

Growing Together

10TH ANNIVERSARY ISSUE

4Q | 2017

thrive[®]

Wired for Growth

Data-Based
Strategies
Help Growers
Work Smart

**WATERMELON
VARIETIES RESHAPE
THE MARKET**

**TEAMWORK
DELIVERS
POWERFUL SEED
TREATMENTS**

syngenta[®]

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ON THE COVER

Digital innovations from Syngenta are helping growers produce crops more efficiently and sustainably.
Illustration: Ryan Etter

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A bee forages on a coneflower growing in the pollinator garden at the Syngenta corporate location in Greensboro, North Carolina.
Photo: Alex Maness

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thrive

Even if you love your print edition of *Thrive*, you'll still want to 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.



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

Please send them to thrive@syngenta.com. For more information, visit the Syngenta U.S. website at 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.



The Heart of the Matter

Effective communication can help foster innovative solutions and nurture productive alliances in agriculture.

The heart of any successful partnership is trust. But keeping it in rhythm requires genuine, two-way communication in which listening is just as important as telling.

At Syngenta, we strive to have a dialogue, not a monologue, with our customers. In these volatile times of industry consolidation and market downturns, we understand your need for stable, reliable relationships as you help growers and your business overcome the obstacles that may stand in the way. Our constant pursuit of cutting-edge solutions—coupled with sincere, meaningful conversations with you—will help you do just that.

This issue of *Thrive* takes you on a journey that features many of these solutions, from advancements in Syngenta seed treatments and insecticides to breakthroughs in breeding and traits. Along the way, we'll introduce you to our most promising digital innovations and the unique value they bring to farms, where holistically managing crops, measuring sustainability and feeding the world are top priorities. You'll also meet our #RootedinAg contest finalists who share their diverse experiences and heartfelt inspirations in an industry they all genuinely love.

Like these men and women, you're helping us give agriculture a face, a voice and a soul through *Thrive*. This fall marks the magazine's 10th anniversary. Over the past decade, you've welcomed us into your businesses and homes and treated us like a valued partner. Some of you have shared your stories with us—stories about what keeps you up at night, how you've achieved success, and why agriculture is not just what you do but who you are. We thank you for helping us fill the pages—whether in print or online—with relevant articles and powerful visuals that, together, give us a platform from which we can speak, listen, learn and share ideas.

As the second decade of *Thrive* begins, rest assured that our agricultural roots make us strong and our branches make us relevant. While Syngenta is anchored in a rich agrarian history, we're always reaching for the latest innovations or solutions that will help customers like you grow. We realize that our ability to adapt to the evolution of agriculture will help us stay on the forefront of these changes. That's how we'll continue to ensure the viability and sustainability of our dynamic industry—and keep its heart beating strong for generations to come. 🌱



WENDELL CALHOUN
Communications Manager
Marketing Services
Syngenta



WENDELL CALHOUN

“We understand your need for stable, reliable relationships as you help growers and your business overcome the obstacles that may stand in the way.”

—WENDELL CALHOUN

 **WATCH NEW VIDEO** For an in-depth interview with Wendell Calhoun, check out the new video posted to the *Thrive* website (www.syngentathrive.com).



What's in Store

Get the scoop on new products, the Syngenta pipeline and upcoming trade shows and conferences.

NEW PRODUCTS

Syngenta Unveils New AgriPro Hard Red Winter Wheat Variety

A new AgriPro® brand wheat variety is available for growers in the Central and Southern plains: SY Grit, a hard red winter wheat that offers optimum yields across a range of conditions.

SY Grit is a yield leader, standing well in good conditions and offering excellent straw strength. It also features exceptional drought tolerance to help maintain yields in tough, dry conditions. SY Grit has medium-early maturity with a good disease tolerance package, making it well-suited for Kansas, Oklahoma, Texas and southern Nebraska.

SY Grit is the latest example of the hardy, locally adapted varieties growers have come to expect from the AgriPro brand. AgriPro wheat varieties consistently rank in the top yield group regionally across North America. They deliver not only outstanding yields, but also consistent performance, best-in-class disease packages and leading agronomics.

Visit www.agriprowheat.com for additional information.



An AgriPro wheat variety flourishes on Kevin Capistran's farm in Crookston, Minnesota.

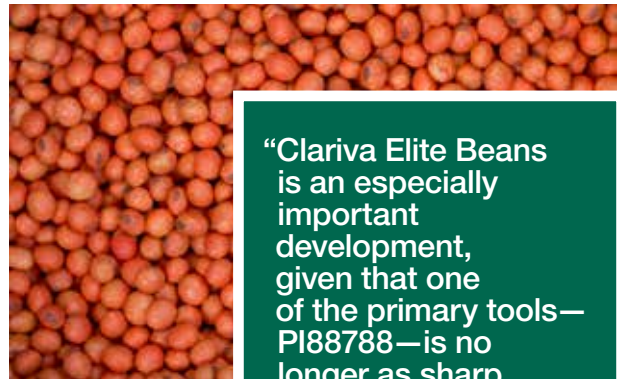


PIPELINE

Clariva Elite Beans Coming in 2018

Because simpler is better, a new premix formulation of Clariva® pn nematicide and CruiserMaxx® Vibrance® Beans, a combination of separately registered products, is coming soon to retailers and will be marketed as Clariva Elite Beans seed treatment. Although the name is changing with the premix formulation, Clariva Elite Beans will remain the only nematicide on the market that provides season-long, lethal activity against soybean cyst nematode (SCN), the most damaging pest to soybean yields in the U.S.

For more than 20 years, growers have mostly managed SCN through rotating crops and planting varieties containing the PI88788 genetic source of



“Clariva Elite Beans is an especially important development, given that one of the primary tools—PI88788—is no longer as sharp as it once was.”

—DALE IRELAND

Treated soybean seeds protect roots so that plants can get off to a strong start.

resistance. But SCN is increasingly less susceptible to this form of management, and extension nematologists say growers need other forms of management.

“Clariva Elite Beans is another tool in growers’ SCN management toolboxes,” says Dale Ireland, Ph.D., Seedcare technical product lead for Syngenta. “It’s an especially important development, given that one of the primary tools—PI88788—is no longer as sharp as it once was.”

Ireland notes that Clariva Elite Beans will make handling and application easier for treaters. At the same time, it will still provide the stand establishment, root health and SCN protection growers count on. U.S. Environmental Protection Agency registration is anticipated in time for the 2018 growing season. To learn more, please visit www.syngenta.com/ceb.

 **Clariva[®] Elite**
Beans

PRODUCT UPDATE

Enogen Feed Corn Unlocks the Energy Potential of Beef and Dairy Rations

Beef or dairy producers who grow corn to use as part of their feed ration can improve profit potential by choosing a hybrid that provides value in the field and in the feed. Enogen® Feed hybrids can do just that. In the field, they offer proven genetics and strong agronomic characteristics. They can also improve the digestibility of starch and sugar in cattle.

This enhanced digestibility is important because energy is a key component of maximizing beef or dairy production; and corn is an important energy source for cattle because it supplies starch, which is converted to sugar during digestion. Enogen Feed corn, fed as grain or silage, helps convert starch to sugar more efficiently, resulting in more readily available energy.

For more information about Enogen Feed corn hybrids, contact your Golden Harvest® Seed Advisor™ or NK® retailer.



UPCOMING TRADE SHOWS AND CONFERENCES

As the 2017 season winds down, Syngenta is gearing up for 2018. We invite you to stop by our booth at any of the events below for more information on our products, services and support.

OCTOBER 2017

25–28 **National FFA Convention & Expo**, Indianapolis, Indiana

NOVEMBER 2017

13–17 **American Society of Farm Managers and Rural Appraisers (ASFMRA) Annual Conference**, Savannah, Georgia

28–30 **Agricultural Retailers Association (ARA) Conference**, Phoenix, Arizona

DECEMBER 2017

4–7 **National Association of Aerial Applicators (NAAA) Annual Convention & Exposition**, Savannah, Georgia

4–8 **American Seed Trade Association (ASTA) CSS & Seed Expo**, Chicago, Illinois

JANUARY 2018

9–12 **National No-Tillage Conference**, Louisville, Kentucky

10–12 **Potato Expo**, Orlando, Florida



Enogen Feed Corn silage helps improve digestibility of starch and sugar in dairy cattle.



