently, which makes them good to have in the mix for risk management. Both products are going to be in several third-party trials this year, so we're looking forward to being able to share even more data about them this fall.

For each of these hybrids, I've summarized some of their key features. Be sure to talk to your NuTech agronomist, dealer or sales representative about whether to add these products to your mix for the coming season.

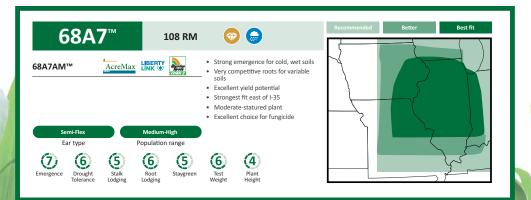


Find 68A7AM TMBRAND on page 30 of the 2022 seed guide.

## 68A7AM<sup>TMBRAND</sup>

We introduced this 108-day hybrid last year, and it continues to impress. 68A7AM<sup>TMBRAND</sup> should be positioned in a high-yielding environment with a 32,000-34,000 population. What makes 68A7AM<sup>TMBRAND</sup> so special is how well it moves – you can place it anywhere from northern Illinois all the way to Kentucky with good results. This product is a good complement to 70A8AM<sup>TMBRAND</sup> and 64D1AM<sup>TMBRAND</sup>, and where it's recommended, it can be as much as 30% of your mix –it had just outstanding top-end yield last year.

68A7AM also shows excellent late-season plant health, and while it's a medium-tall plant, it produces a very good canopy — another one of its special features. Keep in mind that as an Optimum AcreMax Above hybrid, 68A7AM has above-ground-only insect control and does not offer corn rootworm protection.





Find 69B9Q<sup>TMBRAND</sup> on page 31 of the 2022 seed guide.

## 69B9Q<sup>TMBRAND</sup>

69B9Q<sup>™SEANO</sup> is a brand-new Qrome® hybrid for 2022, with a 109-day RM. It has great roots and yield for its maturity, and like 68A7AM<sup>™SEANO</sup>, shows very good late-season plant health. This hybrid works in a range of conditions and has a lot of ear flex. It's recommended in populations of 32,000-34,000 and is especially good for corn-on-corn acres. In a package, 69B9Q<sup>™SEANO</sup> is a good complement to 69A6Q<sup>™SEANO</sup> and 70F2Q<sup>™SEANO</sup>. By now, most of our customers are familiar with Qrome technology, but, just as reminder, Qrome hybrids offer dual modes of action against above- and below-ground pests – delivering one of the newest rootworm events on the market. We've seen a high population of rootworm beetles in past year, so we are expecting higher levels of rootworm pressure, making this product a particularly good choice.





While every season is an opportunity to improve on your last, market prices seem to have piqued interest more than usual in inputs that can help boost yield. From nitrogen enhancers, to in-furrow biologicals to foliar fungicides, many NuTech customers are trying new approaches on their fields and reaping the rewards.

"There's a whole array of ways to increase production," noted Keith Niemeier, sales agronomist. "With the increase in commodity prices, growers want to play more offense — they're willing to spend a little more to get high yields." When it comes to yield boosters, and especially biologicals, Regional Sales Manager Travis Moser said, "Everybody's got something, and the performance can vary from year to year."

With so many options, how can farmers make the best use of additional investment in inputs?

#### START SMALL AND BE WILLING TO EXPERIMENT

Tyler Vaughn, NuTech dealer and owner of Vaughn Ag Service, LLC in Ellery, IL, says growers don't need to go whole-hog with inputs. For farmers who want to get their feet wet, Vaughn recommends choosing a 20- or 40-acre plot and splitting it to do a competitive check of the inputs. Vaughn said a lot of inputs are very field- and environment-specific, so it's not necessarily about finding something that works across the whole farm.

NuTech customer Grant Noland agrees. He admitted, "We're not big on plots and trial work, but we recognize the value in them and are trying to be better at doing them." Noland has had very good success the past five years with early soybean planting, side dressing corn and doing fungicide on corn and beans. "Those have been tremendous returns on our investment," he said. In smaller areas, he's trying in-furrow starter fertilizer with some micronutrients and nitrogen replacements and stabilizers. For Noland, trying new inputs has been well worth it. "At a bare minimum, you get a return on your money," he said, "But probably every three years, it's a grand slam for us."

Noland said that growers trying new inputs do need to know that not everything will work. "You can't be afraid to fail," he said. "Fail fast, perform an autopsy on it and then move to the next one. Determine what your comfort zone is for attempting new things, but remember failing isn't always a bad thing. We often learn more from that than our success."

## CHOOSE AN INPUT THAT ALIGNS WITH CURRENT PRACTICES

Niemeier says a great way to get started is to select an input that already aligns with practices — and equipment — you have in place. "If you're already running a liquid starter, adding a liquid biological is easy," he noted. Some biologicals can be added in with your herbicide application.

#### **GET EXPERT ADVICE**

With so many input options, farmers definitely need additional information and support to sort through their choices. Niemeier recommended, "Work with your seed dealer, agronomist, fertilizer dealer – they'll do tissue tests to figure out what you might be missing. Maybe you're low on boron or sulfur. If you're not getting the same yield as a neighbor, that could be a nitrogen issue." Seed dealers can recommend the best hybrids and varieties based on the inputs you're thinking about, like a particular hybrid that responds to a fungicide.

Vaughn will do tissue tests with customers as often as every two weeks throughout the season, adjusting inputs to meet the changes to the crop. "We'll go field by field, and maybe we'll need to come in with more nitrogen, more zinc or more calcium. It can change week to week."

Noland, who farms in central Illinois, works closely with an analytics company that helps him crunch the numbers around inputs every year. "If we do the due diligence on the front end, they can take that data for us and we have good information to execute on," Noland said. Noland also relies on the people representing the products he's looking to buy. "They should be the most educated about it," he said. "I ask what their most successful products are. Then I work with our consultant to see if that would be a good fit for our farm."

Even if you don't work with a consultant, Vaugh recommends using a technology platform to monitor planting, inputs and harvest. While many apps and programs are machine- or brand-specific, Vaughn likes ones that are more compatible across platforms, so you can go from planter to sprayer to combine and easily pull together a full picture of the season.

Of course, in farming, sometimes the best experts are your fellow growers. Vaughn said he has some customers who decide to go with an input based on the experience of a neighbor or friend. "Ask what's worked for them," he advised. Niemeier agreed, and suggested with any new input product, "Ask the sales person if you can talk to someone else in the area who has used it."

#### **LOOK FOR DATA AND PROOF POINTS**

Inputs, particularly newer products like biologicals and micronutrients, can feel untested. Are the results for real, or are you paying for foo-foo dust for your fields? Niemeier noted that biologicals in particular are an emerging science and the data is improving. "We've always had inoculants on soybeans, and they've found the exact strains of bacteria that work." Niemeier continued, "When I was a kid, nobody was selling probiotics to people either, but they've learned so much more about good bacteria, bad bacteria and how it works." Moser sees biologicals presenting a great opportunity to bring some new options to farmers. "The seed companies are all creating biological divisions because they see this as an area they can really expand into," he said.

It is important, however, to vet any add-ons. Niemeier recommends asking, "Have you heard of the company, are they in crop production, do they have third-party independent data, are they working with universities and extensions to show there's consistency in their

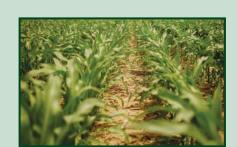
claims?" Vaughn notes that some input products come with satisfaction guarantees, reducing the risk to try something new.

A track record of plot trials can be reliable as well. Vaughn described a particular combination of products he tested over a period of two to three years on soybeans. With the program regularly returning extra bushels, "We could quit doing strip checks," Vaughn said. "We knew the product."

While trying new inputs comes with some risk, both Noland and Vaughn say it's vital for farmers to continue trying to innovate. Vaughn said, "You can still have good corn doing the basics, but it's a competitive marketplace and guys are looking for any advantage." Noland sees it as a career commitment. "Our responsibility is to continue to vet out new practices and continue to bring returns for our business," he said. "The key is to have a process in place to capture that data and ensure the trial and efforts are sound and backed in actual data."



Look for inputs that work with your existing practices, like biologicals that can sprayed along with your herbicide.



Input success can vary from season to season and field to field. Consider testing new inputs on specific plots with side-by-side checks before committing to a wider use the next year.



With high corn prices, more growers are looking at inputs to boost yield. In-furrow fungicides, biologicals and micronutrients are gaining popularity.



With current market prices, inputs this season are expected to bring great dividends and be well worth the investment.

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## SUMMER AGRONOMY EVENTS

Our agronomy team will be making the rounds across the Central Corn Belt this summer. We hope to see you at one of these upcoming events.

## DYERSVILLE, IA

#### July 14

Corteva Agriscience herbicide demonstration plot with Market Development Specialist Ron Geis

Located 1 mile west of Dyersville, IA, on north side of Hwy 20

## PRINCETON, IL

#### August 11

Research tour featuring the Enlist™ system, corn and soybean products and breeding

## JOHNSTON, IA

#### August 18

Corn and soybean product training, a look at new Enlist E3® soybeans coming in the future and seed treatment update

2 sessions will be available: 10:00 a.m. to 12:00 p.m. 1:00 p.m. to 3:00 p.m.

## MIAMI, MO

#### August 24

Plot tour with NuTech Lead Agronomist Brad Johnson

## LEXINGTON, IL

TBD late August/early September

Plot tour

## Speak to your NuTech

representative or dealer

- about agronomy events coming
  - to your area this summer!





# Simplify your season with Enlist E3® soybeans from NuTech

- ✓ Available in top-notch genetics
- ✓ Choose from a range of maturities and agronomic characteristics
- ✓ Easy-to-use herbicides with near-zero volatility and reduced physical drift potential
- ✓ Design your weed control program with hundreds of tank-mix partners including glufosinate and AMS options
- ✓ No calendar date restrictions for herbicide application
- ✓ No tank-mix adjuvants required
- ✓ Smaller downwind buffer requirements (vs. in-crop dicamba systems)

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### **CORTEVA**<sup>™</sup> agriscience



## The Right Seed for Your Field

Look for our product categories to make sure you're getting the most out of your fields

#### **High-yield fields**

Rich, productive soils

**Field focus:** Plant early, harvest timely and reap the benefits of fungicide application

#### Primary strength seed brands:

196, 57A4, 58B1, 60A2, 601, 62A8, 63C4, 64B5, 64D1, 66C2, 308, 8808, 68A7, 68B3, 69A6, 69B9, 69D3, 70A3, 70A8, 70C4, 70F2, 71C1, 71F5, 72B7, 72D4, 2213, 2874, 74A9, 74B6, 74F3, 7215, 75G1, 75Y1, 77A5, 78A1



#### Corn-on-corn fields

Continuous corn environments

Field focus: Emphasis on stalk and root strength

#### Primary strength seed brands:

196, 57A4, 58B1, 60A2, 601, 62A8, 63C4, 504, 64B5, 64D1, 1606, 66C2, 308, 68B3, 69A6, 69B9, 70C4, 70F2, 71F5, 72B7, 2213, 2874, 2770, 74A9, 7215, 75D2, 75G1, 77A5, 78A1



#### Heat/drought-stressed fields

Low organic matter soils at risk of moisture stress

**Field focus:** Built-in stress tolerance to handle periods of heat and low rainfall

#### Primary strength seed brands:

196, 57A4, 60A2, 601, 63C4, 504, 64B5,64D1, 1606, 66C2, 308, 8808, 68B3, 70A3, 1111, 71C1, 72B7, 2213, 2874, 2770, 7215, 75D2, 77A5



#### **Poorly drained fields**

Fields with wet feet problems

**Field focus:** Exceptional plant health coupled with a solid agronomic package

#### Primary strength seed brands:

196, 57A4, 601, 62A8, 63C4, 504, 64D1, 1606, 308, 8808, 68A7, 68B3, 69A6, 69B9, 69D3, 70A3, 70A8, 70C4, 70F2, 1111, 71F5, 72D4, 2213, 2874, 2770, 74A9, 74B6, 74F3, 7215, 75Y1, 77A5, 78A1



#### PRODUCT IDENTIFICATION





**Q:** Qrome® products feature dual modes of action to defend against above- and belowground pests. Qrome products include a unique molecular stack of the proven *Bt* proteins from the Herculex® I and Herculex® RW traits and allow for a 5% refuge product. The refuge hybrid component is treated with a high rate of seed-applied insecticide and is blended in the bag with the *Bt* hybrid component stack to create a fully integrated refuge for both above- and below-ground pests. The non-blended version would be denoted as CYFR.



**RASS/SSR:** SmartStax® trait technology uses multiple modes of action for control of aboveand below-ground insects to cover a broad spectrum of insect threats and defend your yield. Conveniently packaged as a single-bag solution with no separate structured refuge required for planting in the Corn Belt.





**SXE/SE**: SmartStax® trait technology uses multiple modes of action for control of aboveand below-ground insects to cover a broad spectrum of insect threats and defend your yield. The Enlist® corn trait adds advanced herbicide-tolerant technology, with tolerances to 2,4-D choline, glyphosate and FOP herbicides such as quizalofop.



**SX/SS**: SmartStax® trait technology uses multiple modes of action for control of above- and below-ground insects to cover a broad spectrum of insect threats and defend your yield.



AMXT\*\*: With proven above- and below-ground insect control which allows growers to simplify and reduce refuge in one bag. Two different modes of action against corn borers (MON810 & TC1507) pyramided with two different modes of action against corn rootworm (MIR604 & DAS59122-7) allow for a 5% refuge product. The refuge hybrid component is treated with a high rate of seed-applied insecticide and is blended in the bag with the *Bt* hybrid component stack to create a fully integrated refuge for both above- and below-ground pests. The non-blended version would be denoted as CYXR.



AMX\*\*: Above- and below-ground insect control solution which allows Corn Belt growers to simplify and reduce refuge in one bag. Two different modes of action against corn borers: YieldGard® Corn Borer (MON810) pyramided with Herculex® XTRA traits (TC1507 & DAS59122-7) allow for a 10% refuge product. The refuge hybrid component is treated with a high rate of seed-applied insecticide and is blended in the bag with the *Bt* hybrid component stack to create a fully integrated refuge for both above- and below-ground pests.



**PCR/PWRA:** PowerCore® trait technology is a combination of three modes of action to provide superior control of above-ground insects. This focused insect control is specialized for areas with minimal rootworm pressure, conveniently packaged as a single-bag solution with no separate structured refuge required for planting in the Corn Belt.



**PWE/PE:** PowerCore® trait technology is a combination of three modes of action to provide superior control of above-ground insects. This focused insect control is specialized for areas with minimal rootworm pressure. The Enlist™ corn trait adds advanced herbicide-tolerant technology, with tolerances to 2,4-D choline, glyphosate and FOP herbicides such as quizalofop.



<u>PW</u>: PowerCore® trait technology is a combination of three modes of action to provide superior control of above-ground insects. This focused insect control is specialized for areas with minimal rootworm pressure.



AML\*\*: The new pyramid of traits for superior control of above-ground pests which allows Corn Belt growers to simplify and reduce refuge in one bag. Three different modes of action against corn borers (MON810, TC1507 and MIR162) allow for a reduced refuge of only 5%. The refuge hybrid is blended in the bag with the *Bt* hybrid component to create an integrated refuge for above-ground pests. The non-blended version would be denoted as VYHR



AM\*\*: The above-ground insect control solution which allows Corn Belt growers to simplify and reduce refuge in one bag. Two different modes of action against corn borers (MON810 & TC1507) allow for a reduced refuge of only 5%. The refuge hybrid is blended in the bag with the *Bt* hybrid component to create an integrated refuge for above-ground pests. The non-blended version would be denoted as YHR.



**GT3:** The Agrisure® 3000GT trait stack offers better control of corn borer and corn rootworm, as well as herbicide flexibility with both glyphosate and glufosinate tolerance.

2022 SEED GUIDE



#### **First Character:**

Denotes the presence or absence of a transgenic herbicide tolerance event.

- 0 Conventional (Absence of any transgenic event)
- 3 Glyphosate Tolerant (NK603 or GA21 event)
- 5 Glyphosate Tolerant/LibertyLink® (NK603 or GA21/Bt11, T-25 or TC1507 event stack)

5FB-8808AM™

#### Second and/or Third Character(s):

Denotes the presence or absence of a transgenic insect resistance event.

