SUMMER 2020 SUMMER 2020 SUMMER 2020 by NuTech Seed

THE PRODUCT ISSUE

- ► COMPLETE 2021 SEED GUIDE INSIDE
- ► EXPANDED LINEUP OF ENLIST E3® SOYBEANS
- ► NEW HIGH-PERFORMANCE CORN HYBRIDS

LIFE IS DELICIOUS

Pack a perfect picnic

SUMMER WATCHLIST

Keep an eye out for these threats to your yield

4-H: A SUMMER TRADITION

Meet some dedicated kids and the animals they love to show

PLANTING THE OLD-FASHIONED WAY

One NuTech grower keeps the tried-and-true going on his farm



THE CLOCK IS TICKING.



2X FASTER UPTAKE than competitor fungicides





STRONG CONTROL of resistant diseases

Aproach Prima

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? DuPont™ Aproach® Prima fungicide quickly surrounds each leaf and stem to protect the whole plant. It's proven to improve grain quality and increase yield.

There's only one choice to protect your bottom line.



TO OUR READERS

RESILIENCE. RESOLVE. **OPTIMISM.**

As farmers, we know what these words mean. Now, the whole world is coming to understand them.

Facing down a challenge isn't new to those of us who work in farming. We come equipped with the skills to ride the ups and downs — day-to-day, season-to-season. We know what it means to take the long view.

As America grapples with its current challenges, farmers are the best examples of just what determination looks like. Nobody knows better what it takes to plow ahead (literally) and always be looking forward.

Staying close to home and taking care of others was a change for most of America, but not for those of us in NuTech country. Success, enjoyment and family were already close to our hearts. In times like these, we just keep doing what we do best: reaching out to neighbors, supporting our communities and helping our nation. It's what we were made to do.

Farmers also know that challenges are temporary, but they can change us in lasting ways. We learn something. We appreciate things more. We find satisfaction in coming through, and coming through stronger.

And in times where everything seems to be changing, we find comfort in the things that don't: The corn rises tall and green. The beans spread their canopies. The kids beg for a tractor ride. Life out here gives us plenty to be grateful for — perhaps this year more than most.

From everyone on the NuTech team, we hope you are finding joy in the small things this season, and still taking time to gaze out on your fields every day with a deep sense of accomplishment.

In the heart of a farmer, hope springs eternal, even in the middle of summer. We know you've already got your focus on what comes next. We're right there with you.

General Manager



WHAT ARE WE TALKING ABOUT?

ENJOYING A BEAUTIFUL PLANTING SEASON

Thanks for sharing so many planting photos with us! Mother Nature was more cooperative this year and it looks like a strong start to a great season.

PLANNING AHEAD

Our agronomy and product teams are already out evaluating plots looking for the best product picks for 2022—stay tuned!

WELCOMING NEW DEALERS

The NuTech dealer network is expanding in the coming months, and we're excited to welcome these new Lifestyle enthusiasts!

SHARING OUR AGRONOMY INSIGHTS

Check out our series of agronomy videos on the NuTech Seed YouTube channel, and don't miss more insights right from the field, posted by our team throughout the season.

We love to hear from everyone living the NuTech Lifestyle, so keep in touch on social media. Not following us yet? Look for NuTech Seed on Facebook, Twitter, Instagram, LinkedIn and YouTube.









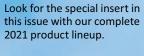


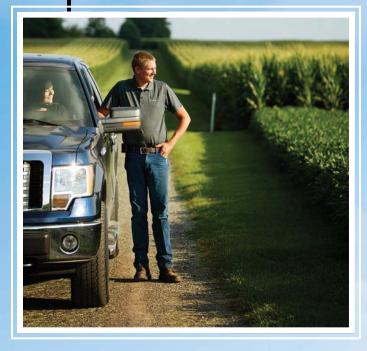
SUMMER 2020

2021 Product Guide

this issue with our complete 2021 product lineup.

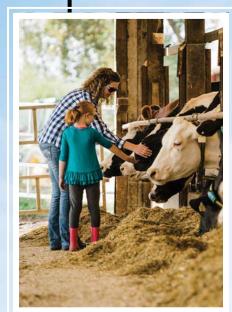






Meet the future of farming

These kids are dedicated to their animals and having fun no matter what this 4-H season



20

Summer watchlist

Our lead agronomist, Brad Johnson, talks about some diseases, pests and weeds to keep an eye on this season.



80

Firmly planted in the past

NuTech customer Bill Burnham brings back vintage farm equipment—and plenty of memories.





What's happening at NuTech this season?

What's on our minds and in our social media feeds this season.

Kids Corner

Join the picture hunt!

Have you seen the corn today?

Take a moment to reflect on a mid-summer field.

Life is Delicious

Portable dishes for your next picnic.

Farm Dogs

Meet some of the most loyal (and adorable) companions in NuTech country.

The Life in pictures

Summer greetings from your NuTech

Gravel Travels

Some of our favorite places can be found close to home.

NuTech Hunting Club

These talented anglers are bringing in a fresh catch.



What's happening at NuTech this season?



WELCOME, NEW TEAM MEMBERS!

We welcomed **Monique Cullotta** to the Customer Service Representative team back in December. She has quickly caught on and is learning every day. She resides in Fisher, IL, with her husband, Angelo, and three daughters.

Amanda Myers has also joined our Customer Service Representative team. She is currently training when she can and is excited to get into the office when all this social distancing ends. She resides on a farm in Oakley, IL, with her husband, Seth, and two kids, Paisley and Emmett.

Jeff Housman recently joined the NuTech team as a DSM in Dewitt, IA. Jeff has extensive experience in the seed business including a background in production and agronomy. His experience has prepared him well for this DSM role by developing agronomic skills, product knowledge, grower relations and business skills. Jeff has been married to his wife, Cheryl, for over 30 years. They have two children, Cole (Audrey) and Grant and two grandchildren Emma and William. We're excited to have Jeff on board!



Monique Cullotta



Amanda Mvers



Jeff Housman

NEW GERMPLASM: EARLY NOTES AND EVALUATIONS

It's been a hard year to strictly evaluate the emergence of new germplasm. Although environmental conditions were variable during planting, our corn emergence ratings are holding true to form. Emergence on several of our new products is noteworthy, including brands 62A8Q™, 70A8AM™* and 74B6AM™*. Brands 68B3AML™* and the versions of 2213™* have been solid on emergence as well.



ROLLING OUT ANOTHER BIG CROP OF NEW PRODUCTS AS THE CORTEVA AGRISCIENCE GERMPLASM ENGINE HEATS UP

Planning is underway for the 2020-21 selling season. In this issue, you'll find a full lineup of excellent products that really showcase the performance of NuTech seed. The new products will add to our already solid portfolios. Our focus for 2020-21 will be to position our new products on as many new farms as possible to demonstrate what we can bring to your fields.

LEADING THE ENLIST E3° SOYBEANS REVOLUTION: WHERE WE THINK IT'S HEADED

The Enlist E3® soybeans launch is providing an opportunity to highlight the strong emergence of the first class of these products. The weather conditions have given these products challenges and, fortunately, the stress emergence scores have been strong. Extra flexibility is needed with wetter planting conditions, especially in a no-till environment where planting restrictions after burndown herbicide applications can be challenging. Enlist® herbicides really help to demonstrate the value of the Enlist™ weed control system.





STAYING IN TOUCH, EVEN AT A DISTANCE

We're working on keeping safe, but still keeping up with each other! We hope you'll join us for three virtual corn and coffee sessions on 7/30, 8/6 and 8/13 from 7-8 AM. Email us at info@nutechseed.com for a link to the webinars, and look for more information on these sessions on social media. NuTech Lifestyle events may look a little different this year, but they will still celebrate the success, enjoyment and family at the heart of farm life. In the meantime, stay in touch with NuTech virtually through all of our social channels, and watch for product videos and updates on YouTube. Check with your local NuTech representative about our plans for events in your area—hopefully, we can all be back together in person soon!

























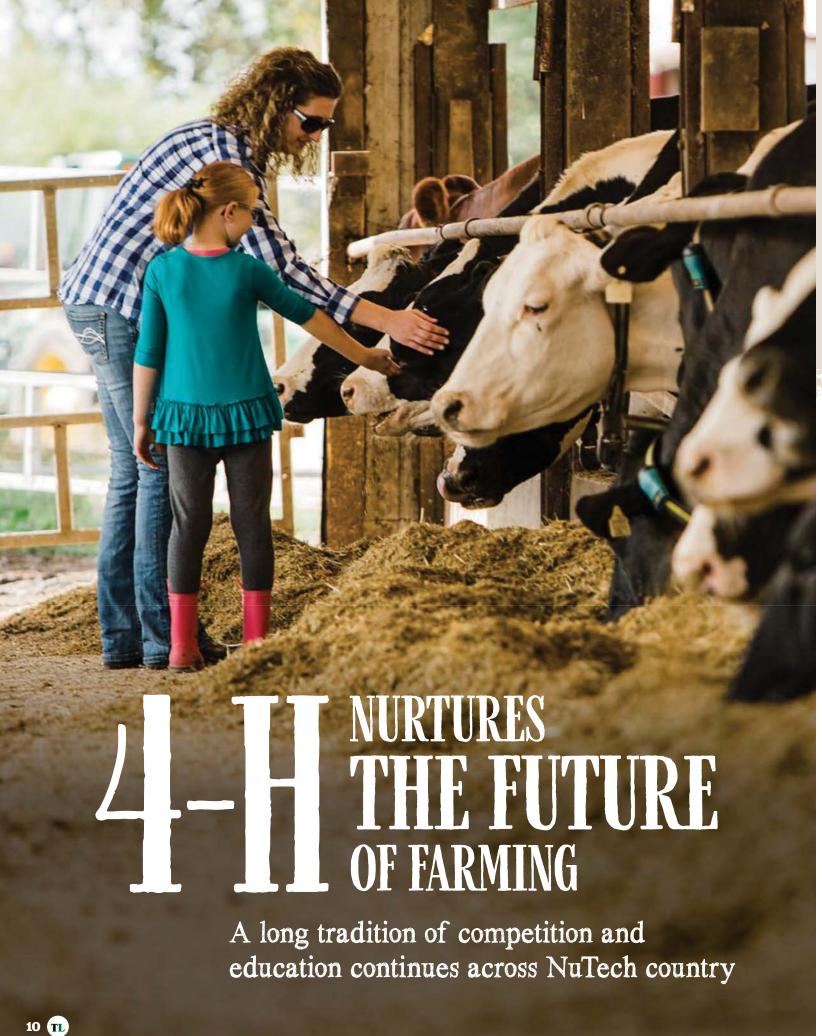












here's not much time for summer boredom when you're a 4-H kid involved in livestock showing. Training and caring for your animals takes long hours and most weekends are spent at county fairs and jackpot shows on the road to "the big dance"- the state fair. Along the way, friendships are forged, lessons are learned and connections for a successful future are made.

This summer, 4-H competitions look a little different across the Midwest, with many fairs and shows cancelled, or chapters experimenting with virtual shows. Hopes remain high that some late-summer contests will stay on the schedule.

We caught up with a few 4-H kids in the area who are approaching this livestock showing season with just as much commitment and focus as any other year. They may not get to display their animals in the ring this year, but their hard work shows through just the same.

THE TRIMBLES

Katy (16), Bradley (11) Princeton, KY

Katy got involved in 4-H as a fourthgrader. She loved animals, but settled on pigs as her show animal of choice. "I just had a soft spot for pigs since I was little," she says. "They have personalities." Her younger brother, Bradley, agrees. "Pigs are chill and calm," he says, noting that cows and sheep are not as friendly in his assessment.



"Training is the most challenging part," says Katy Trimble, who loves showing pigs through 4-H. Katy earned a reserve champion banner at last year's county fair for her gilt.

Katy and Bradley both raise show pigs each year, helping each other with the responsibilities. Training is the mos challenging part, Katy says. "Pigs are different than all the other animals you can't put them on a leash. You have to use the stick and chase them down if they run away." Bradley is quick to interject: "I'm always chasing her pigs!"

The Trimbles both say the best part of livestock showing is the friends they've made. Katy feels like their 4-H community is one big family, and livestock shows provide an opportunity to step out of your comfort zone. "I'm not a person who just walks up and talks to people," Katy says, "But at a show, you've got something in common and it's easy to make friends and connections."

The Trimbles say they're not overly competitive with their showing, but they both speak proudly of a couple of wins last summer. Katy won her first banner last year, earning Reserve Champion Breeding Gilt at the Calloway County fair. "That was the happiest moment of my summer," she says. Bradley took home Reserve Champion Kentucky Proud for his pig at last year's state fair. "I got second place," he says, "But there were only two pigs in the ring!" Katy laughs and reminds Bradley,



Bradley Trimble shows off his champion pig.

"Dad says, 'Never tell people how many pigs were in the ring, just the place you

Katy and Bradley both find raising show animals teaches them patience and perseverance, two qualities that will serve them well in the future. Katy dreams of being a veterinarian, while Bradley is interested in one day raising

Although the Trimble kids have been disappointed by the canceled competitions this season, they're hopeful some late-summer shows may go on. "I like that you get to be with animals," Bradley says. "I like the feeling that you can show off the animals and your hard work."

SUMMER 2020

GRACIE WARREN, 17

Clay City, IL

Gracie is in her ninth season showing pigs, and says, "It's taught me a lot of responsibility and increased my work ethic."

Gracie works hard all summer raising her show pigs. "You have to feed them two to three times a day, walk and wash them every day," she says. Gracie says the most difficult thing is the first time trying to break a pig to walk. "Some of them are just crazy," she laughs. "It's me and my 12-yearold sister and we have to wrestle them and manhandle them. It can get messy!" But Gracie gives her pigs lots of credit. "Pigs are a lot smarter than you would think," she says. "They catch on pretty quick. You get attached to them and they grow attached to you, too."