Your Opinion Matters

At Syngenta, one of our top priorities is giving you information that can help your farm or agribusiness thrive. Please let us know how we're doing by taking a few moments to complete our simple online readership survey. In exchange, you could win one of **three waterproof portable stereo speakers** in our grand-prize drawing.



Go to
www.syngentathrive.com/survey
for a chance to
WIN!

The **first 10 people** who complete the survey will receive a **\$25 gift card**, compliments of Syngenta.

No purchase necessary to participate. Purchase does not improve your chances of winning. Void where prohibited. Must be 18 years or older and resident of the continental United States to be eligible. Employees of Syngenta, its affiliates and agents are not eligible to win. Estimated retail value of each grand prize: \$150. Winners will be selected by random drawing to be held on December 29, 2017. Winner need not be present to win. Estimated retail value of gift cards, which will be awarded to first 10 survey respondents: \$25. All prizes will be delivered to Winners. The odds of winning will be determined by the number of entries. Only one entry per person. All entries will become the property of Syngenta. In accepting prizes, Winners grant Syngenta and its advertising and promotional companies associated with the giveaway a license to use Winners' names, likenesses, quotes and photographs. All taxes and other expenses associated with the receipt and use of all prizes are the sole responsibility of Winners. Awarded prizes are not transferable and cannot be redeemed for cash. No substitute prizes will be given. See Official Rules at www.syngentathrive.com/survey for more details.

Privacy Protected

Syngenta and its partners develop solutions to help growers better use farm data, while protecting their privacy.

Q. How are Syngenta and Ag Connections helping growers connect better to their farm data?

A. Joe Ben Bogle, support manager at Ag Connections, a wholly owned subsidiary of Syngenta Crop

Protection: The digitization of farm data has led to more immediate access to data in a much more portable format than in the past. The automated nature of data collection from machinery has also created a greater quantity of information that's being stored in multiple ways. This presents a huge opportunity for growers to manage their operations more efficiently, but only if all the sources of that data can communicate. We are contributing to a project that does just that. Ag Gateway, a nonprofit consortium of more than 230 ag businesses, is leading an industrywide project known as the Agricultural Data Application Programming Toolkit or more simply, ADAPT. Syngenta and Ag Connections are members.

Additionally, growers enrolled in the Syngenta AgriEdge Excelsior® program have access to Land.db®, our exclusive,

ADAPT-compatible farm-management software. But growers continue to look for ways to further connect the data dots on their farms. In response, Syngenta recently partnered with Premier Crop Systems—another early developer of digital agriculture tools—to provide data-driven agronomic recommendations for millions of acres of farmland.

These system integrations and the free flow of data between systems have created an important discussion around data confidentiality. While some growers are OK with sharing their data, others see their farm data as personal, private information. Whatever their stance, growers should be aware that different privacy policies apply as data transitions occur.

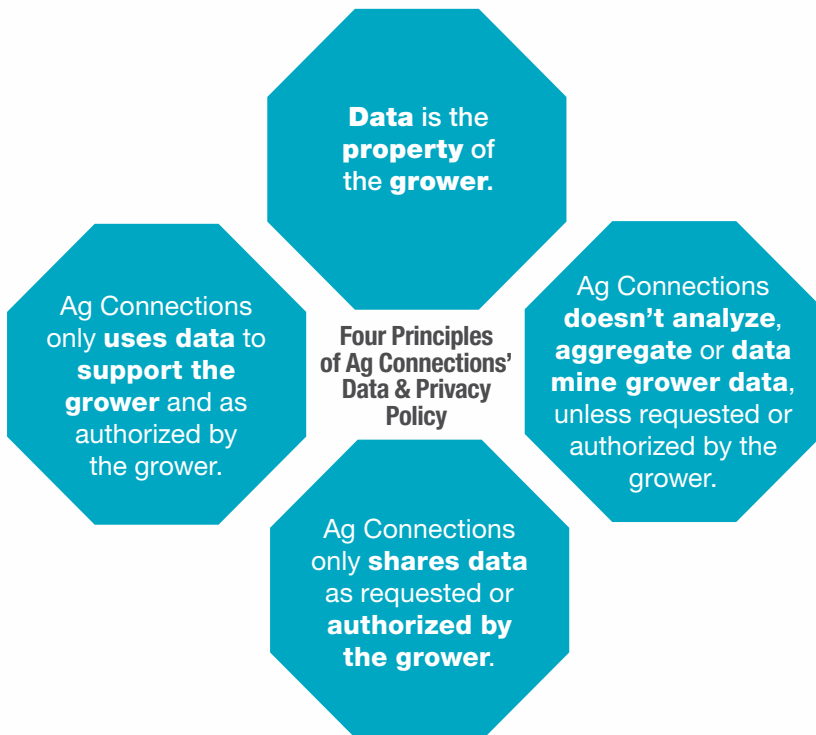
Q. How does Ag Connections' data privacy policy differ from other ag data companies?

A. In the business model of some ag technology companies, grower data may be further processed so that it can be sold outright or used as part of their overall database offerings. Neither Syngenta nor Ag Connections operates in this way. We give growers a choice, and choice has been at the heart of Ag Connections' policies since we started in 1998. Ag Connections has built its reputation as a valued partner for growers, and we act as a third-party gatekeeper to protect their data, using our Data & Privacy Policy as our guide.

Ag Connections bases its Data & Privacy Policy on four simple principles:

- > Grower data is the property of the grower.
- > Ag Connections only uses the data to support the grower and as authorized by the grower.
- > Ag Connections only shares grower data as requested or authorized by the grower.
- > Ag Connections doesn't analyze, aggregate or data mine grower data, unless requested or authorized by the grower.

Our everyday standards and practices reflect this. For example, even as a wholly owned subsidiary of Syngenta, Ag Connections doesn't release data back to Syngenta, except as permitted by grower agreements.



Before Ag Connections accesses a grower's data, our internal systems require us to input justification for doing so, such as a customer's request for help or a system incident that needs further investigation. We've also developed standard procedures in how we identify customers who request help in sharing their data with business partners. Further analysis and aggregation doesn't occur without written permission from the grower to do so, such as agreeing to participate in a Syngenta Sustainable Sourcing initiative. (See "Numbers Tell the Story," page 12.) We take a hands-off approach, unless there are specific grower instructions to interact with the data.

Q. How do Syngenta and Ag Connections support data privacy and maintain growers' trust?

A. Syngenta and Ag Connections wanted to do more than just say we protect grower privacy. We wanted to prove it. We have collaborated with PricewaterhouseCoopers (PwC) to audit our practices and procedures regarding data confidentiality. By partnering with a premier firm like PwC, we can provide the highest level of confidence that we're upholding our privacy commitments to growers. We selected the American Institute of CPAs Service Organization Control 2 report, which provides a comprehensive review of our internal controls for human resources, information security, software development and customer support, along with the additional criteria for data confidentiality.

PwC has conducted on-site inspections and has helped Ag Connections improve policies and procedures to better protect data. Based on feedback, we're implementing any procedural changes that would improve our data protection and maintain privacy.

Syngenta has also formed a Grower

Advisory Council, made up of growers enrolled in the AgriEdge Excelsior program who provide feedback on different aspects of AgriEdge®, including data confidentiality. This group receives ongoing reports regarding the status of confidentiality audits and can offer an in-field perspective.

Q. How are Syngenta and Ag Connections advocating for grower data security in the industry?

A. When big data started gaining momentum in agriculture, there were concerns for growers' data privacy. The Farm Bureau stepped forward as the first association to start an initiative aimed at helping protect that privacy. Syngenta and Ag Connections were among the first to sign its pledge and are supporters of the Farm Bureau Privacy and Security Principles for Farm Data. These principles are recognized as best practices for ag technology providers. They can be reviewed at www.fb.org/issues/technology/data-privacy.

