

Growing Together

4Q | 2020

# thrive<sup>®</sup>

CELEBRATING

**20**

YEARS OF  
SYNGENTA

**Keeping the  
Farm in  
the Family  
Requires  
Careful  
Planning**

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**Managing  
SCN and  
SDS Needs a  
Multifaceted  
Strategy**

## **THE ROOTS OF SUCCESS**

**Collaboration Can Pay Off at Harvest**

**syngenta<sup>®</sup>**



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**thrive** 

Even though you love your print edition of *Thrive*, please check out the magazine's website. You'll find more content and links to important resources to help you succeed in today's marketplace. The online version also makes it easy to share specific articles with others.

Scan this QR code to take the fast track to the *Thrive* website, or go to [www.syngentathrive.com](http://www.syngentathrive.com).



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**ON THE COVER**  
Left to right: JD Bonham; Ryan Bonham; Bryan Slocum of Aurora Cooperative Elevator Company; and Mark Dozler, Syngenta sales rep, collaborate to ensure a healthy soybean crop on Ryan's farm in Franklin, Nebraska.  
Photo: Michael Kleveter

**THIS PAGE**  
Researchers cultivated these freshly dug potatoes at Colorado State University's San Luis Valley Research Center. Vibrance® Ultra Potato seed-applied fungicide has performed well in trials and growers' fields in controlling seedborne late blight and pink rot.  
Photo: Vibrant Valley Photography

## Meeting Challenges Together

Earlier this year, for the first time in my life, I saw empty grocery store shelves and wasn't sure when they might be filled again. When we see empty shelves pre-snowstorm or pre-hurricane, we know they will be filled again. This time, I didn't know when or how that would happen.

Many of us shared mixed feelings about those empty shelves. Logically, we knew it was a supply chain issue. We still produce enough food to feed our country and then some. But we shoulder the responsibility of feeding folks and the food wasn't there. Illogically, many of us in production ag saw those shelves as something we should fix. And then there was the tiny part of us that hoped those outside our industry might see empty shelves and find renewed respect and value for our industry, and particularly for farmers.

Those empty shelves are a profound symbol of the complexities of our agriculture industry. Americans just know the food shows up at the store — few understand the complexities of getting it there and the risks inherent throughout.

Planning to meet the agronomic challenges and increase our opportunity for high yield and superb quality starts before planting. Protecting our technologies and studying new ways to resolve on-farm challenges are year-round jobs. Holding on to a farm from one generation to another is a lifelong commitment.

Our role at Syngenta is to help farmers reduce their risk and control what can be controlled. We do that through finding solutions to agronomic challenges, shepherding those essential tools through a rigorous regulatory process, and then working with retailers to deliver those tools to the field.

The COVID-19 pandemic injected a new layer of complexity into our daily work and personal lives. The agricultural community rose to meet the challenge. It's what we do. Together. Every day. Thank you for the opportunity to work alongside you. 🌱



SHAWN POTTER

“Our role at Syngenta is to help farmers reduce their risk and control what can be controlled. We do that through finding solutions to agronomic challenges, shepherding those essential tools through a rigorous regulatory process, and then working with retailers to deliver those tools to the field.”

*Shawn Potter*

SHAWN POTTER  
Head, Seedcare Product Marketing  
Syngenta

**WATCH NEW VIDEO.** To learn about the value of seed treatments, check out the new video featuring Shawn Potter, head of Seedcare product marketing, and Paul Oklesh, product lead for Seedcare, soybeans, both of Syngenta, posted to the *Thrive* website ([www.syngentathrive.com](http://www.syngentathrive.com)).

We welcome your story suggestions and comments about *Thrive*.

Please send them to [thrive@syngenta.com](mailto:thrive@syngenta.com). For more information, visit the Syngenta U.S. website at [www.syngenta-us.com](http://www.syngenta-us.com), or call the Syngenta Customer Center at 1-866-SYNGENT(A) (796-4368).

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*Thrive* is produced quarterly for a nationwide agricultural audience. Its purposes are to update readers on Syngenta products, research, services and solutions, and to provide them with the information they need to succeed in today's complex marketplace.







# What's in Store

Discover new products, product and technology updates, timely news, and this year's finalists in the #RootedinAg Contest.

## PRODUCT AND TECHNOLOGY UPDATES

### NK Soybean Portfolio Puts Weed Control in Growers' Hands

Along with the promise that every growing season holds, there's the reality that every season brings another set of challenges to weed control. That's why the 2021 NK<sup>®</sup> soybean portfolio from Syngenta features the industry's broadest choice of herbicide-tolerant traits.

NK varieties available for 2021 include all three of the most in-demand traits: Enlist E3<sup>®</sup> soybeans, Roundup Ready 2 Xtend<sup>®</sup> soybeans and LibertyLink<sup>®</sup> GT27<sup>™</sup> soybeans. As effective herbicide options become more limited, this expansive trait portfolio empowers growers to create the best weed management programs for their specific situations and maximize profit potential.

"There's enough in agriculture that's out of growers' hands," says Eric Miller, NK soybeans product manager. "Soybean trait choice shouldn't be."

Visit [www.nksoybeans.com](http://www.nksoybeans.com) to learn more.



The 2021 NK soybean portfolio can help growers get ahead of problem weeds on their farms, like this one in Iowa.

### AgriEdge Launches Technology Updates for 2021

Growers soon will have access to an updated farm management tool that saves time and offers simplified data integration across various digital agriculture platforms. With a more user-friendly and iOS-supported interface, Cropwise<sup>™</sup> Financials, offered through AgriEdge<sup>®</sup>, is a software program that improves user experience and further enforces the five AgriEdge pillars: agronomics, service, stewardship, economics and technology.

Cropwise Financials is part of an expanded line of AgriEdge digital tools with a cleaner, modern look and capacity for more data-driven functionality. This technology update, available to all users in early 2021, incorporates user feedback and aims to create efficiencies with data entry and improved analysis for faster data-driven decision-making.

The Cropwise Financials platform is one step into the future connectivity of AgriEdge, an exclusive Syngenta whole-farm management program. For more information and updates, visit [www.agriedge.com](http://www.agriedge.com).



## NEW PRODUCT

### New AgriPro Spring Wheat Variety Addresses Regional Conditions

Syngenta has introduced a new AgriPro<sup>®</sup> brand spring wheat variety for the 2021 planting season. Specifically developed for the northern Plains, AP Murdock delivers outstanding yield potential and produces very strong straw. This new offering is a hard red spring wheat variety with medium-early maturity, good protein and very good tolerance to *Fusarium* head blight and bacterial leaf streak.

Like all AgriPro varieties, AP Murdock addresses local growing conditions and marketing needs, with rigorous testing behind it to ensure consistent, reliable performance. For more information, visit [www.agriprowheat.com](http://www.agriprowheat.com).





NEWS AND EVENTS

**Syngenta Vegetable Seeds Goes Virtual for Cucurbits Event**

No travel, no problem. To ensure vegetable growers, seed distributors and partners along the value chain remain equipped with the latest products and innovations despite pandemic-related restrictions, Syngenta Vegetable Seeds hosted its first-ever live, virtual field day event.

Remotely broadcast from Woodland, California, “Syngenta Americas Tour — Live! A Virtual Cucurbits Experience” highlighted the latest commercial and experimental cucurbit

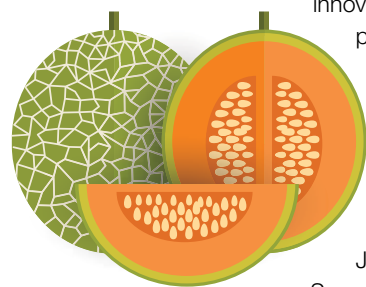
innovations in the Syngenta portfolio and connected attendees with the Syngenta vegetables breeding and sales team.

“Our goal was to create an interactive and engaging must-attend event,” says Javier Martinez-Cabrera,

Syngenta head of vegetable seeds

in the Americas. “It was an opportunity to transform our traditional field days into an exciting new experience and invite audiences who don’t typically have the chance to attend.”

Learn more at [www.syngentavegetables-us.com](http://www.syngentavegetables-us.com).



**ATTENTION FARMHERS:**

**Submit Your Ag Story for a Chance to Appear on “FarmHer on RFD-TV”**

Fans of “FarmHer on RFD-TV” have a chance to appear in short Syngenta Spotlight segments when the popular television series begins airing its fifth season this fall.

FarmHers can submit 30- to 60-second videos explaining how innovation and passion help them tackle challenges and succeed in agriculture. Select Spotlight videos will run during new episodes of the show.

In season five, the series continues to explore the stories of women in ag who contribute to farms, ranches and agribusinesses all over the U.S.

“This industry is built on the backs of a diverse, hardworking community,” says Pam Caraway, communications manager at Syngenta, which has been the presenting sponsor of the show since its first season. “Our company and the industry as a whole are stronger when the voices within that community are amplified and heard through projects such as FarmHer.”

For a chance to be part of the show and to submit a Syngenta Spotlight segment, go to [www.syngentathrive.com/farmher](http://www.syngentathrive.com/farmher).



**Who Won the #RootedinAg Contest?**

The grand prizewinner of the 2020 #RootedinAg Contest\* was announced between printing and mailing this issue of *Thrive* magazine. To find out which of the following finalists won and more about who most inspired their agricultural roots, go to [www.syngentathrive.com](http://www.syngentathrive.com).

**HANNAH BORG**

Farmer, Wayne, Nebraska – In a heartwarming video, Borg pays tribute to her 86-year-old grandma, Lois Borg, the matriarch of her sixth-generation farming family.



**STEPHON FITZPATRICK**

Doctoral Student, University of Maryland Eastern Shore, Princess Anne, Maryland – For Fitzpatrick, meeting Karen Hutchison with the Delaware FFA when he was a young student set in motion his incredible journey to become a vibrant leader in ag.



**DELEON POPE**

Certified Crop Adviser, Clinton, North Carolina – Today, Pope uses the lessons his father taught him on their family-owned farm in eastern North Carolina to lead a successful business built on respect, hard work and perseverance.



\* Syngenta awarded each 2020 #RootedinAg finalist a mini touch-screen tablet and the chance to compete for the grand prize — a \$500 gift card, professional photo shoot and \$1,000 donation to his or her favorite local charity or civic organization. NO PURCHASE NECESSARY. See Official Rules for more details.