Gracie's hard work has paid off, particularly in the last few years. In 2017, she won Showmanship in her age division at the Illinois State Fair. "That was probably my favorite accomplishment," she remembers.

Gracie also finds livestock showing is a great way to network. "I've met a ton of new friends and good connections for my future." Gracie isn't quite sure what she wants to study after high school, but will most likely stay in the industry, with interests in agronomy and ag accounting.

Gracie encourages kids new to 4-H to try livestock showing. "It teaches you a lot of valuable skills and you have a lot of fun doing it, and it's really rewarding in the end," she says.



Gracie Warren demonstrates her award-winning showmanship.



Ryan Harryman and her lamb, Ada.

RYAN HARRYMAN, 9

Lacona, IA

Ryan, who shows ewes in 4-H, is the daughter of our NuTech DSM Zach Harryman. Ryan decided she'd like to show animals because her parents did, too, when they were kids. According to Ryan, the hardest part about showing is, "Setting [the ewe] up and making it stay there." The best part? Being with her friends at shows.

Raising ewes is a big responsibility. "We wash their legs every other day—it grows hair, so their hair can get bigger," Ryan says. "We feed them, wash them, trim them, walk with them and get them to follow instructions." Why show ewes? "They're cute, and you don't have to worry about getting kicked, like with a cow," Ryan explains.

Although only in her second year of showing, Ryan has already gotten a taste of success. Last year, she took second place at her first-ever jackpot show. "I was excited," she says. "We won a little prize money!" She also placed second in her class for her lamb and a feeder calf she showed at their 2019 county fair.

The Harryman family has big ambitions for this year, hoping for success even if shows have to be virtual. "We've got a couple of good ewes," Zach says. "We're aiming for Grand Champion at the county fair."

Ryan plans to continue showing sheep, but may expand into pigs in a few years. As for her future, she's looking to follow in her dad's footsteps, telling us confidently, "I want to sell NuTech seed!" We'll be keeping an eye out for her resume.



with his Reserve Champion heifer.

Kingdom City, MO

We were pleased to welcome the Benne family to the NuTech Lifestyle this year, as they transition their family farm from one of our long-time customers, Rick Lindemann, who is Kristin's uncle. The traditions of farm life are strong with the Benne family, and that includes being active in 4-H. Brad started with 4-H when he was eight, doing livestock showing but also woodworking and shooting, until he aged out and moved on to FFA. Brad's wife, Kristin, had done horticulture with 4-H. Their two kids found their own way to 4-H and developed a love for livestock showing at a very early age.

"The kids had bucket calves and they'd put them on the end of a halter and show them at the county fair," Brad recalls. "Reed was probably three when he did it, and that made them want to get into it."

Today, Brad's daughter, Morgan, shows a horse and also enters the quilt-

ing competition. His son Reed shows cattle and does some welding. Reed won Reserve Champion Heifer at the Missouri State Fair last year, adding to a prior Reserve Champion ribbon for an Anjou steer. Both kids are also involved in 4-H sport fishing.

Brad and Kristin are glad their kids discovered the joys of 4-H. "It teaches leadership skills and teaches them the value of life—how to take care of things," Brad says. "What you learn helps in a lot of real-life situations."

Brad and Kristin are also involved in 4-H at the organizational level for their local club, Hatton. Kristin helps families new to the organization, answering questions and offering guidance. Brad is on the fair board, helping to collect donations and handling other logistics for the event.

Brad's reason for staying involved in 4-H is simple. "I just like to give back to the kids since so many people stepped

up when I was growing up doing it," he says. "I can be there to show kids what to do, answer questions or help out."

Relationships are definitely at the core of the family's 4-H experience. Brad refers to their "barn family"—a group of families they often travel to fairs and jackpot shows with.

Brad knows the lessons learned in 4-H stay with everyone who participates for a lifetime. "Work ethic is the main thing kids learn," Brad says, "But also discipline and respect for other people." The lessons apply no matter if kids stay in ag or pursue another career. "It taught me how to work hard, don't give up, just keep going," Brad notes. "If things aren't done, you gotta keep going 'til it's done."

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MAKING A SHOW PIG CONNECTION

Two farm families bond over a shared interest

"You never know who you're going to meet on one of these trips and how you can connect with people from different states," says Brian Pittman, explaining how he got to know the Luellen family through a NuTech getaway a couple of vears ago.

Brian is in sales at Seed Life, a NuTech dealer in Illinois, but he and his wife, Jamie, also sell show pigs—a business they picked up from Jamie's family. On the plane ride to a NuTech getaway, the Pittmans met NuTech customer Clint Luellen. Clint connected the Pittmans with his brother, Ty, an Iowa farmer looking to get his son into showing pigs.

The Pittmans have now supplied the Luellens with show pigs for two years, striking up a friendship in the process. "We've definitely learned a lot from the Pittmans," says Ty, "They've given us a lot of insight."

Last year, Ty's son, Tucker, was just old enough to start showing animals through 4-H. This year, both Luellen boys (Tucker, now 10, and McCoy, 9) are old enough to participate, and they are enjoying it. "It's lots of responsibility and lots of work," Ty explains, "But the kids do it all on their own." The Luellens also show heifers and goats.

Brian agrees that showing animals is a great experience for kids. "It's very family-oriented—you meet people, your kids meet people," he says. "And it's not just fun, it's about where it can take your kids into the future." The Pittmans' oldest son, Braxton, now 14, has worked his way up to judging animal shows. With opportunities for scholarships and networking, Brian sees showing livestock as a way to open doors for the industry's next generation.

The Luellen kids are just getting started with showing animals, so they're still focused on the basics. Ty says, "A big part of it is just learning how to get the animal to do what you want it to do, when you want to do it."

With guidance from friends like the Pittmans, the boys are sure to continue growing in their expertise. "We don't just sell pigs and walk away," says Brian. "We give our customers tips, answer questions—we'll help them every day if they need it."

Like so many events this year, many livestock shows have been delayed or cancelled, but Brian is hopeful some shows may still go on in July or August. The Pittmans are participating in some virtual shows. "They're not as much fun because you don't get the social aspect," says Brian, but hopefully it's a temporary solution. In the meantime, the Luellens are continuing to raise and prepare their animals like any other show season. Whether or not the show goes on, they're continuing to learn through their experience and friendship with the Pittmans.



Have you seen the CCRRS of today

Some call it the middle of nowhere.

We call it the center of our world.

You might think it's a great lake As the wind sweeps across But for the color Waves of green, not blue. Now the stalks stretch taller Than the men who walk the rows.

From the anchor of sturdy roots Abundance unfurls. We wait patiently Always one eye agaze For grain to fill For bushels to count

For the days until harvest.

Anonymous, Aspiring poet/lifestyle enthusiast



It's a question we ask each other every day at NuTech Seed. We believe it's our privilege to wake up every morning and see the corn—and soybeans and more—and the people who grow them.

Watch for more "Have you seen the corn today?" stories in The Life magazine and on our social media all year long as we share our appreciation for the farms and farmers we serve.



Enjoy a sunny summer picnic

Summer means the time is right for a picnic! These recipes capture the colors and flavors of the season.



CHEF NOTES Total time doe

Total time does not include 1 day marinating time.

Combine first 7 ingredients in a small bowl; reserve half of spice mixture. Cut chicken into 1-inch pieces. Place chicken in a medium bowl. Toss with remaining spice mixture until coated. Stir in buttermilk. Cover and chill 24 hours. If your

family likes a little less spice, you can skip marinating the chicken overnight.

Tear bread into pieces and place in a food processor with reserved spice mixture. Process until mixture resembles cornmeal.

Stir in flour. Remove chicken pieces from buttermilk, discarding buttermilk. Dredge chicken in breadcrumb mixture.

Pour 2 inches of oil into a Dutch oven; heat to 350°. Fry chicken in batches, 6-7 minutes on each side or until golden brown and done. Drain on a wire rack over paper towels. Sprinkle with salt to taste. Serve warm or cold with barbecue sauce, ranch or your favorite dipping sauce.

HOMEMADE CHICKEN NUGGETS

Kids love chicken nuggets. Spear several on a skewer for picnic portability.

- 1-1½ teaspoons ground red pepper
- 1½ teaspoons ground chipotle chili pepper
- 1½ teaspoons garlic powder
- 1½ teaspoons dried crushed red pepper
- 1½ teaspoons ground black pepper
- ¾ teaspoon salt

- ½ teaspoon paprika
- 2 pounds skinned and boned chicken breasts
- 2 cups buttermilk
- 3 bread slices, toasted
- 1 cup all-purpose flour Peanut oil

RED SKIN POTATO SALAD

Submitted by Stefanie Ray, NuTech DSM

A creamy and decadent crowd-pleaser.

- 5 pounds red potatoes
- 12-18 eggs, hard boiled and peeled
 - 1 tablespoon seasoned salt
 - 2 cups Miracle Whip
 - ¼ cup sugar
 - 2 tablespoons sweet pickle relish
 - 1 pound bacon, cooked crisp

Boil potatoes with skins on.

Cool potatoes. (You can peel them after cooking, or just leave skins on.)

Cut potatoes and eggs into chunks and combine in a bowl.

Sprinkle with seasoned salt.

In separate bowl, combine Miracle Whip, sugar and relish.

Pour dressing over eggs and potatoes and stir to coat.

Crumble bacon and sprinkle on top, stirring to combine.



COLD 'N CRUNCHY

Submitted by Deanne Remmert

A refreshing dessert for a hot summer day.

- 1 stick butter or margarine
- 2 ½ cups crispy rice cereal
- 1 ⅓ cups flake coconut
- 1 cup chopped nuts
- 3/4 cup brown sugar
- ½ gallon vanilla ice cream

Melt butter or margarine and pour into a 9×13 inch pan.

Stir in cereal, coconut and nuts.

Bake at 300° for 30 minutes, stirring occasionally.

Once out of oven, stir in brown sugar.

Remove half of cereal mixture, and pat the remaining mixture on bottom of pan.

Slice frozen ice cream into 1" slices and place on top of the cereal mixture.

Top dish with remaining cereal mixture.

Re-freeze and cut into squares for serving when firm.

LIME FIZZ

Mix up the perfect picnic cool-down.

Crushed ice

- 34 1 cup lime simple syrup
- ½ cup fresh lime juice
- 3 ½ cups chilled club soda

To make lime simple syrup:

Using a vegetable peeler, remove the peel from 1 lime in long strips. Remove any bitter white pith from peels.
Combine lime peel strips, 1 cup sugar and 1 cup water in a small saucepan.
Bring to a boil over medium-high heat, stirring constantly until sugar dissolves.
Remove from heat and cool to room temperature, about 30 minutes. Pour through a fine wire-mesh strainer; discard solids.

For the Lime Fizz:

Fill a large pitcher with crushed ice. Pour lime simple syrup and lime juice over ice. Add club soda and stir gently to combine. Serve immediately.

For an adults-only version, stir in \(^3\) cup vodka along with the simple syrup.



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Farm dogs

NUTECH ASKS: WHO'S A GOOD BOY? (OR GIRL!)

In our humble opinion, there's no better companion on the farm than a loyal pooch. Here are a few photos of those adorable pups that are always glad to see us at the end of a hard day in the field. Keep the pictures coming! Send your favorite farm dog photos to info@nutechseed.com and your four-legged friend may be featured in a future issue.



Bella watches over ECI Farms in Holland, IA.







SUMMER 2020

Nala takes a break to get some love from

her owner, Ella, in Mt Sterling, IL.



Sammie watching his owner, Ethan, fix the combine in Sims, IL.



NuTech

Damery in Central IL.



hope your season is going well and fields are coming along nicely! While nature does its job ripening our corn and soybeans, we still want to be vigilant to some threats across the Corn Belt. Agronomic concerns are always very specific to geography, but there are a few trends across the NuTech growing area we're keeping an eye on. If you have questions or concerns about these issues in your fields, please don't hesitate to reach out to your NuTech representative or our agronomy team.

WEED WATCH

Our weed "blacklist" still contains some of your most well-known offenders. Marestail, ragweed and kochia continue to plague farmers across the Corn Belt, and, mid-season, waterhemp can cause a lot of headaches. Just a reminder: The best way to avoid in-season weed pressure is to start clean. Last year, this was a real challenge with the weather causing late and hurried planting. We did see some escapes after burndown last year, but those were mostly controlled by a second pass. With more typical planting conditions this year, this has been far less of an issue.

In soybean fields experiencing waterhemp pressure, Enlist E3® soybeans and the Enlist™ weed control system continue to be our best tools. NuTech's Enlist E3 lineup is growing, so if you're getting glyphosate-resistant weed pressure, I recommend looking into our Enlist E3 soybean options in our 2021 seed guide and talking to your representative about the advantages.

If you do see weed escapes midseason, that can have a couple of causes. It could be weather related,

> Waterhemp continues to plague many fields in the Corn Belt. Enlist E3® soybeans are a good option in areas with high waterhemp pressure.



but it could also be a sign of a herbicide resistance issue in the field. Possible resistance issue is certainly something to monitor over time and another reminder of the importance of using a program approach across your season so you're getting different chemistries and modes of action on those weeds.

DISEASE WATCH: TAR SPOT

We've got a couple of new issues in corn that we're watching carefully here at NuTech. Tar spot has been a concern in northern Illinois, but it's also pushing into lowa. I used to only see tar spot north of Waterloo, IA, and now I'm seeing it down to Iowa City. My agronomy colleague Ryan Booton isn't seeing much tar spot yet in central and southern Illinois, but we think it's only a matter of time before it does cause issues there.

Tar spot—like the name implies—causes raised black pustules on the corn leaf surface. If you run your hand across the leaves, you can feel it. It shows up later in the season, in the middle to latter part of July. Tar spot kills the leaf tissue and restricts photosynthesis in the plant, leading to premature death.

Once you see tar spot in the field, it will continue to progress—unfortunately there's nothing you can do to mitigate it once it gets going. So, for now, prevention is the best medicine. If you're seeing tar spot this year, you'll want to use fungicide early in the season next year. That's the strategy we followed for growers who had tar spot in 2019, and so far, that strategy seems to be keeping the worst of it at bay in 2020.