At Syngenta and Ag Connections, we're always looking out for what's best for growers and our reseller customers. It's the foundation of everything we do. That includes making sure farm data continues to be private to the grower and secure.  INTERVIEW BY MIRIAM PAULSON

“Ag Connections has built its reputation as a valued partner for growers, and we act as a third-party gatekeeper to protect their data, using our Data & Privacy Policy as our guide.”

—JOE BEN BOGLE





By Leaps and Bounds

During its first decade of publication, *Thrive* has grown to meet the needs of a broader and increasingly digital-savvy audience.

In 2007 when Syngenta decided to launch a magazine, the informational needs of its retail partners were top of mind. At that time, the consolidation of print farm publications was on the rise, and very few outlets focused exclusively on ag resellers. *Thrive* would enable Syngenta to deliver news stories into readers' offices on topics that mattered most to them, such as agronomics, industry innovations, upcoming trade shows and ag policy.

Ten years later, these partners are still front and center when Syngenta develops the content for each quarterly issue of the magazine. But Wendell Calhoun, marketing services communications manager at Syngenta, notes that over the past decade, he and his *Thrive* team, like other farm editors and broadcasters, have tapped into "an avalanche of technological advances" that are enabling them to reach more people in less time.

Changing With the Times

Thrive has grown from a print-only publication with an audience of about 8,000 resellers to a multifaceted media

outlet that reaches close to 50,000 ag professionals. In addition to resellers, *Thrive* is now a resource for growers, policymakers and other industry experts who need to stay abreast of production best practices, important policy issues, the ag community and Syngenta innovations moving from the laboratory to the field. This growth is largely due to the creation of a digital version in 2012.

Rod Swoboda, editor of *Wallaces Farmer*, owned by Penton/Farm Progress, observes that about 10 years ago, many ag publications began hosting websites in addition to their print publications.

"Then came e-newsletters, and more readers wanted to receive information on their laptops, tablets or smartphones," he says. "There has been widespread adoption of digital publications, especially in the last five years, and we'll see a continual shift to digital."

Moving forward, a greater proportion of the farm population will be digital natives, Swoboda says. "By 2027, people born in 1980 will be 47 years old—a prime age in agriculture," he says. "The rate of the shift to digital will accrue."

This shift means that more and more resellers and growers will be reading their news on the go. “We can reach people wherever they are—even if they’re planting a field or harvesting a crop,” says Ann Bryan, senior corporate communications manager at Syngenta.

Analytics comparing 2017 readership patterns to those in 2016 show that the momentum for viewing *Thrive* on mobile devices is building. In just one year, the number of people who accessed *Thrive* on their smartphones or tablets increased 292 percent.

The impact mobile-friendly information has on ag audiences in general will continue to tick up, research predicts. In a 2016 Agricultural Media Channel Study by Connectiv, 36 percent of growers and ranchers said that ag-related websites will be “more” or “much more” important. Thirty-four percent said that mobile websites will gain in importance in the near future. And 24 percent of the respondents said that ag-related apps on mobile devices also will gain in importance.

Another 21st-century innovation that has drastically changed the way the ag community communicates is social media. In a 2016 survey by CropLife Media, 60 percent of ag-retailer respondents said they found value in using social media for work purposes, up from 15 percent in 2013. About 75 percent of the respondents also said they used social media one hour to six hours per week for work purposes, up 7 percent from 2013. As a result of surveys like this one, Syngenta regularly posts *Thrive* content on Facebook, Twitter, YouTube and Instagram.

A Sound Editorial Approach

“Even though the vehicles for conveying information are changing, one thing remains constant—readers want relevant, original content delivered in a timely fashion,” Swoboda says.

That was the goal for *Thrive* in 2007 and remains so 10 years later, Calhoun notes. While articles in the print edition and on the website feature solutions paired to growers’ needs, *Thrive* limits promotional messages. The mission for *Thrive* continues to be delivering credible, valuable information to readers.

From left to right: *Thrive* covers show the magazine’s broad coverage of the ag industry over the past decade; (left to right) Stephen Swoap, creative design lead; Ann Bryan, senior corporate communications manager; and Wendell Calhoun, marketing services communications manager, are the core Syngenta team for *Thrive*.

“Other publications have contacted us to repurpose information in their publications,” Calhoun says. “This extends our reach.”

One of the key aspects of *Thrive*’s editorial approach has been its reliance on visual content to make its stories more accessible. “We use professional photographs, custom illustrations and infographics extensively for both the print and online versions of *Thrive*,” says Stephen Swoap, creative design lead at Syngenta. “We also feature images of real people, including resellers and growers, to help bring the stories to life visually.”

In the past 10 years, *Thrive* has received more than 50 regional, national and international awards, Calhoun says. Most recently, it took first place in the Publication—Print or Electronic—Category at the 2017 American Agricultural Editors’ Association annual awards. This win was *Thrive*’s fourth consecutive first-place finish in that category. The association also awarded second place to *Thrive* in its 2017 website category.

“We attribute such stellar awards to outstanding teamwork,” Calhoun says. “It takes a village to develop this publication, and that includes the resellers and growers featured in *Thrive*.”

“We attribute such stellar awards to outstanding teamwork. It takes a village to develop this publication, and that includes the resellers and growers featured in *Thrive*.”

—WENDELL CALHOUN

STORY BY LYNN GROOMS



Outside the Box

Syngenta establishes a unique research and development outlet to help generate data-driven ag solutions.

Upon arriving at the Syngenta Digital Innovation Lab in Champaign, Illinois, visitors may mistake it for a college dorm room—albeit a tidy one. Aside from the multiple computers and electronic peripherals throughout, the decor is decidedly more kitsch than corporate—from the chihuahua-print pillow on the couch to the bacon poster on the wall.

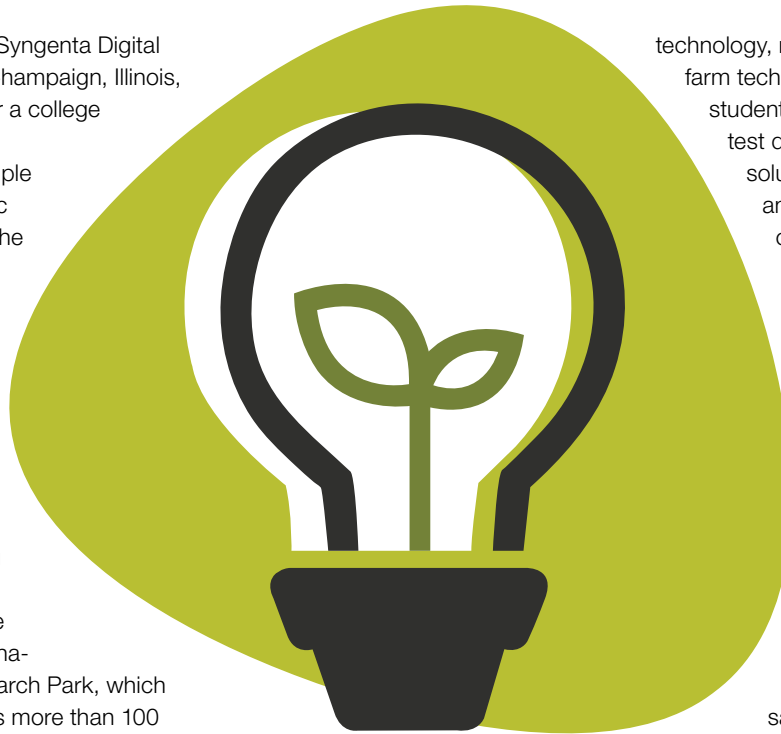
For Syngenta, this unconventional setting is poised to help foster the next generation of ag innovators. It opened its doors in early 2017 at the University of Illinois Urbana-Champaign (UIUC) Research Park, which counts among its tenants more than 100 technology and data stalwarts like Yahoo, Sandia National Lab and CME Group.