PHOTOS: COURTESY OF #ROOTEDINAG CONTEST FINALISTS

**Biological Pest Control Shows Great Promise**

Five companies are bringing new sustainable pest control technologies to market to help satisfy consumer preferences.

If agriculture made wanted posters for profit-robbing pests, Palmer amaranth, Colorado potato beetles and *Rhizoctonia* would undoubtedly have their mug shots posted on farms, at ag retail locations and along roadsides across the country. That’s why five startup companies are intently pursuing innovative biological solutions to help combat these and other costly pests.

**Breaking the Seed Cycle**

A biological reproduction blocker spray that targets Palmer amaranth with a new mode of action (MOA) is expected to launch in 2023 for use in corn, soybeans and cotton, according to Efrat Lidor Nili, co-CEO and co-founder of

Israel-based WeedOUT. “We chose to focus on Palmer amaranth first because it’s ranked as the most troublesome weed in the U.S. by the Weed Science Society of America,” she says.

The weed can grow up to 3 inches per day and produce up to a million seeds per plant. It has caused yield losses of up to 91% in corn and 79% in soybeans, and herbicide resistance is a big problem. “Our product mimics the weed’s natural reproduction mechanism, providing a solution with a low chance of resistance development,” Lidor Nili says.

WeedOUT’s technology is based on the development of unique proprietary weed pollen, which growers will apply

Researchers at BioPhero in Denmark are using pheromones to decrease moth populations.

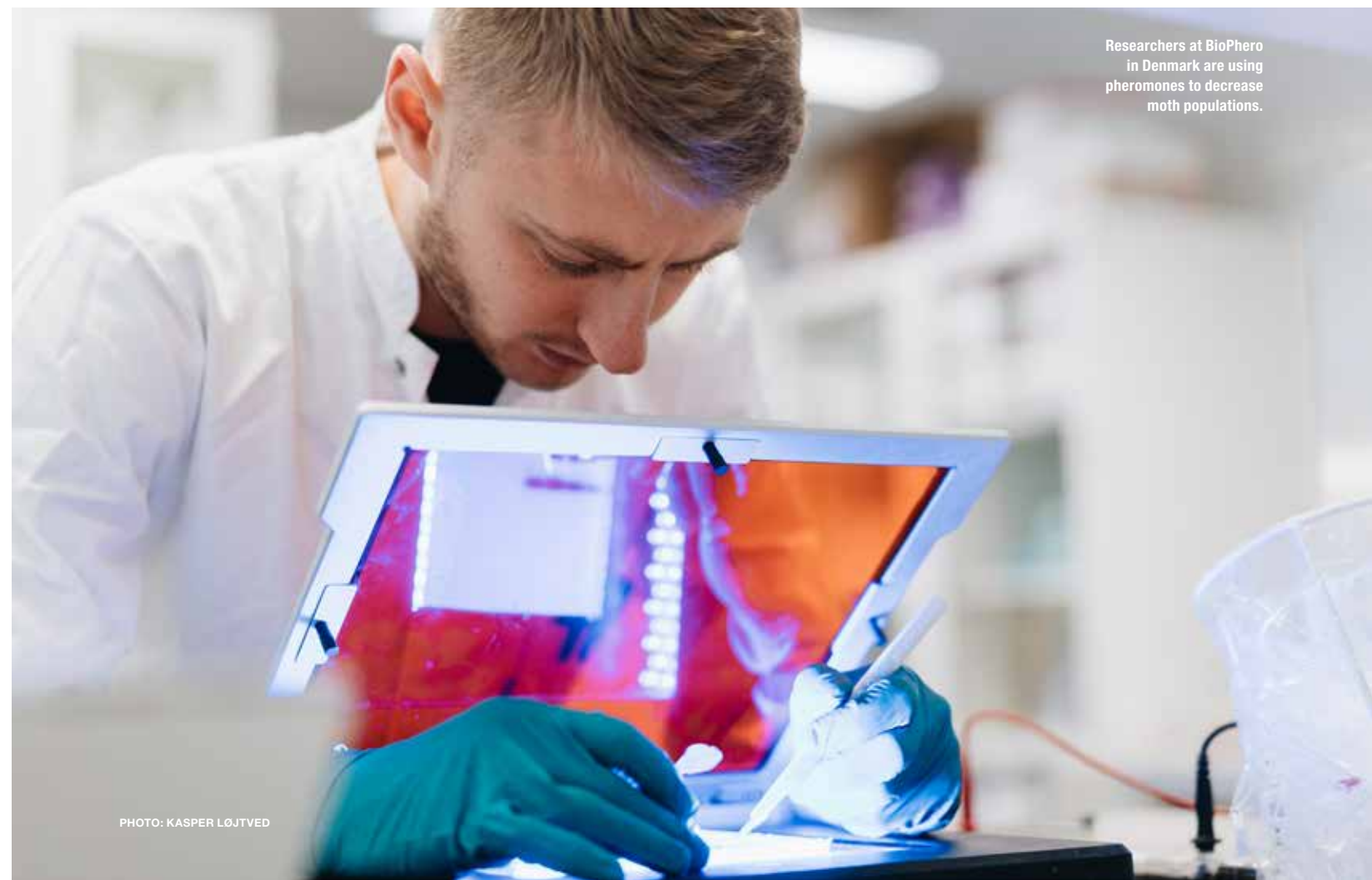


PHOTO: KASPER LOJTVED





**“We chose to focus on Palmer amaranth first because it’s ranked as the most troublesome weed in the U.S. by the Weed Science Society of America.”**

—EFRAT LIDOR NILI  
Co-CEO and Co-Founder  
WeedOUT

during weed flowering to prevent the generation of viable seed. The solution acts specifically on the weed and does not target the crop. WeedOUT’s second product will aim to work on waterhemp.

**Buzzing About Biological Insect Control**

Ribonucleic acid (RNA), present in all living cells, has been considered a potential tool for insect protection for years. Up until now, however, it has been too cost-prohibitive to use. But the scientists at GreenLight Biosciences in Medford, Massachusetts, developed a more economical method to produce high-quality, double-strand RNA that can be developed to control insects and fungi.

Without sharing trade secrets, Research and Development Director Ron Flanagan says,

“Now that the cost hurdle has been overcome, we are creating environmentally friendly products for farmers that are effective and fit into their budgets.”

While the company doesn’t have a product on the market yet, it predicts it will within two years. “Our first bioinsecticide will represent a new MOA and targets control of Colorado potato beetles,” Flanagan says. “In 2019, we had a very robust testing program across the U.S. and made significant advancements in determining the proper rates and application methods.”

This foliar spray product will kill insects after they consume a portion of leaf tissue.

Up next? A bioinsecticide for corn, soybeans and specialty crops, and a disease-control product for fruits and vegetables.

**Ripping Up *Rhizoctonia***

Leaves, dead insects, soil and roots that AgBiome employees collect from all 50 states and Africa are the base for the company’s new biological crop protection products. Howler®, its new biological microbe fungicide, attacks soilborne diseases, including *Pythium*, *Rhizoctonia*, gray mold (*Botrytis*) and mildews, in a broad range of fruits and vegetables. It has multiple MOAs and combines well with existing chemical fungicides. Howler is available to growers now.

The environmental samples that AgBiome collects are processed in its labs. “Then we extract most of the



Vestaron’s new product, Spear-Lep, controls several pests in a variety of high-value crops, including fruits and nuts.

microbes that are present and archive them,” says Co-Founder and Co-CEO Eric Ward. “From that large archive, we isolate individual strains of bacteria that look promising. And from there, we’ve learned how to produce a naturally occurring bacterial organism in large quantities and stabilize it by formulation.”

The company has more than 80,000 individual bacterial strains isolated and is pushing to get that number to more than 1 million within three years. AgBiome conducts complete genome sequencing on each isolated bacterium. This year, the company is running extensive field trials to determine label recommendations in row crops, where Howler has shown promising activity.

**Battling Bugs Using Pheromones**

BioPhero, a Danish agricultural biotech company, has developed an economically feasible product to decrease

pest populations and pesticide resistance using manufactured female sex pheromones that disrupt insects’ natural mating cycles.

“We have a fermentation-based bioproduction platform that creates yeast cells, which, in turn, produce the pheromones,” says BioPhero CEO Kristian Ebbensgaard.

Pheromones are chemical signal molecules used by insects, particularly moths, to attract their mating partners. The females emit them when they are ready to breed. When insect pheromones are sprayed onto fields, the males become confused and are unable to locate their true partners, leaving the females unfertilized. This process is known as mating disruption.

“Pheromones have been used on fruits and vegetables. But, up until now, it hasn’t been economically feasible to manufacture them for large acreages of corn, cotton, rice and soybeans,” Ebbensgaard explains.

Using a single-step proprietary process, the company can produce enough pheromones to meet the demand in row crops.

“The longer the pheromones are applied, the better they control insects because the benefits become cumulative year after year,” Ebbensgaard says.

**Delivering a New MOA**

A company in Research Triangle Park, North Carolina, focuses on developing environmentally friendly bioinsecticides with efficacy comparable to synthetics. Vestaron uses a small protein, a peptide, to develop a family of bioinsecticides with a new MOA.

“Vestaron’s new family of insecticides, based on the Spear® peptide, acts on the nicotinic acetylcholine receptor,” President and CEO Anna Rath says. Spear products target a different receptor site than the existing classes of chemistry do, which helps to manage resistance. “And because they are proteins, they degrade to amino acids that benefit the soil,” Rath adds.

The company currently markets two Spear® brand products. Spear-Lep manages caterpillars, loopers and worms on hemp, fruits, nuts, ornamentals, tobacco and vegetables. Spear-T controls four major greenhouse pests — aphids, spider mites, thrips and whiteflies.

**Fostering Innovation**

All five of these innovative companies are in the portfolio of Syngenta Ventures, the corporate venture capital arm of Syngenta Group.

“We want to have a role in providing the best products and value-added solutions for our customers,” says Shiri Ailon, head of Syngenta Ventures. “The increase in adoption of natural products is driving the growth of the agricultural biological market. Biologicals help improve crop yields and quality, which, in turn, helps growers deliver healthy and affordable feed and food products to consumers around the globe.” While traditional chemical control options will continue to play vital roles on most farms, biologicals can supplement growers’ pest control strategies and give them more tools in their crop protection toolboxes. ■

STORY BY ANN BEHLING WOLF

**About Syngenta Ventures**

Launched in 2009, Syngenta Ventures is one of the first corporate venture capital teams dedicated to agriculture. Its team of professionals makes investments across North America, Europe, Latin America, Israel, India and China with a common theme of helping growers become more profitable while positively impacting the future of agriculture. For more information about Syngenta Ventures, go to [www.syngentaventures.com](http://www.syngentaventures.com).