#### Absence

(No transgenic insect resistance event)

(DP4114/MON810/MIR604 event stack plus 5% blend of similar hybrid that serves as refuge component)

#### D/DB Optimum® AcreMax® Xtra

(MON810/TC1507/DAS59122-7 event stack plus 10% blend of similar hybrid that serves as refuge component)

#### Optimum® AcreMax®

(MON810/TC1507 event stack plus 5% blend of similar hybrid that serves as refuge component)

#### Optimum® AcreMax® XTreme

(MIR604/MON810/TC1507/DAS59122-7 event stack plus 5% blend of similar hybrid that serves as refuge component)

#### Agrisure® 3000GT

(MIR604/Bt11 event stack)

#### Optimum® AcreMax® Leptra®

(TC1507/MON810/MIR162 event stack plus 5% blend of similar hybrid that serves as refuge component)

#### Optimum® Intrasect® Xtra

(MON810/TC1507/DAS59122-7 event stack without refuge component blend)

#### Optimum® Intrasect®

(MON810/TC1507 event stack without refuge component blend)

(TC1507/MON810/MIR162 event stack without refuge component blend)

#### **Last Four Characters:**

Denotes a specific hybrid family or series (i.e., 5FB-8808AM™). Hybrid family or series may be available in several different technology versions.

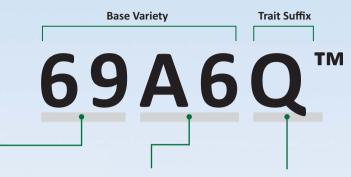
#### **Last Two Characters:**

Denotes relative maturity. "08" indicates a relative maturity of 108 days, while a "97" would indicate 97 days.

The suffix behind the hybrid name may be required by some technology providers and summarizes the information described by the first two

#### Suffix:

characters of the product name.



#### **Relative Maturity:**

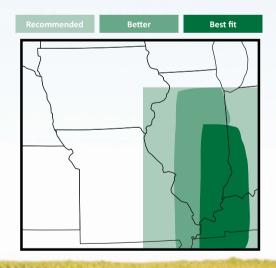
Add 40 to this number to aet RM davs. Ex: 69 = 109 RM

#### **Random Code:**

One random letter followed by one random number.

#### **Area of Adaptation Maps:**

Consult with a NuTech Seed representative for planting outside of AOA recommendation. NuTech AOA maps provide a guide for corn product placement based upon a recommended area, an area of better fit and an area defined as **best fit** for optimized performance potential. These recommendations are based on multi-year research testing, disease ratings and overall agronomic fit.



#### **Trait Code:**

Q Qrome®

RASS/SSR SmartStax® Refuge Advanced®

SmartStax® Enlist™ SXE/SE

SX/SS SmartStax®

AMXT Optimum® AcreMax® XTreme

Optimum® AcreMax® Xtra

PowerCore® Refuge Advanced® PCR/PWRA

PWE/PE PowerCore® Enlist®

PowerCore®

Optimum® AcreMax® Leptra® AML

Optimum® AcreMax®

Agrisure® 3000GT GT3

Agrisure® GT

Roundup Ready® Corn 2

Conventional

CYXR Optimum® Intrasect® Xtreme

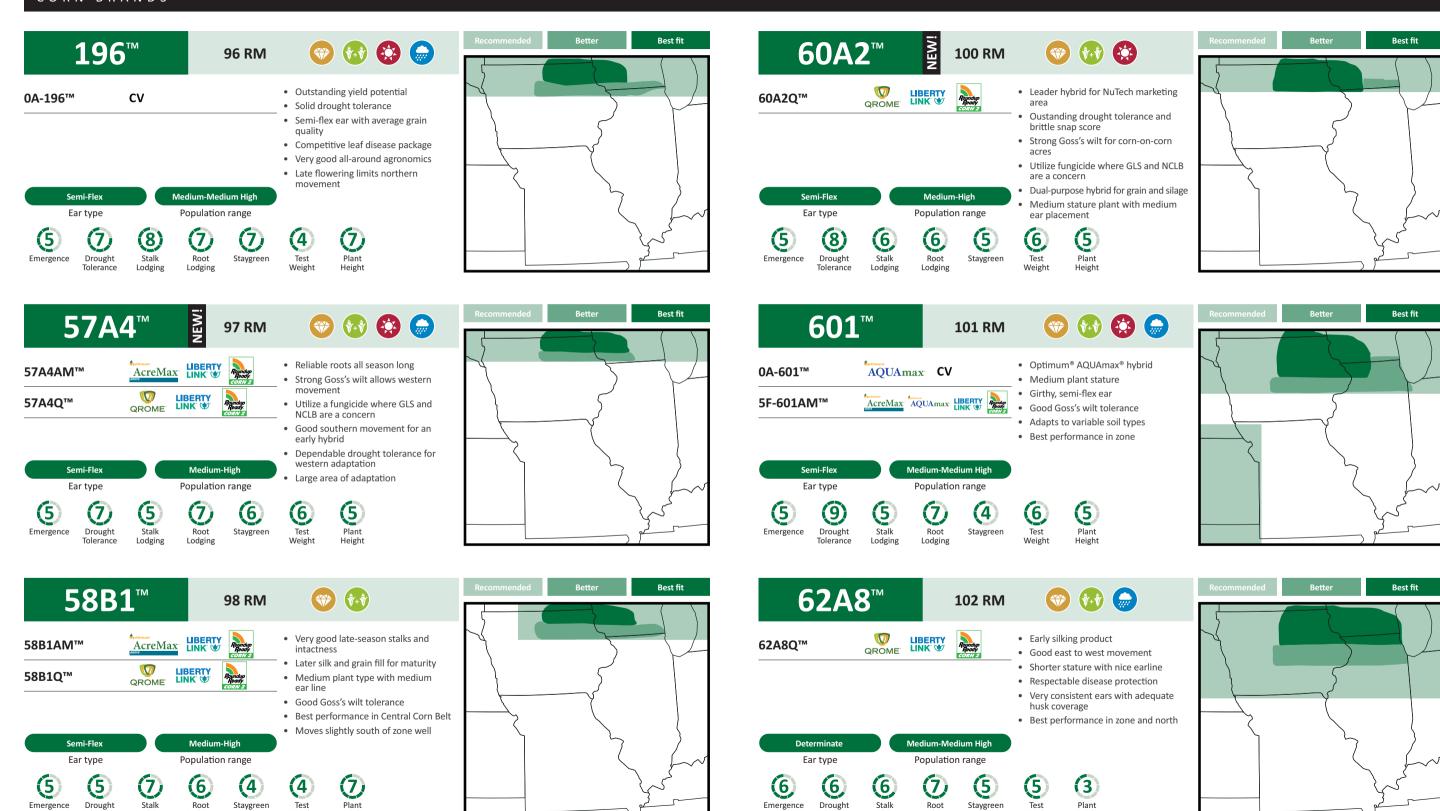
Optimum® Intrasect®

VYHR Optimum® Leptra®

Note: All existing products will continue using the existing product name.