This is a fairly new disease in our industry, so we are in data-gathering mode on this one. We're working to figure out which hybrids may display some resistance to tar spot so we can bring forward products for those areas that see more tar spot pressure.

Physoderma stalk rot appearing late season can be mistaken for greensnap.

DISEASE WATCH: PHYSODERMA

Physoderma is showing up as both corn stalk rot and leaf blight, particularly in central and north central lowa. We're seeing it mostly on highly productive corn-on-corn acres and it may be related to residue, although I think the jury is still out on that one.

Physoderma leaf blight is easily confused with other diseases, including gray leaf spot and rust. You can identify physoderma leaf blight by its lateral striations across the leaves. Like other leaf blights, physoderma causes leaf necrosis and interferes with photosynthesis.

Last year was the first time I really noticed physoderma stalk rot causing significant damage. It appeared late season in the first nodes at the soil line. When we first spotted it last year, we thought we were dealing with greensnap because the node just above the soil line was brown, rotten and snapped easily. But if you cut the bottom of the root open, the root and crown are healthy, telling us we had physoderma.

Unfortunately, there isn't anything growers can do right now to combat physoderma. We are working on better understanding this disease to see what germplasm lines might be more tolerant to it, and whether management practices can have a mitigating effect. This season, we're on a learning curve with physoderma, but we are investigating it carefully.

DISEASE WATCH: SUDDEN DEATH SYNDROME (SDS)

In soybeans, SDS continues to be the biggest area of concern. Keep in mind that soybean cyst nematode pressure makes plants more susceptible to SDS, so the two go hand-in-hand. You can choose from varieties that show tolerance to both, but know that SDS ratings can be misleading. Unlike other diseases where we study tolerance by inoculating plants in a greenhouse environment and studying their response, the only way to evaluate SDS tolerance is in the field during a season when the disease happens to run through. At NuTech, we use our extensive local testing plots to watch for SDS and create the most accurate ratings possible from those realworld observations.



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PEST WATCH

We are definitely seeing more corn earworm feeding, and there are, of course, several trait technology options to address that. Make sure you are scouting for earworm from mid-August on, when it's a big threat to kernel development.

We've also been seeing more Japanese beetle populations over the last few seasons, although thankfully, these have not been causing much economic damage. In NuTech country, we've seen Japanese beetles come on later in the season when pollination is complete—at this stage, they can't damage the corn. We are watchful, however, to see if they begin to appear earlier. When they can chew on the silks, they can really impact your profitability, and these pests are particularly tough to kill. Between their late-season appearance, when canopies are full, and their hard shells, Japanese beetles make for formidable opponents.

In soybeans, aphids are still our number one pest to watch, but I'm glad to report they've been virtually non-existent in NuTech territories over the past few seasons. Soybean aphids prefer hot, dry conditions, and while we were all pretty sick of the rain last year, the moisture did keep them down. With populations variable from year to year depending on conditions, however, we continue to keep a close eye on aphid pressure.



IT'S NOT TOO EARLY TO THINK ABOUT **HARVEST**

Late summer is also the right time to begin setting your corn harvest strategy. You'll want to use a combination of factors in your evaluation. Remember, it's not all about relative maturity. Be sure to also look at ratings for stalk quality, late-season intactness and staygreen. Always balance those ratings with your own observations as well. In mid- to late-September, when plants

begin shutting down, go out in the field and do pinch tests and push tests. Look at ear retention. Start figuring out your harvest schedule and prioritize fields to make harvest less hectic.

You can find more information on pests, diseases and weeds in the Agronomy Library on the NuTech website, including tips for scouting and determining economic thresholds for treatments.



Summer Corn Belt Watchlist



DISEASES

Corn

- Tar spot
- Physoderma leaf blight
- Physoderma stalk rot

Soybeans

 Sudden Death Syndrome

PESTS

Corn

Earworm

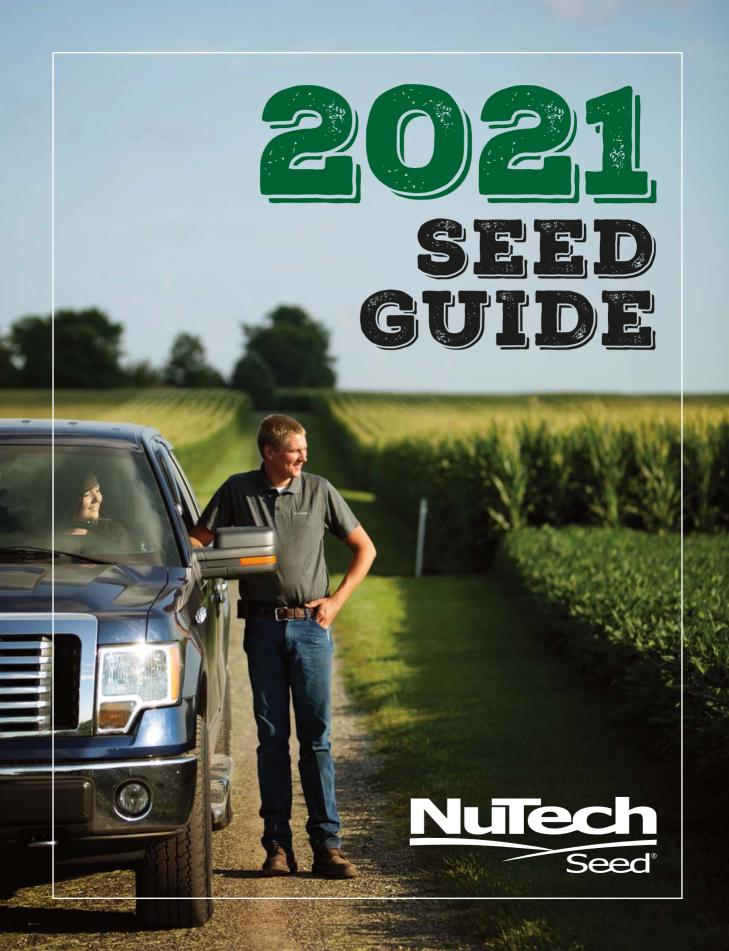
Soybeans

Aphids

 Japanese beetles

WEEDS

Resistant waterhemp, kochia, marestail, ragweed









Clean soybean fields just got a whole lot simpler

Discover how easy it can be to control tough, yield-robbing weeds.

Control weeds-vour way

1 Choose an Enlist® herbicide

Two options to fit the way you farm:

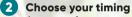


COLEX.D technology

Convenient blend of 2,4-D choline and alyphosate

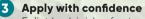


Straight-goods 2,4-D choline for tank-mix flexibility. Now a preferred partner with Liberty® herbicide to control resistant waterhemp and Palmer amaranth.



As part of a program approach, spray Enlist herbicides

- · Burndown-no plant-back restriction after using Enlist herbicides
- · Preemergence OR
- Postemergence



Enlist herbicides feature 2,4-D choline with Colex-D® technology for:

- Near-zero volatility*
- · Reduced physical drift potential*
- · Better handling characteristics*

*Compared to 2,4-D ester, amine and other traditional formulations

Enlist Ahead

MANAGEMENT RESOURCE

Get more from the Enlist™ weed control system

Learn more about weed control convenience that unleashes yield potential at Enlist.com



™® Trademarks of Dow AaroSciences, DuPont or Pioneer, and their affiliated companies or their respective owners, The transgenic soybean event in Enlist E3® soybeans is jointly developed and owned by Dow AgroSciences LLC and M.S. Technologies, L.L.C. Enlist Duo® and Enlist One® herbicides are not 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 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. Liberty® is a registered trademark of BASF, © 2020 Corteva.



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, 58B1, 601, 62A8, 63C4, 64D1, 65H2, 308, 8808, 68A7, 68B3, 9909, 69A6, 70A8, 70F2, 71C1, 71F5, 72B7, 2213, 6313, 74B6, 74D3, 75G1, 78A1



Corn-on-corn fields

Continuous corn environments

Field focus: Emphasis on stalk and root strength

Primary strength seed brands:

196, 56A7, 58B1, 601, 62A8, 63C4, 504, 64D1, 65H2, 1606, 66B6, 308, 68B3, 69A6, 70B2, 70F2, 71F5, 72B7, 2213, 6313. 2770, 75D2, 75G1, 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, 56A7, 58B1, 601, 63C4, 504, 64D1, 1606, 66B6, 308, 8808 68B3, 9909, 70A8, 70B2, 1111, 71C1, 72B7, 2213, 6313, 2770, 74D3, 75D2, 75G1



Poorly drained fields

Fields with wet feet problems

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

Primary strength seed brands:

196, 601, 62A8, 63C4, 504, 64D1, 65H2, 66B6, 1606, 308, 8808, 68A7, 68B3, 9909, 69A6, 70A8, 70F2, 1111, 71F5, 2213, 6313, 2770, 74B6, 74D3, 78A1



PRODUCT IDENTIFICATION





Q: Available through the G2® Genetics brand, Qrome® products feature dual modes of action to defend against above- and below-ground 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**: Available through the G2® Genetics brand, with proven above- and belowground insect control that 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**: Available through the G2® Genetics brand, 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.



<u>AML**</u>: Available through the G2® Genetics brand, 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**: Available through the G2® Genetics brand, 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.

2021 SEED GUIDE

^{**} In EPA-designated cotton counties, 20% separate corn borer refuge is required



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)

Brand

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., 2213™*). Hybrid family or series may be available in several different technology versions.

Last Two Characters:

Denotes relative maturity. "10" indicates a relative maturity of 110 days, while a "97" would indicate 97 days.

Suffix:

The suffix behind the hybrid name may be required by some technology providers and summarizes the information described by the first 2 characters of the product name.

\mathbf{G}^{2}

*G2® brand seed is distributed by NuTech Seed®, LLC. ®G2 is a registered trademark of Pioneer.

Base Variety Trait Suffix 69A6Q **Trait Code: Random Code:**

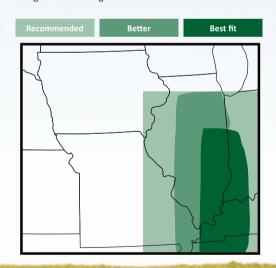
Relative Maturity:

Add 40 to this number to aet RM davs. Ex: 73 = 113 RM

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.