“Creating a Syngenta presence here allows us to bring together the resources of a global agribusiness, the intellectual capital of a major research institution and the business mentality of a tech startup,” says Bill Danker, Syngenta domain head of seeds research and breeding. “This setup provides a unique outlet for contributing creativity and outside-the-box thinking to our digital innovation engine.”

A Place to Call Home

When tasked with augmenting the company’s internal capabilities for delivering digital innovation solutions, Danker says he and his team envisioned an academic, technology-rich setting—with a built-in pipeline of rising data scientists. They found a home at UIUC.

The lab provides an environment for UIUC students in computer science, biology, physical sciences and other related disciplines to apply their specialized expertise to address some of agriculture’s most pressing challenges. Data analytics, cloud



“Ag inherently involves people. And working in this capacity allows me to contribute to something very meaningful: helping feed the world.”

—JENA BARTODZIEJ

technology, mobile applications and smart-farm technology are among the platforms students leverage, as they explore and test disruptive ideas in pursuit of solutions to complex research and development and commercial issues.

Jena Bartodziej and John Capozzo are among the first student participants at the Syngenta Digital Innovation Lab. Both were raised in urban settings. Neither expected to contribute to the ag industry. But the premise of accelerating innovation to help feed the world has resonated soundly.

“In my academic career, I’ve followed a path that has been guided by my curiosity,” says Capozzo, a fourth-year doctoral student in information science. “As a self-branded data scientist, I’ve followed my curiosity to the Syngenta Digital Innovation Lab, where I’m able to use my data-science expertise to work on organizing data, so that it can be used to help Syngenta researchers make decisions.”

For Bartodziej, a rising senior pursuing a degree in psychology, serving as a project management intern at the lab presents the opportunity to impact people—not just profits and technologies. “Ag inherently involves people,” she says. “And working in this

capacity allows me to contribute to something very meaningful: helping feed the world.”

Better Solutions

With the Digital Innovation Lab model, staff and interns focus on ideating and developing solutions to challenges submitted by the Syngenta business—not fulfilling requests for specific deliverables.

“The path from prototype to product is rarely straightforward,” says Brandon Dohman, Syngenta innovation lead for the Digital



Innovation Lab at UIUC Research Park. “This reality can be frustrating in a results-oriented business environment, but the Digital Innovation Lab model accepts—and even celebrates—the process.”

Brandon Dohman with Syngenta addresses the more than 100 attendees at the Syngenta Digital Innovation Lab grand opening on May 16, 2017, in Champaign, Illinois.

The establishment of the Syngenta Digital Innovation Lab at the UIUC Research Park builds upon a long-standing Syngenta relationship with the UIUC outpost of the National Center for Supercomputing Applications (NCSA). This collaboration has resulted in significant benefits for the Syngenta plant-breeding program.

For example, the NCSA team helped deliver an improved predictive algorithm to compute genetic allele data sets with greater scope and speed. With the improved algorithm, seed data sets that once took an entire week to compute can now be analyzed in a remarkable 10 minutes—a significant win for the tedious and capital-intensive discipline of plant breeding. This groundbreaking work in data analytics has been validated by the improved commercial seed varieties Syngenta is bringing to market.

Additional Syngenta Digital Innovations Labs are slated to open in late 2017.

Focus on Farmers

While the prevalence and acceptance of digital innovation in agriculture accelerate, Danker says it’s important to never lose sight of the farmers who ultimately benefit from it.

“The Syngenta approach to digital innovation is—and always will be—rooted in providing value to our customers: the farmers who produce crops and the resellers and channel partners who advise them,” he says. “Embracing data is also helping shape and quantify our contributions to the sustainability of global food production, which is helping farmers tell a compelling story and helping to ensure a sound future for agriculture.”

STORY BY KARYN OSTROM

The Evolution of Agriculture

The AgriEdge Excelsior® program, your whole-farm management solution



Visit www.syngenta-us.com/agriedge to learn more.

 **AgriEdge Excelsior®**

syngenta.

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Numbers Tell the Story

Syngenta Sustainable Solutions benchmarks data that help growers demonstrate their progress with environmental stewardship.

By Miriam Paulson

Technology has given us new ways to tell our stories. We share images and tell anecdotes about our lives on social media. We get news stories from around the world continuously. We can send family members an update instantaneously. Syngenta is using technology to tell growers' stories, too.

"Syngenta Sustainable Solutions is a program working directly with growers and food companies to help them tell their stories of sustainable farming," says Macie O'Shaughnessy, Syngenta district manager and former sustainable solutions specialist. "A lot of people have misconceptions and don't realize how much farming has progressed over the past two decades. This program offers a real-life data story that shows consumers how the agriculture industry is growing more from less."

In a series of sustainability initiatives across multiple crops and locations (see "Solutions for Sustainability," page 16), Syngenta is collaborating with consumer brands, processors, growers and channel partners.

"Through the programs, growers provide us with their data and present it in an anonymous and aggregated format," O'Shaughnessy says.

"With real-life data, it shows the progress growers are achieving through management practices, improvements they're making to their environment and to their farm, and conservation strategies."

The programs measure different environmental efficiency indicators found in grower data and compare their performance relative to benchmarks. These indicators include land use, soil conservation, irrigation water use, energy use, greenhouse gas (GHG) emissions and nitrogen use.




From left to right: Ashley Green, Syngenta; Wayne Goebel, grower; Erin Goebel, Central Farm Service; and Trent Plooster, Ag Connections, review data on nitrogen use on Wayne Goebel Farms in Mankato, Minnesota.





A field of barley ripens near Dupuyer, Montana, which is located close to the Rocky Mountains.



“Farming is difficult work. The public needs to be informed about the better crops we are growing, and they need to understand all the things we are doing to preserve the land.”

—BUTCH EWEN

Knowledge Is Power

Erin Goebel works as a precision agriculture specialist with Central Advantage, the precision agriculture platform at Central Farm Service (CFS) co-op in southern Minnesota. Central Advantage has been tracking input data to make better and more sustainable recommendations for its growers for more than a decade. In 2016, it partnered with Syngenta to implement the Southern Minnesota Corn and Soybean Sustainability Program.

“Sometimes, growers are intimidated by the word sustainability,” says Goebel. “But most of these growers are already following sustainable practices; they just don’t realize it. Syngenta Sustainable Solutions programs give them the opportunity and records to demonstrate what they’re doing to protect the environment.”

Program participants, or reference farmers, are enrolled in AgriEdge Excelsior®, a whole-farm management program from Syngenta. Land.db®, the premium software included in AgriEdge Excelsior, helps growers track inputs and management strategies throughout the season to produce these records. When signing on as participating farmers, growers agree to anonymously share these records, which are aggregated then analyzed for program results.

Goebel says that in southern Minnesota, one of the main indicators her group is looking at is nitrogen use. Historically, growers would apply a flat rate of fertilizer to

an entire farm. Now, Goebel is showing her customers how to manage each acre differently.

“Before sidedressing, we take soil samples to analyze the nitrate levels,” she says. “We then provide recommendations based off those levels that allow the grower to only apply what is needed for the crop. We’re also using variable-rate technology and adjusting, based off the soil characteristics. We want to make sure we’re putting on the nitrogen in the most efficient way.”

By breaking down their farms on an acre-by-acre basis, Goebel can help her growers make more financially and sustainably beneficial input purchases. In 2016, the Southern Minnesota Corn Sustainability Program demonstrated a 2 percent and 4 percent nitrogen use efficiency score, above district and state benchmarks respectively. Of the 184 fields included in the program, soil tests were performed on 154. Those fields required about 7 pounds less nitrogen per acre.

In addition to her work at CFS, Goebel also helps on her father’s farm, Wayne Goebel Farms in Mankato, Minnesota, which is enrolled in the Southern Minnesota Corn and Soybean Sustainability Program. After discovering that their nitrogen use wasn’t as efficient as other farms in the area, she and her family adjusted their plan in 2017.