Tolerance

Lodging

Lodging

Weight

Height

2022 SEED GUIDE

Tolerance

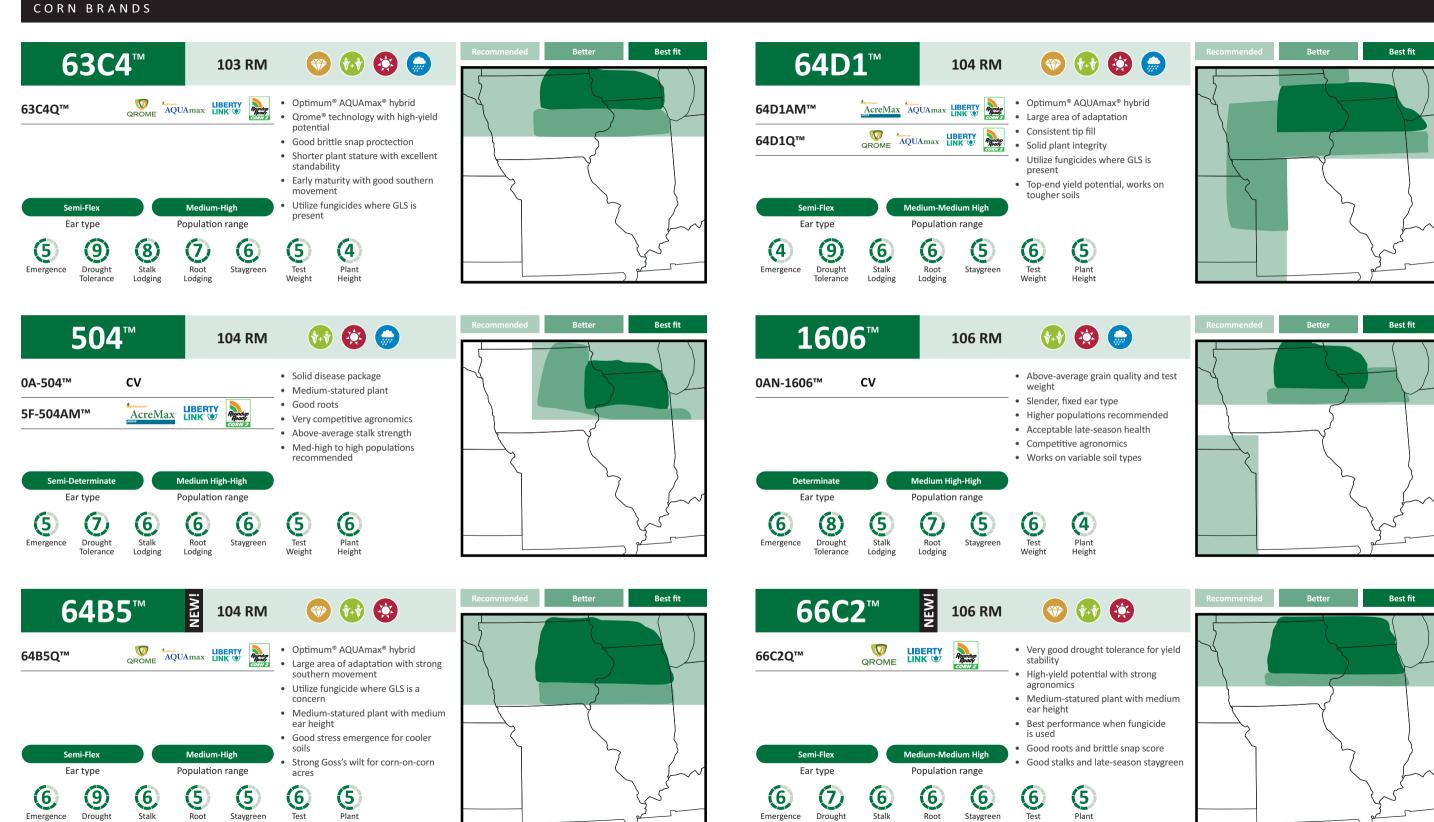
Lodging

Lodging

Weight

Height





Tolerance

Lodging

Lodging

Weight

Height

Tolerance

Lodging

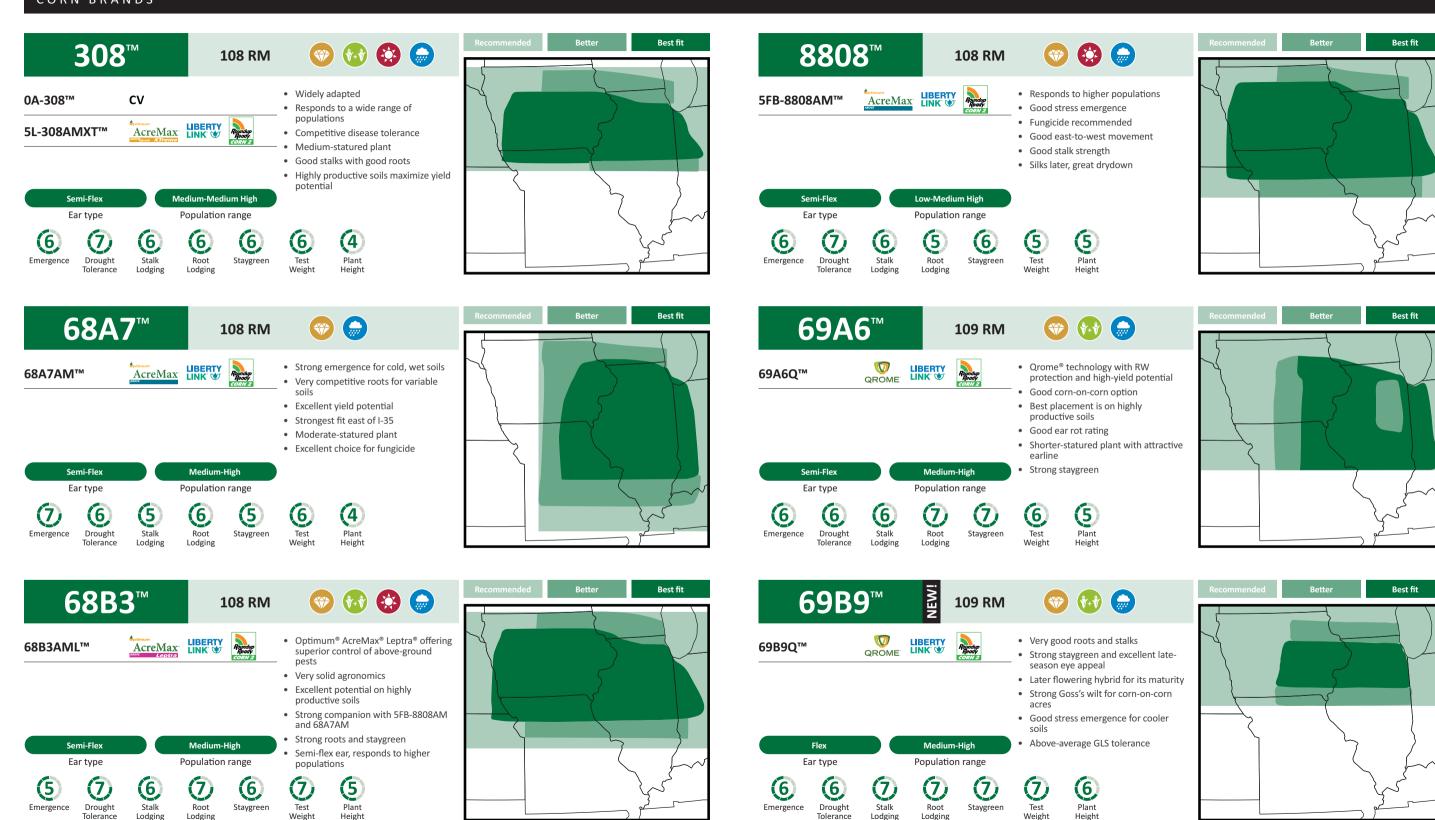
Lodging

Weight

Height

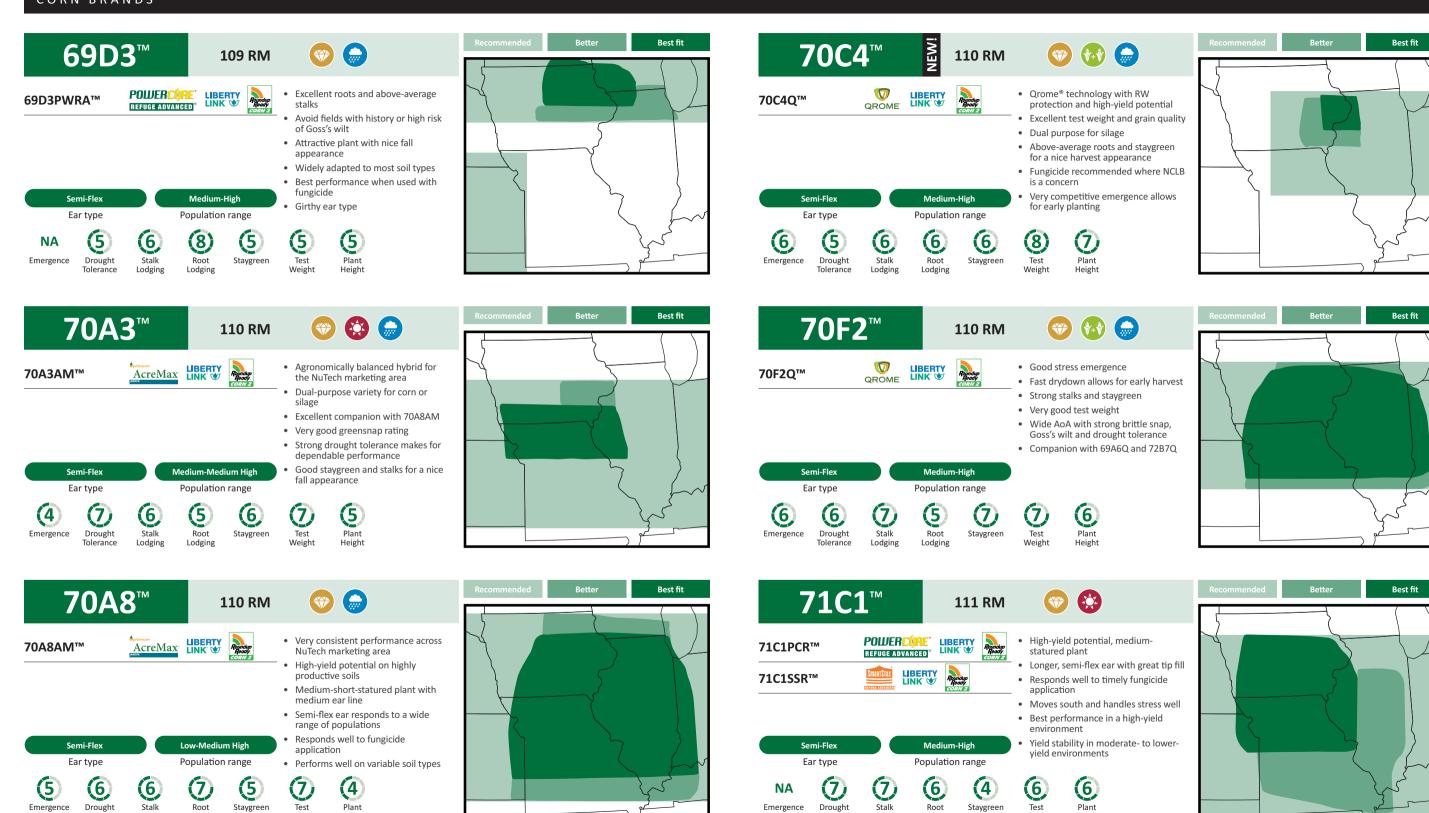
#### CORN BRANDS





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Root

Lodging

Tolerance

Lodging

Weight

Height

Tolerance

Lodging

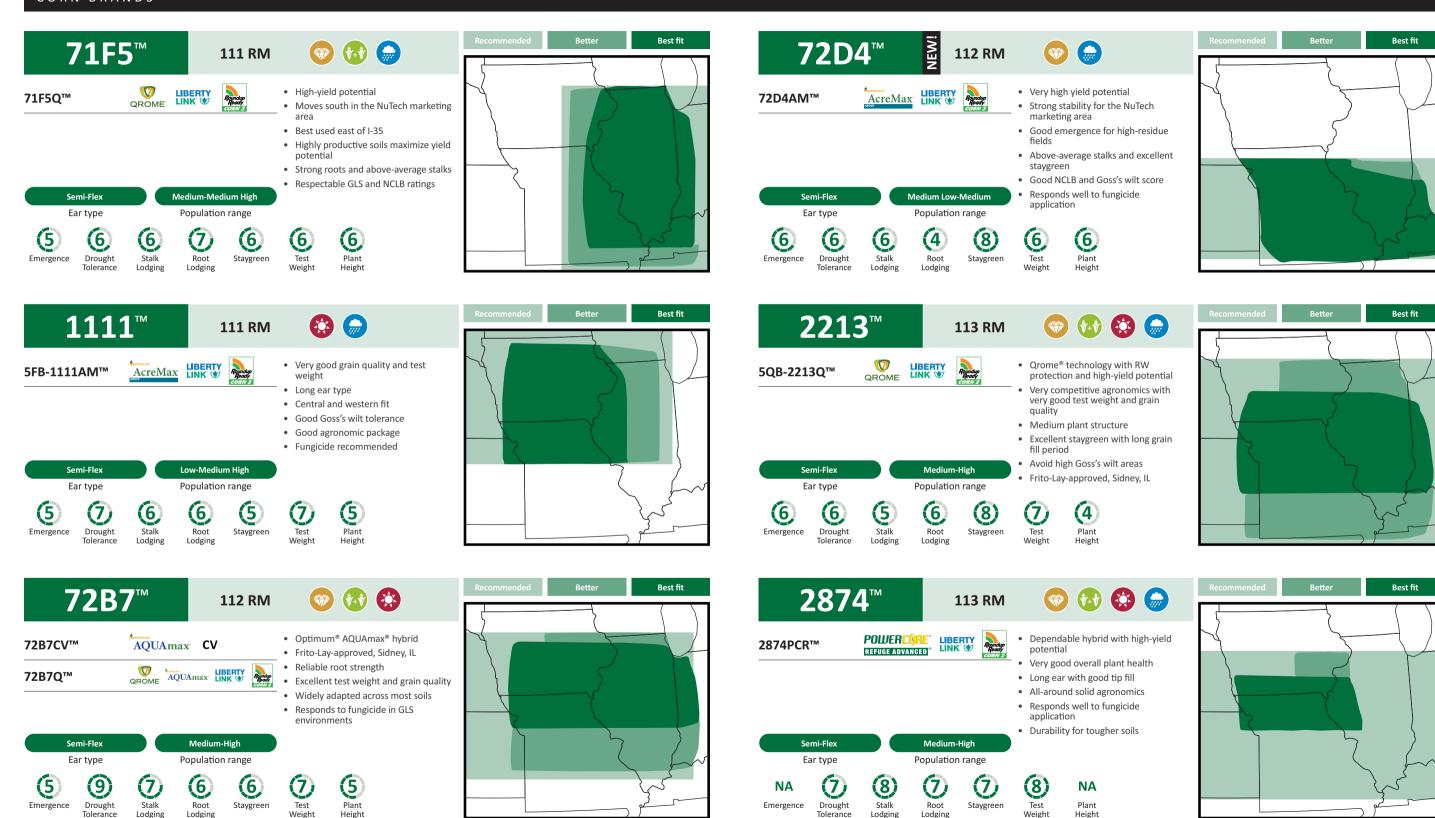
Lodging

Weight

Height

#### CORN BRANDS





Lodging

2022 SEED GUIDE





AcreMax LIBERTY

• Above-average stalks and excellent stavgreen

• Performs well on variable soil types • Strong emergence for no-till soils

- Medium-statured plant with medium ear height
- Wide area of adaptation
- Very good Goss's wilt and head smut

Medium-Medium High

Population range



74B6AM™

Ear type

Drought Tolerance









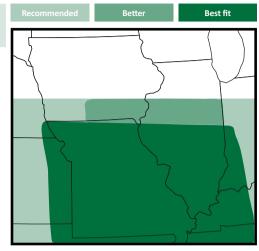




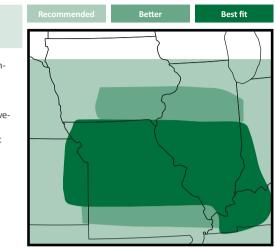












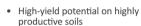
**74B6**<sup>™</sup>



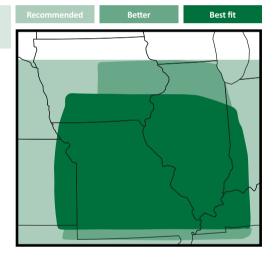




114 RM

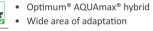


- Soild disease protection
- Strong roots and reliable staygreen
- Medium plant stature
- Use moderate populations in stress
- Very good test weight



AcreMax AQUAmax LIBERTY Regular 75D2AM™

**75D2**™



- Planned replacement for 2770RASS
- Good roots and stalks
- Versatile product with solid yield potential
- · Strong Goss's wilt and drought tolerance

(5)

Semi-Flex (5)

Emergence



Drought

Tolerance

Lodging

Lodging







Medium-High

Population range

Lodging

115 RM



Weight

Height

Best fit

(5) Emergence

Flex

Ear type







**74F3**™









AcreMax LIBERTY







Medium Low-Medium

Population range





114 RM



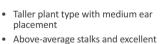










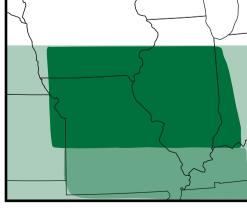


- Strong standability and aboveaverage roots
- Dual-purpose hybrid for grain and silage
- Wide area of adaptation
- Responds well to fungicide application



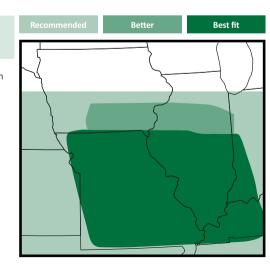






Best fit





Ear type



74F3AM™



Semi-Flex





















Medium-Medium High

Population range







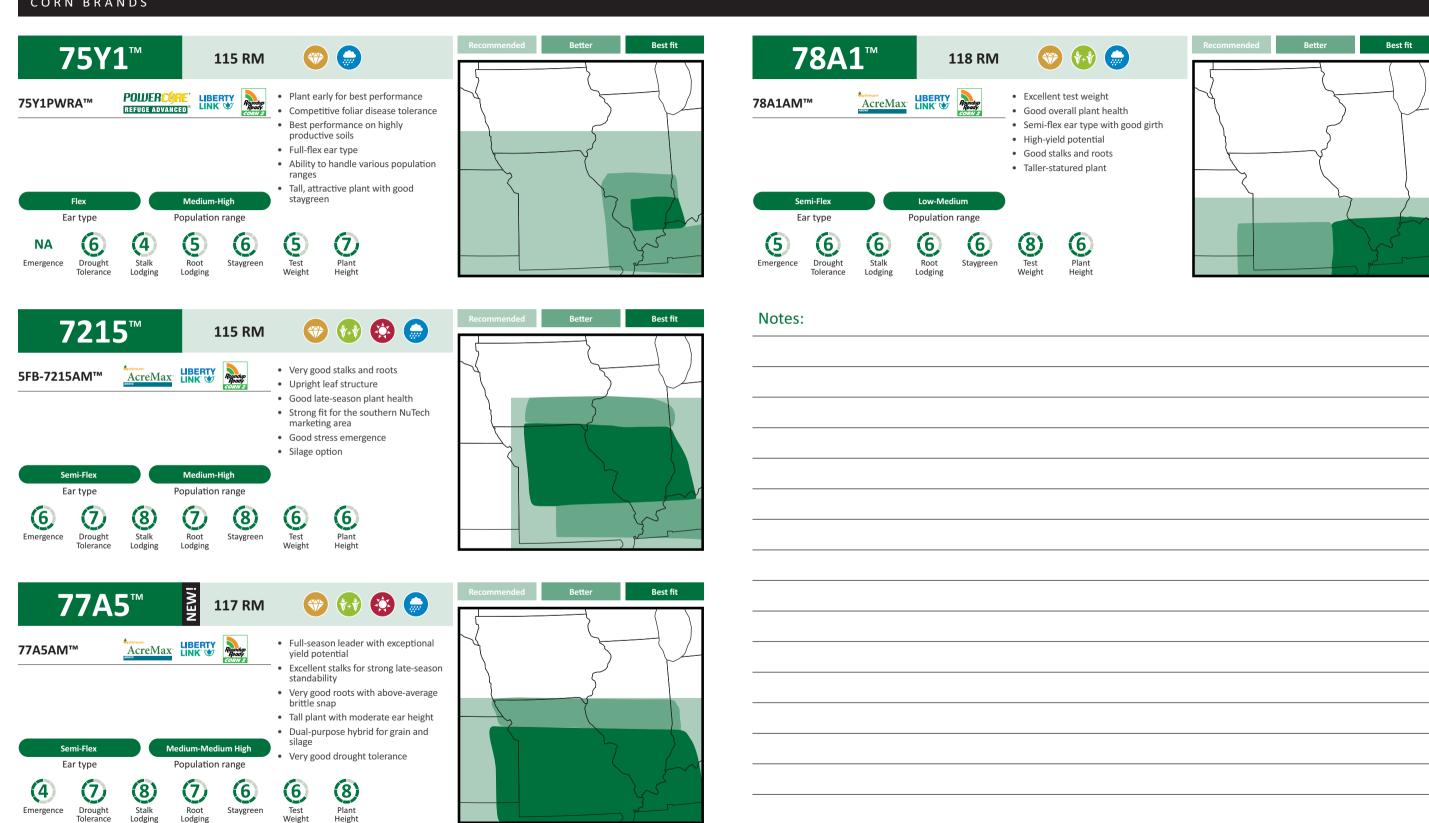






2022 SEED GUIDE





2022 SEED GUIDE **39** 2022 SEED GUIDE



#### CORN CHARACTERISTICS

New   Same   S		Family	Product Version	Maturity Central Corn Belt (RM)	CV/Category	Population Range	Response to Fungicide	Stalk Lodging	Root Lodging	Emergence	Heat & Drought Tolerance	Brittle Snap	Staygreen	Test Weight	Plant Height	Ear Height	Ear Type	Kernel Rows	Cob Color	Gray Leaf Spot	Northern Corn Leaf Blight	Southern Com Leaf Blight	Goss's Wilt	Diplodia Ear Rot	Southern Rust	GDUs to Pollen	GDUs to Black Layer	Silage Yield	Starch	Crude Protein	Fiber Digestibility	Com-on-Com	No-Till	Timber Soil	Poorly Drained	Sandy	Early Planting Date	Late Planting Date	Delayed Harvest	Family
Market   Gala   Cala																7					5		6					9											HR	196
New   Mary   M	NEW!											5	6	6											NA															57A4
031 CV/AM 1 D1 01 01 01 01 01 01 01 01 01 01 01 01 01											-				-																									58B1
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SACA   Q   Q   Q   Q   Q   Q   Q   Q   Q											-		-		-																									62A8
New   Gal   Cal																																								63C4
New   Gas   Car											-					6						2		_				6												504
New   66C   CV   106   CV   0   0   0   0   0   0   0   0   33-36   R   5   7   6   6   7   7   6   6   6   7   7	NEW!																								NA															64B5
New   Gesc   Q   100   0   0   0   0   0   0   0   0		64D1	AM/Q	104	<b>⊕</b> ₩ ₩ ⊕	30-34	HR	6	6	4	9	6	5	6	5	6	SF	16-18	Р	4	5	NA	7	5	NA	1280	2530	8	8	7	8	R	R	R	R	R	NR	R	R	64D1
Subject of the control of the contr		1606	CV	106		33-36	R	5	7	6	8	5	5	6	4	4	D	14-16	Р	5	5	NA	7	5	NA	1320	2500	8	8	5	6	HR	R	NR	HR	HR	R	R	R	1606
68A7 AM 108	NEW!	66C2	Q	106		32-34	HR	6	6	6	7	6	6	6	5	5	SF	16-18	R	5	5	NA	5	5	NA	1280	2530	8	8	7	8	HR	HR	R	R	R	HR	R	R	66C2
888											-	7										6			4			8											R	308
888 AM 108 C C C 2838 R R 6 5 5 6 7 5 6 6 5 5 7 5 5 6 5 7 5 5 6 5 7 5 5 6 5 7 5 5 6 5 7 5 5 6 5 7 5 5 6 5 7 5 5 6 5 7 5 5 6 6 7 7 7 7												4													4															68A7
99.6 Q Q 109												7		-		5									4															68B3
New!   6999   CQ   109   CQ   20   20   20   20   20   20   20   2																/																								8808 69A6
6903 PCR/PWRA 109	NEW/													7							•																			69B9
70A3 AM 110	INLOV:													5																										69D3
70.8   AM												7																7												70A3
NEW! 70C4 Q 110 0 0 0 0 30.36 NA 6 6 6 6 5 6 6 6 7 7 7 7 7 6 6 6 8 7 6 8 7 6 8 7 8 7												6																8												70A8
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71F5 Q 111		70F2	Q					7	5	6	6	7	7	7	6	6	SF	14-16	R			5	7	5	4	1390	2730	8	8	8	9	HR	HR	R	HR	NR	HR	R	HR	70F2
111		71C1	PCR/SSR	111	<b>⊕ </b>	30-34	HR	7	6	NA	7	6	4	6	6	6	SF	14-16	R	3	6	3	5	4	4	1440	2700	8	7	8	7	R	R	R	NR	R	R	R	R	71C1
72B7 CV/Q 112		71F5	Q	111		31-35	HR	6	7	5	6	4		6	6	5	SF	16-18	R	5		5	6	5	5	1380	2680	8	8	7	8	HR	HR	R	R	R	R	R	R	71F5
NEW! 72D4 AM 112			AM	111				6	6	5	7	6	5	7	5	4	SF	14-16	Р	4	5	3	6	5	3		2700	8	8	8	9	NR	R	R	R	R	R	HR	R	1111
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2874 PCR/PWRA 113	NEW!																																							72D4
NEW! 74A9 AM 114 0 0 0 28-34 HR 6 6 6 7 6 6 8 6 5 5 5 SF 16-18 R 5 5 5 5 7 5 3 1400 2700 7 7 7 7 8 R HR HR R R HR R R HR R R R HR R R R											_			-																										2213
7486         AM         114         © G         30-34         R         5         6         5         6         7         5         6         F         16-18         R         5         6         7         6         6         5         5         5         5         5         6         6         4         1420         2680         8         8         8         R	NIEVAZI											6																NA												2874
NEW! 74F3	NEW:										-	5	-										•					/ Q												74A9 74B6
2770 RASS/SSR 114 13 14 15 15 15 15 16 18 P T	NFWI							_	_			6			7	6				_	Δ		6					-	- 1	7	_		R	R		R		R	R	74F3
75D2 AM 115 6 30-36 HR 5 6 5 9 7 6 6 6 5 6 5 6 5 6 5 6 5 6 5 6 5 6 7 7 6 6 6 5 6 5	14240.											3			4	6					6		3							NA			HR	HR		HR		R	HR	2770
75G1 CV/AM/Q 115 © 12 28-36 HR 6 5 5 6 7 7 6 SF 16-18 R 5 4 5 5 1370 2680 9 8 7 7 R R R NR NR R NR R NR R NR NR R NR NR N												7									4	4	7								_	_	R		R				_	75D2
75Y1 PCR/PWRA 115 © 🖨 28-34 R 4 5 NA 6 6 6 5 7 8 F 16-20 R 7 4 3 5 4 5 1420 2780 8 6 8 6 NR NR R R NR R NR NR NR NR NR NR NR NR												5	-								4	5	4										R		NR					75G1
												6			7								5								_			R			R			
		7215	AM	115	<b>◎</b> 🚱 🚱			8	7	6	7	4	8	6	6	8	SF	16-18	Р	5	5	5	6	6	3	1440	2810	9	7	7	8	R	R	R	R	R	R	R	HR	7215
	NEW!	77A5	AM	117				8		4	7	6	-								4		7						8		8	R	R	R						77A5
78A1   AM   118   109 (8) G   28-36   HR   6   6   5   6   6   6   8   6   6   SF   16-18   R		78A1	AM	118	₩ 🕞	28-36	HR	6	6	5	6	6	6	8	6	6	SF	16-18	R	6	3	5	7	5	4	1420	2680	8	8	8	7	R	R	R	R	R	R	NR	R	78A1