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

Optimum® Intrasect® Xtreme

Optimum® Intrasect®

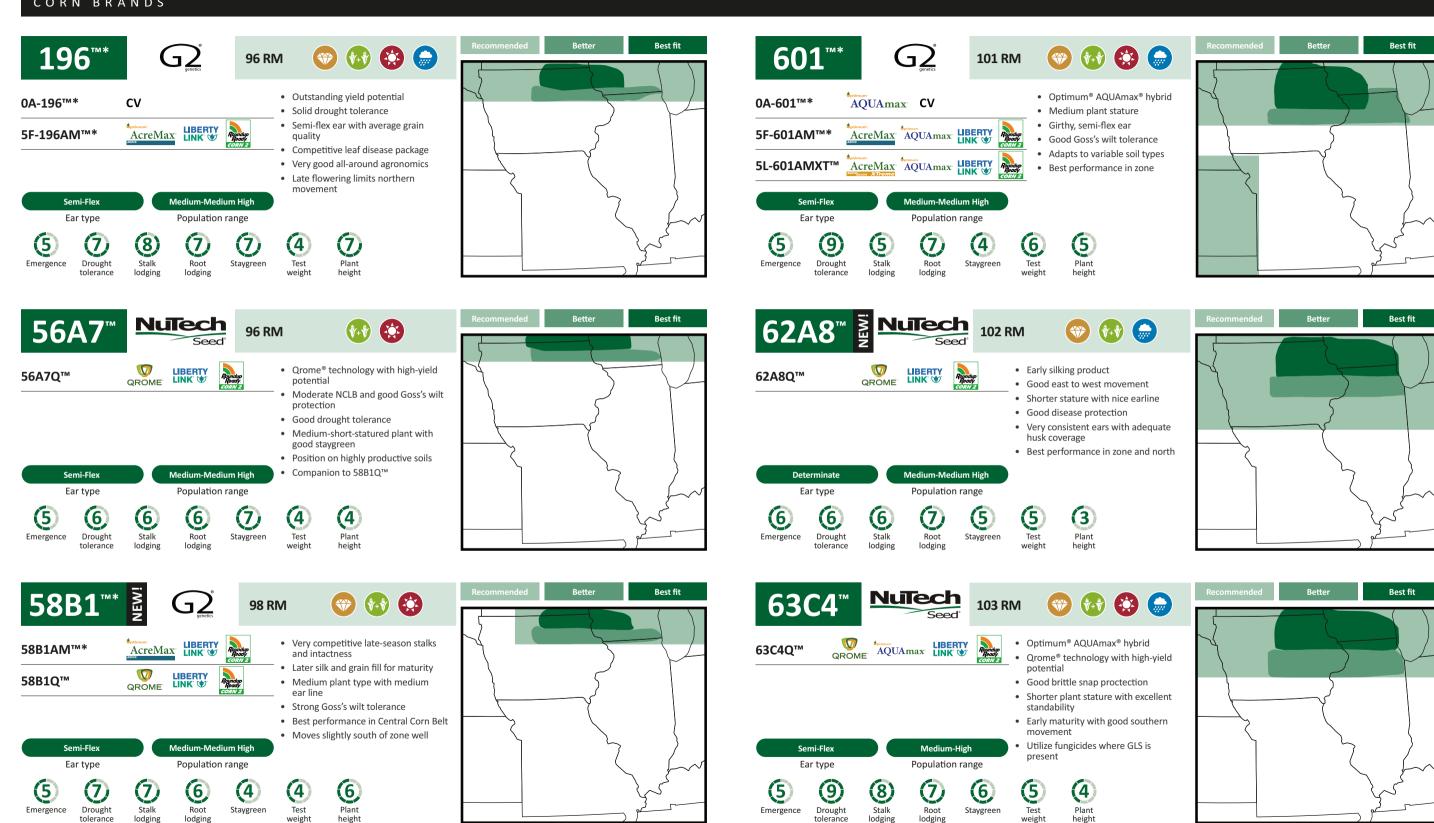
VYHR Optimum® Leptra®

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





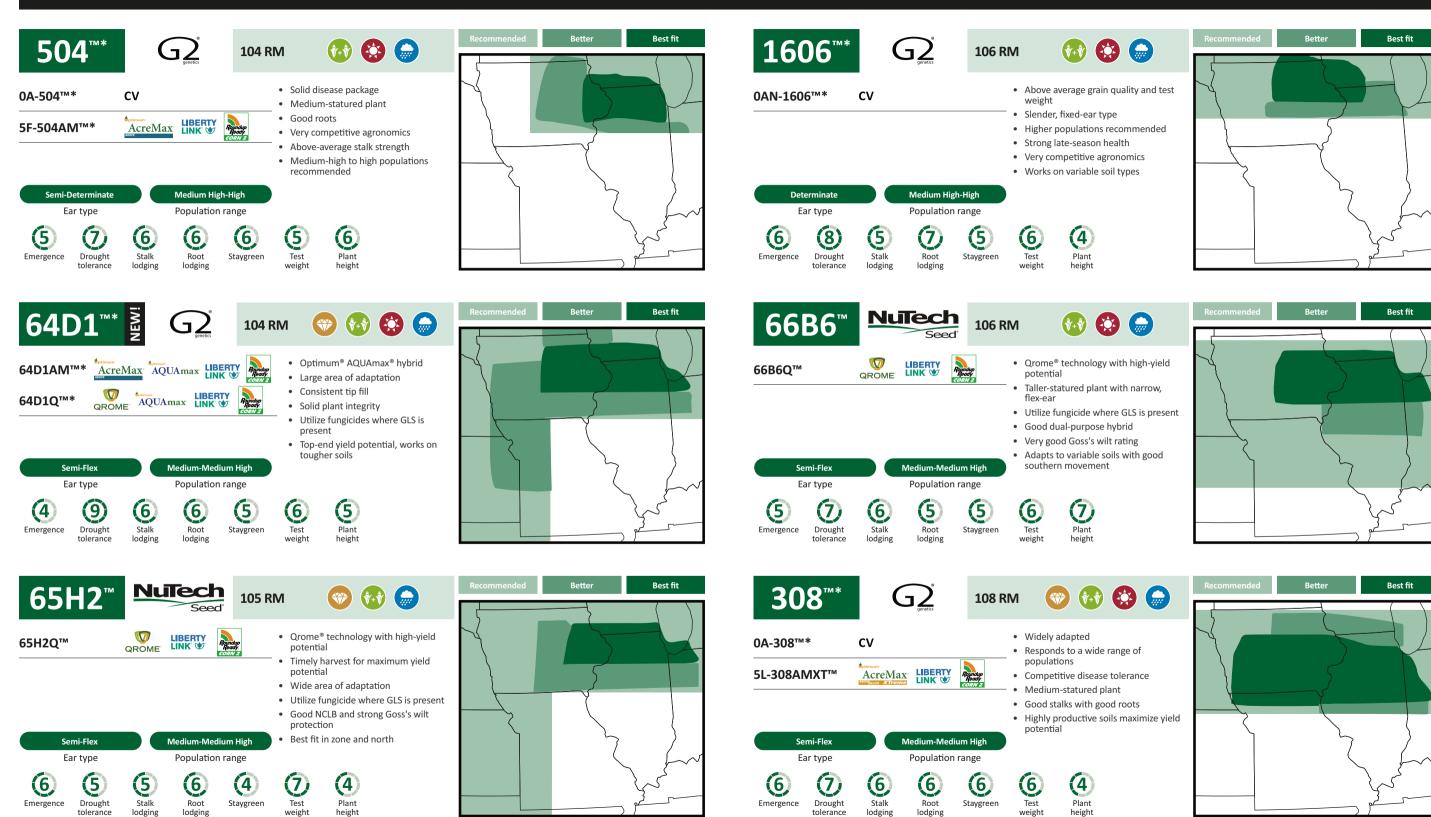




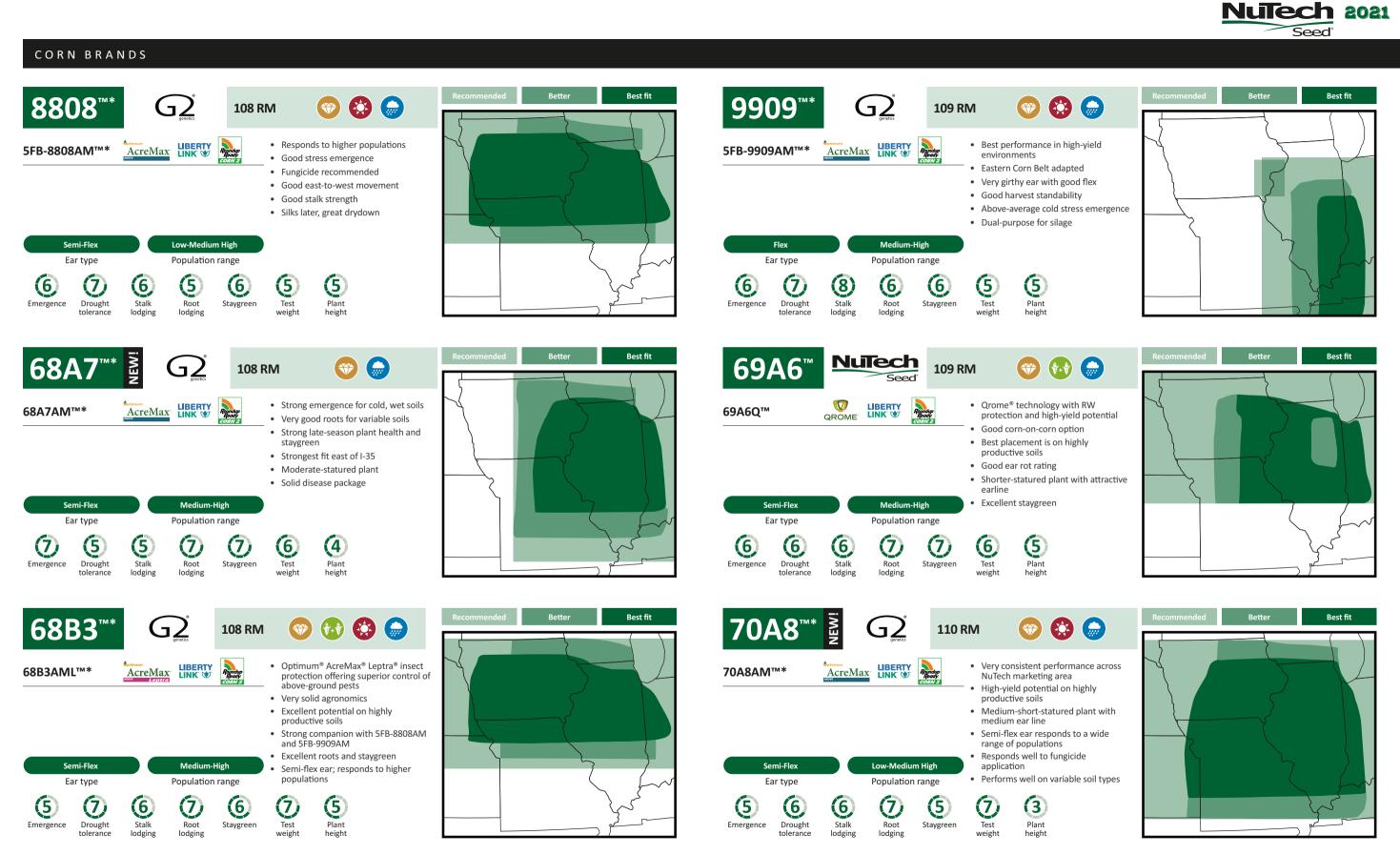
lodging

2021 SEED GUIDE

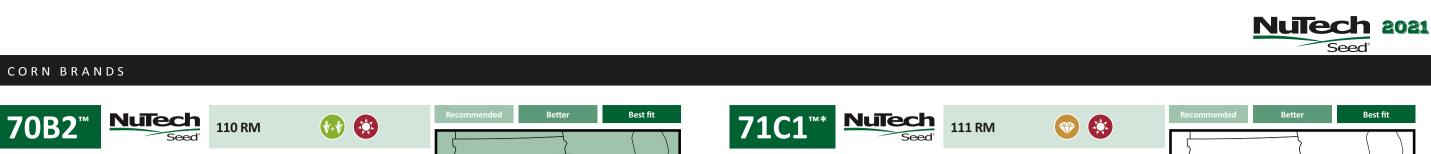
CORN BRANDS



NuTech 2021



 $\underline{f 2}$ 2021 SEED GUIDE







- Long grain fill period • Utilize fungicide in disease-prone
- Adapts to variable soil types
- High test weight
- Timely harvest recommended

Medium-Medium High

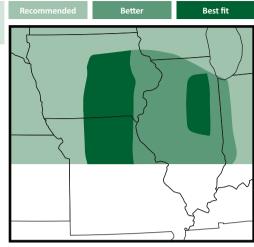


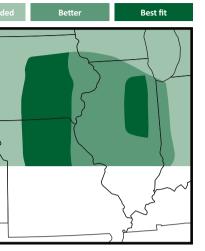




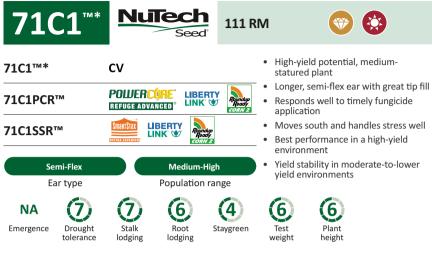


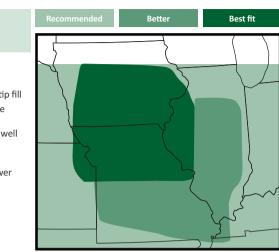






Best fit







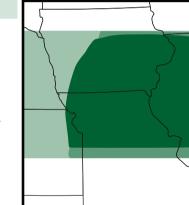








- Dual-purpose plant type
- Strong stalks and staygreen
- Very good test weight
- Wide AOA with strong brittle snap, Goss's wilt and drought tolerance
- Companion with 69A6Q and 72B7Q



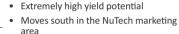


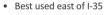
71F5Q™

71F5™*









- Highly productive soils maximize yield
- Strong roots and above average stalks
- Respectable GLS and NCLB ratings

6

(5)

Plant

height

Test

weight

Semi-Flex Ear type

(6)

Emergence













Medium-High

Population range

















Emergence



(9)

Drought

tolerance

Stalk

lodging







Medium-Medium High

Population range

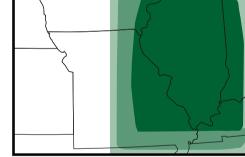


(6)

Staygreen

111 RM





Best fit



5FB-1111AM™*



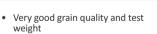
AcreMax LIBERTY Roundup











- · Long ear type
- Central and western fit
- Good Goss's wilt tolerance
- Good agronomic package
- Fungicide recommended