“In addition to the sustainability aspect, Land.db helps us purchase and use only what we need,” Goebel says.

"Previously, my dad would sit down in November and figure out where he was after harvest. Now, we can keep track of the inputs as we go through the season. For example, we can determine whether or not spending an extra \$35 an acre on a fungicide will allow us to make money in the end. It's easier to make solid, financial decisions."

Open Communication

The benefit of these programs and records goes beyond inputs and outputs from the field. It also impacts the value of crops.

"Farming is difficult work," says Butch Ewen, owner and founder of Ewen Farms near Ballantine, Montana. "The public needs to be informed about the better crops we are growing, and they need to understand all the things we are doing to preserve the land."

Ewen grows sugarbeets, grain corn, malt barley, hay and wheat. His farm is part of the Syngenta Yellowstone Watershed Program. In this region, water is scarce, so Ewen irrigates most of the land on his 2,700-acre farm.

During 2015-2016, the Yellowstone Watershed Barley Program demonstrated a water use efficiency score of 47 percent and 64 percent above regional and state benchmarks, respectively, and reported a 24-bushel-per-acre yield advantage over regional benchmarks.

As one of the largest drivers for energy and GHG contributions, it's important for growers in this area to irrigate as efficiently as possible. As a result, they implemented conservation practices, like grass waterways, tailwater recovery systems, conservation covers, field borders and contour-strip cropping, on 41 percent of the barley fields in the program. These practices support efficient use of water inputs, while conserving soil and nutrients on the field.

Being part of this program and having access to the records in Land.db have helped Ewen tell his conservation story to downstream partners more effectively.

"Tools like this make my job easier," Ewen says. "Land.db helps me track different aspects of my operation and helps me sell my products more successfully. Consumers lack accurate information about the impact of commodities being imported from other countries. Often, those products are much lower in quality than the crops I grow, but their presence puts me at a big risk of lost sales."

A Story for Everyone

At a time when consumers are demanding to know more about where their food and products come from, growers are just as eager to share that information—and to provide evidence of sustainability.

"Once consumers understand how to read our reports, they'll realize we're not just trying to produce enough food to feed the world," Goebel says. "We're also trying to help

the environment. For us, sustainability is making sure our land is better for generations to come, and Syngenta is helping us tell that story."

Growers interested in participating in a Syngenta Sustainable Solutions program should visit www.syngentaus.com/sustainablesolutions or contact their Syngenta sales representative. 🌱

DIGITAL AGRICULTURE:

The Next Step

The next generation of U.S. growers will have more tools for making informed decisions than any generation before it. Syngenta has led the industry in this area, offering AgriEdge Excelsior®, a whole-farm management program, for nearly two decades. The company is now expanding this capability with a new team, the Digital Agriculture Solutions group. Entirely focused on whole-farm management and sustainability, the group will provide and improve innovative tools that can enhance operations for growers.

"Syngenta is committed to feeding the world," says Aaron Deardorff, head of digital agriculture solutions at Syngenta. "Our digital ag solutions are important components of that commitment. We will continue to broaden and refine our offerings and integrations, both within and beyond the program."

The Digital Agriculture Solutions group will collaborate across multiple business areas—including research and development, Syngenta Ventures, commercial, and production and supply functions—through the newly created Digital Agriculture Team, a global arm of Syngenta. The primary goal of this collaboration is to better meet growers' needs.

"Our team comprises a robust variety of expertise," says Deardorff. "We want to establish a balance between sustainability, productivity and profitability for growers, as we build the foundation for the future of agriculture."

Tune into "American Farmer" on RFD-TV this fall for an in-depth look into the new Digital Agriculture Solutions group at Syngenta. "American Farmer" airs Tuesdays at 8:30 a.m. Eastern time.



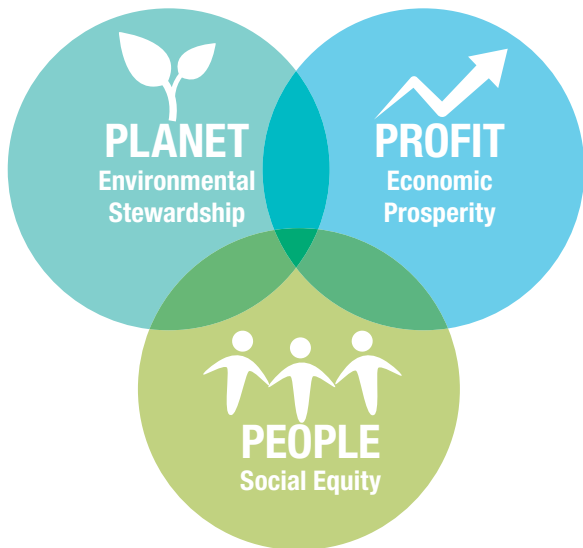
Standing, left to right: Jeff Lail, Mary Eggleston, Aaron Deardorff, Peyton Merriam, Rich Stewart, Geoff Lower; Seated, left to right: Gigi Arino, Kelly Bumpus, Jackie Haley, Jacky Davis

DATA POINT

Solutions for Sustainability

As consumers begin to demand foods that respect transparency and social responsibility, retailers are forming purchasing decisions on the basis of sustainable sourcing and recognizing suppliers that fulfill their sustainability commitments. Syngenta Sustainable Solutions (See “Numbers Tell the Story,” page 12.) works directly with growers and food companies to help them share their stories of sustainable farming.

SUSTAINABILITY IS MULTIFACETED:



ENVIRONMENTAL STEWARDSHIP:

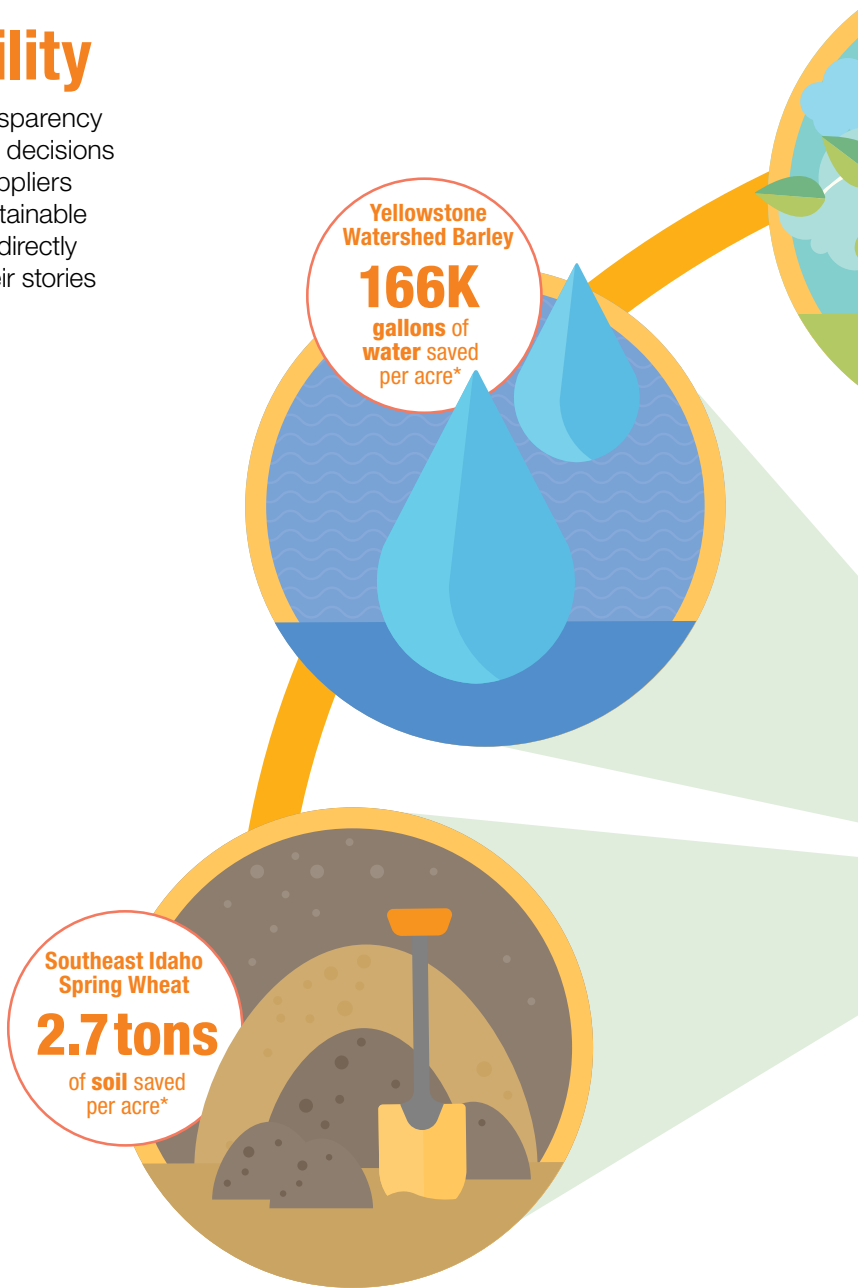
Safeguarding the environment for future generations