#### **Product Versions**

**CV** = Conventional

AM = Optimum® AcreMax® AML = Optimum® AcreMax® Leptra® AMXT = Optimum® AcreMax® XTreme PCR/PWRA = Powercore® Refuge Advanced® Q = Qrome® RASS/SSR = SmartStax® Refuge Advanced®

#### **Plant and Ear Height**

9 = Very tall plant type

**SF** = Semi-Flex 1 = Very short plant type **SD** = Semi-Determinate 9 = Very high ear placement

1 = Very low ear placement

**D** = Determinate

Ear Type

**F** = Flex

#### Cob Color

**R** = Red **P** = Pink **W** = White

**Ratings** 

9 = Best 1 = Worst NA = Not available HR = Highly Recommended R= Recommended NR = Not Recommended

See page 58 for refuge requirements.

All hybrids are treated with a fungicide seed treatment and a base rate of a seed-applied insecticide, including either LumiGEN™ technologies, Poncho® or CruiserMaxx®. Products may be available with the high rate (1250 rate) seed-applied insecticide as well. Consult package labels for complete treatment details.

Characteristic scores provide key information useful in selecting and managing products in your area. Information and scores are assigned by NuTech Seed and are based on period-of-years testing through 2020 harvest and were the latest available at time of printing. Some scores may change after 2021 harvest. Scores represent an average of performance data across areas of adaptation, multiple growing conditions and a wide range of both climate and soil types and may not predict future results. Individual product responses are variable and subject to a variety of environmental, disease and pest pressures. Please use this information as only one component of your product



## **2022 CORN PORTFOLIO**



The 2022 LumiGEN® seed treatments corn portfolio brings farmers peace of mind. With a unique, industry-leading combination of ingredients, the portfolio offers early-season corn protection from diseases, insects and harmful nematodes.

### Fungicide Seed Treatment

#### Maxim® Quattro seed treatment

· Pythium, Rhizoctonia, Fusarium

#### Lumiante™ fungicide seed treatment

Pythium

#### Lumiflex™ fungicide seed treatment

· Rhizoctonia and Fusarium

#### L-2012 R bio-fungicide

· Rhizoctonia and Fusarium

### Nematicide Seed Treatment

#### Lumialza™ nematicide seed treatment

- Biological nematicide that protects roots with an expanding area of protection as the roots grow
- 80+ days of root protection in all root zones
- Yield advantage in low- and high-pressure environments

## Insecticide Seed Treatment

## Lumisure™ 250 insecticide seed treatment

Proven insecticide with broad-spectrum activity

## Lumivia® 250 insecticide seed treatment

 Enhances control and pest spectrum, including fall armyworm, black cutworm, seed corn maggot, wireworm and white grub

## \* New\* Lumisure™ 1250 insecticide seed treatment

 Added protection against corn rootworm for improved stand establishment and lodging

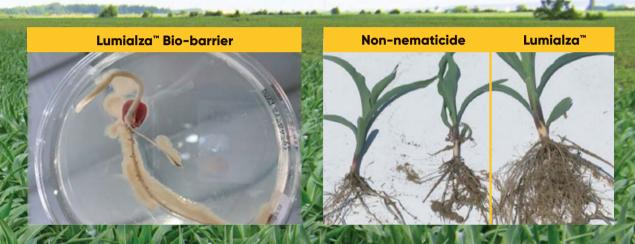
## **Biological**

#### L-2012 R (Exclusive to Corteva Agriscience)

- · Bio-fungicide protection
- Provides an enhanced root environment, allowing increased root mass and healthier roots
- · Improved nutrient uptake

#### Lumialza™ nematicide seed treatment – early-season key nematode protection

- Shields roots from all key nematode species, including **sting, root-knot, needle, dagger, lance, lesion** and **stubby-root**
- 80+ days of root protection in all root zones
- Yield advantage in low- and high-pressure environments
  - Up to 9 bu/A yield advantage under heavier pressure
  - o 3.7 bu/A average yield advantage under low nematode pressure



#### **Insecticide Seed Treatments Characterization** Lumialza™ + Lumialza™ + Poncho® Lumivia™ 250 + Cruiser® 250 Lumisure™ 1250 Votivo® 500 Lumisure™ 250 Corn Nematodes +++ Wireworm ++++ +++ Cutworm ++ ++++ Fall Armyworm Seed Corn Maggot +++ White Grub ++++ **Grape Colaspis** +++ +++ Billbug +++ Flea Beetle +++ Corn Rootworm ++ **LumiGEN technologies**



NO control or not labeled

+ Feeding reduction

++ Average protection

\*Maxim Quattro Is a trademark of Syngenta. Components of LumiGEN\* seed treatments are applied at a Corteva Agriscience production facility, or by an independent sales representative of Corteva Agriscience or its affiliates. Not all sales representatives offer treatment services, and costs and other charges may vary. See your sales representative for details. Seed applied technologies exclusive to Corteva Agriscience and its affiliates. \*\* \* Trademarks of Corteva Agriscience and its affiliated companies. \*\* 2021 Corteva.

++++ Excellent protection

1 labeled for contro

+++ Above average protection

## 35N03E™

**Random Code:** 

Two random

numbers

**Trait Code:** 

E Enlist E3° soybeans

**CV** Conventional

#### **Relative Maturity:**

Add a period between the numbers for relative maturity.

Example: 35 = 3.5 relative maturity

Note: All existing products will continue using the existing product name.

#### **Soybean Diseases Key**

BSR	Brown Stem Rot	IDC	Iron Deficiency Chlorosis	PRR	Phytophthora Root Rot
SCN	Soybean Cyst Nematode	SDS	Sudden Death Syndrome		





#### SOYBEAN BRANDS

## 18N02E™



1.8 RM



#### Medium-Short

Plant

Height

Medium

Canopy

width

Purple

Flower

color

Imp. Black

- · Moderate white mold tolerance
- Competitive tolerance to charcoal rot
- Short-statured soybean with strong standability
- Good IDC tolerance with acceptable SDS tolerance
- Rps1k gene for PRR
- Salflufenacil & Sulfentrazone tolerant



Brown

Pubescence color

Pod color Hilum color

MS

Rps1k

PI88788

Emergence

Harvest Standability Sudden Death Syndrome

Iron Deficiency Chlorosis

Brown Stem Rot White

Phytophthora Resistance

Soybean Cyst Nematode Resistance

Purple



• Very good emergence and standability

• Medium plant height with medium canopy

2 RM



Height

Flower color

Gray

Medium

Tan

Medium

Canopy

width

Pubescence color

color

Hilum color

PI88788

Buff

Emergence

• Moderate SDS tolerance

Very good charcoal rot score

Standability

• Strong performance in the northern NuTech marketing area

• Metribuzin tolerant, Salflufenacil & Sulfentrazone tolerant

Sudden Death

Syndrome

Iron Deficiency

Chlorosis

MS

Stem Rot

(3)

White

Rps1a,3a Phytophthora

Root Rot

Resistance

Soybean Cyst Nematode Resistance

21N06E™



2.1 RM



Medium-Short Plant

Medium

Purple

Height

Canopy width

Flower color

Gray Pubescence

color

Brown

color

Hilum color

Imp. Black



Rps1k

PI88788 Soybean Cyst

Emergence

Harvest Standability Sudden Death Syndrome

Iron Deficiency Chlorosis

Brown Stem Rot

MS

White

Phytophthora Root Rot Resistance

Nematode Resistance





White

Flower

color

Brown

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

Purple

Flower

color

Imp. Black

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

White

Flower

color

Buff

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

Medium

Canopy

width

Brown

Pod

color

Medium

Canopy

width

Brown

Pod

color

Rps1c

Phytophthora

Root Rot

Resistance

(5)

White

Mold

#### 22N02E™ Medium Medium Purple 2.2 RM Enlist E3 Plant Canopy Flower Height width color • High tolerance to BSR Rps1c & 3a for PRR • Medium plant type with medium canopy Gray Brown Buff Very good emergence and standability Metribuzin tolerant Pod Hilum Pubescence • Salflufenacil & Sulfentrazone tolerant color color color (4) (5) (3) HT Rps1c,3a PI88788 Iron Deficiency White Phytophthora Soybean Cyst Emergence Harvest Sudden Death Brown Standability Stem Rot Mold Root Rot Nematode Syndrome Chlorosis Resistance Resistance 24N04E™ Medium Medium Purple 2.4 RM Enlist E3 Plant Canopy Flower Height width color • Strong emergence • Strong southern movement in the NuTech marketing area • Peking SCN resistance Gray Tan Buff • Good IDC tolerance · Medium plant height with medium canopy width Pubescence Pod Hilum • Metribuzin tolerant, Salflufenacil & Sulfentrazone tolerant color color color (7)(4) **(6)** (3) MS Rps1k Peking Emergence Harvest Sudden Death Iron Deficiency Brown White Phytophthora Soybean Cyst Standability Syndrome Chlorosis Stem Rot Mold Root Rot Nematode Resistance Resistance 26N06E™ Medium Medium White 2.6 RM Enlist E3 Plant Canopy Flower Height width color Very good emergence · Acceptable SDS tolerance · Very good yield potential Gray Tan Buff • Acceptable IDC score Very good standability Pubescence Pod Hilum • Metribuzin tolerant, Salflufenacil & Sulfentrazone tolerant color color color

(5)

Iron Deficiency

Chlorosis

HT

Brown

Stem Rot

(3)

White

Mold

PI88788

Soybean Cyst

Nematode

Resistance

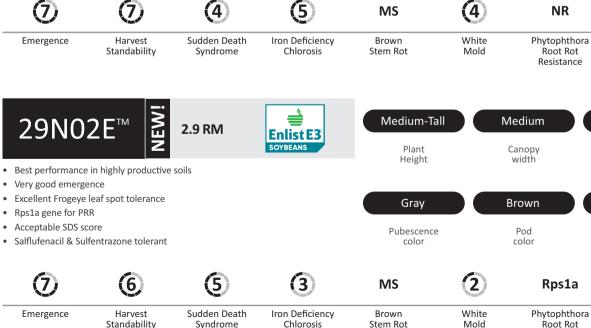
Rps1k

Phytophthora

Root Rot

Resistance

27N01  • Conventional gen		2.7 RM	CV	Medium Plant Height
<ul><li>Manage population</li><li>Highly tolerant to</li><li>Excellent field em</li><li>Rps1c gene</li></ul>	ons in high-yield env BSR			Light Tawny Pubescence color
(8)	6	(5)	4	нт
Emergence	Harvest Standability	Sudden Death Syndrome	Iron Deficiency Chlorosis	Brown Stem Rot
28NO  • Strong emergence		2.8 RM	Enlist E3	Medium Plant Height
<ul><li>Medium canopy v</li><li>Excellent Frogeye</li><li>Metribuzin tolera</li></ul>	erance, SCN resistan width and medium h leaf spot tolerance nt Ifentrazone tolerant	neight		Gray Pubescence color
0	0	4	(5)	MS
Emergence	Harvest Standability	Sudden Death Syndrome	Iron Deficiency Chlorosis	Brown Stem Rot
	in highly productive	<b>2.9 RM</b> e soils	Enlist E3	Medium-Tall Plant Height
<ul><li>Very good emerge</li><li>Excellent Frogeye</li><li>Rps1a gene for PF</li></ul>	leaf spot tolerance			Gray



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Harvest

Standability

Sudden Death

Syndrome

Emergence

Resistance



## 30N05E™

**3 RM** 



- Plant Height

Medium

Gray

Pubescence

color

Flower color

Purple

Imp. Black

Hilum

color

35N03E™

Highly tolerant to BSR

Metribuzin tolerant

Rps1k gene with good field tolerance

• Salflufenacil & Sulfentrazone tolerant

• Medium plant height with medium canopy

• Excellent emergence and very good standability

3.5 RM



Medium Plant

Height

Gray

Pubescence

color

Medium

Plant

Medium

Phytophthora

Root Rot

Resistance

Canopy

width

Tan

Pod

color

Medium

Canopy

Brown

Flower color

Imp. Black

Hilum

color

Soybean Cyst

Nematode

Resistance

White

Flower

Brown

Soybean Cyst

Nematode

Resistance

White

Flower

Black

Hilum

Purple

- · Strong emergence and standability
- Rps1k gene with good field tolerance
- SCN resistance, good charcoal rot tolerance
- Medium plant height with medium canopy
- Metribuzin tolerant
- Salflufenacil & Sulfentrazone tolerant





(5)





White

Mold

Rps1k

Medium

Canopy

width

Tan

Pod

color

PI88788

**(4)** 

HT

(4)

Mold

Rps1k

Emergence

Harvest Standability Sudden Death Syndrome

Iron Deficiency Chlorosis

Brown Stem Rot

HT

Phytophthora Root Rot Resistance

Soybean Cyst Nematode Resistance

(8) Emergence

Harvest Standability Sudden Death Syndrome

Iron Deficiency Chlorosis

Brown Stem Rot White

PI88788

31N06E™

• Very good stem canker tolerance

3.1 RM



Medium

Medium

Canopy width

Flower color

White

Tawny Pubescence

color

Plant

Height

Brown Pod

color

Hilum

Black

color

(6)

34N06E<sup>™</sup>

• Rps1k with respectable field tolerance

Strong emergence for early planting

• Moderate SDS and strong charcoal rot ratings

• Excellent Frogeye leaf spot

E3/STS stacked variety

• Moderate SDS tolerance

E3/STS stacked variety

· Matures slightly later

Good emergence

Standability

• Metribuzin tolerant, Salflufenacil & Sulfentrazone tolerant

Harvest



Sudden Death

Syndrome



(4)