Ear type

(5) Emergence















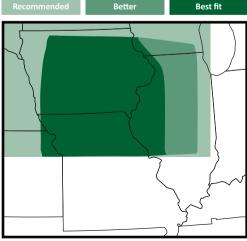
Low-Medium High

Population range









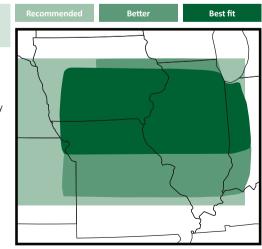




Root

lodging





2021 SEED GUIDE

CORN BRANDS

Drought

tolerance

Emergence

Stalk

lodging

Root

lodging

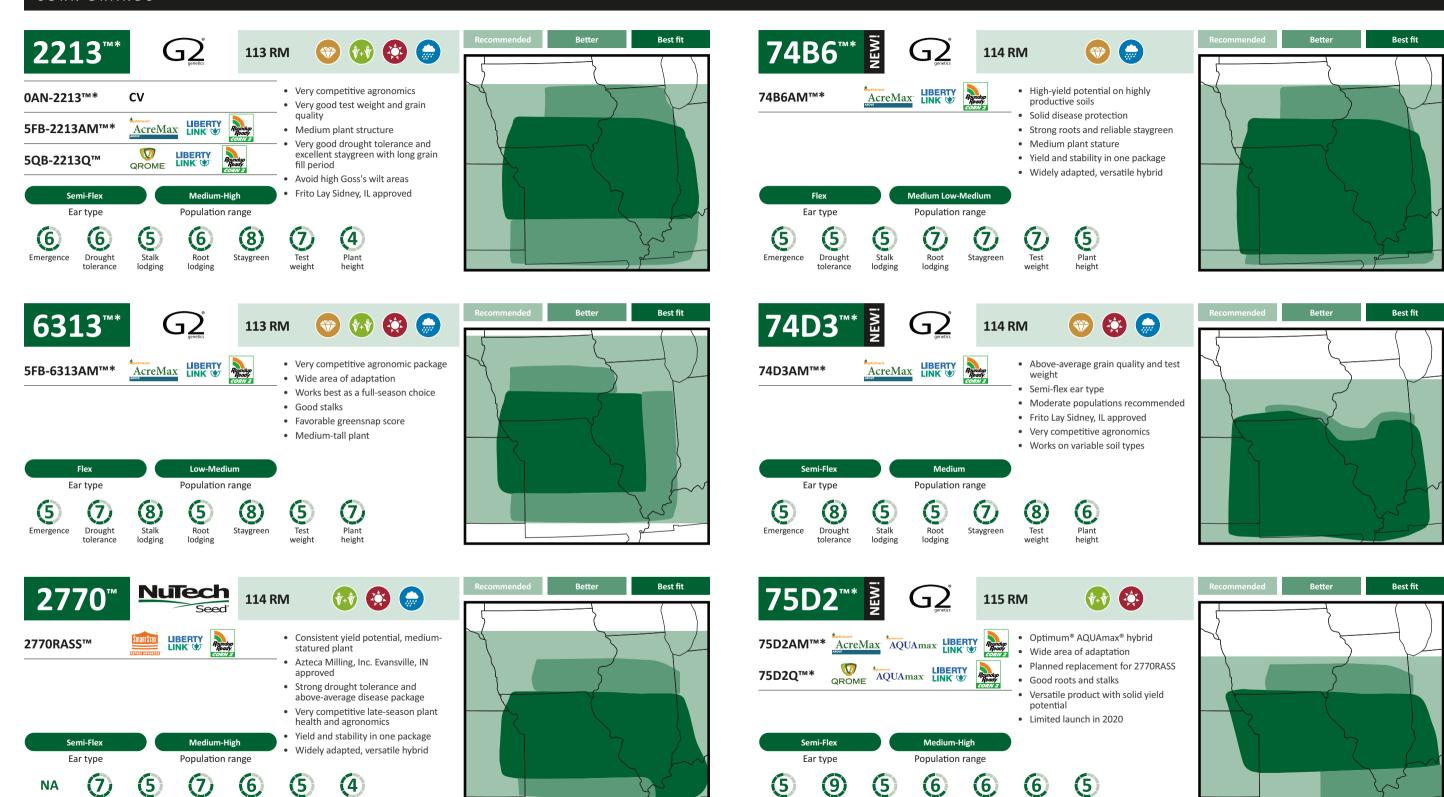
Test

weight

Plant

height

Staygreen



NuTech 2021

Emergence

Drought

tolerance

Stalk

lodging

Staygreen

Root

lodging

Test

weight

Plant

height

CORN BRANDS





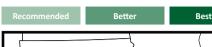
115 RM











75G1CV™* CV 75G1AM™* AcreMax





- Top-end yield potential, especially on highly productive soils Good grain quality and test weight
- · Good northern movement Lead product for southern NuTech
- · Big flex ear with good stalk strength
- Taller plant type

marketing area





Semi-Flex

Ear type



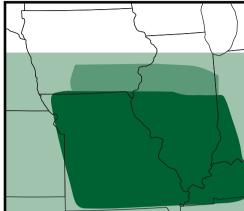












78A1AM™*



AcreMax LIBERTY

















- · Good overall plant health
- Semi-flex ear type with good girth
- High-yield potential
- · Good stalks and roots
- · Taller-statured plant

Semi-Flex

(5)

Emergence

Ear type





















Low-Medium

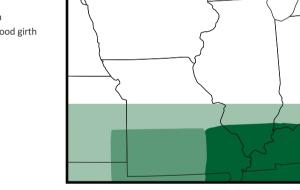
Population range











Notes:

Lumigen

BEST-IN-CLASS SEED APPLIED **TECHNOLOGIES FOR CORN**

LumiGEN™ seed treatments is an industry-leading seed applied technology portfolio built to help farmers establish healthy, uniform crops and maximize productivity with Corteva Agriscience genetics.

FUNGICIDE SEED TREATMENT

Ingredients

Maxim® Quattro

Ethaboxam

Ipconazole

L-2012 R biofungicide

Differential yield advantages

Ipconazole +3.0 bu/a

Data is based on replicated strip and IMPACT™ plot trials comparing Lumiflex-based recipe to the 2018 seed treatment recipe without Lumiflex.
This 2018 data included 212 location
mparisons in the overall and 93 locations
which were under early season stress.

> Ethaboxam +2.9 bu/a

Data is based on replicated research trials from 2013-2015 at 50 locations comparing standard IST/FST seed treatment recipe

L-2012 R biofungicide +1.9 bu/a

trials in 2017 at 29 locations comparing the standard IST/FST seed treatment ecipe with L-2012R to recipe with

INSECTICIDE

Ingredients

Lumivia 250 insecticide seed treatment

Clothianidin 250

OR

Poncho® 1250 + VOTiVO® insecticide

NEMATICIDE SEED TREATMENT

Ingredients

Lumialza®

nematicide seed treatment

Differential yield advantages

Lumialza +3.7 bu/a

under low nematode pressure

up to 9 bu/a under heavier pressure

Data is based on 10-state broad-acre Data is based on 10-state broad-acre head-to-head strip frial comparing Lumialza" nematicide seed treatment vs. non-nematicide seed treatment utilizing the same insecticide and fungicide recipe in seed applied technology replicated and strip trial data. Yields ranged from 3 to 9 bu/a depending on nematode species and population, in 184 low stress and 54 moderate to high stress locations.

2021 SEED GUIDE



CORN CHARACTERISTICS

	Family	Product Version	Maturity Central Corn Belt (RM)	Category	Population Range	Response to Fungicide	Stalk Lodging	Root Lodging	Emergence	Drought Tolerance	Greensnap	Staygreen	Test Weight	Plant Height	Ear Height	Ear Type	Kernel Rows	Cob Color	Gray Leaf Spot	Northern Corn Leaf Blight	Southern Corn Leaf Blight	Goss's Wilt	Diplodia Ear Rot	Southern Rust	GDUs to Silk	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
	196	CV/AM	96	◎ ◎ ◎	М-МН	R	8	7	5	7	5	7	4	7	7	SF	16-18	R	5	5	NA	6	NA	NA	1220	2350	8	6	7	6	R	R	R	R	R	R	HR	R	196
	56A7	Q	96		М-МН	R	6	6	5	6	5	7	4	4	4	SF	14-16	R	5	5	NA	6	NA	NA	1190	2350	7	7	7	9	R	R	NR	R	NR	R	R	R	56A7
NEV	/ 58B1	AM/Q	98	⊕ 🚱 😵	М-МН	HR	7	6	5	7	6	4	4	6	4	SF	16-18	R	5	4	NA	7	NA	NA	1240	2420	8	8	7	7	HR	R	NR	R	R	R	HR	R	58B1
	601	CV/AM/AMXT	101		М-МН	R	5	7	5	9	5	4	6	5	5	SF	16-18	Р	4	5	NA	6	4	NA	1280	2470	9	6	7	8	R	R	HR	R	HR	R	R	NR	601
NEV	62A8	Q	102		М-МН	R	6	7	6	6	6	5	5	3	4	D	16-18	R	5	5	NA	5	4	NA	1220	2450	8	9	6	7	HR	HR	R	HR	R	HR	HR	R	62A8
	63C4	Q	103		М-Н	HR	8	7	5	9	6	6	5	4	4	SF	16-18	R	4	5	4	6	5	NA	1250	2550	7	8	8	9	HR	R	HR	R	HR	R	R	R	63C4
	504	CV/AM	104		МН-Н	NR	6	6	5	7	4	6	5	6	6	SD	16-18	R	5	5	2	6	6	4	1320	2500	6	8	7	7	R	R	R	R	R	R	HR	R	504
NEV	64D1	AM/Q	104		М-МН	R	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
	65H2	Q	105	₩	М-МН	HR	5	6	6	5	6	4	7	4	4	SF	18-20	R	4	6	NA	7	6	NA	1240	2450	8	9	7	6	R	HR	R	R	NR	R	R	NR	65H2
	1606	CV	106		МН-Н	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	R	HR	HR	R	R	R	1606
	66B6	Q	106	🚯 🚱 💮	М-МН	R	6	5	5	7	6	5	6	7	6	SF	14-16	Р	4	6	4	7	5	5	1370	2500	9	8	6	8	R	R	R	R	R	R	R	R	66B6
	308	CV/AMXT	108		М-МН	HR	6	6	6	7	7	6	6	4	5	SF	18-20	W	4	5	6	5	6	4	1340	2600	8	7	9	8	R	R	R	HR	NR	R	R	R	308
	8808	AM	108		L-MH	HR	6	5	6	7	5	6	5	5	7	SF	16-18	R	4	5	4	5	6	3	1420	2680	8	7	7	7	NR	HR	R	R	R	HR	R	R	8808
NEV	68A7	AM	108		М-Н	R	5	7	7	5	4	7	6	4	5	SF	14-16	R	5	5	5	6	6	4	1340	2600	7	8	8	9	R	HR	R	HR	NR	HR	R	R	68A7
	68B3	AML	108		M-H	R	6	7	5	7	7	6	7	5	5	SF	16-18	R	5	6	4	7	5	4	1360	2600	7	8	9	8	R	R	R	R	R	NR	R	R	68B3
	9909	AM	109		М-Н	R	8	6	6	7	3	6	5	5	6	F	18-20	R	5	5	6	5	6	4	1430	2700	8	6	8	8	R	HR	R	R	R	HR	R	R	9909
	69A6	Q	109		M-H	HR	6	7	6	6	6	7	6	5	5	SF	12-14	Р	5	4	4	4	6	5	1380	2700	8	7	7	8	R	HR	NR	HR	NR	R	R	HR	69A6
NEV	70A8	AM	110		L-MH	HR	6	7	5	6	6	5	7	3	5	SF	16-18	W	4	6	5	5	4	4	1310	2580	8	9	8	8	R	R	R	HR	R	HR	R	NR	70A8
	70B2	Q	110		М-МН	HR	4	6	5	7	5	5	8	6	6	SF	16-18	R	5	5	3	6	5	5	1340	2550	8	8	9	7	R	R	R	R	R	R	R	NR	70B2
NEV	/ 70F2	Q	110	₩ 🕝	М-Н	R	7	5	6	6	6	7	7	7	7	SF	14-16	Р	5	5	5	7	5	5	1390	2700	8	8	8	9	HR	HR	R	HR	R	HR	R	HR	70F2
	1111	AM	111		L-MH	HR	6	6	5	7	6	5	7	5	4	SF	14-16	Р	4	5	3	6	5	3	1420	2700	8	8	8	9	NR	R	R	R	R	R	HR	R	1111
	71C1	CV/PCR/SSR	111	₩	М-Н	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	HR	R	R	R	HR	R	R	71C1
NEV	/ 71F5	AM/Q	111	☞ 🐼 💮	М-МН	R	6	7	5	5	4	6	6	6	6	SF	16-18	Р	5	5	5	6	5	4	1380	2650	8	9	7	8	HR	HR	R	HR	NR	HR	R	HR	71F5
NEV	/ 72B7	Q	112	₩	М-Н	HR	7	7	5	9	7	6	7	5	6	SF	16-18	Р	4	5	3	6	4	4	1340	2630	8	NA	NA	NA	HR	R	HR	HR	R	R	R	HR	72B7
	2213	CV/AM/Q	113		M-H	R	5	6	6	6	6	8	7	4	5	SF	16-18	R	5	5	4	4	6	4	1360	2810	8	8	9	8	R	R	R	R	R	R	R	R	2213
	6313	AM	113		L-M	R	8	5	5	7	6	8	5	7	5	F	18-20	Р	5	6	5	7	6	2	1430	2730	7	8	8	8	HR	R	R	R	NR	R	R	HR	6313
	2770	RASS	114	(₁) ♠	M-H	R	5	7	NA	7	3	6	5	4	6	SF	16-18	Р	7	6	6	3	NA	6	1420	2730	NA	NA	NA	NA	HR	HR	HR	HR	HR	HR	R	HR	2770
NEV	74B6	AM	114	(7)	ML-M	R	5	7	5	5	5	7	7	5	6	F	16-18	R	5	6	6	5	5	5	1400	2600	8	8	7	8	R	R	R	HR	NR	R	R	NR	74B6
NEV	/ 74D3	AM	114		М	R	5	5	5	8	7	7	8	6	7	SF	14-16	R	6	5	5	7	5	4	1400	2650	8	8	7	8	R	R	HR	HR	NR	R	R	NR	74D3
NEV	/ 75D2	AM/Q	115	⋘	М-Н	HR	5	6	5	9	7	6	6	5	6	SF	16-18	R	5	4	4	7	4	4	1370	2600	7	8	6	9	R	R	HR	R	HR	R	R	R	75D2
NEV	/ 75G1	CV/AM/Q	115	₩ 🚱	М-Н	R	6	5	5	6	5	6	7	7	6	SF	16-18	R	5	4	5	4	5	5	1370	2680	9	8	9	7	R	R	R	NR	R	R	NR	R	75G1
	78A1	AM	118	₩ 🚱	L-M	NR	6	6	5	6	6	6	8	6	6	SF	16-18	R	6	3	5	7	5	4	1420	2680	9	8	8	7	R	R	NR	R	NR	HR	NR	R	78A1

Product Versions

AM = Optimum® AcreMax® AML = Optimum® AcreMax® Leptra® AMXT = Optimum® AcreMax® XTreme **CV** = Conventional

PCR/PWRA = Powercore® Refuge Advanced® Q = Qrome®

RASS/SSR = SmartStax® Refuge Advanced®

Plant and Ear Height

9 = Very tall plant type

1 = Very short plant type 9 = Very high ear placement Ear Type F = Flex SF = Semi-Flex

SD = Semi-Determinate **D** = Determinate

1 = Very low ear placement

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 2019 harvest and were the latest available at time of printing. Some scores may change after 2020 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.