# Finding a Better Regulatory Balance

The consultation process for registering pesticides needs repair.

Federal actions that could have adverse effects on threatened or endangered species or their habitats must go through a process called consultation. It's a requirement of the Endangered Species Act (ESA). Courts have held that the rule applies to a broad range of federal actions, whether it's building a bridge or registering a pesticide.

In the case of pesticide registrations, the consultation process attempts to reconcile the protection of endangered species (under ESA) with the pesticide law governing regulations known as FIFRA (the Federal Insecticide, Fungicide, and Rodenticide Act). Ultimately, the balance of broadening environmental protection while still giving growers access to modern pest control technologies is the goal of the various agencies responsible for setting this policy. In theory, key agencies — the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service and the National Marine Fisheries Service — consult and agree on a final recommendation. (See "How the Consultation Process Works Today," on this page.)

But the process is in need of repair, says Tony Burd, senior regulatory manager for Syngenta. Problems can arise when communications between the agencies break down or they disagree in their evaluations of a pesticide's potential effects, he says.

## Consultation Complications

Incomplete information is sometimes a stumbling block. "With pesticides, it's a nationwide registration usually, but the pesticide



### How the Consultation Process Works Today

When an agriculture registrant seeks a pesticide registration, it goes through an assessment under the Federal Insecticide, Fungicide, and Rodenticide Act, after which the U.S. Environmental Protection Agency produces a biological evaluation. Based on this evaluation, the regulators overseeing the assessment conclude that there will be either no effect or potential effect on the species. If an effect is foreseen, that evaluation will be shared with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Then these wildlife services must either concur or write their own biological opinion.

► Read article online at [www.syngentathrive.com/policy](http://www.syngentathrive.com/policy).

isn't actually being used uniformly nationwide," says Rachel Lattimore, general counsel for CropLife America. "If a pesticide can be used up to six times a year on apple orchards, the consultation process has assumed that every apple orchard in America is using it six times a year. That's just not the case. And then they say, 'Wow, the registration of this product is a big problem.'"

The ranges of many endangered species are also not defined well, Burd says. "So if you do not have a very good idea of where the crop is being grown, it could potentially be grown anywhere. If the endangered species has a range map that is overly conservative and covers an entire state, you have a problem with overlapping areas. It looks like you are spraying pesticides over the entire U.S. as opposed to very specific areas. EPA and the wildlife services cannot reconcile that."

For retailers and growers, the current process creates uncertainty. "There is regulatory uncertainty, legal uncertainty, liability uncertainty and planning uncertainty," says Steve Hensley, National Cotton Council of America senior scientist for regulatory and environmental issues. "A farmer can plant a certain seed or crop only to find that a successful lawsuit has canceled a pesticide he needs for that crop."

### Toward an Improved Process

Lattimore would like to see a more realistic look at how pesticides are actually used and the role growers play in conservation efforts. "Growers are already doing a lot of great conservation work," she says. "We're looking at options that don't impose more burdens on growers but can allow for the good work they're already doing to be recognized."

CropLife America has been working for years on this issue, talking with the government, other stakeholders and environmental groups, Lattimore says. "Syngenta has been a great partner in this."

Bringing the pesticide registrants like Syngenta into discussions with the wildlife services earlier would also help, Burd says. The company has other ideas to improve the process, too. "We are working with groups, such as Defenders of Wildlife, to produce refined range maps," Burd says. The company is also creating a species sequencing tool to help the wildlife services prioritize their efforts. "Instead of working on 1,800 species, they may only have 100 species that they have to work on, depending on where the pesticide would potentially be registered."

Getting all parties to work in a more clearly defined process — and agreeing on some shared goals — would be beneficial, Hensley says. "Everyone has to recognize the different goals of ESA and FIFRA. They can then reconcile those goals to provide the greatest protections possible to endangered species while also allowing for the continued use of products that control pests," he says. "In that scenario, growers would have a reasonable certainty that the product they must have will be there when they need it." ■ STORY BY SUZANNE BOPP

## Seed protection starts with innovation.

Protect your seeds from the moment they meet the soil. Syngenta Seedcare offers proven disease and pest protection through curated crop-specific recipes and uniquely powerful active ingredients to start your crops off strong.



40 YEARS  
OF SEEDCARE  
INNOVATION



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# Shielding Seed Early May Pay Dividends Later

Two experts offer guidance to growers and retailers on choosing, applying and stewarding yield-protecting seed treatments.

**Q. Why are seed treatments crucial for reducing the impact of insects and diseases on crops?**

**A. Dale Ireland, Ph.D., technical product lead for Seedcare, Syngenta:** As soon as seeds are planted, insects and disease organisms begin attacking the germinating seeds and the developing seedlings. Seed treatments provide immediate protection from these early-season pests and thus are vital to establishing the healthiest plant stand possible. Growers know that robust, uniform early plant growth across each field is critical to establishing a crop offering the greatest yield potential their seed genetics and the environment can provide. Reduced plant health and stand loss early in the season lead to profit loss at year-end. Comprehensive seed treatment use maximizes the crop's income potential.

**“Reduced plant health and stand loss early in the season lead to profit loss at year-end. Comprehensive seed treatment use maximizes the crop's income potential.”**

—DALE IRELAND, PH.D.  
Technical Product Lead  
Seedcare, Syngenta

**A. Jeff Hopp, CCA, agronomy service representative, Western Commercial Unit, Syngenta:**

The minute a seed is planted, the maximum yield potential for that crop is under attack from both biotic and abiotic stresses. When you choose the correct seed treatment, seeds, roots, shoots and stems are protected from key seedborne and soilborne diseases, as well as soil-dwelling and early-season above-ground insects. Seed treatments can also provide early-season protection from moisture stressors associated with droughty to excessively wet soils and soil temperature fluctuations primarily associated with late fall and early spring cold soils.

**Q. How can growers evaluate whether seed is treated properly?**

**A. Ireland:** Most growers evaluate a seed treatment by the way it looks when they open their seed container. Often, the uniformity of the color governs whether growers believe their seed has a quality seed treatment applied correctly. Using an engineered premix, such as CruiserMaxx® Vibrance® seed treatment, provides an easier to apply, more accurate application that is more likely to deliver the performance customers expect. Only through an experienced seed treatment operation can seed be accurately treated. The

Syngenta Seedcare Institute™ in Stanton, Minnesota, offers refresher training. This service delivers updates and improves applicator skills.

**A. Hopp:** Proper seed treatment application is critical to protect every seed, from planting through germination and early growth stages. I strongly encourage both commercial treaters and growers who use on-farm treating equipment to develop a game plan that includes the following steps:

- Always use disease-free, cleaned seed.
- Make sure all seed treating equipment is serviced prior to startup and as required during treating.

Read article online at [www.syngentathrive.com/farmproduction](http://www.syngentathrive.com/farmproduction).

- Follow the manufacturer's guidelines for proper calibration and application. For Syngenta Seedcare solutions, seed treating calculators by crop are available online.
- Collect and send captive samples to The Seedcare Institute or an approved lab for analysis. Testing will verify that the proper active ingredient (a.i.) load was applied in a uniform coating to the seed. A visual inspection alone does not ensure that optimum coverage and the correct a.i. load were achieved.

**“Manufacturers, retailers, seed houses and farmers all share the responsibility of stewarding the seed treatments they sell and use.”**

—JEFF HOPP, CCA  
Agronomy Service Representative  
Western Commercial Unit, Syngenta

**Q. Which seed treatment developments do you predict will generate the most excitement among growers in 2021 and why?**

**A. Ireland:** Saltro® seed treatment — being used for the first season commercially in 2020 — is generating excitement throughout the industry because it delivers next-level control of Sudden Death Syndrome (SDS) and nematode protection in soybeans. (See “Out of Sight but Top of Mind,” page 16.) Saltro provides a new level of protection that is statistically superior to the previous market leader. Saltro provides excellent crop safety, industry-leading SDS protection, easier application and improved seed handling. It also provides equal protection against plant parasitic nematodes compared with the previous market leader.

**A. Hopp:** In the Western crop area, one of our most recent introductions is generating a lot of excitement in the Colorado potato market: Vibrance Ultra Potato seed-applied fungicide. Launched in the spring of 2020, it's a combination of sedaxane, difenoconazole and mandipropamid and contains a proprietary drying agent in a liquid formulation. In trials and growers' fields, Vibrance Ultra Potato has performed well by controlling seedborne late blight and providing the first round of defense in a pink rot management program.


**Q. What role can growers, retailers and suppliers like Syngenta play in stewarding seed treatments?**

**A. Ireland:** It takes a significant amount of time and resources to identify and develop a new seed treatment molecule. To keep seed treatments available to growers and help minimize environmental impacts, we all must work together to read and follow all labeled directions to ensure proper use and handling of these products. After all, cautiously stewarding them allows for a long, productive product life and provides our customers with an effective and potentially profitable experience.

**A. Hopp:** Manufacturers, retailers, seed houses and farmers all share the responsibility of stewarding the seed treatments they sell and use. Part of that stewardship includes following

the instructions on the manufacturer's label. Basic guidelines include:

- Make applications at the proper labeled rate.
- Use products at their full doses. Applying less than the full rate is the fastest way to reduce a product's performance capabilities and shorten its life cycle through resistance development.
- Choose the right seed treatment specifically designed and formulated by crop.
- Whenever possible, use premix formulations with overlapping modes of action. For Syngenta seed treatments, applicators can work with The Seedcare Institute to develop a customized seed treatment to meet their local needs.

I encourage anyone who uses a Syngenta Seedcare product to take advantage of the many seed treating resources we offer and collaborate with local Seedcare specialists, sales representatives and agronomists for in-person or virtual support. We're here to help every step of the way.  INTERVIEWS BY SUSAN FISHER





# SUCCESSFUL SUCCESSION

Transferring farm ownership from one generation to the next can be a challenging but rewarding process.

*By Jeff Jones*

Left to right: Parker Heard will one day take over the family farm in Brinson, Georgia, from his father, Glenn Heard.