Iron Deficiency

Chlorosis

MS

Brown

Stem Rot

(4) White

Mold

Phytophthora Root Rot

NR

Resistance

Soybean Cyst Nematode Resistance

PI88788

37N01E<sup>™</sup>

· Excellent emergence and early vigor

• Strong Frogeye leaf spot tolerance

· Good charcoal rot tolerance

seed treatment

(8)

Emergence

• Best performance in Illinois and eastern Missouri

Metribuzin tolerant. Salflufenacil & Sulfentrazone tolerant

Harvest

Standability

• Metribuzin tolerant, Salflufenacil & Sulfentrazone tolerant

Harvest

Standability

3.7 RM

• Best performance when used with Corteva Agriscience Lumisena® fungicide

Enlist E3

Height

width color

Tawny

Pod

Hilum

Pubescence color

MS

Brown

Stem Rot

Medium

Plant

**Light Tawny** 

color

color

(2

White

Mold

color

NR PI88788

Phytophthora

Root Rot

Resistance

Emergence

3.4 RM



Medium-Tall

Plant

Height

Pubescence

color

Medium

White Flower

color

Gray

Pod color

Brown

Canopy

width

Hilum color

Buff

• Rps1k gene with moderate field tolerance



Sudden Death

Syndrome

(4) Iron Deficiency

Chlorosis

HT Brown

Stem Rot

(4)

White

Mold

Rps1k

Phytophthora

Root Rot

Resistance

PI88788

Nematode

Resistance

Emergence

Harvest Standability

• Metribuzin tolerant, Salflufenacil & Sulfentrazone tolerant

Sudden Death

Syndrome

**(**4) Iron Deficiency

Chlorosis

MS Brown

Stem Rot

(4) White

hloM

Phytophthora Root Rot Resistance

Rps1k

Soybean Cyst Nematode Resistance

PI88788

37N02CV™

Conventional genetics

• Highly tolerant to BSR

Emergence

· Good stem canker tolerance

• Good Frogeye leaf spot tolerance

3.7 RM

Sudden Death

Syndrome

**CV** 

**(**4)

Iron Deficiency

Chlorosis

Height

color

Pubescence

Pod color

Medium

Canopy

width

Brown

color

Soybean Cyst

2022 SEED GUIDE



White

Flower

color

Brown

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

White

Flower

color

#### 39N04E™ Medium-Short Medium White 3.9 RM Enlist E3 Plant Canopy Flower Height width color • Wide area of adaptation Excellent Frogeve leaf spot rating · Good BSR tolerance Gray Brown Buff • Very good Phytophthora field tolerance • Solid stem canker score, moderate SDS tolerance Pod Hilum Pubescence • Moderate Metribuzin tolerance color color color (5) (4) (3) MT NR PI88788 Iron Deficiency White Phytophthora Emergence Harvest Sudden Death Brown Soybean Cyst Standability Syndrome Chlorosis Stem Rot Mold Root Rot Nematode Resistance Resistance 39N05E™ Medium-Short Medium White 3.9 RM Enlist E3 Plant Canopy Flower Height width color • Very good stem canker score • Moderate SDS tolerance • Rps1k gene with average field tolerance Tawny Tan Brown • Very good emergence • Solid Frogeye leaf spot rating Pubescence Pod Hilum • Metribuzin tolerant color color color (4) Rps1k MS NR PI88788 Emergence Harvest Sudden Death Iron Deficiency Brown White Phytophthora Soybean Cyst Standability Syndrome Chlorosis Stem Rot Mold Root Rot Nematode Resistance Resistance 41N03E™ White Medium Medium 4.1 RM Enlist E3 Plant Canopy Flower Height width color • Best performance when used with Corteva Agriscience Lumisena® fungicide seed treatment · Very good emergence and standability Buff Gray Brown · Excellent stem canker tolerance • Highly tolerant to BSR and SDS with SCN resistance Pubescence Pod Hilum · Gray with medium canopy and height, Metribuzin tolerant color color color • Very good charcoal rot score (3) PI88788 HT NR NR

White

hloM

Phytophthora

Root Rot

Resistance

Soybean Cyst

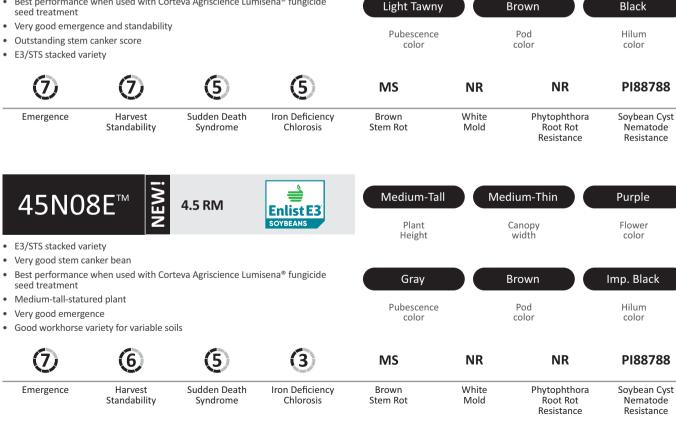
Nematode

Resistance

Brown

Stem Rot





Medium

Plant

Height

Tawny

Pubescence

color

Medium

Plant

Height

MS

Brown

Stem Rot

Medium

Canopy

width

Brown

Pod

color

Medium

Canopy

width

NR

Phytophthora

Root Rot

Resistance

NR

White

Mold

Emergence

Harvest

Standability

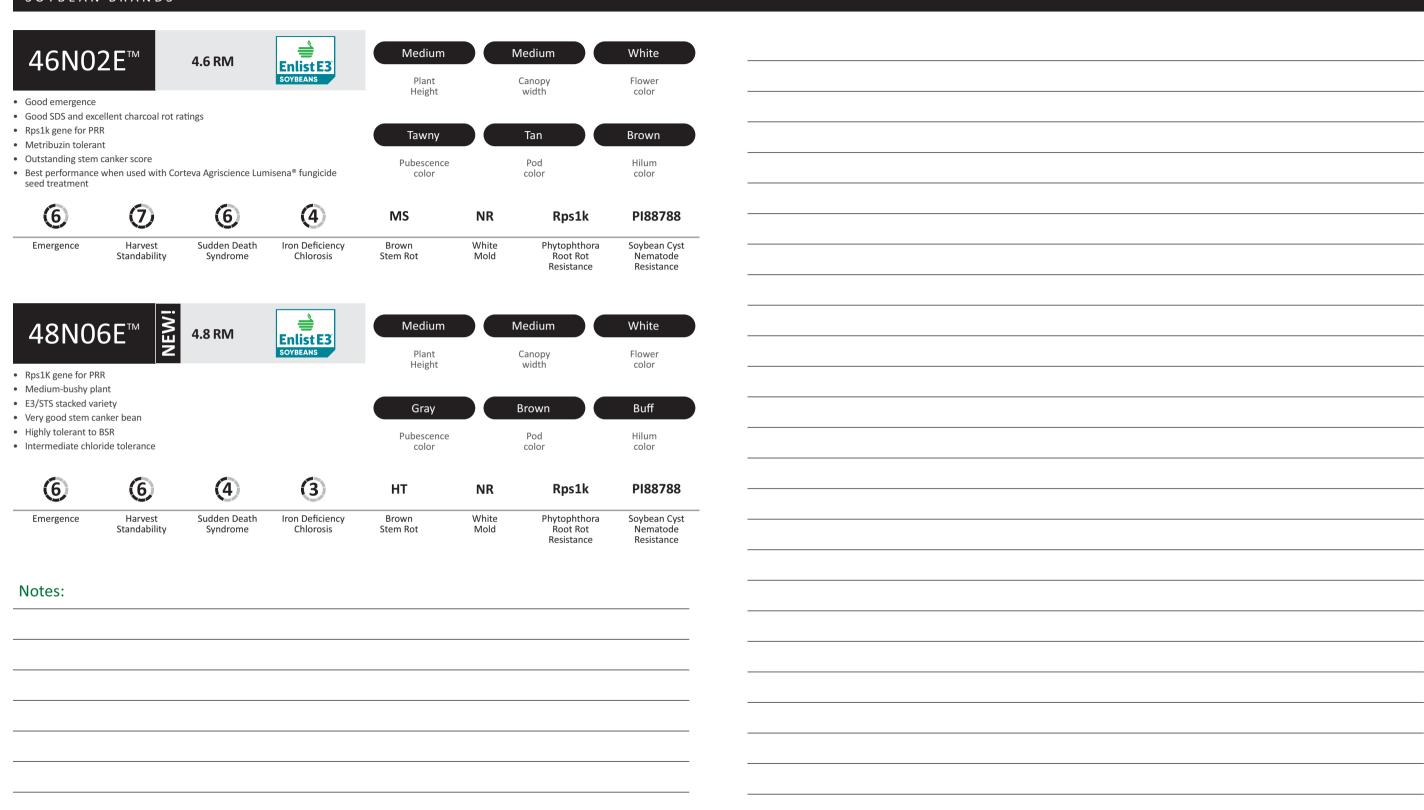
Sudden Death

Syndrome

Iron Deficiency

Chlorosis







#### SOYBEAN CHARACTERISTICS

	Brand Name	Technology	Relative Maturity	Plant Height	Canopy Width	Flower Color	Pubescence Color	Pod Color	Hilum Color	Emergence	Harvest and Standability	Soybean Cyst Nematode Resistance	Phytophthora Root Rot Resistance	Phytophthora Field Tolerance	Iron Deficiency Chlorosis	Charcoal Rot	Brown Stem Rot	White Mold	Sudden Death Syndrome	Frogeye Leaf Spot	Stem Canker	Herbicide Resistance	Average Seed Size (seeds per pound)	Brand Name
NEW!	18N02E™	E3	1.8 RM	MS	М	Р	G	BR	IB	8	7	PI88788	Rps1k	5	6	6	MS	5	5	NR	NR	E3	2500-2700	18N02E™
	20N04E™	E3	2 RM	М	М	Р	G	TN	BU	7	6	PI88788	Rps1a,3a	NR	6	7	MS	3	3	NR	NR	E3	2900-3100	20N04E™
NEW!	21N06E™	E3	2.1 RM	MS	М	Р	G	BR	IB	8	7	PI88788	Rps1k	5	5	5	MS	4	4	NR	NR	E3	2700-2900	21N06E™
	22N02E™	E3	2.2 RM	М	М	Р	G	BR	BU	7	7	PI88788	Rps1c,3a	NR	4	6	НТ	3	5	NR	NR	E3	1900-2100	22N02E™
	24N04E™	E3	2.4 RM	М	М	Р	G	TN	BU	7	7	Peking	Rps1k	6	6	5	MS	3	4	NR	NR	E3	3300-3500	24N04E™
	26N06E™	E3	2.6 RM	М	М	W	G	TN	BU	7	7	PI88788	Rps1k	5	5	5	НТ	3	5	7	NR	E3	2500-2700	26N06E™
	27N01CV™	CV	2.7 RM	М	М	W	LT	BR	BR	8	6	PI88788	Rps1c	3	4	4	нт	5	5	4	NR	CV	2500-2700	27N01CV™
	28N02E™	E3	2.8 RM	М	М	Р	G	BR	IB	7	7	PI88788	NR	4	5	5	MS	4	4	8	NR	E3	3300-3500	28N02E™
NEW!	29N02E™	E3	2.9 RM	MT	М	W	G	BR	BU	7	6	PI88788	Rps1a	5	3	4	MS	2	5	9	NR	E3	2500-2700	29N02E™
	30N05E™	E3	3 RM	М	М	Р	G	TN	IB	7	7	PI88788	Rps1k	6	4	6	нт	4	5	3	7	E3	2700-2900	30N05E™
	31N06E™	E3	3.1 RM	М	М	W	Т	BR	BL	6	6	PI88788	NR	5	4	5	MS	4	5	3	7	E3	2900-3100	31N06E™
	34N06E™	E3	3.4 RM	MT	М	W	G	BR	BU	7	7	PI88788	Rps1k	5	4	7	MS	4	5	8	6	E3	3100-3300	34N06E™
	35N03E™	E3	3.5 RM	М	М	Р	G	TN	IB	8	7	PI88788	Rps1k	6	4	4	нт	4	5	4	7	E3	3100-3300	35N03E™
NEW!	37N01E™	E3	3.7 RM	М	М	W	Т	BR	BR	8	7	PI88788	NR	5	4	6	MS	2	5	7	7	E3	2700-2900	37N01E™
	37N02CV™	CV	3.7 RM	М	М	W	LT	BR	BL	7	7	PI88788	Rps1k	5	4	2	нт	4	6	6	6	CV	2500-2700	37N02CV™
	39N04E™	E3	3.9 RM	MS	М	W	G	BR	BU	7	7	PI88788	NR	7	4	5	MT	3	5	9	6	E3	3100-3300	39N04E™
	39N05E™	E3	3.9 RM	MS	М	W	Т	TN	BR	7	7	PI88788	Rps1k	5	4	7	MS	NR	5	6	7	E3	2900-3100	39N05E™
	41N03E™	E3	4.1 RM	М	М	W	G	BR	BU	7	7	PI88788	NR	5	3	7	НТ	NR	7	5	8	E3	2700-2900	41N03E™
	43N04E™	E3	4.3 RM	М	М	W	Т	BR	BR	7	6	PI88788	NR	4	4	4	MS	NR	5	NR	8	E3	3100-3300	43N04E™
	45N04E™	E3	4.5 RM	М	М	W	LT	BR	BL	7	7	PI88788	NR	5	5	6	MS	NR	5	7	8	E3	3100-3300	45N04E™
NEW!	45N08E™	E3	4.5 RM	MT	MT	Р	G	BR	IB	7	6	PI88788	NR	6	3	7	MS	NR	5	NR	7	E3	2700-2900	45N08E™
	46N02E™	E3	4.6 RM	М	М	W	Т	TN	BR	6	7	PI88788	Rps1k	6	4	8	MS	NR	6	NR	9	E3	2900-3100	46N02E™
NEW!	48N06E™	E3	4.8 RM	М	М	W	G	BR	BU	6	6	PI88788	Rps1k	5	3	5	НТ	NR	4	NR	7	E3	2700-2900	48N06E™

**Technology** 

CV = Conventional E3 = Enlist E3® soybeans **Plant Height** 

T = Tall M = Medium MT = Medium-Tall MS = Medium-Short

Canopy Width

B = Bush MB = Medium-Bush MF = Medium-Full M = Medium

T = Thin

MT = Medium-Thin

Flower Color W = White

**Pubescence Color** G = Gray P = Purple **T** = Tawny

BU = Buff BR = Brown LT = Light Tawny BL = Black IB = Imperfect Black

**Hilum Color** 

9 = Outstanding or resistant NR = Not rated

8 = Excellent 7 = Very Good

**6** = Good

5 = Average 4 or less = Poor

**HT** = Highly Tolerant MS = Moderately Susceptible

MT = Moderately Tolerant SEG = Segregating Gene

IMPORTANT: Characteristic scores provide key information useful in selecting and managing products in your area. Information and scores are assigned by NuTech Seed and are based on period-of-years testing through 2020 harvest and were the latest available at time of printing. Some scores may change after 2021 harvest. Scores represent an average of performance data across areas of adaptation, multiple growing conditions and a wide range of both climate and soil types and may not predict future results. Individual product responses are variable and subject to a variety of environmental, disease and pest pressures. Please use this information as only one component of your product positioning decision.



## **2022 SOYBEAN PORTFOLIO**



## PROTECT YOUR SEED INVESTMENT WITH LumiGEN® SEED TREATMENTS

The 2022 LumiGEN® soybean seed treatments are industry leaders, providing best-in-class protection against disease and pest pressure in uncertain soil conditions during the critical early growth period.