Cob Color

 $\mathbf{R} = \text{Red} \quad \mathbf{P} = \text{Pink} \quad \mathbf{W} = \text{White}$

Ratings

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

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30N03E™

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: 38 = 3.8 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	Sovbean Cyst Nematode	SDS	Sudden Death Syndrome		





SOYBEAN BRANDS

16N03E[™]



Medium

Plant

height

Medium-Thin

Canopy

width

Pink

Flower

color

• Very good emergence

Very good harvest standability

• Medium plant height and medium-thin canopy

• Best performance when used with Corteva Agriscience Lumisena™ fungicide seed treatment

• Metribuzin tolerant

· Salflufenacil and Sulfentrazone tolerant



Tan Pod color Imp. Black Hilum color

color

Rps1k

PI88788

Emergence

Harvest Standability

Sudden Death Syndrome

Iron Deficiency Chlorosis

(5)

Brown Stem Rot

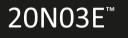
MT

White

(4)

Phytophthora Root Rot Resistance

Soybean Cyst Nematode Resistance



2.0 RM



Medium-Short

Medium-Full

Canopy

width

Brown

Flower

White

color

• Strong emergence and standability

• Good SDS and IDC tolerance, SCN resistance

· Rps1c and 3a genes for PRR

• Metribuzin tolerant

• Salflufenacil and Sulfentrazone tolerant

Medium-short, gray bean with medium-full canopy

Gray

height

Pubescence

color

Pod

Buff Hilum color

color

Emergence

Standability

Sudden Death

Syndrome

(6)

Iron Deficiency

Chlorosis

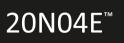
MS

Stem Rot

White

Rps1c,3a PI88788

Phytophthora Soybean Cyst Root Rot Nematode Resistance Resistance



2.0 RM



Medium Plant

Medium

Pink

height

Canopy width

Flower color

Gray Pubescence

color

color

Tan

Hilum color

Buff







MS

Rps1c,3a

PI88788

Emergence

Harvest Standability Sudden Death Syndrome

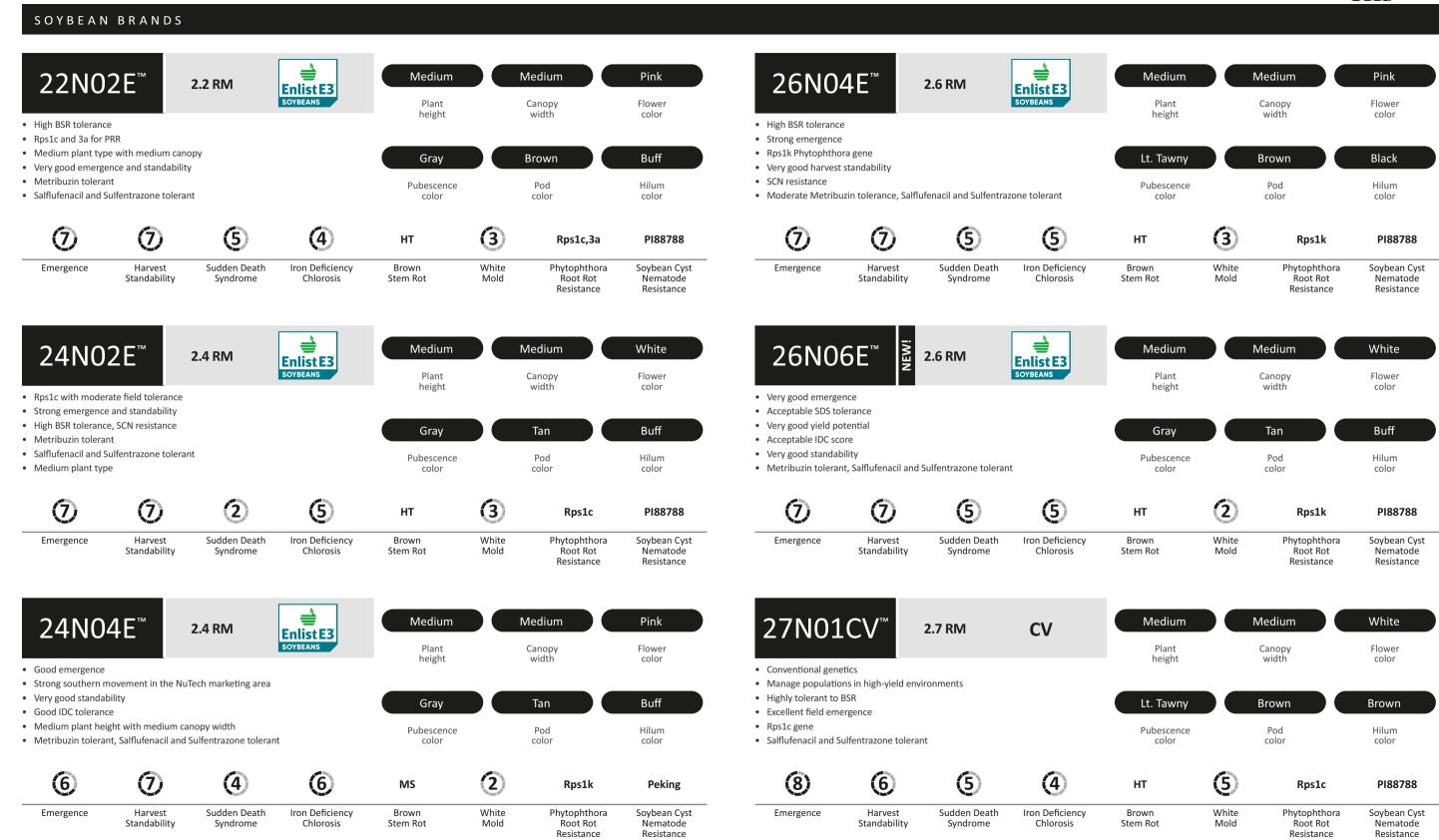
Iron Deficiency Chlorosis

Brown Stem Rot White Mold

Phytophthora Root Rot Resistance

Soybean Cyst Nematode Resistance





2021 SEED GUIDE



White

Flower

color

Black

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

White

Flower

color

Buff

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

width

Pod

color

width

Pod

color

Rps1k

Phytophthora

Root Rot

Resistance

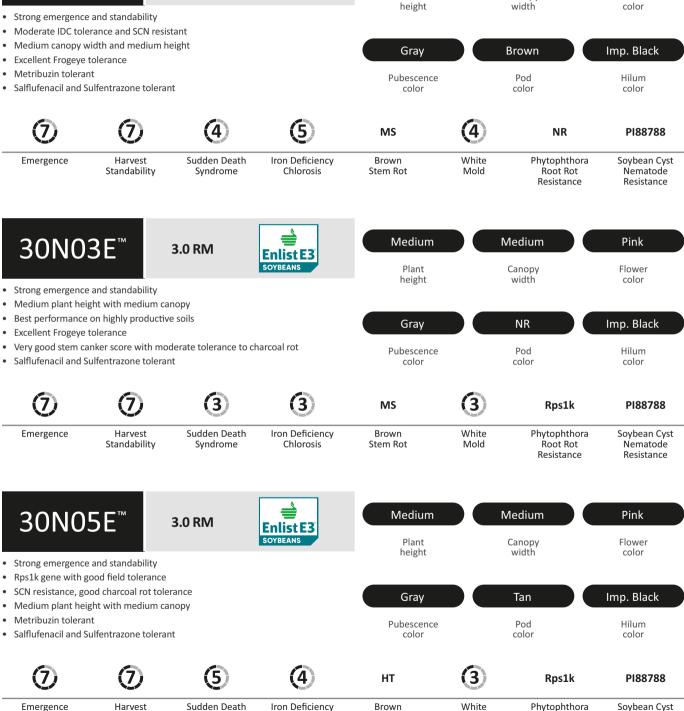
NR

Phytophthora

Root Rot

Resistance

SOYBEAN BRANDS 28N02E™ 2.8 RM Enlist E3 · Strong emergence and standability Moderate IDC tolerance and SCN resistant · Medium canopy width and medium height • Excellent Frogeye tolerance Metribuzin tolerant · Salflufenacil and Sulfentrazone tolerant (5) **(**4) Iron Deficiency Emergence Harvest Sudden Death Standability Syndrome Chlorosis 30N03E[™] 3.0 RM Enlist E3 • Strong emergence and standability Medium plant height with medium canopy · Best performance on highly productive soils • Excellent Frogeye tolerance • Very good stem canker score with moderate tolerance to charcoal rot • Salflufenacil and Sulfentrazone tolerant (7)(3) Emergence Harvest Sudden Death Iron Deficiency Standability Syndrome Chlorosis



Chlorosis

Medium

Plant

Medium

Canopy

hloM

Stem Rot

Root Rot

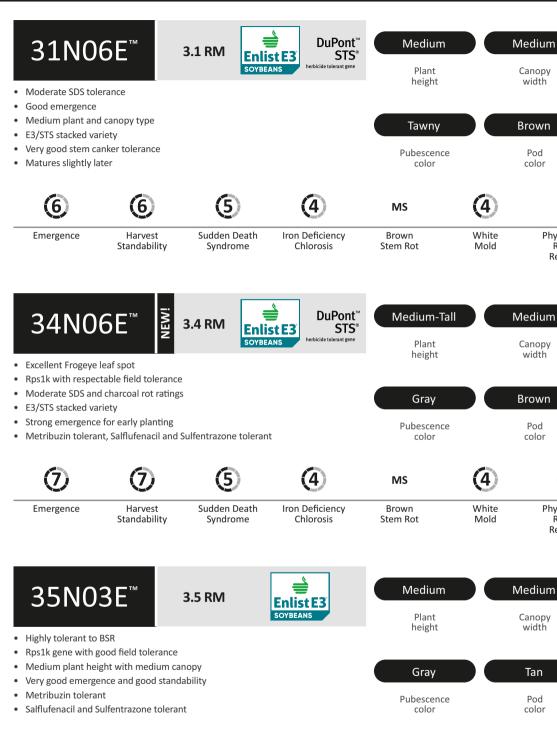
Resistance

Nematode

Resistance

Pink

Flower



Canopy Flower width color

Pink

Tan Imp. Black Pod Hilum

color

color

Emergence

Harvest

Standability

Sudden Death

Syndrome

(4) Iron Deficiency

Chlorosis

HT Brown

Stem Rot

(4)

White

Mold

Rps1k

Phytophthora

Root Rot

Resistance

PI88788 Soybean Cyst Nematode

Resistance

2021 SEED GUIDE

Standability

Syndrome



White

Flower

color

Brown

Hilum

color

PI88788

Soybean Cyst

Nematode

Resistance

White

Medium

Canopy

width

Tan

Pod

color

Medium

Rps1k

Phytophthora

Root Rot

Resistance

NR

White

Mold

SOYBEAN BRANDS 36N03E™ Medium Medium White 3.6 RM Enlist E3 Plant Canopy Flower height width color • Rps1k gene for Phytophthora Moderate SDS rating · Medium plant height with medium canopy Tan Tawny Brown • Outstanding Frogeye tolerance · Excellent stem canker tolerance Pod Hilum Pubescence · High-yield potential color color color (5) (4) **(6) (**4) PI88788 MS Rps1k Iron Deficiency White Emergence Harvest Sudden Death Brown Phytophthora Soybean Cyst Standability Syndrome Chlorosis Stem Rot Mold Root Rot Nematode Resistance Resistance 37N02CV™ Medium Medium White **CV** 3.7 RM Plant Canopy Flower height width color • Conventional genetics • Rps1k gene with moderate field tolerance · Highly tolerant to BSR Lt. Tawny Brown Black • Good stem canker tolerance • Good Frogeye tolerance Pubescence Pod Hilum Strong performance and standability color color color (4) (4) HT Rps1k PI88788 Emergence Harvest Sudden Death Iron Deficiency Brown White Phytophthora Soybean Cyst Standability Syndrome Chlorosis Stem Rot Mold Root Rot Nematode Resistance Resistance 39N04E™ Medium-Short Medium White 3.9 RM Enlist E3 Plant Canopy Flower height width color • Wide area of adaptation • Excellent Frogeye rating • Good BSR tolerance Buff Gray Brown · Very good Phytophthora field tolerance

(4)

Iron Deficiency

Chlorosis

Pubescence

color

MT

Brown

Stem Rot

Pod

color

NR

Phytophthora

Root Rot

Resistance

(4)

White

hloM

Hilum

color

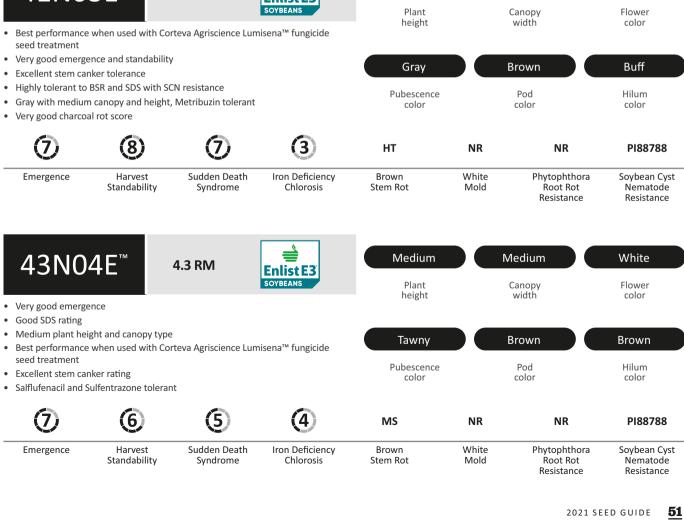
PI88788

Soybean Cyst

Nematode

Resistance





Medium

Plant

height

Tawny

Pubescence

color

Medium

MS

Brown

Stem Rot

Sudden Death

Syndrome

• Solid stem canker score, moderate SDS tolerance

Harvest

Standability

• Moderate Metribuzin tolerance

(6)

Emergence





4.5 RM













Tan

Pod

color









height

Pubescence

color



width

Flower color

Pink

- · Outstanding Frogeye leaf spot tolerance
- Good SDS rating
- Best performance when used with Corteva Agriscience Lumisena™ fungicide seed treatment
- Very good emergence and standability
- Outstanding stem canker score
- E3/STS stacked variety



Emergence

· Good emergence Good SDS rating Rps1k gene for PRR

seed treatment

Emergence



Harvest

Standability





Sudden Death

Syndrome





Iron Deficiency

Chlorosis





Stem Rot

NR

White

Mold

Phytophthora Root Rot

NR

Resistance

Soybean Cyst Nematode

PI88788

Resistance

Black

Hilum

color



- Solid Phytophthora field tolerance, moderate SDS tolerance
- Metribuzin tolerance
- Outstanding stem canker score
- Gray bean with medium plant height and canopy
- E3/STS stacked variety