ECONOMIC PROSPERITY:

Making sure our practices and management bring long-term financial stability and benefit

SOCIAL EQUITY:

Ensuring equal access to the same resources



*Compared to regional benchmarks

VALUE CHAIN:

A collaborative approach unites the value chain, helping farmers share their sustainability gains.



GROWERS



MILLERS



PROCESSORS



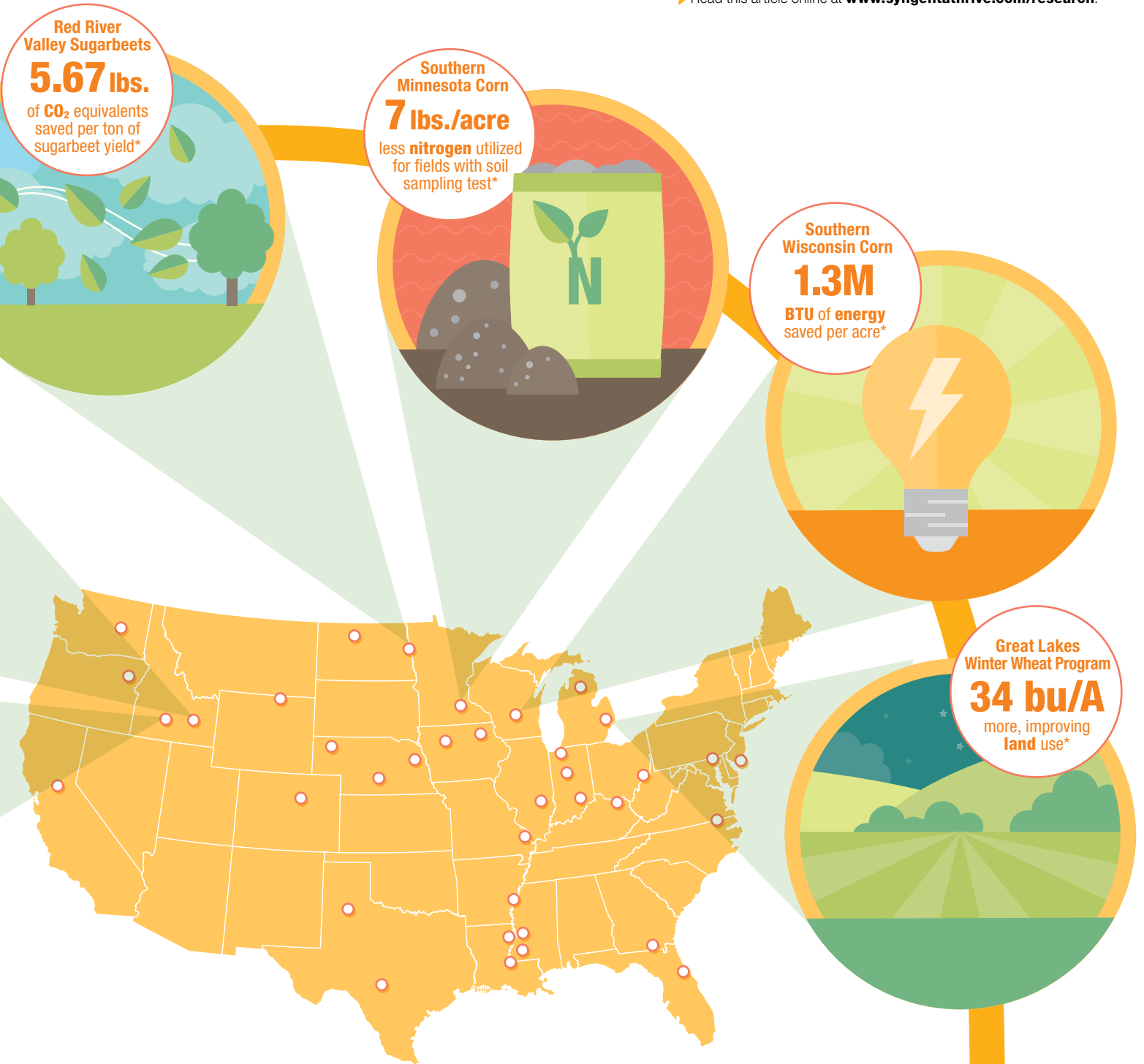
DISTRIBUTORS



RETAILERS



CONSUMERS



In initiatives across multiple locations (indicated by dots ○), Syngenta is working with consumer brands, processors, growers, input suppliers and manufacturers to improve sustainability. The programs measure environmental efficiency metrics collected through the AgriEdge Excelsior® software, Land.db®, and compare their results to benchmarks. These metrics include land use, soil conservation, irrigation water use, energy use, greenhouse gas emissions and nitrogen use. Crops include barley, canola, corn, potatoes, rice, soybean, sugarbeets, sunflowers, tomatoes and wheat.

100+
farm data points on sustainability are connected to on-farm return on investment in Land.db.



SWEET SCIENCE

Growers who participate in the Syngenta Full Count program receive trays like this one, filled with ready-to-go watermelon transplants; (below) Sweet Dawn watermelon from Syngenta is a consumer favorite.



A dedicated team at Syngenta understands the needs of the watermelon market and delivers winner after delicious winner.

By Matt Ehlers



Consumers' food habits evolve in a state of near-constant churn. Trends rocket to stardom, then fizzle in half that time. But eating watermelon? Surely there is only one way to do that: Slice it with a knife and put it in your mouth.

Well, it turns out a lot of people would prefer to skip the first half of that process, which helps to explain the immense popularity of the Crisp Delight watermelon—bred specifically to be processed and sold as spears inside a clear, clamshell container. Syngenta designed the firm-fleshed variety to withstand the rigors of packaging and shipping. Crisp Delight holds its water better than traditional varieties, resulting in fewer puddles at the bottom of the container.

"People like to buy what they are going to eat that day," says Rich Chastain, a partner in distribution company Melon 1. The clear packaging also removes the mystery surrounding a standard, whole-watermelon purchase. "They see in the container exactly what they're going to buy."

Based in southwest Florida, Melon 1 works with growers throughout the eastern U.S. as well as Central America. In a three-year period, the number of Crisp Delight acres that those growers plant annually has jumped more than 3,000 percent. And there is no indication that presliced watermelon is a fly-by-night trend. Chastain expects acreage to double within the next few years. Melon 1 already sells products to most of the supermarket chains on the East Coast, and Syngenta is with them almost every step of the way.

"We've always had a great working relationship with Syngenta," Chastain says.