#### Fungicide Seed Treatment

## Lumisena® fungicide seed treatment

Phytophthora

#### EverGol® Energy

- Rhizoctonia
- 14111200101110
- Fusarium
- L-2030 R
   Rhizoctonia
- Fusarium
- Pythium

### Nematicide & SDS Seed Treatment

#### **ILEVO®**

- Soybean cyst nematode
- Sudden Death Syndrome

#### **Biological**

#### L-2030 R (Exclusive to Corteva Agriscience)

- Contains two biological microorganisms – a high performance polymer and colorant
- Root growth promotion
- Stimulates rhizobia, leading to better nodulation
- Improved nutrient uptake

## Insecticide Seed Treatment

#### Gaucho®

- · Bean Leaf Beetle
- · Seed Corn Maggot
- Aphid
- Suppresses the spread of certain viruses

#### Pizazz™ dry seed finisher

- Reduction in seed drying time and bridging
- Reduces treatment build-up
- · Improved, glossy appearance

#### Inoculant

#### 120+ Inoculant plus extender

- Improves nitrogen fixation
- Helps prolong rhizobia up to 120 days after application

#### Differential yield advantages\*

#### Lumisena® fungicide seed treatment

Best-in-class protection against the number 1 early-season disease: Phytophthora

+4.0 bu/A

+1.0 bu/A

moderate to high pressure – 212 locs

broad-acre – 638 locs

\*compared to the old standard metalaxyl

## LumiGEN® seed treatment and ILEVO® fungicide treatment outperform the competition in 76 head-to-head comparisons across 8 states

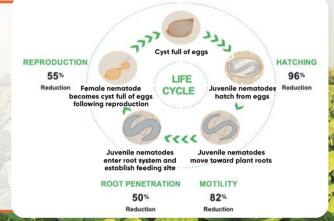
- LumiGEN® seed treatment + ILEVO® fungicide/nematicide treatment outperformed CruiserMaxx® Vibrance® + Saltro® by 1.1 bu/A under soybean cyst nematode pressure.
- LumiGEN® seed treatment + ILEVO® fungicide treatment outperformed CruiserMaxx® Vibrance® + Saltro® by an average of 0.7 bu/A under Sudden Death Syndrome pressure.
- Halo effect did not reduce the yield benefits of

  ILEVO® seed treatment nor did the use of PPO herbicides.
- Final stand was similar between ILEVO® and Saltro® seed treatments.



ILEVO® Fungicide/Nematicide
Treatment – An Extra Protection
for At-Risk Acres

ILEVO is proven to reduce the development of nematodes into adults.



## Lumisena

#### **FUNGICIDE SEED TREATMENT**

Lumisena® fungicide seed treatment for Best-in-Class Protection Against Phytophthora

- New and unique mode of action against leading soybean diseases
- Provided a 4.0 bu/A yield increase in Phytophthora susceptible fields





\*Data is based on 638 head-to-head comparisons between DuPont" Lumisena® fungicide seed treatment (0.568 fl oz/cwt) and metalaxyl (0.75 fl oz/cwt) in the top 10 soybean-producing states through Dec. 12, 2017. Comparisons were made utilizing the same soybean variety. Ten high volume soybean varieties with Rps resistant gene protection were utilized in this study. DO NOT USE THIS OR ANY OTHER DATA FROM A LIMITED NUMBER OF TRIALS AS A SIGNIFICANT FACTOR IN PRODUCT SELECTION. ILEVO® is a registered trademark of BASF. EverGol® and Gaucho® are registered trademarks of Bayer. Components of LumiGEN® seed treatments are applied at a Corteva Agriscience production facility, or by an independent sales representative of Corteva Agriscience or its affiliates. Not all sales representatives offer treatment services, and costs and other charges may vary. See your sales representative for details. Seed applied technologies exclusive to Corteva Agriscience and its affiliates. " ® Trademarks of Corteva Agriscience and its affiliated companies. © 2021 Corteva.



			Product Ref	uge Requirements		Herb	cide Resi	tance	Corn Belt-	-Separate Refuge
ID	Product Name	Technology Description	Description	Integrated Components	Structured	Glyphosate Lib	erty® Enl	st™ Inse		
Q	QROME.	Orome® technology is the most advanced technology for above- and below-ground insect protection. It is a single bag integrated product with a 95/5 blend of two hybrids. The first contains a unique molecular stack of the proven Bt proteins from the Herculex® I and Herculex® RW traits, Agrisure® RW, YGCB, LL and RR2 traits. The second contains the LL and RR2 traits.	Single-bag product with integrated corn borer and corn rootworm refuge. In EPA-designated cotton counties, additional 20% corn borer refuge is required.	95% RW, YGCB, HXX, LL, RR2 5% LL, RR2	<b>✓</b>	<b>✓</b> ,		Abo		None
SXRA/SSR	SMARTSTAX	SmartStax® trait technology uses multiple modes of action for control of above- and below-ground insects to cover a broad spectrum of insect threats and defend your yield. Conveniently packaged as a single-bag solution with no separate structured refuge required for planting in the Corn Belt.	Single-bag product with integrated corn borer and corn rootworm refuge. In EPA-designated cotton counties, additional 20% corn borer refuge is required.	95% VT2, HX1, VT3, HXRW, LL, RR2 5% RR2, LL		<b>√</b> ,		Abo	CORN BELT REFUGE	None
SXE/SE	SmanStax Enlist CORN	SmartStax® trait technology uses multiple modes of action for control of above- and below-ground insects to cover a broad spectrum of insect threats and defend your yield. The Enlist® corn trait adds advanced herbicide-tolerant technology, with tolerances to 2,4-D choline, glyphosate and FOP herbicides such as quizalofop.	Trusted traits, 5% Corn Belt, 20% corn borer in cotton counties.	100% VT2, HX1, VT3, HXRW, LL, RR2, Enlist	<b>✓</b>	<b>✓</b> ,	/   v	Abo Beld	5% CORN BELT REFUGE	Within or adjacent
SX/SS	SmartStax	SmartStax® trait technology uses multiple modes of action for control of above- and below-ground insects to cover a broad spectrum of insect threats and defend your yield.	Trusted traits, 5% Corn Belt, 20% corn borer in cotton counties.	100% VT2, HX1, VT3, HXRW, LL, RR2	$\checkmark$	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Abo	5% CORN BELT REFUGE	Within or adjacent
AMXT	AcreMax	Optimum® AcreMax® XTreme insect protection is a single-bag, integrated corn borer and corn rootworm product featuring multiple modes of insect protection through a 95/5 blend of two hybrids. The first contains the Agrisure® RW, YGCB, HXX, LL and RR2 traits. The second contains the RR2 and LL traits.	Single-bag product with integrated corn borer and corn rootworm refuge. In EPA-designated cotton counties, additional 20% corn borer refuge is required.	95% RW, YGCB, HXX, LL, RR2 5% RR2, LL		<b>√</b> ,		Abo	CORN BELT REFUGE	None
AMX	AcreMax  AcreMax	Optimum® AcreMax® Xtra insect protection is a single-bag, integrated corn borer and corn rootworm refuge product. It features a 90/10 blend of two hybrids: the first contains the YGCB, HXT, LL and RR2 traits and the second contains the RR2 and LL traits.	Single-bag product with integrated corn borer and corn rootworm refuge. In EPA- designated cotton counties, additional 20% corn borer refuge is required.	90% YGCB, HXT, LL, RR2		<b>√</b> ,		Abo	CORN BELT REFUGE	None
PWRA/PCR	POWERCORE' REFUGE ADVANCED'	PowerCore® trait technology is a combination of three modes of action to provide superior control of above-ground insects. This focused insect control is specialized for areas with minimal rootworm pressure, conveniently packaged as a single-bag solution with no separate structured refuge required for planting in the Corn Belt.	Single-bag product with integrated corn borer refuge. In EPA-designated cotton counties, additional 20% corn borer refuge is required.	95% VT2, HX1, LL, RR2 5% RR2, LL		<b>✓</b> ,		Abo	CORN BELT REFUGE	None
PWE/PE	POWERCÓRE	PowerCore® trait technology is a combination of three modes of action to provide superior control of above-ground insects. This focused insect control is specialized for areas with minimal rootworm pressure. The Enlist® corn trait adds advanced herbicide-tolerant technology, with tolerances to 2,4-D choline, glyphosate and FOP herbicides such as quizalofop.	Trusted traits, 5% Corn Belt, 20% corn borer in cotton counties.	100% VT2, HX1, LL, RR2, Enlist	<b>✓</b>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	/ v	Abo	5% CORN BELT REFUGE	Within, adjacent or up to a half mile
PW	POWER <b>CÓRE</b>	PowerCore® trait technology is a combination of three modes of action to provide superior control of above-ground insects. This focused insect control is specialized for areas with minimal rootworm pressure.	Trusted traits, 5% Corn Belt, 20% corn borer in cotton counties.	100% VT2, HX1, LL, RR2	<b>✓</b>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Abo	5% CORN BELT REFUGE	Within, adjacent or up to a half mile
AML	AcreMax  AcreMax	Optimum® AcreMax® Leptra® insect protection is a single-bag, integrated corn borer refuge product. It features a 95/5 blend of two hybrids: one containing the AVBL, YGCB, HX1, LL and RR2 traits and the other containing the RR2 and LL traits.	Single-bag product with integrated corn borer refuge. In EPA-designated cotton counties, additional 20% corn borer refuge is required.	95% AVBL, YGCB, HX1, LL, RR2 5% RR2, LL		<b>√</b> ,		Abo	CORN BELT REFUGE	None
AM	AcreMax	Optimum® AcreMax® insect protection is a single-bag, integrated corn borer refuge product. It features a 95/5 blend of two hybrids: one containing the YGCB, HX1, LL and RR2 traits and the other containing the RR2 and LL traits.	5% LL, RR2	95% YGCB, HX1, LL, RR2 5% RR2, LL		<b>√</b> ,		Abo	CORN BELT REFUGE	None
GТ3	Agrisure 3000GT	The Agrisure® 3000GT trait stack offers better control of corn borer and corn rootworm, as well as herbicide flexibility with both glyphosate and glufosinate tolerance.	Trusted traits, 20% Corn Belt, 20% corn borer in cotton counties.	100% GT, CB, RW, LL	<b>✓</b>	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Abo	20% CORN BELT REFUGE	Within or adjacent
5TN/VYHR	Leptra ABOVE	Optimum® Leptra® hybrids offer superior control of above-ground pests. These hybrids contain HX1, YGCB, AVBL, LL and RR2 traits.	Trusted traits, 20% Corn Belt, 20% corn borer in cotton counties.	100% AVBL, YGCB, HX1, LL, RR2	$\checkmark$	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Abo	20% CORN BELT REFUGE	Within or adjacent
5FN/YHR	Intrasect	Optimum® Intrasect® insect protection is a reduced-refuge product with multiple modes of above-ground insect protection. These hybrids contain the YGCB, HX1, LL and RR2 traits. This product has both glyphosate and glufosinate tolerance.	Trusted traits, 20% Corn Belt, 20% corn borer in cotton counties.	100% YGCB, HX1, LL, RR2	<b>√</b>	<b>√</b> ,		Abo	20% CORN BELT REFUGE	Within or adjacent
5KN/CYXR	Intrasect	Optimum® Intrasect® XTreme insect protection is a single-bag, integrated corn borer and corn rootworm product featuring multiple modes of insect protection. These hybrids contain the Agrisure® RW, YGCB, HXX, LL and RR2 traits.	Trusted traits, 5% Corn Belt, 20% corn borer in cotton counties.	100% RW, YGCB, HXX, LL, RR2	<b>√</b>	<b>✓</b> ,		Abo	5% CORN BELT REFUGE	Within or adjacent
5DN/YXR	Intrasect	Optimum® Intrasect® Xtra insect protection offers multiple modes of insect protection including above- and below-ground traits. These hybrids contain the YGCB, HXX, LL and RR2 traits. This product has both glyphosate and glufosinate tolerance.	Trusted traits, 20% Corn Belt, 20% corn borer in cotton counties.	100% YGCB, HXX, LL, RR2	<b>✓</b>	<b>✓</b> ,		Abo	20% CORN BELT REFUGE	Within or adjacent
5R	Sptimum TRIsect	Optimum® TRIsect® hybrids contain a unique mode of action against corn rootworm pests, along with providing protection against above-ground insects. These hybrids contain the Agrisure® RW, HX1, LL and RR2 traits.	An additional high-performance choice for above- and below-ground insect protection, 20% Corn Belt, 50% corn borer in cotton counties.	100% RW, HX1, LL, RR2	<b>✓</b>	<b>√</b> ,		Abo	20% CORN BELT REFUGE	Within or adjacent

5% refuge equals 5 acres of non-Bt corn for every 95 acres of Bt corn planted. 20% refuge equals 20 acres of non-Bt corn for every 80 acres of Bt corn planted. 50% refuge equals 50 acres of non-Bt corn for every 50 acres of Bt corn planted. Agrisure Viptera® 3220 requires a 5% refuge in the Corn Belt and a 20% refuge in the Cotton Belt. Refuge requirements refer to the Corn Belt only. For Cotton Belt refuge requirements, consult Corn Product Use Guide.





#### Insect Resistance Management (IRM) for Bt Corn

Following an insect resistance management (IRM) program is an essential part of good stewardship. The aim of an IRM program is to reduce the probability of target insects developing increased



Planting Refuges, Preserving Technology

tolerance to the insecticidal Bt proteins, thus maximizing the longevity and effectiveness of these valuable traits in an environmentally conscious way. Sustainable preservation of this technology places individual responsibility on everyone in the seed distribution system, from the seed supplier to the grower planting the seed. Additionally, IRM is a legal obligation, as requirements have been incorporated into the registrations granted by the EPA for all Bt corn products.

A decrease in susceptibility or field-evolved resistance of some insect populations to certain technology traits in corn has been observed in different geographies and may result in lower-than-expected efficacy. To help extend durability of this technology, we recommend you implement Integrated Pest Management (IPM) practices such as crop rotation, cultural and biological control tactics (including rotating sources of Bt-protected corn traits), pest scouting and appropriate use of pest thresholds when employing management practices such as insecticide application. You must also plant the required refuge when using this technology. Please contact your sales professional or consult with your local university extension for more information regarding insect resistance management guidelines, best management practices and to understand whether there has been a shift in susceptibility or insect resistance documented in your area.

If you have questions after reviewing this document, or if you wish to register a tip or complaint about a grower who may not be following the IRM refuge requirements, please contact your sales professional or call toll free at 1-800-323-6103.

#### **IRM Requirements**

IRM programs address: (1) the amount of refuge, (2) the required proximity of hybrids with the Bt traits to the refuge. (3) the use of insecticides in the refuge and (4) the design and management of the refuge.

#### What is a Refuge?

A refuge is a block or strip of corn that does not contain a Bt trait for controlling corn pests. The purpose of this refuge is to maintain a population of corn pests that is susceptible to Bt proteins. Potentially resistant insects emerging from Bt fields

can mate with susceptible insects from the refuge resulting in Bt-susceptible offspring.

There are two types of refuge for products with the *Bt* trait: integrated and structured. Some Bt products have an integrated refuge with refuge seed blended in the bag, while other Bt products require a structured refuge. A structured refuge requires a grower to plant a portion of a field with another product that does not contain the insect-control traits of the Bt product. Grower-blended seed mixtures are not approved for use with any Bt hybrids to satisfy grower refuge requirements. Refuge requirements vary by product type and EPA-designated noncotton and southern corn/cotton growing regions.

#### IRM Compliance Assurance Program (CAP)

We require all growers purchasing hybrids with a Bt trait to sign a Technology Use Agreement. By signing, the grower agrees to implement an IRM program—including planting a corn refuge and following EPA-mandated use requirements—as outlined in the Product Use Guide. Failure to follow these IRM requirements can result in the grower losing access to structured refuge products.

The EPA requires Bt corn seed providers to conduct on-farm visits as part of a comprehensive Compliance Assurance Program (CAP) to assess whether growers are following the IRM requirements. These on-farm assessments are conducted by an independent third party and directed toward areas at high risk of insect resistance based on pest pressure, Bt corn market penetration or insufficient refuge seed purchase.

The CAP also outlines consistent standards developed by the EPA and Bt corn registrants for responding to growers who have not followed the IRM requirements to bring them into full compliance. These responses include:

- Notifying the grower by letter of IRM compliance deviations.
- Conducting a compliance assistance visit with the grower prior to planting to assist the grower in planning and implementing a proper IRM program.
- Conducting a compliance assessment visit with the grower the following growing season to assess IRM compliance.
- Providing the grower additional IRM educational materials.
- A grower found with a second incident of non-compliance with refuge requirements within a five-year period will be denied access the next year to the registrant's structured refuge Bt corn products.

#### **Structured Refuge Requirements**

In **non-cotton** growing areas, the structured refuge requirements are 5% or 20% of corn acres planted for corn borer-protected products and 20% for corn rootworm-protected products. In cotton growing areas, the structured refuge requirements are

20% or 50% of corn acres planted for corn borer-protected products and 20% for corn rootworm-protected products.