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PHOTO: TODD STONE



**K**eeping a farm in the family is often a strongly felt responsibility and an essential goal that's wholly possible to reach. For two growers whose geographies and circumstances vary greatly, generational succession was a success because of methodical planning and tempered decision-making.

### Playing the Long Game

Glenn Heard has been on both sides of the farm succession equation. He gradually took over his father's farm in Brinson, Georgia — a 16,000-acre operation where cotton, peanuts, various grains, sweet corn and carrots are grown — and now looks to pass it on to his son.

"We did it differently than most farm families," Heard says. "I started my own farm in 1980 as a separate operation and shared equipment with my father. My operation got bigger over time after I acquired land from outside farms as well as from my father as he transitioned out of the business. By 1995, I was able to take over his farm completely."

He kept the long path to succession orderly by hiring dependable farm managers to oversee the respective operations of father and son. Heard is now grooming his son to take over in much the same way, getting him started on his own farm and sharing equipment. Plans and fortunes may change; but with a measured, long-term process in place, they will be able to face unforeseen challenges more easily.

### When Succession Is a Surprise

In sharp contrast, Kory Hagen, who runs a 1,000-acre corn farm in Cylinder, Iowa, had succession abruptly thrust upon him in his early 20s, when his father suffered a stroke. The elder Hagen had to relinquish primary management of the farm as a result. Luckily, the younger Hagen had shown a knack for farming early on and worked the fields side by side with his father from a young age.

Even in the midst of running a successful excavation and trucking businesses that he founded, Hagen hit the ground running and found ways to modernize the operation his father had started. He decided to focus on no-till farming, a decision that ultimately benefits the environment.

"We used to run a more old-fashioned farm, operating five different tractors and two older combines for beans, ripping up everything, and cultivating twice," Hagen says. "It was a tough transition, but I decided to go the strip-till route. That eliminated the need to buy a ripper, cultivator and additional tractor. We could just lease one new tractor and use it to farm 1,000 acres."

After a few growing pains, Hagen learned to run his father's farm more efficiently and sustainably with a five-man team. Today, as a 28-year-old owner, he makes most of the decisions but also has a small team of advisers, including a banker who juggles marketing duties and an accountant whom Hagen has known since eighth grade.

"It was hard going from farming with my dad to being 100% on my own," Hagen says. "If anything failed, it was nobody's fault but mine, which was the biggest challenge. But I'll always farm, no matter what. It's very peaceful; and once it's in your blood, it's there for life."

### Unexpected Approaches

Some farmers approaching retirement age may not be willing to give up the reins just yet. For those who wish to continue to take an active role after relinquishing some control, there are two options that could be ideal, according to Danny Klinefelter, Ph.D., retired professor of agricultural economics at Texas A&M University.

"Collaborative farming is becoming more common," he says. "Let's say you excel at crop production, and another nearby farm has a better grasp on marketing. By joining forces, you can share responsibilities and focus on respective strengths. You may also get access to better

equipment and increase your collective buying power."

Farm mergers provide a similar option to collaborative farming; but instead of running things as equals, a smaller farm can be annexed into a larger operation, retaining a considerable stake in ownership in the process.

"Farms continue to grow and consolidate at a rapid pace," Klinefelter explains. "Many smaller farms don't have the resources to grow that fast, but owners want their kids to have a chance at a future by any means necessary. Merging with a larger operation can set the next generation up for success and give the family a continued role in running things."

### The Big Picture

For growers like Heard and Hagen, it's a common dream to one day pass on their farms to someone in the family, keeping generational success alive for decades to come. It's not always easy and, according to research from the University of Missouri, not as likely to succeed as turning over the business to an outside party. Only 30% of farms succeed when passed on to a family member, compared with a 70% success rate when farms are transferred to an external party.

Farmers improve their odds with careful planning that includes the next farm leaders. The parties must navigate local and state tax structures, transfer fixed capital assets and land, plot out retirement strategies, and have difficult business conversations.

Lynn Sandlin, business intelligence manager for



Kory Hagen, who took charge of the family farm in Cylinder, Iowa, in his early 20s, has implemented a no-till approach on the farm.

Syngenta, urges anyone broaching the subject of farm succession to step back and think about what this complex process entails.

"A farm is more than just an enterprise — it's a way of life," he explains. "Elder farmers think of it not just as a business with land and equipment, but also as a legacy they're leaving behind for children, grandchildren and so on."

When considering all this, it's no wonder that passing a farm into the hands of family members is such a difficult task. But with the right mindset and strategy, the promise of generational farm succession — whether complete or partial — is possible. 🌱

## FOUR STEPS TOWARD SUCCESSFUL AGRIBUSINESS SUCCESSION

Passing on a farm or agribusiness to the next generation can be arduous no matter the relationship between past and future ownership. Danny Klinefelter, Ph.D., retired professor of agricultural economics at Texas A&M University, has witnessed numerous handoffs during his tenure, from modest family farms to suppliers for international brands. Over time, Klinefelter has observed four steps every agribusiness should consider.

### 1. Develop Estate and Succession Plans

Start plans as soon as possible so everyone knows where assets are going. If your children show interest in the business early on, consider enrolling them in a management development program at a land grant university. Create a family business council of interested parties who can discuss objectives and map out successor campaigns.

### 2. Outsource Your Trust

Don't feel obligated to entrust the business to family members who lack know-how in crucial areas. Enlist a team of agriculture-focused attorneys, tax accountants or consultants who specialize in family-owned businesses. Form an advisory board or, if your business is big enough, a formal board of directors. Finally, a peer adviser group of top managers can offer outside counsel that may help.

### 3. Review Your Crew

Conduct regular performance evaluations with your team to set expectations, track improvement, and see what strengths and weaknesses develop over time. When a successor or successors emerge from this process, give them every opportunity to ask questions about the business or make suggestions for improvement.

### 4. Test Your Team

Once you have your successors lined up, put them through testing to gauge personality styles and management capabilities. For operations with multiple successors, this will help future owners work together more efficiently and build on one another's strengths. Have open discussions about suggestions for self-improvement or expanding the team with the right expertise, from forward-looking CEOs to accountants and marketing experts.



# Out of Sight but Top of Mind

**The dual threats of Sudden Death Syndrome and soybean cyst nematode require a multipronged defense.**

By Erin Kolstad

“A wise man once told me to always bet on the pest,” says Kerry Dittbenner, sales agronomist with Central Farm Service in Lewisville, Minnesota. “They’ll always adapt.”

Evolution is nothing new for soybean growers. For decades, growers have battled resistant weeds and evolving disease pressure. However, two of the biggest soybean threats have been adapting and spreading where growers can’t easily see them — under the soil.

Sudden Death Syndrome (SDS) and soybean cyst nematode (SCN) hide in cool, wet soils in nearly every major soybean-growing state. While SDS and SCN attack soybeans in different ways, both can cause devastating yield losses.

“As SCN and SDS continue to adapt and spread through the U.S., growers need to be prepared to defend their yields by using every tool in their toolbox,” says Dale Ireland, Ph.D., technical product lead for Seedcare at Syngenta.

#### **A Visual Killer**

SDS, a soilborne disease caused by *Fusarium virguliforme*, infects soybeans early. But foliar symptoms don’t appear until it’s too late to protect against yield losses, which can be as high as 80%.<sup>1</sup>

“We often forget about the first stage of the disease because we see those foliar symptoms later in the year, and that’s what catches our attention,” says Jason Bond, Ph.D., a professor and plant



The SDS pathogen doesn’t need cyst nematode to cause damage, but we tend to get SDS symptoms a little earlier and more severely when there’s also SCN.

—JASON BOND, PH.D.  
Professor and Plant Pathologist  
Southern Illinois University





### Tips for SCN Management

- Developing a plan to manage SCN requires these steps:
- ✓ Test your fields to know your numbers.
  - ✓ Rotate resistant varieties.
  - ✓ Rotate to nonhost crops.
  - ✓ Consider using a nematode-protectant seed treatment like Salstro® seed treatment.



Estimates put annual losses to SCN at more than **\$1 billion**.

pathologist at Southern Illinois University. “There are a lot of *Fusarium* species that attack soybeans. This is one that not only attacks the roots early in the season, but also causes scorch later on because it produces a toxin that gets translocated up into the upper portions of the plant.”

These noticeable foliar symptoms begin with yellow spots on the leaves and spread into chlorotic interveinal leaf scorching. Defoliation and pod expulsion then occur, leading to potentially catastrophic yield loss.

“Growers talk to me about SDS costing them 30, 40 bushels an acre on a soybean crop,” says Zachary Trower, agronomy service representative with Syngenta. “Now that is huge and can mean the difference between turning a profit or not turning a profit on that acre.”

### The Stealthy Yield Robber

On the other hand, SCN causes an estimated \$1.5 billion in yield loss each year and can do it without causing visual symptoms.

“It’s so easy — especially if you’ve been dealing with SDS — to forget about the impact that SCN has just by itself,” Bond says. “In this part of the country, one thing we’ve seen consistently is the rapid adaptation of cyst nematode to resistant varieties. We’re losing anywhere from 3 to 10 bushels per acre to this pest, even when we’re planting resistant varieties in heavily infested fields.”

When SDS and SCN appear in the same field, yield loss multiplies exponentially. As SCN feeds on soybean roots, the puncture wounds from the parasite make the plant more susceptible to SDS infection.

“I think it’s more of a cumulative stress factor: One stress predisposes the plant to even greater damage because you have these two stresses together,” Bond says. “The SDS pathogen doesn’t need cyst nematode to cause damage, but we tend to get SDS symptoms a little earlier and more severely when there’s also SCN.”

### Better Fix It Before It’s Broken

As with many pests and diseases, protecting against SDS and SCN begins with choosing the right resistant soybean varieties. When it comes to SCN-resistant varieties over the past 20 years, more than 90% almost exclusively relied on a single source (PI 88788). While it has been a vital tool, over-reliance on it has resulted in a rapid loss in effectiveness over time.