Melons for all Occasions

The success of Crisp Delight is the latest in a decades-plus run of success for the Syngenta watermelon program. Consider the following:

- > **Fascination**, introduced in 2011, is already one of the top Syngenta melon varieties sold worldwide. Growers love the marketable yield, medium-to-large fruit size and its resistance to *Fusarium* wilt race 1 and anthracnose race 1. Consumers prize this seedless melon's size, which averages between 16 and 19 pounds, and its wonderful flavor. It's an attractive melon, too: Fascination boasts a beautiful, striped exterior and deep, red flesh.
- > **Sweet Dawn**, introduced in 2016, is an early-maturing variety that produces consistent yields. This seedless variety matures in about 74 days, giving growers an early entry into the market. Sweet Dawn's disease resistance package also features intermediate resistance to *Fusarium* wilt race 1 and anthracnose race 1. This fruit is in the hands of customers as early as possible, while delivering mid-summer watermelon taste.

Advancements such as these are the direct result of Syngenta investing in its watermelon program, says Dean Liere, Syngenta regional portfolio manager for watermelons in North America and Latin America. This includes leveraging innovative science, such

MEET THE MELON MASTERMIND

Matt Kinkade, Ph.D., earned his doctorate in quantitative genetics by studying tomatoes. Today, he is the global seedless watermelon breeder for Syngenta. Why the switch?

"I haven't met a single person who doesn't like watermelon," he says, laughing. "It's a fruit that everyone loves."

But it's actually the scientific opportunities that drew Kinkade toward watermelons. About 95 percent of the watermelon consumed in the U.S. is of a seedless variety, he estimates. But it wasn't until the early 1980s that seedless watermelons became commercialized, so that means there are still huge opportunities for scientific tinkering.

Kinkade points to the Super Pollenizer™ (SP) series from Syngenta as one example of innovations that can happen in the watermelon market. Seedless watermelons need a seeded variety for pollination. Prior to the SP series' introduction, growers had to deal with large, seeded melons growing next to their seedless market prizes. The SP varieties produce inedible, baseball-sized melons, which lessen the competition for their larger, seedless neighbors.

"No one knew it was possible, so no one knew they wanted it," Kinkade says. The phenomenon reminds him of how attached people used to be to their portable CD players. Then the iPod came along. "Overnight, everyone started using iPods."

Kinkade is also deservedly proud of the development of Fascination watermelon variety from Syngenta, which "has set a new standard for what seedless watermelon quality should be."

It's the kind of advancement that drew him to the company almost four years ago. "Syngenta has a long history of watermelon success," he says. "But in the last 10 years or so, we've just exploded with new innovations."

Under Kinkade's watch, expect that to continue.



Matt Kinkade, Ph.D., global seedless watermelon breeder for Syngenta, inspects watermelons grown in trials at the Naples Research Station in Florida.

as marker-assisted breeding, together with seed production advancements.

"We have been able to create some unique genetic combinations that no one else can bring to market," Liere says.

He remembers the first time he tasted a Fascination watermelon, during the trialing process. "It had the flavor you'd always go back to," he says.

As all breeders will attest, a successful trial doesn't always make for a successful product. However, in the case of this watermelon variety, growers started sending in positive reports almost immediately.

"Once we started planting acres and the growers started getting excited, it was exhilarating," Liere says. "We knew we had a good variety, but we had no idea it was going to be this big."

Focus on Science

As the success of Fascination proves, science is at the heart of modern watermelon production. Much of the Syngenta research takes place at two state-of-the-art facilities, located on opposite sides of the country.

The Woodland Research Station, near Sacramento, California, is home to the Global Cucurbit Center of Excellence, which enables Syngenta to place all of its North American cucurbit research and development (R&D) leadership under one roof. The company invested heavily in the facility to build additional greenhouses, specialized plant growth environments, an

"People like to buy what they are going to eat that day. They see in the container exactly what they're going to buy."

—RICH CHASTAIN



innovative plant pathology laboratory and expanded workspace for R&D activities.

The Naples Research Station in Florida lies just south of the frost line, which allows for two generations of most crops. It includes more than 100 open-field acres and contains more than 60,000 square feet of greenhouse space, as well as controlled growth environments and laboratories.

"Our leadership in the watermelon market owes a lot to the innovation that takes place at these research facilities," says Jose Cabrera, Syngenta product manager for vegetable seeds in North America.

Crisp Delight is a Syngenta watermelon variety bred specifically to be processed and sold as convenient, ready-to-eat spears.

Market-Driven Solutions

Customers come in all varieties, from people in the supermarket checkout line to the farmers who place the plants in the ground. Syngenta develops its watermelons in response to the needs of those different groups. Crisp Delight, for instance, grew out of the desire "not to have a 14-pound watermelon taking up space in the refrigerator," says Julie Stocker, North America cucurbit trialing lead at Syngenta.

"It's really about listening to our customers and hearing what they are saying," she adds. "Then we take what we have in our germplasm and convert it into something they can use."

Another example is the Full Count® Plant Program, which came from the ideas of growers themselves. Launched in 2002, Full Count quickly established itself as the industry's standard-bearer transplant program. Prior to Full Count, companies would provide seeds to growers. Most would germinate, but some would not. Growers had to order extra seed to compensate.

With Full Count, growers receive ready-to-go transplants, now with the option of pollinators and seedless plants sown in the same tray. The program removes the guesswork from the planting process and has been imitated by every other large-scale producer.

"The grower can go out in the field and plant and not worry about which tray is which," Cabrera says. "It takes a lot of the headache, planning and logistics out of the grower's equation."

Which, in the end, makes sweet sense for everyone. 🍉



GAME

High-tech seed treatments and local support are giving growers' crops a healthier start and more bountiful finish.

By Darcy Maulsby | Photography by Karen E. Segrave



SEE MORE PHOTOS.

www.syngentathrive.com/farmproduction

TIME

Michael Butler (left) and Jeremy Jones (right) with Helena Chemical work with Anthony Crocker (center) of Syngenta to make sure the new state-of-the-art treater at their Elaine, Arkansas, facility delivers the highest quality treated seed possible.



With plant roots, it's often out of sight, out of mind. But what's really going on down in the soil? Quite a bit of mayhem, in some cases.

An estimated 80 percent of all plant problems start underground with root damage, caused by soilborne and seedborne plant pathogens, early-season insects, and nematodes. All of this can limit the rate of nutrient and moisture uptake, which can curtail plant growth and impact yields.

"Every bushel counts, especially in today's economic environment," says Palle Pedersen, Ph.D., head of Seedcare product marketing for Syngenta. "Research proves that stronger, healthier roots lead to improved crop performance."

Seed treatments help protect the crop when it's most vulnerable—the first three or four weeks after planting. "You have to plant early to maximize yields," Pedersen says. "Since you're not always



What's on Your Seed?

Seed treatments have come a long way since they debuted on U.S. farms around 2005-2006. But not all are created equally.

"Just because you see color on the seed doesn't necessarily mean your crop is getting all the protection you expect," says Palle Pedersen, Ph.D., head of Seedcare product marketing for Syngenta. "It's essential you ask the right questions to make sure you're getting what you pay for when you invest in a seed treatment."

Key questions include:

- What product(s) and active ingredients am I getting?
- What are the proper rates?
- Where's the data supporting these rates?
- What about data supporting rhizobia compatibility?

"Sometimes competitors use lower amounts of active ingredients in seed treatments, but this is not a good place to cut corners," Pedersen says. "Also, competitors' products may not be formulated to work together like Syngenta Seedcare products."

Inferior formulations for seed treatments may cause other hassles. Residue from lower-quality seed treatments may build up on planter plates, so growers don't get good singulation at planting.

Uniform coverage is also important for best results. "If you don't get uniform distribution on the seed, you don't get what you're paying for," Pedersen says.

Syngenta is committed to providing resellers and growers with the highest-quality seed treatments, along with expert service, Pedersen says. "We want to make sure you have a great experience with our products."

From left to right: Effective seed treatments help ensure healthier, higher-yielding soybeans; modernized seed treaters use computer technology to take much of the guesswork out of treating seeds, resulting in greater accuracy and speed.

planting into optimum seedbeds, seed treatments can help your crop get off to a strong start."