#### Structured Refuge Planting Options for Above-Ground, Below-Ground and Above- + Below-Ground Products

A **single-trait refuge** is one that can be used for corn rootworms or corn borers, but not both. A common refuge is a single field that serves as a refuge for both corn borers and corn rootworms simultaneously. A separate refuge is a refuge designed exclusively for corn borers or exclusively for corn rootworms—i.e., a stacked Bt product can require two separate refuges.

#### **Select Similar Hybrid for Structured Refuge**

One key to establishing an effective refuge is selecting an appropriate hybrid—one that is agronomically similar to the Bt hybrid. This helps ensure that the refuge hybrid has the same likelihood of attracting adult insects as the Bt field. The refuge hybrid should match the Bt hybrid in maturity, early vigor and plant height.

#### **Refuge Management**

Management practices in the refuge acres and Bt corn acres must be as similar as possible to promote parallel hybrid development.

- To be effective, the refuge must be the correct size and distance from the Bt field, and be planted with a similar hybrid under similar management practices.
- Plant the refuge at the same time as the Bt hybrid.
- Fertility programs, including starter and sidedress, should be
- Use the same tillage system in the Bt field and the refuge. Different tillage operations may result in dissimilar residue levels on the soil surface. Soil temperature differences could then lead to dramatic early development differences between the Bt field and the refuge.
- Reducing inputs on the refuge or planting it on marginal land also decreases the effectiveness of the refuge.
- If the refuge is planted on rotated ground, the trait corn must also be planted on rotated ground. If the refuge is planted on continuous corn ground, the trait corn may be planted on either continuous corn ground or rotated ground. It is also recommended that growers planting continuous corn plant the refuge in the same location each year.
- Practice Integrated Pest Management (IPM) to preserve the natural enemies of corn borer, corn rootworm and other insect pests. Natural predators such as ground beetles and ants can help reduce corn rootworm larvae populations. Bt corn insect protection aids IPM, because it affects only target insects and allows beneficial insects to thrive.
- Popcorn can be used as a refuge option, but sweet corn and/ or silage corn cannot.

#### **Crop and Grain Marketing Stewardship**

Corteva Agriscience is a member of Excellence Through Stewardship® (ETS). Corteva products are commercialized in accordance with ETS Product Launch Stewardship Guidance and in compliance with the Corteva policies regarding stewardship of those products. Crops and materials containing biotech traits may only be exported to or used, processed or sold in jurisdictions where all necessary regulatory approvals have been granted for those crops and materials. It is a violation of national and international laws to move materials containing biotech traits across borders into jurisdictions where their import is not permitted. Growers should discuss these issues with their purchaser or grain handler to confirm the purchaser or handler's position on products being purchased. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

#### **Refuge Calculator**

The National Corn Growers Association (NCGA), in collaboration with the industry, has developed a web-based calculator to help growers calculate the minimum refuge requirements for each of the Bt products on their farm. This calculator can be accessed at refuge.irmcalculator.com.

#### **Field Monitoring**

Monitoring Bt fields for insect resistance development is an integral part of an IRM plan. If resistant populations are detected early, alternative control measures can be guickly implemented to reduce the population and halt the spread of resistance. Because of its importance in maintaining the effectiveness of Bt technology, the EPA mandates activity monitoring as a condition of registration of Bt products. We require customers to monitor Bt fields for unexpected levels of insect damage and report any high level of suspected insect damage to a sales professional for further investigation. Acres planted with Bt hybrids should be correctly marked at planting to prevent confusion when monitoring.

#### **Structured Refuge Configuration**

Because Bt corn growers use different management practices, considerable flexibility is allowed in laying out the refuge. Several of these refuge patterns are described below.

Surveys indicate that most farmers plant the refuge within the Bt field. This closer proximity increases refuge effectiveness and maximizes Bt acreage in the field.

#### Refuge Within the Bt Field:

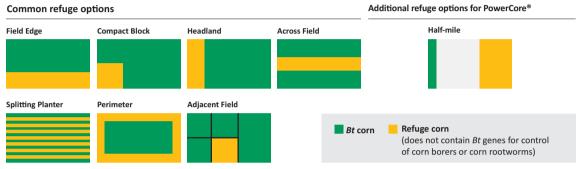
- Block
- · Perimeter or Border
- Split Planter

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#### **Separate-Field Refuge Distance Requirements:**

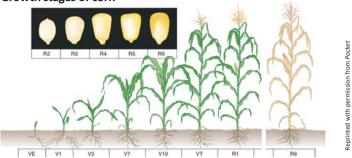
- Appropriate refuges must be planted on every farm with a field that contains Bt corn—i.e., you cannot use a neighbor's field to satisfy the refuge requirements.
- For corn borer-Bt products, refuge must be planted within a 1/2 mile of each Bt corn field.
- For corn rootworm-Bt products, refuge must be planted adjacent to Bt hybrids; it can be separated by a ditch or a road, but not by another field.



Illustrations are not a representation of refuge size requirements. Please see "Refuge Distance Requirement" section on page 59 for minimum refuge requirements by product.

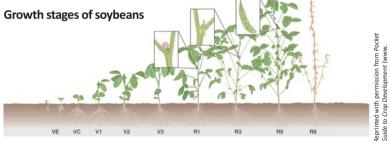
Notes:		

#### Growth stages of corn



Approximate Time After

Growth S	tage	Diagnostic Characteristic	Emergence From the Soil
0	Pre-emergence	Seed planted	
VE	Emergence	Coleoptile above soil	0
V2	Two-leaved	2 leaves fully open	1 week
V4-V6	Early whorl	4 to 6 leaves fully emerged	2 to 3 weeks
V8-V10	Mid-whorl	8 to 10 leaves fully emerged	4 to 5 weeks
V12-V14	Late whorl	12 to 14 leaves fully emerged	6 to 7 weeks
VT	Tassel	16 to 18 leaves fully emerged	8 weeks
R1	Silk	Silks emerging, pollen shedding, kernel fertilization	9 weeks
R2	Blister	Brown silk, cob is nearly full sized, kernels like "water blisters"	12 days after silking
R3	Milk	Kernels large, cob full sized, content "milky," "roasting ear"	18 days after silking
R4	Dough	Kernels progress from "soft dough" to "hard dough" as starch increases	24 days after silking
R5	Early dent	Kernels form "dents" on crown, embryos developed	36 days after silking
	Late dent	All kernels with dents, all kernels firm, "milk line" visible	48 days after silking
R6	Maturity	Grain mature and drying, "black layer" at tip of kernel	55 to 60 days after silking



#### **Diagnostic Characteristic Growth Stage**

VE	Emergence	Cotyledons above soil surface
VC	Cotyledon	Cotyledons fully expanded, unifoliate leaves unfolded
V1	2nd node	1 node on main stem with fully developed trifoliates
V2	3rd node	3 nodes on main stem with 2 fully developed trifoliates, nodules begin forming on roots
V3	4th node	4 nodes on main stem with 3 fully developed trifoliates, increased lateral root growth, branching may begin at first node
V5/V6	6th/7th node	Number of nodes plant may produce is set, cotyledons have fallen off, branching begins, increased lateral root expansion
R1	Beginning bloom	1 open flower at any node on main stem, usually occurs at V7 to V10
R2	Full bloom	Large number of nodules present on roots, 1 open flower at 1 of upper 2 nodes on main stem
R3	Beginning pod	Pod 0.5 cm long at 1 of 4 upper-most nodes on main stem, flowers appear rapidly
R4	Full pod	Pod 2 cm long, rapid pod growth, beginning of seed development, flowering at 1 of 4 upper-most nodes, plants very sensitive to stress
R5	Beginning seed	Seed 0.3 cm long inside pod at 1 of 4 upper-most nodes, pod number set, seed number determined
R6	Full seed	Seed fills pod cavity at 1 of 4 upper-most nodes, seed weight approaches maximum, leaves begin to turn yellow
R7	Beginning maturity	1 pod on main stem has reached mature color, seed size is set, most seeds mature, 50% of leaves yellow
R8	Full maturity	95% of pods are mature color, leaves have dropped off, 5 to 10 days before harvest-ripe

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#### FOR MORE INFORMATION. VISIT WWW.NUTECHSEED.COM.

NuTech Seed reserves the right to substitute product at its discretion in the event of crop or allocation shortages. The Buyer may accept or reject the substitute product at the point of offer. NuTech Seed shall not be liable for any breach of warranty or breach of contract claims in connection with unavailable product.

NuTech Seed warrants that seed sold by it conforms to the label description on the seed packaging within tolerances established or permitted by law, NUTECH SEED MAKES NO OTHER WARRANTIES. **EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF** MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. It is expressly agreed that NuTech Seed's liability for any loss or damage arising out of or relating to the purchase or use of its products, including, but not limited to, liability arising out of breach of contract, breach of warranty or negligence, shall be limited, at the sole discretion of NuTech Seed, to comparable product or to refund of the amount of the purchase price for the seed. This remedy is exclusive. In no event shall NuTech Seed be liable for any incidental or consequential damages, including loss of profits.

NuTech Seed utilizes isolation and purity measures in the production of its seed products. Because of factors beyond its control, NuTech Seed does not represent or warrant that any NuTech Seed products are free of any genetically modified materials or organisms.

These terms and conditions of sale are in addition to those contained in NuTech Seed sale documents (e.g., order forms) and on NuTech Seed product packaging and labeling.

#### PRODUCT NOTES:

Product performance in water-limited environments is variable and depends on many factors such as the severity and timing of moisture deficiency, heat stress, soil type, management practices and environmental stress, as well as disease and pest pressures. All hybrids may exhibit reduced yield under water and heat stress. Individual results may vary.

Qrome® products are approved for cultivation in the U.S. and Canada. They have also received approval in a number of importing countries, most recently China. For additional information about the status of regulatory authorizations, visit http://www.biotradestatus.com/.

Products are provided subject to the terms and conditions of purchase which are part of the labeling and purchase documents.

AM - Optimum® AcreMax® Insect Protection system with YGCB, HX1, LL, RR2. Contains a single-bag integrated refuge solution for above-ground insects. In EPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax products. AML -Optimum® AcreMax® Leptra® products with AVBL, YGCB, HX1, LL, RR2. Contains a single-bag integrated refuge solution for above-ground insects. In EPA-designated cotton growing countries, a 20% separate corn borer refuge must be planted with Optimum AcreMax Leptra products. AMX -Optimum® AcreMax® Xtra Insect Protection system with YGCB, HXX, LL.

RR2. Contains a single-bag integrated refuge solution for above- and belowground insects. In EPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax Xtra products. YGCB.HXX.LL.RR2 (Optimum® Intrasect® Xtra) - Contains a Bt trait and the Herculex XTRA genes for resistance to corn borer and corn rootworm. YGCB.HX1.LL.RR2 (Optimum® Intrasect®) - Contains a Bt trait and Herculex® I gene for resistance to corn borer. AMXT (Optimum® AcreMax® XTreme) - Contains a single-bag integrated refuge solution for above- and belowground insects. The major component contains the Agrisure® RW trait a Bt trait, and the Herculex® XTRA genes. In EPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax XTreme products, RW.HX1.LL.RR2 (Optimum® TRIsect®) - Contains the Herculex I gene for above-ground pests and the Agrisure® RW trait for resistance to corn rootworm. RW,YGCB,HXX,LL,RR2 (Optimum® Intrasect® XTreme) - Contains the Agrisure® RW trait, a Bt trait, and the Herculex® XTRA genes for resistance to corn borer and corn rootworm. Optimum Intrasect XTreme will be the major component of Optimum AcreMax

Agrisure® technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG

SmartStax® and PowerCore® multi-event technologies developed by Corteva Agriscience and Monsanto.

The transgenic soybean event in Enlist E3® soybeans is jointly developed and owned by Corteva Agriscience and M.S. Technologies L.L.C. Enlist Duo® and Enlist One® herbicides are not vet registered for sale or use in all states or counties. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your state or area. Enlist Duo and Enlist One herbicides are the only 2,4-D products authorized for use with Enlist crops. Consult Enlist herbicide labels for weed species controlled. Always read and follow label directions.

Always follow IRM, grain marketing and all other stewardship practices and pesticide label directions. B.t. products may not yet be registered in all states. Check with your seed representative for the registration status in vour state.

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- ®Respect the Refuge Logo is a trademark of the National Corn Growers Association

#### SOYBEANS PIRACY STATEMENT

Not only can it be illegal to save and replant patented seed, but, as a grower, you need to consider the yield results and profitability. NuTech Seed offers no quality guarantee for bin-run seed. Growers also incur extra costs like cleaning, storage, handling and germination testing for such endeavors.

#### BENEFITS OF NEW SEED:

- · Meets quality standards of seed company
- Professionally handled and rigorously tested
- Dramatically reduces splits and foreign matter
- > Ensures varietal purity
- Germination tests for peace of mind
- Weed-free
- Access to the most elite germplasm
- Average loss of approximately 10% to 15% cleanout at harvest for bin-run
- New seed yields an average of 1.8 bushels per acre more than bin-run seed (university yield trials range from 1.2 to 5.9 bushels per acre)
- Dealer agronomic support before and after the sale
- Royalties provide research and development of new traits and higheryielding germplasm
- New trait introductions
- Seven to nine years for commercialization
- \$50 million to \$100 million in total costs for a new biotech trait

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1-888-647-3478 info@nutechseed.com







# Growing communities

## People across NuTech country who are giving back

In working with farmers across our region, we'd have to say that the only thing that impresses us more than their work ethic is their generosity. Of course, these aren't folks who like to brag about their good deeds – so we'll do it for them. It's our pleasure to highlight those who are giving back to keep their communities vibrant and thriving.



Jeff Boston (L) and his brother, Chip (R)

#### A LOCAL LIVESTOCK AUCTION RAISES HELP AND HOPE

When Jeff Boston heard that a friend's son had been diagnosed with leukemia, he immediately put himself in the family's shoes. "I've got three healthy adult daughters and a healthy grandson. My brother has four healthy kids. We've never had to deal with something like that. We just wanted to do something to help," Jeff explained.

Jeff, who is a NuTech dealer and runs JCB Farms in central lowa, had gotten to know Ryan England a few years back when he used to buy seed from the dealership where Ryan worked. Jeff's daughters got to know the family, too, when they took care of the England kids while working at a daycare.

Everyone was stunned and worried to learn that the Englands' four-year-old son, Sawyer, had been diagnosed with leukemia.

Jeff thought about how the family would have to travel back and forth to the hospital in Des Moines, plus continue working and caring for two other young boys. "Here's a young couple with young kids and something like this could set them back for the rest of their lives," Jeff said. "We really wanted to do something to make sure it wouldn't."

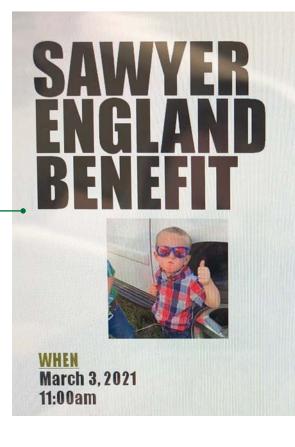
Jeff and his brother, Chip, had participated in some charitable livestock auctions in the past. "We've had benefits in our community before, where we'd donate a hog or something," Jeff said. "We try and do it when we can." It seemed like a good way to help the Englands.

First, the Bostons wanted to check with the family about putting an event together. The circle of organizers and supporters widened. A mutual friend, Kegan Bishop, approached Sawyer's grandmother about the idea. "She was so emotional about it and thought it was great," Jeff recalled. "We wanted to do this, and so my brother and I decided to donate a heifer."

Jeff's wife made up some flyers, and the local livestock auction facility in Creston, IA, donated their facility and services. The event would be a roll-over auction: Winning bidders immediately turn the heifer back over to auction again, allowing the price (and donations) to keep rising.

The day of the event in March, before bidding even started, Jeff received a phone call from an anonymous donor pledging \$5,000. Jeff was hoping the auction would raise \$10,000 total, so they

NuTech dealer Jeff Boston helped organize a livestock auction for a young boy diagnosed with leukemia.



were off to a good start. But once the bidding began, Jeff was bowled over. "We raised \$30,000 in 20 minutes," he said. "It was kind of hard to wrap your head around it." All proceeds went directly to help the Englands.