Because of this ongoing challenge, Syngenta Seeds has developed a new soybean variety with a novel source of SCN resistance – PI 89772.<sup>2</sup>

“NK is constantly working to introduce and rapidly scale up new SCN tools,” says Andy Heggenstaller, Ph.D., head of agronomy at Syngenta Seeds. “In our 2022 Enlist E3® soybean portfolio, almost 10% is expected to have an alternate SCN source of resistance that most soybean acres have not yet experienced. We look to expand access to more varieties with alternative sources of SCN resistance over the next several years. For growers, this innovation means we can continue protecting their yield potential from SCN for years to come.” (See “First Decision, First Line of SDS Defense,”

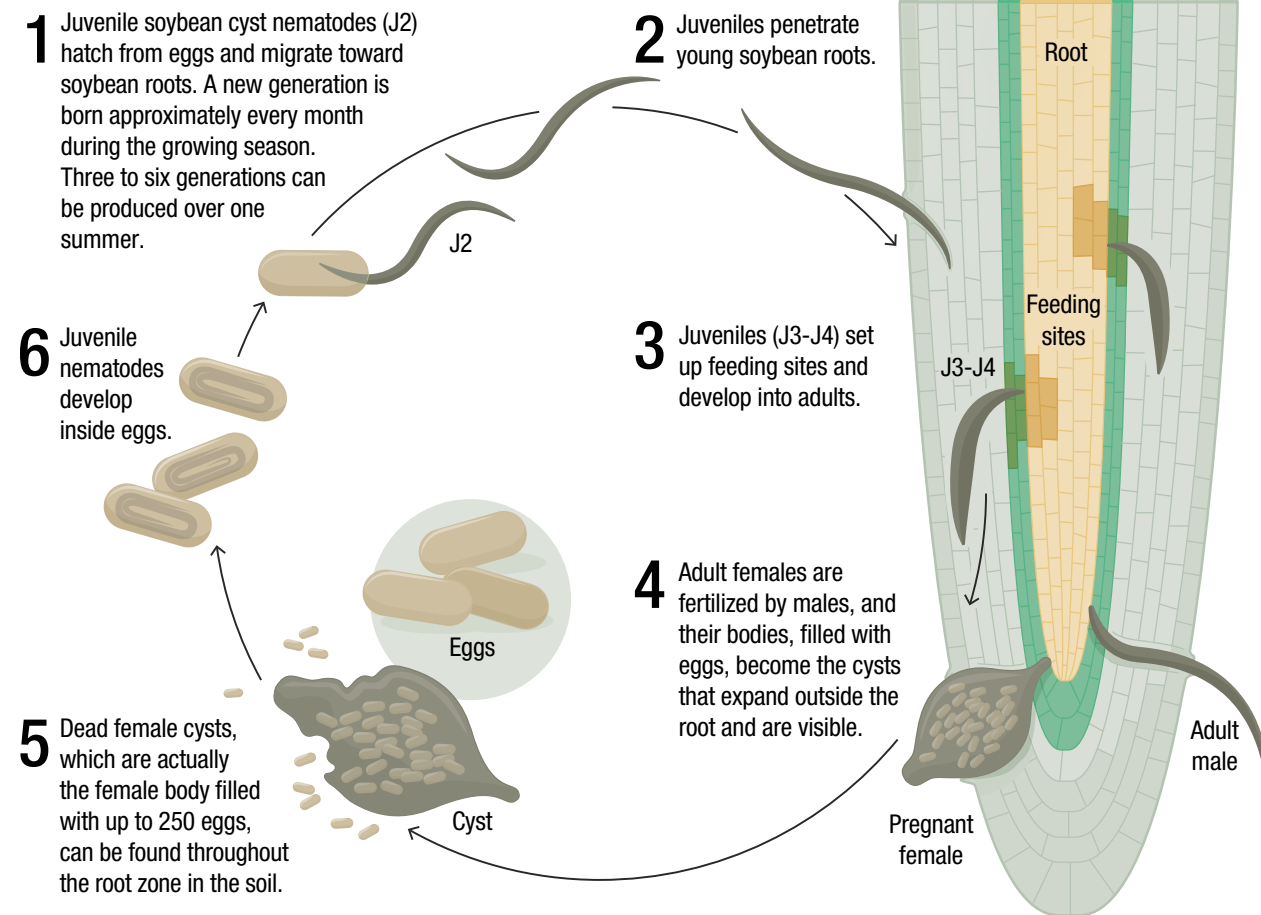
### Tips for SDS Management

- ✓ Plant high-yielding SDS-resistant varieties.
- ✓ Plant early, but in warm, dry soil.
- ✓ Use high quality seed.
- ✓ Use an effective fungicide seed treatment.
- ✓ Manage soil compaction.
- ✓ Harvest corn fields cleanly.

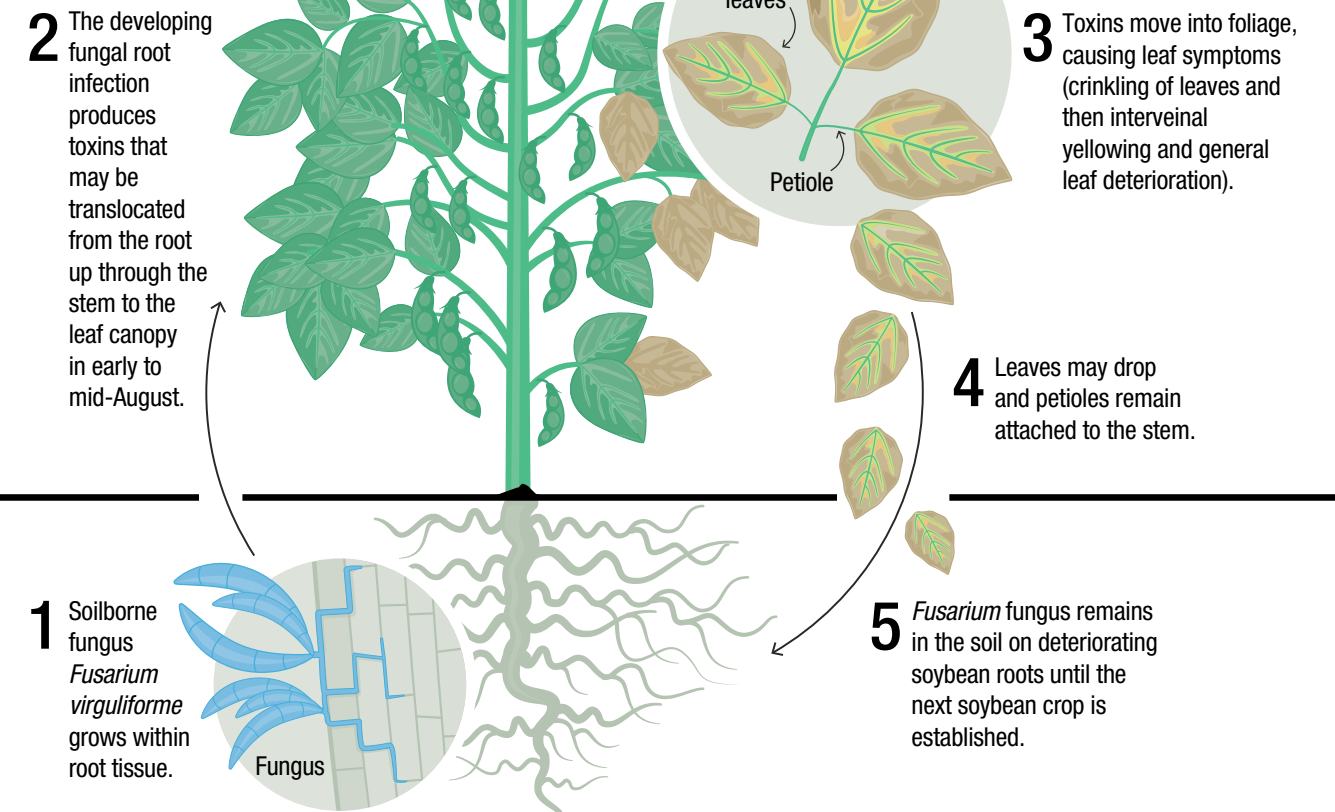


SDS causes losses of more than **25 million bushels** annually in the U.S.

### Soybean Cyst Nematode Life Cycle



### Sudden Death Syndrome Infection





**4 bu/A**  
**YIELD ADVANTAGE**  
 for Saltro when  
 compared to ILEVO



In both controlled environments and field trials with SDS and SCN present, Saltro-treated soybeans have significantly healthier root mass than soybeans treated with ILEVO do.\*

\* Syngenta trials at The Seedcare Institute, Stanton, Minnesota; 21 DAP in soil inoculated with heavy SCN and SDS (*Fusarium virguliforme*) pressure; April 2019

**Saltro**

**ILEVO**

PHOTO: MARK ZHU

Read articles online at  
[www.syngentathrive.com/farmproduction](http://www.syngentathrive.com/farmproduction).

on this page, for information on SDS-resistant varieties.)

**One Is the Loneliest Number**

SDS and SCN require a combination of strategies to protect yield. Nonhost crop rotation, SCN- and SDS-resistant genetics, and seed treatment protection should all be used to defend a grower's return on investment.

"Since you can't put the genie back in the bottle, we don't want to just rely on one mechanism to control this pathogen," Bond says. "It's a balance. You want to use host resistance, but you also want to consider chemical control, so you're not just relying on one way to control the organism."

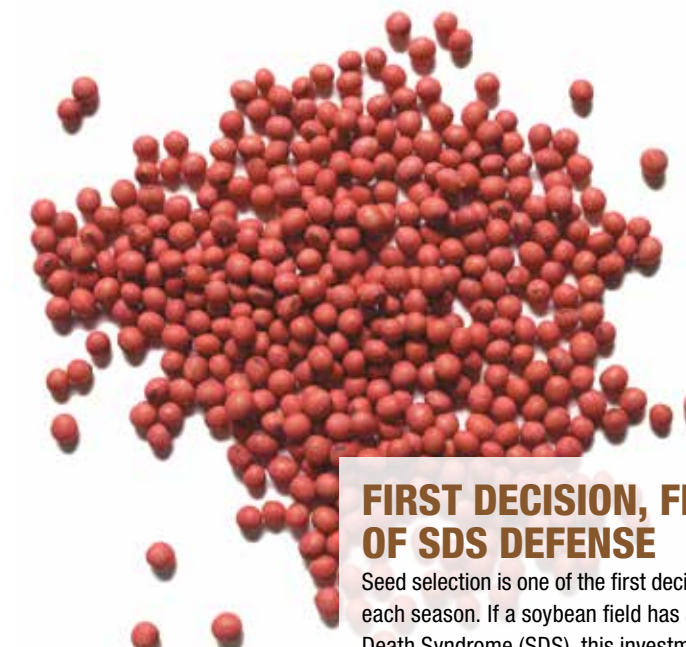
For his customers, Alex Labenz, regional sales manager with Frontier Cooperative in Genoa, Nebraska, has tried using only resistant varieties. He's also tried SDS seed treatments, including Saltro® fungicide seed treatment in a 2019 precommercial trial after learning that it provided an average 4-bushel-per-acre yield advantage over ILEVO® seed treatment in multistate trials over a four-year period.<sup>3</sup> Now registered for commercial use, Saltro delivers superior SDS protection without the stress, as well as robust activity against nematodes, including SCN.