Pod color Imp. Black Hilum color

Emergence



Harvest

Standability



Sudden Death

Syndrome





Iron Deficiency

Chlorosis



Brown

Stem Rot

NR

White

Mold

NR

Phytophthora

Root Rot

Resistance

PI88788

Soybean Cyst

Nematode

Resistance



4.6 RM





Medium

Plant

height

Pubescence

color

Plant

height

Tawny

Pubescence

color

Medium

White Flower

Canopy width color

Tawny



color

Brown

Hilum color

(6)

· Moderately tolerant to BSR • Outstanding stem canker score



Standability





• Best performance when used with Corteva Agriscience Lumisena™ fungicide



Sudden Death

Syndrome





Chlorosis

Iron Deficiency Brown Stem Rot

White Mold

NR

Phytophthora Root Rot Resistance

width

Brown

Pod

color

Rps1k

Soybean Cyst Nematode Resistance

PI88788

48N04E™

4.8 RM



Medium

height

Gray

Pubescence

color

MS

Medium Plant Canopy

Flower color

Buff

Hilum

color

White

• Excellent Frogeye leaf spot tolerance • Excellent stem canker score

 Best performance when used with Corteva Agriscience Lumisena™ fungicide seed treatment

· Good emergence and standability • Very good charcoal rot tolerance

Metribuzin tolerant



Emergence



Standability







Sudden Death

Syndrome





Chlorosis











NR

Phytophthora Root Rot Resistance

NR

Soybean Cyst Nematode Resistance

PI88788

Notes:			
	_		



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!	16N03E™	E3	1.6 RM	М	MT	Р	G	TN	IB	7	7	PI88788	Rps1k	5	5	5	МТ	4	3	NR	NR	E3	3100-3300	16N03E™
	20N03E™	E3	2.0 RM	MS	MF	W	G	BR	BU	7	7	PI88788	Rps1c,3a	NR	6	3	MS	2	6	NR	NR	E3	3100-3300	20N03E™
	20N04E™	E3	2.0 RM	М	М	Р	G	TN	BU	7	7	PI88788	Rps1c,3a	NR	5	7	MS	4	5	NR	NR	E3	2900-3100	20N04E™
	22N02E™	E3	2.2 RM	М	М	Р	G	BR	BU	7	7	PI88788	Rps1c,3a	NR	4	5	нт	3	5	NR	NR	E3	2100-2300	22N02E™
	24N02E™	E3	2.4 RM	М	М	W	G	TN	BU	7	7	PI88788	Rps1c	5	5	5	нт	3	2	NR	NR	E3	3100-3300	24N02E™
	24N04E™	E3	2.4 RM	М	М	Р	G	TN	BU	6	7	Peking	Rps1k	6	6	3	MS	2	4	NR	NR	E3	3300-3500	24N04E™
	26N04E™	E3	2.6 RM	М	М	Р	LT	BR	BL	7	7	PI88788	Rps1k	4	5	5	НТ	3	5	6	NR	E3	3100-3300	26N04E™
NEW!	26N06E™	E3	2.6 RM	M	М	W	G	TN	BU	7	7	PI88788	Rps1k	5	5	4	нт	2	5	NR	NR	E3	2500-2700	26N06E™
	27N01CV™	CV	2.7 RM	М	М	W	LT	BR	BR	8	6	PI88788	Rps1c	3	4	NR	НТ	5	5	4	NR	CV	2500-2700	27N01CV™
	28N02E™	E3	2.8 RM	M	М	Р	G	BR	IB	7	7	PI88788	NR	4	5	5	MS	4	4	8	NR	E3	3300-3500	28N02E™
	30N03E™	E3	3.0 RM	М	М	Р	G	NR	IB	7	7	PI88788	Rps1k	NR	3	5	MS	3	3	8	7	E3	3300-3500	30N03E™
	30N05E™	E3	3.0 RM	М	М	Р	G	TN	IB	7	7	PI88788	Rps1k	6	4	6	нт	3	5	3	7	E3	2900-3100	30N05E™
	31N06E™	E3/STS	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™
NEW!	34N06E™	E3/STS	3.4 RM	MT	М	W	G	BR	BU	7	7	PI88788	Rps1k	5	4	5	MS	4	5	9	6	E3	3100-3300	34N06E
	35N03E™	E3	3.5 RM	М	М	Р	G	TN	IB	7	6	PI88788	Rps1k	6	4	5	НТ	4	5	3	7	E3	3100-3300	35N03E™
	36N03E™	E3	3.6 RM	М	М	W	Т	TN	BR	6	7	PI88788	Rps1k	5	4	6	MS	4	5	8	8	E3	2900-3100	36N03E™
	37N02CV™	CV	3.7 RM	M	М	W	LT	BR	BL	7	7	PI88788	Rps1k	5	4	2	HT	4	6	6	6	CV	2500-2700	37N02CV™
	39N04E™	E3	3.9 RM	MS	М	W	G	BR	BU	6	7	PI88788	NR	7	4	5	MT	4	5	9	6	E3	3100-3300	39N04E™
	39N05E™	E3	3.9 RM	М	М	W	Т	TN	BR	7	7	PI88788	Rps1k	5	4	5	MS	NR	5	6	7	E3	2900-3100	39N05E™
	41N03E™	E3	4.1 RM	М	М	W	G	BR	BU	7	8	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	5	MS	NR	5	NR	8	E3	3100-3300	43N04E™
	45N04E™	E3/STS	4.5 RM	М	М	W	Т	TN	BL	7	7	PI88788	NR	5	5	4	MS	NR	5	8	8	E3	3100-3300	45N04E™
	46N02E™	E3	4.6 RM	М	М	W	Т	TN	BR	6	7	PI88788	Rps1k	NR	3	5	MS	NR	6	NR	9	E3	2900-3100	46N02E™
	48N04E™	E3	4.8 RM	М	М	W	G	BR	BU	6	7	PI88788	NR	5	4	7	MS	NR	2	8	8	E3	3300-3500	48N04E™
	49N03E™	E3/STS	4.9 RM	М	М	Р	G	BR	IB	7	7	PI88788	NR	5	4	6	SEG	NR	5	5	8	E3	2700-2900	49N03E™

Technology

CV = Conventional

E3 = Enlist E3® soybeans STS = DuPont™ STS®

Plant Height

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

Canopy Width

T = Thin

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

MT = Medium-Thin

Pubescence Color

G = Gray T = Tawny LT = Light Tawny

Flower Color W = White

P = Pink

Ratings

9 = Outstanding or resistant

8 = Excellent 7 = Very Good

6 = Good 5 = Average 4 or less = Poor NR = Not rated

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 2019 harvest and were the latest available at time of printing. Some scores may change after 2020 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.



BEST-IN-CLASS SEED APPLIED **TECHNOLOGIES FOR SOYBEANS**

LumiGEN™ seed treatments is an industry-leading seed applied technology portfolio built to help farmers establish healthy, uniform crops and maximize productivity with Corteva Agriscience genetics.

FUNGICIDE SEED TREATMENT

Lumisena® fungicide seed treatment

EverGol® Energy fungicide seed treatment

L-2030 G biofungicide

Differential yield advantages

Lumisena fungicide +4.0 bu/a

in Phytophthora-susceptible fields

+1.0 bu/a broad acre

Data is based on 638 head-to-head comparisons between 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.

> L-2030 G +0.6 bu/aadvantage in research trials

Data is based on replicated research trials in 2011 at 77 locations comparing the standard FST seed treatment recipe with L-2012R to recipe without

INSECTICIDE SEED TREATMENT

Gaucho®

insectice seed treatment

- Bean leaf beetle
- Early season aphid
- Seed corn maggot

FUNGICIDE/NEMATICIDE **SEED TREATMENT**

fungicide/nematicide seed treatment

> ILEVO +2.0 bu/a

> at all locations and

+6.4 bu/a

at heavy SDS locations in agronomy research trials

Data is based on average of comparisons n Pioneer Agronomy Science trials from 2012-2015 at 165 locations.



SEED APPLIED TECHNOLOGIES

Premium soybean recipe delivered in a single container

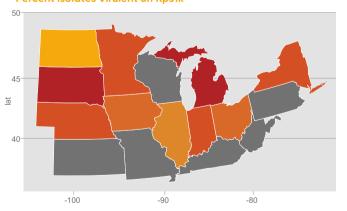
	Protection	Ingredients	Highli	ghts							
Fungicide + Biological Package	Phytophthora Pythium Fusarium Rhizoctonia Phomopsis	Lumisena* fungicide seed treatment EverGol* Energy fungicide seed treatment L-2030 G biofungicide	Features Lumisena fungicide seed treatment provides best in class protection against Phytophthora L-2030 G biofungicide inhibits pathogens, activates roots' natural defense, improving nutrient uptake through healthier roots and sites for nodulation	Thoroughly Tested Lumisena fungicide demonstrated a +4.0 bu/a in Phytophthora-susceptible fields, and +1.0 bu/a across broad acres' L-2030 G demonstrated +0.6 bu/a advantage in research trials ²							
Insecticide Package	Bean leaf beetle Early season aphid Seed corn maggot	Gaucho* insecticide seed treatment	Reduces leaf feeding and risk of late-season bean pod mottle virus								
Funigicide/ namaticde seed treatment	Soybean cyst nematode (SCN) Sudden death syndrome (SDS)	ILEVO* fungicide/nematicide seed treatment	Offered at different rates: a lower rate for protection againg the state of the sta								

Lumisena™ funcicide seed treatment vield advantage vs. metalaxyl across the top 10 soybean-growing states.



Increasing Phytophthora Pressure

Percent isolates Virulent on Rps1k







Greater number of soybean-growing states have a high proportion of isolates with virulence to Rps 1c & 1k. Multiple modes of action, through genetics, treatments and other practices, is the best way

States in gray not included in surveys*

Pathotypes, Distribution, and Metalaxyl Sensitivity of Phytophthora sojae from North Dakota - B.D. Nelson et al Pathotype diversity of Phytophthora soige in Eleven states in the United States - A. E. Dorrance et al.

Data is based on 638 head-to-head comparisons between 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. ² Data is based on replicated research trials in 2011 at 77 locations comparing the standard FST seed treatment recipe with L-2012R to recipe without.
³ Data is based on average of comparisons in Pioneer Agronomy Science trials from 2012-2015 at 165 locations.

Lumisena

Lumisena fungicide performance data based on 638 head-to-head comparisons between Lumisena" fungicide (0.568 fl oz/cwt) and metalaxyl (0.75 fl oz/cwt) in the top 10 soybean-producing states in 2017. The information presented here is not an offer for sale. This is not intended as a substitute for the product label for the product(s) referenced herein. The information contained in this technical document is based on the latest to-date technical information available to Corteva Agriscience, and Corteva reserves the right to update the information at any time

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			Product Ref	uge Requirements		Нє	erbicide	Resistanc	:e	Corn Belt-9	Separate Refuge
ID	Product Name	Technology Description	Description	Integrated Components	Structured	Glyphosate	Liberty®	Enlist®	Insect Protection	Refuge Size Requirement	Refuge Distance Requirement
Q	QROME [*]	Qrome® 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	√	✓	\checkmark		Above Below	CORN BELT REFUGE	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		\checkmark	\checkmark		Above	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	✓	✓	√	✓	Above Below	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	\checkmark		Above Below	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		✓	\checkmark		Above Below	CORN BELT REFUGE	None
AMX	AcreMax XIII	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 10% RR2, LL		✓	√		Above Below	CORN BELT REFUGE	None
PWRA/PCR	POWERCORE REFUGE ADVANCED 8	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		√	\checkmark		Above	O% 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	✓	✓	\checkmark	✓	Above	5% CORN BELT REFUGE	Within, adjacent or up to a half mile
PW	РОWERCGRE	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	\checkmark	\checkmark	\checkmark		Above	5% CORN BELT REFUGE	Within, adjacent or up to a half mile
AML	AcreMax AcreMax Leptra	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		\checkmark	\checkmark		Above	O% CORN BELT REFUGE	None
AM	AcreMax 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		\checkmark	\checkmark		Above	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	✓	\checkmark	\checkmark		Above Below	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	✓	\checkmark		Above	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	✓	√	\checkmark		Above	20% CORN BELT REFUGE	Within or adjacent
5KN/CYXR	Intrasect ABOVE INTO EXECUTE	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	√	√	√		Above Below	5% CORN BELT REFUGE	Within or adjacent
5DN/YXR	Intrasect ABOVE INTLOW EXTERNAL ABOVE INTLOW ABOVE INT	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	√	\checkmark	\checkmark		Above Below	20% CORN BELT REFUGE	Within or adjacent
5R	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	✓	\checkmark	\checkmark		Above Below	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.

Integrated Corn Refuge Products: = Major Component = Minor Component



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 <u>compliance assistance</u> visit with the grower prior to planting to assist the grower in planning and implementing a proper IRM program.
- Conducting a <u>compliance assessment</u> 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 similar.
- 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 quickly 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 <u>correctly marked</u> 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:

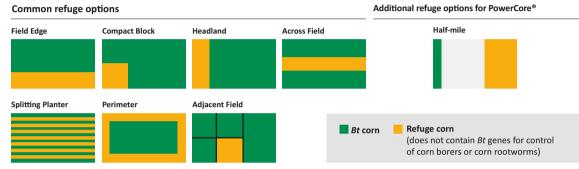
- Block
- · Perimeter or Border
- Split Planter

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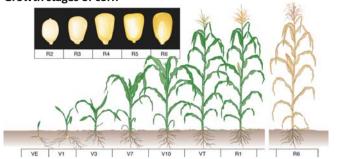
Separate-Field Refuge Distance Requirements:

- 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.