The heifer itself was donated to Sawyer. "That's the start of Sawyer's own herd,"

Many donors didn't even know the family — they just wanted to help. The day of the auction, while Sawyer and his mother were at the hospital in Des Moines, dad Ryan made the drive to be at the auction and was able to express his gratitude to the crowd. In the days after, Jeff and Chip received heartfelt thank-you notes from the England family, a gesture Jeff said humbly "was very nice, but it

At the time we spoke to Jeff, it had been about a month since he touched base with the Englands. "I don't want to pester them," he said. But he noticed on Facebook that Sawyer, who has now turned five, is having an active summer and staying #SawyerStrong between treatments, enjoying a trip to camp and T-ball games. "It looks like he is doing well, and well on the road to beating this," Jeff observed.

Putting together this charitable auction was so rewarding, Jeff and his brother would be willing to do it again. "It's important to help your community," Jeff said. "You just never know when you might be the one who needs the help."

Jeff and his brother donated the heifer for the auction, seen here tagged with "Sawyer Strong." The heifer now belongs to Sawyer. He named her Biscuit and she's the start of his very own herd.





The roll-over auction raised \$30,000 in just 20 minutes.



Are you passionate about giving back to your community or know someone who is? We'd love to share your story!

Connect with us at info@nutechseed.com



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We love our summer gardens, but there's only so much zucchini bread you can make (and give away)!

Here are a few recipes to help you use up the tomatoes and squash that always seem to produce bumper crops.



#### **RATATOUILLE**

Ratatouille uses the vegetables and fresh herbs that thrive in a summer garden. It's incredibly healthy as well! Serve it by itself with a crusty Italian bread or alongside Parmesan chicken or your favorite pasta.

Cooking tip – reduce your slicing time by using a mandolin or spiralizer if you have one.

½ cup extra virgin olive oil
1 small can tomato paste
6 cloves garlic, minced
½ cup fresh basil leaves, chopped
2 Tbsp fresh oregano, chopped
¼ cup fresh parsley, chopped
Salt to taste (½ tsp or more)



- 1 large eggplant
- 2 large onions
- 2 bell peppers any color
- 4 medium zucchini
- (or 2 zucchini, 2 summer squash)
- 4 large tomatoes

Preheat oven to 350°. Coat bottom and sides of a large casserole dish with olive oil.

Peel and slice eggplant. Place slices in a salt bath (1 tsp salt dissolved in 8 cups of water) while you prepare the other ingredients.

Mix olive oil, tomato paste, garlic, herbs and salt and set aside.

Slice all other vegetables. In the casserole dish, starting with onions, make a layer of slices of each vegetable. Repeat with remaining vegetables.

Spread the oil and tomato paste mixture on top of the layers.

Bake for 45 minutes or until vegetables are tender.

Serve with grated Parmesan.

#### **TZATZIKI**

This Greek dish adds a healthy zing to summer snacking. Serve as a dip for fresh veggies and pita bread, or use it to top sandwiches or kebabs.

Cooking tip: Keeps well in the refrigerator for several days, just stir before serving.

1/2 large cucumber

- 1 ½ cups plain Greek yogurt
- 2 cloves garlic, minced
- 2 Tbsp extra virgin olive oil
- 1 Tbsp lemon juice
- ½ tsp salt or more to taste
- 2 Tbsp fresh dill (or ½ Tbsp dried)

Grate the cucumber (with skin on) and press out all the liquid using a mesh strainer or paper towels.

Mix cucumber with garlic, oil, lemon juice and salt. For best flavor, refrigerate overnight.

Add dill and mix well, then serve.



#### **ZUCCHINI PARMESAN CHIPS**

Crunchy and satisfying as a snack or side.

2 zucchini, sliced into coins (about ¼" thick)

½ cup panko bread crumbs

¼ cup grated Parmesan

1 tsp garlic salt

1 egg beaten with 1 Tbsp water

Vegetable oil—enough to cover a deep skillet to about ½"

Combine panko, Parmesan and garlic salt in a bowl.

Dip zucchini slices in egg, then dredge in panko mixture.

Drop into hot oil and cook about 2 mins until golden brown, then flip and cook another 2 mins.

Cook in batches, so chips cook evenly.

Drain on paper towels and sprinkle with salt while hot.

Serve with a side of ranch dressing, marinara or tzatziki.

#### **COFFEE & CREAM TOMATO SOUP**

Unusual combination – fantastic result!

3 Tbsp butter

1 Tbsp olive oil

1 medium onion, chopped

2 stalks of celery plus leaves, chopped

2 carrots, peeled and chopped

2 cloves garlic, minced

Handful fresh flat-leaf parsley, chopped

3 cups fresh tomatoes (any variety), chopped

1 15 oz can tomato sauce

3/4 cup strong brewed coffee

¼ cup water

2 tsp sugar

1 tsp salt

Black pepper to taste

⅓ cup heavy cream

In a heavy stock pot, melt butter over medium heat. Add olive oil.

Cook onion, celery, carrots, garlic and parsley until onion is soft, about 5 mins.

\*If you like a little spice, add one jalapeño, seeded and chopped or ½ tsp crushed red pepper flakes.

Add tomatoes, tomato sauce, coffee, water, sugar, salt and pepper.

Bring to a boil, then reduce to a simmer. Simmer about 20-30 minutes, until veggies are soft.

Pour about half of the hot soup into a blender and puree. (Put a towel or oven mitt over the blender lid to avoid hot splatters.)

Pour the pureed soup into a serving bowl or clean pot, then puree the rest of the soup.



Add cream to the pureed soup and combine.

Makes 4-6 servings.

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# INTERN ROUNDUP

Each summer brings a new group of agronomy interns into the NuTech family. Learn more about the young people who are gaining experience and making connections in the agronomy business.



## Clint Gorden

- · Illinois
- Illinois State, agronomy management major

Clint has been a NuTech TSR since he was 18. He said, "I knew this company was where I wanted to be." He loves selling seed, but is working as an agronomy intern to learn more about that side of the business. "The hands-on field knowledge – you just can't replace it. Whether you're talking grain quality or production, it all ties back to growing the crop... from start to finish."

When he's not working his own farm or at NuTech, Clint is always doing something outdoors – kayaking, fishing or hunting. He's even been featured as part of the NuTech Hunting Club in past issues of *The Life!* 



## **Dani** Montgomery

- ·low
- ·lowa State, agriculture and society major

Dani is a second-year intern who likes both the technical side of her internship – entering data for harvest reports – and being out in the field. "We go out to the field and see either really good corn or really bad corn. You end up talking to farmers and see how they're doing and what they like - or don't – about the product." She likes putting information into the harvest reports because "we get to be the first to see what's doing well and what isn't."

Her university program focuses on how small farms affect small communities. While Dani didn't grow up on a farm, she likes learning about farming. "I think the ag industry is a great 'personal' field – everyone cares for each other. That's what I love about it!"



## Daniel Bingham

- ·Missouri & Illinois
- University of Missouri, agricultural systems technology major

It's Daniel's second summer as an intern – an opportunity he found through his dad, Wayne, a NuTech sales rep. Daniel grew up helping out on his grandfather's farm, and he still loves talking to farmers – it's his favorite part of his internship.

Daniel is currently interning in Columbia, MO, where he just graduated, and then will return to his hometown of Griggsville, IL. In his future career, he hopes to find ways to use what he learned at Mizzou about precision ag to help maximize profits for farmers.



## Madison Neeley

- · Illinois
- Western Illinois
   University, agriculture business major with a minor in agronomy

Madison didn't grow up on a farm, so when she started college, "I knew what corn and soybeans looked like and that's it." But she'd done FFA and decided to pursue an ag-related degree. Then a soil fertility class lit a fire in her. "I knew for sure that I want to do this. I want to be out there." That led her to her NuTech internship – her fifth one in the ag industry.

What she likes best about the internship is the independence. "With that independence comes responsibility – you're in charge of this, you have to get this done. It's a good eye-opener for when you get out in the real world."

Just two weeks into her internship, Madison says, "I already know this is exactly what I want to do." She advises others, "My biggest takeaway is this: Don't be afraid to try something that you're not familiar with if you're passionate about it. If you put your mind to it, you can



## Nat Markle

- ·low
- Iowa State University, industrial technology major

Nat doesn't come from a farming background, but ever since he moved to lowa 10 years ago, he's been in love with the big machines and learning about how crops grow. Talking about his interests with a high school friend's stepdad – who happens to be NuTech Lead Agronomist Brad Johnson – led to this internship.

Nat's industrial technology major includes a range of classes – from business to welding – that he knows will help him manage a farm someday. "Even if you're not from an ag background, right now is a really good time to make the leap to ag. I never thought I'd have a job like this!"



## Will Ochs

- ·Illinois
- Lake Land College, agriculture major

Will grew up around farming – his uncles are farmers – and he likes getting to talk with farmers while he's hauling seed to and from farms. Meeting new farmers, seeing how their farms work, learning about their ag practices – it's all part of Will's goal to learn all he can about the seed business.

Will currently attends Lake Land College, but hopes to transfer to a larger state university in another year to pursue an agriculture business degree. His career goal? To be a seed salesman With his NuTech internship experience, he's well on his way!

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The weather is warming, the flowers are blooming and we're more than ready to be cured of our cabin fever! Hit the road and check out these unique small businesses and beautiful sites across NuTech country.





#### **Latoz Hardware** Westville, IL

Submitted by Scott Davis

Latoz Hardware in Westville, IL, is a great family business that has been around since 1946. Whether you need a carriage bolt, a measuring cup for the kitchen, some plumbing parts or a piece of glass for a window repair, Latoz is the local destination of choice. It is the kind of store that you remember from growing up, that seems to have one of everything and two of most things. With everything from a traditional hardware store to kitchen/housewares to garden supplies and now Traeger grills, Latoz is a reliable supplier for your needs. Visit them at latoz.doitbest.com or on Facebook at Latoz Hardware, Inc.



#### Southern IL parks and trails

Submitted by Brad Damery

Southern Illinois is blessed with unique and challenging hiking trails. Some will lead you to sights you just would not expect this close to home. I encourage you to visit The Little Grand Canyon Trail in the Shawnee National Forest or nearby Ferne Clyff State Park. You won't be disappointed. While you're in the area, make sure that you check out the Giant City Lodge in Makanda for a great breakfast and Mase's place in Pamona for a great drink after the long trek to end the day. Who knew hiking was so much fun and what a great way to "see the corn today."





#### Rising Sun Family Farm Willow Hill, IL

Submitted by Ben Bollman

You have to go to Rising Sun Family Farm for the best strawberries!









#### Grafton, IL

Submitted by Brad Stockstill

Grafton has gondolas, wine and unbelievable views of the confluence of the Mississippi and Illinois Rivers. You'll find plenty of trails, boating and craft shops in and around Grafton, too.



## The Shed Erie, IL

Submitted by Nichole Lewis

I love The Shed in Erie! They have everything from home décor to clothes to candles! The cutest little boutique!





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# UNIQUE Retreats

When life gets too hectic, sometimes you just need a place to hide out and unwind. These NuTech customers have inspired us with their little retreats right on the farm. (Maybe if we're extra-nice, they'll invite us over!)



#### 

Tina Noland | Blue Mound, IL

Summertime on the farm is filled with family fun. From Great Grandma Erma at 92 years of age to our youngest, Mack, at one year of age, our family enjoys birthday parties, cookouts, outdoor movies, sleepovers and pool parties. The outdoor "grain bin" kitchen makes meal preparation easy.

#### **Babe Cave**

#### Tricia Carl | Belle Plaine, IA

Since our farm has been in my family for over 130 years, I'm very sentimental about heirlooms. Knowing they had been stored in the barns for decades made me sad. I had always dreamed of displaying them to honor my ancestors and show my appreciation for all their hard work. The pandemic shut down of our dental office left me unemployed for six weeks. My first day off, I started cleaning the garage. After a week, I was painting the walls, scrubbing 400 license plates and digging through the barns. It all came together and I finished in six weeks.



## Mini Museum ►

#### Kenny Fettkether | Dunkerton, IA

I am 25 and I have been collecting since I was probably 10. This is my mini museum for the things I like: John Deere, J I Case, DMI, Freightliner trucks and many other types of short-line equipment. This is where I usually hang out at the end of the day for a bit to unwind. I have my office down here, too, but I will admit sometimes it can be a little distracting!





## Farm Pond ►

Abbey Luellen | Minburn, IA

Our relaxation spot is at the farm pond!



#### ■ Back Patio

Jamie Pittman | Olney, IL

The four of us like to unwind on the back patio. It's nice coming home to catch a glimpse of the sunset.



# REASONS TO LET AN OUTFITTER BE YOUR GUIDE

A reputable outfitter can make your next hunting excursion more convenient and fun

In addition to farming in central Illinois, NuTech customer Allen Letcher has built himself quite a reputation and a successful business as an outfitter. Each year, Letcher's company, Flatland Outfitters, guides groups on deer and snow geese hunts. He strives to create a positive experience for every customer, something he finds in common with how NuTech does business. "Treating people like they want to be treated is important," he said. With NuTech, Letcher said, "It's a grassroots approach from upper management all the way to the guy delivering the seed. They'll roll up their sleeves." Letcher finds a good outfitter will also work right alongside you, and although no guide can control every factor on a hunt, he uses his knowledge and expertise to put his customers in the best position to succeed.

After almost 30 years as an outfitter, Letcher offered his take on why even experienced hunters can enjoy the service an outfitter provides – and how to find the right one for your next trip.



#### IT'S COST EFFECTIVE

Letcher said that costs to lease land for hunting are getting more expensive, with liability concerns limiting available areas. Add in the cost of buying your own decoys and other equipment, and putting together an excursion on your own gets expensive. Outfitters like Flatland offer an all-inclusive experience, down to your lodging. Letcher said, "Customers can spend two or three days with me two times a year and not come close to what a lease would cost on their own."



#### IT'S EDUCATIONAL

"Knowledge is invaluable," Letcher said. If you're new to hunting, Letcher said using an outfitter, "lets you gather all the experience you can and see how deep you want to go into it." Letcher also recommended using an outfitter if you're an experienced hunter but looking to branch out to a new species. Letcher himself has used outfitters when hunting Canada geese. Even if you're comfortable with the species you're hunting, it's the outfitter's job to know all the ins and outs, compared to a hobbyist hunter. Every excursion is a chance to learn more and continue honing your skills. Letcher welcomes younger participants (ages 11+) with parent permission and without firearms – and sees it as a great chance to get them into the sport.



### IT'S CONVENIENT

Letcher prides himself on running his business with a "treat your customers as you want to be treated" philosophy (something he says he has in common with NuTech). That means making everything as hassle free as possible. With an outfitter, the client gets to show up, have fun and head home – hopefully with a good harvest to show off.



### IT'S A FUN, SOCIAL EXPERIENCE

Letcher guides a lot of groups of friends as well as couples who enjoy the downtime between shooting to laugh and talk. Letcher tries to add to the experience by being a fun, entertaining guide. "You're hunting a wild species and you never know how it's going to go," Letcher said, "So you've got to make it a great experience even if you don't harvest something that day."



#### IT'S REWARDING

Letcher's favorite part about being an outfitter – and the reason he continues to do it – is seeing the excitement on his clients' faces. "Every morning, I can't wait to get out there," he said. When clients see how a hunt comes together, the strategy of fooling prey and especially a successful harvest, Letcher said, "They'll be high-fiving, talking a mile a minute and we'll take pictures. That makes it all worthwhile."



## TIPS FOR CHOOSING A QUALITY DITTEITTER



Allen Letcher has hosted hunters from as far away as Alaska and New York. Here are his tips for choosing a good outfitter:

#### > DO YOUR RESEARCH

Make sure the outfitter has a deep list of references on their website or social media, and look for someone with at least 80% positive reviews. Outfitters will often share leads and clients, referring people to one another if their schedules are full. If one outfitter recommends another, that's usually a great sign.

## ➤ LOOK FOR REASONABLY SIZED GROUPS

Letcher, for example, only hosts 18 people a season for deer hunts. Any more than that and he feels he cannot provide a quality experience. You want to ensure you receive both adequate attention from your outfitter as well as ample opportunity to harvest your prey.

## > CHOOSE AN EXCURSION THAT LASTS AT LEAST TWO DAYS

Even the best outfitter can't control the weather or when prey will cross your path. There are sure to be days that just don't work out, so increase your chances of success by extending your time in the field.

## **LEARN MORE:**

flatlandoutfitters.com or facebook.com/flatlandoutfitters

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