"Last year was the first time I did a trial with Saltro," Labenz says. "It was a small, precommercial trial in a hot spot in a grower's field. We treated 98% of that grower's acres with a competitor. After seeing how well that little plot performed, the grower is using 100% Saltro this year, and we're happy with how things are looking so far."

Labenz's results don't surprise Ireland. "By combining Saltro with the right SDS-resistant variety, you ultimately protect your bottom line," he says. "It can significantly reduce the risk of late-season foliar symptom expression, and the potential payoff is higher yields at harvest." 🌱

1. "Sudden Death Syndrome," Wisconsin Field Crops Pathology Division of Extension, University of Wisconsin-Madison, [fyi.extension.wisc.edu/fieldcroppathology/soybean\\_pests\\_diseases/sds](http://fyi.extension.wisc.edu/fieldcroppathology/soybean_pests_diseases/sds)
2. "Nematologists Eager to Study a New Soybean Variety With SCN Resistance," The SCN Coalition, [www.thescncoalition.com/application/files/4915/8566/4403/PI\\_89772\\_NR\\_03-31-2020.pdf](http://www.thescncoalition.com/application/files/4915/8566/4403/PI_89772_NR_03-31-2020.pdf)
3. U.S. trials with SDS pressure; 2015–2019. Trial locations: AR, IL, IA, KS, KY, MI, MN, MO, TN, WI. Trials with significantly different disease incidence/severity rating between Check and SDS treatment.

PHOTOS: (TOP TO BOTTOM) DAVID BOWMAN, SYNGENTA



**FIRST DECISION, FIRST LINE OF SDS DEFENSE**

Seed selection is one of the first decisions a grower makes each season. If a soybean field has a history of Sudden Death Syndrome (SDS), this investment decision is even more crucial because the soybean variety is the first line of defense against the yield-limiting disease.



**NK has one of the longest-running soybean breeding programs on the continent. ... This elite collection of conventional breeding lines can then be used to quickly introgress new herbicide traits like we did recently with the Enlist E3 soybean herbicide trait."**

—ANDY HEGGENSTALLER, PH.D.  
 Head of Agronomy  
 Syngenta Seeds



"It really all starts with that variety decision," says Jason Bond, Ph.D., professor and plant pathologist at Southern Illinois University. "It's amazing that something so early in the season has such an impact on the foliar symptoms that you're looking at in August. But it all starts with that seed, that pathogen and the conditions at that time."

The NK® soybean portfolio offers industry-leading SDS-resistant varieties to help protect against the disease. Across all relative maturities, Syngenta soybean varieties have consistently rated better than offerings from Pioneer® and Asgrow® when it comes to SDS genetic resistance scores.<sup>1</sup>

These better scores are thanks in part to the scientists who began work on SDS phenotyping in 1995 at a Syngenta legacy company in St. Joseph, Illinois, as well as today's Syngenta scientists who continue innovating SDS solutions. SDS phenotyping is the process of measuring and analyzing the physical expression of genes in a plant's DNA that are responsible for a particular trait.

"NK has one of the longest-running soybean breeding programs on the continent, with more than 50 years of experience," says Andy Heggenstaller, Ph.D., head of agronomy at Syngenta Seeds. "We maintain a clean conventional breeding effort that allows for continued selection focused only on high yield and defensive traits like SDS and no slowed progress from selection of herbicide trait performance. This elite collection of conventional breeding lines can then be used to quickly introgress new herbicide traits like we did recently with the Enlist E3® soybean herbicide trait."

That's how Syngenta delivers trait choice rapidly yet with confidence that its varieties will have high yield and defensive protection in growers' fields.

1. According to independent SDS rating scores from Syngenta, Pioneer and Monsanto. Data from 2014 trials.





# TIPS TO JUMP-START YOUR YIELD POTENTIAL

NK treated corn seeds are designed to combine the right traits and the right seed treatment to get a crop off to a strong start.

## Set your sights on high yields with the decisions made during planning and planting.

By Darcy Maulsby

**R**yan Bonham, a fifth-generation corn, soybean and cattle producer from Franklin, Nebraska, is always looking for both new and tried-and-true ways to improve his operations. “We do a lot of soil sampling and tissue sampling and are willing to try new things,” he says. “If you want to get your crop off to a good start and grow higher yields, be persistent, be patient and find advisers you can trust.”

Like any grower, Bonham has a lot to consider in order to start strong in the 2021 growing season, from soil and seed treatment decisions to weed, insect and disease management.

“The most successful growers plan ahead,” says Mark Dozler, a crop protection sales representative for Syngenta in central Nebraska who has worked with the Bonham family for eight years. “If you don’t get your crops started right, you’ll be playing catch-up the whole year.”

### Focus on Key Factors

Here are the seven top tips for starting the 2021 crop strong:

- 1. Select seed to match your needs.** Don’t focus exclusively on seedling vigor and yield potential. “I know economics are tight, but you need to plant the right traits that put you in a favorable position for success,” says Blake Miller, agronomy service representative at Syngenta in the East Heartland region. “The right traits for your needs are a powerful tool in your toolbox.”
- 2. Choose the right seed treatments.** Lowering plant stress is key to helping crops maximize their genetic potential. “Seed treatments can play a big role in controlling insects and diseases,” says Miller, who is based in west-central Illinois. “They also promote a more robust root system to get the crop off to a strong start.” CruiserMaxx® Vibrance® seed treatments from Syngenta fight against damage from certain insects, seedborne diseases and seedling diseases in a variety of crops, including soybeans, corn, cereals and potatoes. In soybeans, CruiserMaxx Vibrance also offers the unique Cruiser® Vigor Effect, which helps counter possible negative field stresses that early planting can promote, which reduce the plant’s ability to reach its genetic yield potential.

Miller also recommends Salstro® fungicide seed treatment, which delivers superior protection against Sudden Death Syndrome (SDS) and robust activity against nematodes, without any of the stress that soybeans experience with older technologies like ILEVO®.



**3. Control compaction.** Limiting traffic patterns in the field is smart. So is patience. “The sidewall compaction that can occur if the crop is mudded in will limit the access to water and nutrients that crop roots need to support healthy growth,” Miller says.

**4. Manage cover crops.** Burndown timing is critical, especially with a cover crop like cereal rye. Let it grow too long, and it will rob yield potential. “I’m a big fan of cover crops, but ideally you don’t want any green tissue in the field when the crop is emerging,” says Bob Kacvinsky, agronomy service representative at Syngenta in the West Heartland region. “We’ve seen losses of 10 to 40 bushels per acre at the Syngenta plot near York, Nebraska, when cereal rye isn’t terminated early enough.” Research also shows a loss of 9 pounds of nitrogen per week,

on average, over a three- to four-week period if rye is allowed to grow 12 inches tall. “That’s the equivalent of losing \$18 an acre of nitrogen,” adds Kacvinsky, who lives in Lincoln, Nebraska.

Bonham also discovered potential pitfalls with cover crops when he grew them for the first time about five years ago. “We were trying to do things right, but we messed up some things, including overgrazing,” Bonham says. “While our yields slipped about 15% to 20%, we were patient and persistent as we kept learning. Now cover crops are working well for us.”

**5. Stop weeds before they start.** All plants compete for water, space and nutrients. “Remember the 3-3-1 rule,” Kacvinsky says. “A 3-inch-tall weed every three days can take 1 inch of water out of the soil.”

An effective preemergence system is essential, but don’t let costs deter you. “It often costs three times more to kill a weed later than to prevent weeds right up front,” Dozler says. “Weed escapes also build up the weed-seed bank, which leads to more trouble later.”

Dozler recommends Acuron® corn herbicide, which contains the exclusive active ingredient, bicyclopyrone, and delivers 5 to 15 more bushels per acre on average over any other herbicide.\*

“Acuron offers a unique combination of powerful weed control, longest-lasting residual and proven crop safety that results in maximum performance on tough, yield-robbing weeds,” Miller says. “Less weed competition translates into more nutrients, sunlight and water available for the growing corn crop, which leads to more bushels and ultimately extra revenue potential. The bottom line is clean fields maintain yields.”

**6. Take advantage of fungicides.** Fungicides may also offer an excellent potential return on investment, even with lower commodity prices. Growers in Dozler’s area have seen good results with Syngenta products, including Miravis® Neo fungicide for broad-spectrum disease control in corn and soybeans, and Trivapro® fungicide, a long-lasting fungicide with preventive and curative control of rusts, leaf spots and blights in corn, soybeans and wheat.

“With \$2.95 corn, you’ll need an 8-bushel yield bump to see a return on investment,” Dozler says. “We’ve averaged 12 bushels per acre more in central Nebraska with Trivapro.”

Bonham, who farms in south-central Nebraska, favors the use of fungicides as well. “It seems like fungicides help my crops handle stresses like drought and heat better, which translates into yield.”

**7. Find trusted partners.** As fast as things change in agriculture, it can be challenging for growers to keep up with everything they need to know to make smart management decisions.

“Top growers work with advisers, whether that’s a crop consultant, extension specialist, ag retailer or seed adviser,” Dozler says. “You want people who are willing to do the research, provide data and help you develop a customized plan, not just sell you products.”

A trusted adviser can also offer insight you may not discover on your own. “Good advisers gain a wide perspective by working with a lot of different people,” Miller says. “They offer an objective look at solutions that can work for you.”

\* When applied preemergence and at full label rates. Acuron yield advantage range based on 2016 Syngenta and university trials comparing Acuron to Corvus®, Resicore®, SureStart® II and Verdict®. For more information on Acuron versus an individual product, ask your Syngenta representative. **Acuron is a Restricted Use Pesticide.**

### In the Pipeline: An Innovative Seed Treatment With a New Mode of Action Is Coming Soon

Stand establishment sets the foundation for higher yield potential and maximizes seed investment. But establishing a strong stand doesn’t happen on its own, especially with diseases like *Phytophthora* and *Pythium* lurking in many fields.