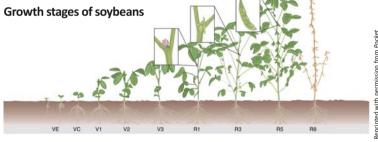
Illustrations are not a representation of refuge size requirements. Please see "Refuge Distance Requirement" section on page 59 for minimum refuge requirements by product.

Growth stages of corn



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Approximate Time After Emergence From the Soil
0
1 week
2 to 3 weeks
4 to 5 weeks
6 to 7 weeks
8 weeks
ernel fertilization 9 weeks
kernels like "water blisters" 12 days after silking
nt "milky," "roasting ear" 18 days after silking
"hard dough" as starch increases 24 days after silking
nbryos developed 36 days after silking
irm, "milk line" visible 48 days after silking
yer" at tip of kernel 55 to 60 days after silking
1



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Growth Stage Diagnostic Characteristic

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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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 AQUAmax 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 QROME importing countries, most recently China. For additional

information about the status of regulatory authorizations, visit http://www. biotradestatus.com/.

Lumisena[™] Products are provided subject to the terms and conditions of purchase which are part of the labeling and purchase

AcreMax AcreMax Intrasect Intrasect AcreMax TRIsect Intrasect Leptra:









🐺 장 縫 🗚 AgrisureRW 🗚 AgrisureViptera

AM - Ontimum® 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, AMI -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 below ground 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 the YieldGard® Corn Borer gene and the Herculex XTRA genes for resistance to corn borer and corn rootworm. YGCB,HX1,LL,RR2 (Optimum® Intrasect®) - Contains the YieldGard® Corn Borer gene and Herculex® I gene for resistance to corn borer. AMXT (Optimum® AcreMax® XTreme) - Contains a single-bag integrated refuge solution for above- and below-ground insects. The major

component contains the Agrisure® RW trait, the YieldGard® Corn Borer gene 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, the YieldGard Corn Borer gene and the Herculex® XTRA genes for resistance to corn borer and corn rootworm. Optimum Intrasect XTreme will be the major component of Optimum AcreMax XTreme. AVBL,YGCB,HX1,LL,RR2 (Optimum® Leptra®) -Contains the Agrisure Viptera® trait, the YieldGard Corn Borer gene, the Herculex® I gene, the LibertyLink® gene and the Roundup Ready® Corn 2

Herculex® Insect Protection technology by Dow AgroSciences and Pioneer

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



SmartStax® and PowerCore® multi-event **POWERCORE** technologies developed by Dow AgroSciences and Monsanto







The transgenic soybean event in Enlist E3® soybeans is jointly developed and owned by Dow AgroSciences LLC and M.S. Technologies L.L.C. Enlist Duo® and Enlist One® herbicides are not yet 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.



Components of LumiGEN™ technologies for soybeans are **LumiGEN** 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. Please contact your Corteva sales professional for information and suggestions specific to your operation. Product performance is variable and depends on many factors such as moisture and heat stress, soil type, management practices and environmental stress as well as disease and pest pressures. Individual results may vary. State registrations for Lumiflex™, Lumiante™, L-2012 R, L-2013 P and L-2030 R are pending. One or more of these products may not be registered for sale or use in all states. Contact your local DuPont retailer or representative for details and availability in your state.



G2® brand seed is distributed by NuTech Seed, LLC.

Bt products may not yet be registered in all states. Check with your seed representative for the registration status in your state.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® brand agricultural herbicides will kill crops that are not tolerant to glyphosate.





Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits

expressed in the seed as set forth in the Dow AgroSciences Technology Use Agreement and the Monsanto Technology/Stewardship Agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements.

Always follow IRM, grain marketing and all other stewardship practices and pesticide label directions.

TRADEMARK OWNERSHIP:

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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
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- > 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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2021 SEED GUIDE 2021 SEED GUIDE **65**



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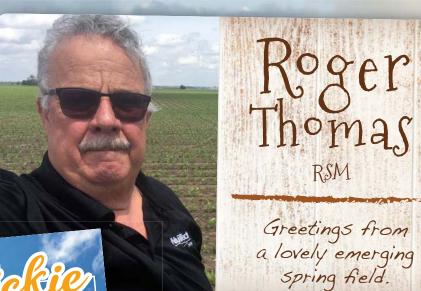






During these unusual times, our NuTech family sends greetings to yours, hoping you are enjoying spending time with those you care about most, finding joy in putting your seed in the ground and looking forward to getting back to everything you love to do.







Summer Greetings Keith Miemeier, Agronomist



The Harrymans

Thanks for all you do to make the NuTech Lifestyle possible! Zach Harryman, DSM



KYLE, EMILY &

STROHBEHN

What a crazy spring it has been. In this time of uncertainty and turmoil, it is easy to get down and doubt if we are doing the right things. I encourage each and every one of you to look for the rays of light every day. We are still part of the best industry in the world. We get to go home to our loved ones every night. For me, personally, it is the experience of holding our newborn son, Gabriel, every night when I get home.

Kyle Strohbehn, DSM





We're in this #together



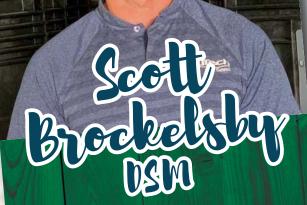


MARK NORTHCUTT DSM

As a DSM in Missouri, we are always faced with adversity in today's farming, which my dealers and I try to convert into opportunities for our customers.



It's been another challenging spring with COVID and our cool, wet weather in N. IL. I'm very thankful for the good health, friendship and business from our NuTech family! I hope this note finds everyone in great health and optimistic for the harvest to come.



NuTech is here for whatever you need this summer—just give us a shout. I hope your crop is coming along beautifully!



Eric Schweinefus DSM

As Annette and I added a new and fabulous "season" to our lives this past year (Grandpa & Grandma), we wish all of you an upcoming season of bountiful crops along with much health and happiness. Thank you for allowing me to be your seedsman. I truly enjoy working with each and every one of you.



We wish everyone a safe and successful season overcoming new obstacles.

Jordan Uthe, DSM

Dave Beitz DSM



I'm very thankful my area experienced a better spring planting season this year. We are looking forward to when we can resume our larger NuTech Seed events and gather together like normal. In the meantime, we will spend a little more time walking customer fields and scouting this year.



Mike Schaefer, Sales Manager

This summer, many of us are sticking close to home—and remembering just what makes it so special.





THE FARN

Submitted by Kate Lambert

Even though I love traveling over summer, the farm is still my favorite spot to be. Which is good because who knows if we will be able to leave this year?!

CATTLE PASTURE



Submitted by Lisa Kubik

Our cattle pasture is one of my favorite places!

FAVORITE SUMMER SPOT



Submitted by Carrie Walter

My favorite summer spot is sitting next to my husband on our RANGER® to check our NuTech corn. Then it's out to the pasture to check on our cattle.





Jo Ellen Kubik

Our favorite spot is our creek, where we kayak with our grandkids, Wyatt and Westin.





PASTURE

Submitted by Katie Hardeman

Our favorite summer spot is the pasture!







Submitted by Abbie Rinkenberger

Grainger and Gatlin's favorite place is their daddy's farm in rural Lexington, IL, where they enjoy checking on our cattle and throwing rocks in the Mackinaw River.







And when you are ready to venture out, here are a few new places to discover.



THE FAMILY VINE



Submitted by Deanne Remmert

The Family Vine is a great family-owned winery in Greenville, IL. It's a wonderful place to relax and get away from the farm. They specialize in wood-fired pizzas.

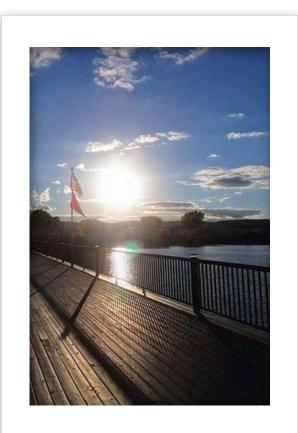


EAGLE POINT PARK

Dubuque, IA

Submitted by Erica Reiss

Eagle Point Park in Dubuque, IA, is one of our favorite spots. There's over 160 acres to explore. From the bluffs you can see Wisconsin and Illinois across the Mississippi River. We love watching the barges and riverboats go through Lock and Dam 11.





PRAIRIE DU CHIEN

Wisconsin

Submitted by Gloria Rodriguez Schiller

You'll find us relaxing in Prairie du Chien, WI, after our work is done at ECI Farms in Holland, IA.



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Firmly planted in the past

NuTech customer Bill Burnham brings back vintage farm equipment—and plenty of memories



f you happened to be driving by Bill Burnham's farm in Grundy County, IL, this spring, you'd be forgiven if you thought you'd entered a time warp. You may have just caught sight of Bill planting 44 rows of corn on a hill the old-fashioned way, using a John Deere 495A plate planter.

Bill Burnham hitched up a refurbished John Deere 495A plate planter to hill-drop corn in one of his fields this spring. "I just thought it would be fun," said Bill, who enjoys preserving old farm equipment.

Bill makes some final adjustments to his restored planter. Although the technology is older, Bill notes the planter is very accurate, even in comparison to modern machines.

Bill has fond memories of using the same piece of equipment with his dad in the 1960s and 70s. "You can do a 25,000 population," Bill says, "You'd get sunshine on the hill versus drilling the seed into the ground, and the corn just seemed to jump up."

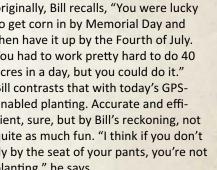
Bill admits he likes the older ways better, and doesn't go in much for the latest high-tech farm equipment. "I'm kind of stuck on old-fashioned things," he says, and describes how the older technology of the of the plate planter is quite accurate—but uses a more mechanical process. "Everything gets timed up just so [with the plate]," Bill explains. "There are 24 cells, with a kernel in each one. It rotates around, drops in three kernels, and you just go along like that at 5 mph." The planter could also accommodate starter fertilizer, so fertilizer and seed dropped out with just the right timing.

Back when the planter was used originally, Bill recalls, "You were lucky to get corn in by Memorial Day and then have it up by the Fourth of July. You had to work pretty hard to do 40 acres in a day, but you could do it." Bill contrasts that with today's GPSenabled planting. Accurate and efficient, sure, but by Bill's reckoning, not quite as much fun. "I think if you don't fly by the seat of your pants, you're not planting," he says.

The Burnham family has farmed in this area since 1882, and Bill still keeps up 500 acres. He farmed all his life with his father, who passed away three years ago. "They called us the two Bills," he says. He fondly remembers riding on his dad's lap on an International Harvester tractor at age four or five. He's been partial to Internationals ever since, and he estimates he's restored eight or nine of them over the years.

In 2002, Bill showed off his restoration work in the Joliet, IL, antique tractor ride. For about the past ten years, he's put his work on display during a fall tractor show. He's surprised by the interest his restorations draw, but likes sharing them. "I have the equipment, and all the parts that go in them, and they

Bill shows off his John Deere 495A planter, hooked up to an antique Farmall tractor. Bill and his dad used this same model on their Grundy County, IL farm.





Bill's corn was already looking good in the field by late May.

draw quite a crowd," Bill says. "It's quite a thing, these guys who like to soup-up old tractors. I think they like the idea of fixing up something that was like Dad's or Grandpa's."

Bill seems to feel a sense of duty in restoring farm equipment. "I think if we don't look to the past, we don't know how we got where we got," he says, adding, "I'm kind of a preservationist. I like taking something that's just a piece of junk and about four months later, it looks pretty good. I've got tractors that were built to run at 36 HP. I get them going up to 80 HP."

Not surprising for a man who honors history, Bill has had a long relationship with the NuTech teamstarting with Pfister. He worked as a dealer for Pfister for a time, and



estimates he and his dad worked with

the company stretching back about 40 years. "We were a family farm, and Pfister was family-owned, so we liked that," he says. Bill has seen a lot of change in seed over the years, including the various DSMs who have

"I'm kind of a preservationist. I like taking something that's just a piece of junk and about four months later, it looks pretty good. I've got tractors that were built to run at 36 HP. I get them going up to 80 HP."

served his farm. When asked about his current DSM, Randy Winterland, Bill jokes, "He came with the real estate," but he still enjoys the service he gets from Randy and NuTech.

With the corn in the ground on his hillside, Bill is looking forward to fall. His neighbor, also into older equipment, has an antique husker. They're planning to drag it out at harvest time and make an event of bringing in the corn like the old days. In the meantime, he'll continue his restoration projects. He's on the look-out for a 1947 International, like his grandfather owned, but hasn't found one yet. When he does, you can bet Bill Burnham will have it back to its old glory in no time—restoring treasured memories and traditions right along with the machine itself.



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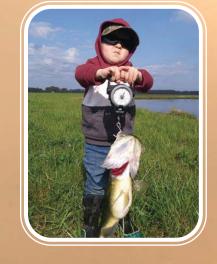




Summer **Hunting Club**

It's the perfect time of year to find a quiet stretch of water, drop your line and float away the day. If you're lucky, you might catch something worth bragging about, like these NuTech folks.





ACEN THOMAS (2), RAMSEY, IL The fish might weigh more than this pint-sized fisherman.



CARSON ADAMS, IA son of NuTech agronomist Chris Adams, shows off a 40.5" musky he managed to reel in. (Note to Chris: You might need to get a bigger boat!)



ALEX (11) AND ELLA (9) BEHYMER, MT. STERLING, IL brought home dinner.



KADE RAY (5), BROCTON, IL is all smiles after making a catch.



NATALIE (10) & SAWYER (2 1/2), ALBANY, MO wait patiently for the fish to bite.



BLAIR LUELLEN (4), MINBURN, IA is a budding bass master!





LOGAN SARGINSON, SANGCHRIS LAKE, IL poses with an impressive catch.



CAMERON PRASIL (11), SUTLIFF, IA pulled this big guy out of the Cedar River.



Be part of the NuTech Hunting Club: Watch for more ways to share your hunting experiences with us, and send us your photos.



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