*Pythium* is the No. 1 corn seedling disease and a significant threat to soybeans as well, notes Dale Ireland, Ph.D., technical product lead for Seedcare at Syngenta. *Pythium* lives in the soil and can strike seedlings within 90 minutes of planting. Fields also may have multiple species of this destructive disease, making it even harder to manage.

If that weren’t bad enough, *Phytophthora* — another yield-robbing water mold — and *Pythium* can live in the soil almost indefinitely, withstanding changes in soil moisture and temperature until conditions are right to strike. That’s why effective seed treatments are vital to protect seeds and seedlings from a broad spectrum of early-season stressors.

“A robust, healthy stand is key to getting a uniform stand so you can get the most from your seed genetics and your herbicide program, since uniform stands can canopy sooner and more effectively than uneven stands,” Ireland says.

Once registered, a new seed treatment technology from Syngenta will offer an innovative mode of action to protect against *Pythium* and *Phytophthora*. After registration, picarbutrazox (PCBX) will be marketed as Vayantis® fungicide seed treatment.

“This product has been in field trials since 2012,” Ireland says. “We’ve tested more than 30 species of *Pythium* and all of the isolates tested are susceptible to

PCBX.” This is especially important since there are species of *Pythium* that are resistant to current technologies.

PCBX will offer a new mode of action beyond metalaxyl fungicides. “Growers have used metalaxyl for decades, and it’s still valuable, but it doesn’t cover everything anymore,” Ireland says.

PCBX has been shown to be safe on plants and offers a low expected use rate, thanks to its highly active molecule. Syngenta anticipates PCBX to be available to corn and soybean growers in time for the 2022 planting season. “Syngenta invests millions of dollars over many years in research and development to provide products like this to farmers,” Ireland says.

Bob Kacvinsky, a Syngenta agronomy service representative, has seen strong results at field trials in York, Nebraska. “Beans with PCBX showed more uniform emergence and were greener and more developed in trials.”



Picarbutrazox is more active gram for gram than ethaboxam. First row: Picarbutrazox requires about 1/4 the active ingredient compared with ethaboxam in corn inoculated with *Pythium ultimum* to achieve effective control.\* Note the additional healthier, larger plants present. Second row: Picarbutrazox protects plant health with about 1/10 the active ingredient compared with the active ingredient in ethaboxam in soybeans inoculated with *Pythium sylvaticum*.\* Both *Pythium* species commonly occur in the Midwest.

\* Performance assessments are based upon results or analysis of public information, field observations and/or internal Syngenta evaluations.



From top to bottom: Grower Ryan Bonham, his brother JD Bonham and Syngenta Sales Rep Mark Dozler often collaborate to help Ryan grow successful crops on his farm in Franklin, Nebraska.



# Digital Imagery Puts Growers and Retailers a Step Ahead

Retailers can use FarmShots, a powerful imaging technology, to make effective, up-to-the-minute field recommendations for growers.



“I remember back in the day on our small family farm when we would drive around in the field trying to make replant decisions,” recalls Jacob Winans, a technical agronomy information specialist with Brandt, an Illinois-based retailer. “At the time, I thought there should be a better way. Now, there is one.”

It’s called FarmShots™; and when Syngenta acquired the satellite imagery service three years ago, it changed the game for retailers like Brandt. “We quickly started using FarmShots as our No. 1 internal tool to look at imagery because of the ease of it,” Winans says.

## Real-Time Recommendations

The Syngenta Drone Scouting Solution, which the company now offers to retailers as part of its digital field insight and analysis tools, enables drones to fly a field and quickly stitch together high-res imagery, which can be viewed, examined and shared within FarmShots. As a result, Winans is able to offer growers a level of analysis previously unheard of.

During planting season, Winans’ drone flies over and takes photos of an entire field in a short amount of time. He then uploads those photos into his FarmShots software. Right

away, he downloads a shape file and makes a variable-rate replant script based on the photos his drone captured less than 10 minutes earlier.

Previously, the lag between taking photos and making a recommendation was a week. Today, Winans makes the recommendation while he’s on the farm.

“This new efficiency is huge, because while I’m on a farm engaging with the grower, I can make a recommendation,” he says. “In my opinion, there previously hasn’t been a lot of actionable information coming out of digital tools. The information wasn’t coming in quickly enough to make a timely decision. But with FarmShots, you can make decisions in real time. That was my aha moment.”



“In my opinion, there previously hasn’t been a lot of actionable information coming out of digital tools. ... But with FarmShots, you can make decisions in real time. That was my aha moment.”

— JACOB WINANS

Technical Agronomy Information Specialist, Brandt

Read article online at [www.syngentathrive.com/farmproduction](http://www.syngentathrive.com/farmproduction).

## Confident Decision-Making

According to Shane Taylor, marketing manager for Digital Ag Solutions at Syngenta, FarmShots builds confidence in growers’ decision-making by providing a way to view imagery through different algorithms or filtering data to analyze and provide histograms on plant health.

“If a grower looks at a field with satellite, aircraft or drone imagery and sees an area of the field that needs to be avoided because of standing water, he or she can create a prescription or map of the field that excludes areas that shouldn’t be planted,” he explains. Once that map is created in the FarmShots software, growers can send it to their planters to implement in the planting process. “We’re building FarmShots to provide increasingly robust field monitoring so growers can use it to keep track of what’s going on in their fields. That’s a key element.”

FarmShots also confirms recommendations retailers make based on field imagery. “Let’s suppose a retailer looks at those FarmShots images and recommends a fungicide for a particular field that is showing signs of disease stress,” Taylor says. “That retailer can look at plant health prior to application and compare how it’s holding up a month later to verify his or her recommendation to the grower, who is seeing good results in the field.”

Showing growers the impact via the images underlines the value of the service from the retailer. In the same vein, Taylor notes that while he firmly believes Syngenta has the best products in the industry, saying it isn’t as good as showing it.

“For example, in some areas, we’ve done side-by-side comparisons of products to see which one performs better,” he says. “Not only do these digital imagery tools help with scouting, but they also build confidence in decision-making.”

## Local Expertise

With a goal of empowering retailers with tools they can use to help their growers, Syngenta provides the FarmShots imagery and analysis solution as one of several offers in its suite of digital agronomy products. Local retailers have the option of applying their own logo and FarmShots URL, providing a retailer-branded imagery platform for their operations. “This keeps the focus on the retailers and their expertise,” Taylor says.

Historically, many companies focused on providing tools directly to growers without including retailers in that journey. Syngenta is retailer-first in its approach to maximize the value to growers. “Retailers provide a variety of services to their customers, and that starts with their local agronomic knowledge,” Taylor says. “Local expertise should always trump analysis without context.”

From a retailer perspective, Winans sees the value of digital ag tools and how they can strengthen his relationship with growers. “FarmShots is that bridge,” he says. “Plus, it’s pretty fun for me because I get to play with nice toys. This is right in my wheelhouse of understanding digital solutions and using them as a resource.”

STORY BY ROBIN SUTTON ANDERS

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# A Firm Foundation

Retailer New Century FS and Syngenta work together to drive potential return on investment for growers.

When it comes to bringing value to growers, the 15-year partnership between Syngenta and Iowa-based retailer New Century FS proves the old adage “two heads are better than one.” Shared goals, superior customer service and products that deliver are all key ingredients in the productive relationship that is benefiting local growers.

One of the driving forces that brought Syngenta and New Century FS together and keeps their partnership strong today is an alignment in core values and goals.

“For both parties, there is a genuine desire to bring more success to farms,” says Cooper McDermott, crop protection sales representative for Syngenta. “At the end of the day, our goal is the same: to drive potential return on investment for growers.”

To achieve this goal, New Century FS works directly with growers to learn their operations and discover their agronomic challenges. Then, Syngenta and New Century FS collaborate to deliver tailored solutions for growers.

“Their knowledge of the local farmer community is much more in-depth than what we have,” says Scott DeSotel, Syngenta district manager for eastern Iowa. “By creating a customized business plan for New Century FS, we give them in-depth knowledge of the products their customers need, which they layer with their local expertise to drive maximum benefit to their farmers.”

Patrick Killelea, retail sales representative for Syngenta, echoes that reaching growers through New Century FS leads to an enhanced experience for all.

“The crop specialists at New Century FS own the relationships with farmers, and they are great at what they do,” Killelea says. “There is a strong trust and accountability factor between them. We solidify the experience by providing a unique offering based on our diverse portfolio.”

## Relationship-Centric

Relationship building and dedicated customer service also play a vital role in this long-standing partnership. McDermott, a May 2020 college graduate, has discovered a lot in his first months on the job, but he says listening to and learning from the customer are crucial.

“The more you know about their business and their growers, the easier it is to provide support on our end,” McDermott says.

Strong teamwork and communication on the Syngenta side also help provide a seamless customer service experience for New Century FS. As DeSotel says, “The relationship is bigger than any individual.”

Howard Noel, seed specialist for New Century FS, says that the service and support provided by the Syngenta team are huge value-adds.

“Syngenta has always been a great partner for us,” Noel says. “Its representatives make it easy for us and provide us with solutions that deliver value — that’s what has kept us as long-term partners.”

## Data-Driven

The final building block of the Syngenta-New Century FS partnership comes down to the proven performance of Syngenta products.

“Growers want a return on investment, especially in today’s times,” Noel says. “We’ve partnered with Syngenta because we feel that its products are top-notch.”

The yield results New Century FS customers experienced with Syngenta Seedcare™ products, such as CruiserMaxx® and Saltro® seed treatments, motivated the retailer to choose Syngenta as its exclusive seed treatment provider.

“We tried selling competitive seed treatments, but our growers didn’t have success with them,” Noel says. “Syngenta really stepped up for us.”

According to Noel, The Seedcare Institute™ is another element that sets Syngenta apart from competitors. The Seedcare Institute, located in Stanton, Minnesota, provides training for proper equipment use, develops grower-focused technologies and implements studies that compare product performance.

“The Seedcare Institute provides us with data and support that clearly demonstrate value to the grower and to us,” Noel says. “It confirms why we partner with Syngenta.”

## Stronger Together

Even in the midst of the COVID-19 pandemic, the Syngenta-New Century FS partnership remains stronger than ever.

“Just like the field of agriculture in general, things are always changing, and you have to adapt,” McDermott says. “No matter what happens, agriculture is going to happen. It’s not a matter of if, but how.”

Luckily, Syngenta and New Century FS remain resolute in their commitment to working together to help growers figure out the best “how.”

STORY BY CHRISTINA BECKETT

**EDITOR’S NOTE:** This article is the third in a series celebrating the strong partnerships that help propel agriculture forward. Find related stories online at [www.syngentathrive.com/community](http://www.syngentathrive.com/community).



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—HOWARD NOEL  
Seed Specialist for New Century FS

Left to right: Cooper McDermott, crop protection sales representative for Syngenta, and Howard Noel, seed specialist for New Century FS, collaborate to ensure the retailer can meet the needs of local growers.



# Ripple Effect

Syngenta starts a new biologicals business and announces its goals for the next five years of The Good Growth Plan. The agricultural sector gives back to communities across the nation with an eye toward building a stronger future.

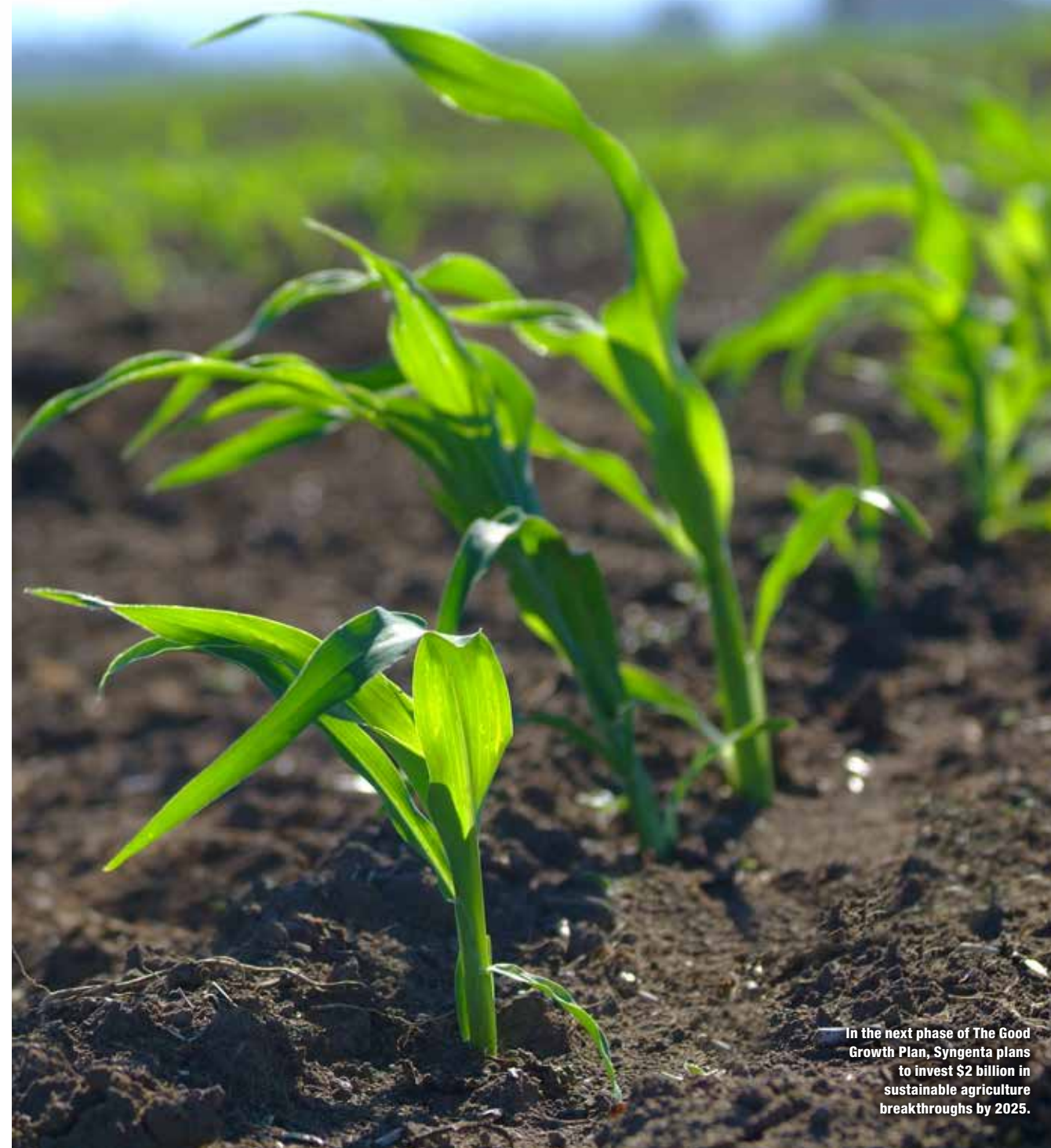
## NEW SOLUTIONS

### New Global Biologicals Team Focuses on Regional Needs

Syngenta is committed to providing farmers and retailers with a comprehensive toolbox to grow their crops in line with society's changing demands. To lead the development and growth of the biologicals industry, Syngenta formed a new biologicals business tasked with providing more choices, flexibility and technologies to growers.

The biologicals team will build a portfolio of additional solutions for farmers to help them manage difficult-to-control insect pests, fungal diseases and resistance in crops worldwide. With biostimulant products, the team will continue expanding the product portfolio Syngenta offers to enhance soil health and reduce plant stress caused by environmental factors.

"Creating this new team allows us to focus all of our efforts on bringing exciting new technologies to our different customers much faster than we could before," says Jacqui Campbell, global head of technology and operations, biologicals. "We'll figure out the priorities in each region and give special attention to developing solutions to address those priorities."



In the next phase of The Good Growth Plan, Syngenta plans to invest \$2 billion in sustainable agriculture breakthroughs by 2025.

The biologicals team will work closely with the broader Syngenta crop protection teams to leverage the expertise in research and development (R&D) and the connections to the farmers. The business has a strong internal R&D pipeline and also plans to tap into emerging biological technologies of universities, startups and existing companies around the world.

"The entire team is passionate about creating a group that all technology providers in the industry will want to turn to and work with," Campbell says. "We're excited for the opportunity to shape the future of the biologicals industry and provide growers with products that can meet their changing needs."

## SUSTAINABILITY

### The Good Growth Plan Emphasizes Innovation to Address Pressing Food System Challenges

In the first phase of The Good Growth Plan, Syngenta helped bring more than 34 million acres of farmland back from the brink of degradation and enhanced biodiversity on almost 20 million acres of farmland. Launched in 2013, the plan achieved its chief goals — improving farmer productivity and supporting sustainability for agriculture overall — earlier this year.

"We would never have reached our achievements by 2020 without the support and participation of our partners," says Chris Davison, head of business sustainability for Syngenta, North America. "By continuing to work with stakeholders from around the world, we will create an even better tomorrow through agriculture."

Under the next phase of The Good Growth Plan, set to run through 2025, Syngenta is accelerating innovation on products and processes that support climate resiliency while continuing to keep farmers productive, profitable and sustainable. The company's target is to invest \$2 billion in sustainable agriculture breakthroughs by 2025 and deliver two sustainable technology breakthroughs each year.

Other commitments in the new Good Growth Plan include:

- Striving for carbon-neutral agriculture
- Helping people stay safe and healthy
- Partnering for impact

As part of the new Good Growth Plan, Syngenta remains committed to enhancing biodiversity and soil health on 3 million hectares, or 7.4 million acres, of rural land every year. Additionally, Syngenta aims to train 8 million farm workers on the safe use of its products every year and strives for fair labor across the entire supply chain. The company will report annually on progress against these and other targets.

For more information, go to [www.goodgrowthplan.com](http://www.goodgrowthplan.com).

# thrive

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# Giving-Back Tradition Endures

Agriculture has a long history of giving generously and fostering brighter futures in its local communities.

While tragic in its scope, the COVID-19 pandemic has highlighted countless instances of caring and generosity. Individuals, companies and organizations in agriculture are no exception. They have partnered with food banks, youth programs and more to help people in their local communities and beyond.

Walther Farms is one example of the numerous agricultural businesses that have given generously. More than a decade ago, the farm, based in Three Rivers, Michigan, began packing backpacks for local schoolchildren in need. The kids could take those backpacks home and have plenty of nutritious food to eat over the weekends. Today, Walther Farms provides 800 backpacks every week to children in Michigan's St. Joseph County.

"We're fortunate to be blessed with an abundance of good crops, and we want to take care of the people in

communities where we live and work," says Julie Robinson, team-services administrator for Walther Farms.

The potato-producing company has 300 full-time employees in 14 locations in 11 states. And Walther Farms commits a percentage of its sales every year for donations to community organizations.

When Walther Farms team members learned about the significant need in North Carolina, they sent 40,000 pounds of potatoes to the Second Harvest Food Bank of Northwest North Carolina. The area has suffered the past few years from underemployment and unemployment. That's only been compounded by the pandemic. As a community partner of this food bank, Syngenta provides year-round support.

Another example is an effort to help homeless and low-income families in Guilford County, North Carolina. With its Crop Protection headquarters in the county's largest city, Syngenta, along with other community volunteers, works with the Greensboro Urban Ministry to provide overnight shelter, meals, groceries and a variety of emergency services to these families. Over the past few months during the COVID-19 crisis, Syngenta has donated \$25,000 to the ministry's food bank and more than \$50,000 to other food banks across the country.

With an eye toward a more hopeful future, Syngenta and industry partners have also been giving back to help the next generation of ag leaders. Syngenta and Nutrien, for example, worked together to help members of the Caribou High School FFA in Maine plant and manage test plots. And at a field day and cookout in August, both companies made \$5-per-person donations that will be used to support local FFA students.

"We rounded up the donations and gave \$2,000 to the FFA chapter," says Jonathan Stevens, who represents Syngenta in Maine.

These are just a few examples of how agriculture is dedicated to caring for people in need and making its communities stronger now and in the future. 🌱

STORY BY LYNN GROOMS

Below: Jonathan Stevens, Syngenta sales rep, makes a presentation to Caribou High School FFA students.



Second Harvest Food Banker Jaime Reyes unloads fresh potatoes donated by Michigan-based Walther Farms for local food assistance agencies serving neighbors in need across the 18 counties in northwest North Carolina served by the food bank.





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