Today's seed treatments are more than just an insurance policy against pathogens and insect pests, though. These high-tech products go right to the root of higher yield potential.

"More research is pointing to root health as the key to helping plants reach their full genetic potential," Pedersen says. "Seed treatments that contribute to below-ground protection and above-ground plant vigor are vital during the critical early stages of growth when yield potential is determined."

Linking Strong Roots, Higher Yield Potential

Maximizing yield potential drives innovations from Syngenta, including CruiserMaxx® Vibrance® Beans seed treatment, a combination of separately registered products that together provide below- and above-ground protection. Vibrance, one of its three fungicide components, is a proven seed-treatment fungicide that helps deliver more consistent yields across a wide range of crops.

"Vibrance protects seed from the start to help shield developing root systems from disease, enhance root growth and improve crop productivity," Pedersen says.

As a result, CruiserMaxx Vibrance Beans establishes a higher plant stand than competitive seed treatments—20 percent higher in Syngenta field trials under inoculated disease pressure. "You can't optimize yields if you don't have solid, strong plant stands," Pedersen says. In addition, Syngenta and independent trials show CruiserMaxx Vibrance Beans offers a 2.8-bushel-per-acre (bu/A) yield advantage, compared to untreated beans. Cruiser® insecticide is another key ingredient in CruiserMaxx Vibrance



Beans. “Cruiser helps enhance vigor, resulting in improved canopy closure, root health and overall yield,” Pedersen says.

Seed Treatment Done the Right Way

Of course, any seed treatment is only as good as the treater behind it. That’s why Syngenta Seedcare™ has a team of local experts who go above and beyond to provide resellers treating the seed with the services they need. In addition to advising customers on how to best handle and apply seed treatments, calibrate equipment, and deliver the right dose on the seed, Syngenta Seedcare specialists also tailor solutions for each seed-treating operation.

Consider Helena Chemical. Employees at the company’s Elaine, Arkansas, location are always looking for the latest technologies on the market and asked Syngenta Seedcare Specialist Anthony Crocker for recommendations.

“I knew they wanted to be as accurate as possible with their seed treatments and provide the best service,” Crocker says. “Helena is innovative and proactive, so they were receptive to utilizing some different technologies, such as prescription-based treating and loss-in-weight seed metering.”

The process started in 2016, when Crocker visited Helena’s Elaine location, listened to the Helena team’s needs and developed an action plan tailored to these needs. Crocker recommended a new seed treater that used some of Helena’s existing conveyors.

“Proper calibration is critical with any seed treater,” Crocker says. “With today’s technology, you can greatly reduce human error and dial in accuracy with prescription-based seed treatments.”

The KSi seed treater, installed in Elaine in 2017, was equipped with PC-based automation and incorporated remote-access

technology and a loss-in-weight flow control system. “I was a little skeptical at first,” says Jeremy Jones, sales representative and location manager at Helena’s Elaine location. “What if we had trouble with this computer system?”

Michael Butler, Helena warehouse manager at the Elaine location, also shared these concerns. “We were excited to get the new seed treater, but it was scary, too, with all these bells and whistles I’d never worked before.”

Between input from Crocker and technical support from KSi, the Helena team quickly learned how to operate the new seed treater, which impressed them from the start. “Its automation capabilities blew me away,” Butler says.

And so did its speed. With the new treater, the Helena team discovered it could process 2,000 pounds of seed per minute.

“This treater couldn’t have come at a better time,” says Butler, who notes that the Elaine location sold mostly soybeans in 2017. “We used to have five to eight wagons waiting in line to get treated seed, and now the lines are gone, since growers can get their seed fast and get back to the field.”

The treater is also extremely accurate, says Butler, who adds that all samples he sent in for testing this spring came back close to perfect. “Growers who buy

high-quality treated seed from us can be confident they’re getting what they paid for.”

Looking Toward 2018

In 2018, Syngenta anticipates offering resellers, including Helena, the next generation of soybean seed treatments—Clariva® Elite Beans seed treatment. Upon registration, this new premix formulation of Clariva pn nematocide and CruiserMaxx Vibrance Beans will provide all of the benefits of CruiserMaxx Vibrance Beans, plus season-long, lethal activity against soybean cyst nematode (SCN), the most damaging pest to soybean yields in the U.S.

“Clariva Elite Beans is coming at a critical time for soybean growers who are battling SCN,” says Pedersen. “It is designed to enhance the performance of SCN-resistant varieties in fields where SCN populations have adapted to PI88788, the most common source of genetic resistance.”

In multiyear trials, Clariva Elite Beans averaged yielding 2.6 bu/A more than an insecticide/fungicide seed treatment alone. In some fields, the yield increase was much higher—up to 10 bu/A.

While it’s impossible to predict what the 2018 season will bring, Syngenta aims to continue offering resellers like Helena the tools they need to succeed. “We want to earn growers’ confidence in 100 percent of our services, not just a fraction of them,” Butler says. “We’re becoming a trusted market leader in treating seed, thanks, in part, to the support Syngenta provides.”

“With today’s technology, you can greatly reduce human error and dial in accuracy with prescription-based seed treatments.”

—ANTHONY CROCKER

Formula for Success

Based on growers' feedback, an improvement to Force liquid insecticide will provide corn rootworm control with added convenience.

The evolution of Alexander Graham Bell's first telephone transmitter to today's smartphone is remarkable. The original heavy wooden contraption tethered with multiple cords is now a portable, pocket-sized device that connects people to nearly anywhere in the world. In the 140 years between then and now, the telephone has undergone many refinements, all geared toward improving the user's experience. The same can be said of the Force® insecticide portfolio from Syngenta.

"We developed Force more than 25 years ago," says John Koenig, technical product lead for insecticides at Syngenta. "With the revolutionary active ingredient tefluthrin, Force controlled corn rootworms (CRW) and other early-season pests in corn like nothing else on the market."

Today, growers are still relying on this line of insecticides to deliver dependable control. But like the companies that continue to update telephone technology, Syngenta is listening to customers to improve the value of Force on farms.

"We recently enhanced the liquid formulation to give growers the performance and convenience they've been looking for," Koenig says. "The resulting product is Force Evo liquid corn insecticide, which has already received regulatory approval from the Environmental Protection Agency and will be available for use during the 2018 growing season."

Don't Underestimate the Pest

The CRW larvae is tiny, but it can take a big bite out of a farmer's bottom line. Every year, the pest costs U.S. corn growers more than \$1 billion. That's why it's critical to have

insecticides like the Force brands that can control CRW before crop damage occurs.

For years, growers could choose between two Force brand formulations: Force 3G, a granular insecticide, and Force CS, a liquid. Both deliver highly effective control even in areas with heavy insect pressure, but users noted that Force CS had a few formulation challenges, especially with crystallization that occurred when planting at cold temperatures. When the formulation crystallized, it tended to clog application equipment, resulting in a work stoppage during the critical planting window. In addition, the formulation did not mix well with some starter fertilizers.

"The reason I've used Force CS for several years is because of the unmatched CRW control and root protection it provides each year," says Michael Guerts, a grower from Marshall, Minnesota. "Although I had some challenges when using the product, I felt Force CS provided a good insurance policy against CRW."



Delivering the Goods

Syngenta formulation chemists and application technology specialists analyzed the Force CS formulation to determine which factors they could improve for a better at-planting experience. “We went back to the drawing board to identify what growers and applicators find most valuable in a liquid insecticide and what they’d like to change,” says Koenig. “Force Evo represents the evolution of the Force insecticide portfolio to better meet growers’ needs.”

Syngenta designed the Force Evo formulation to give growers an improved user experience in the following ways:

- > Better cold tolerance and freeze/thaw performance significantly reduce the risk of crystallization, even at temperatures as low as 20 degrees Fahrenheit—an improvement of 35 degrees Fahrenheit.
- > Compatibility with 47 liquid starter fertilizers allows hassle-free use through existing closed, direct-injection application systems from John Deere and Raven.
- > Four-times-lower viscosity results in easier pumping and better flowability under a variety of conditions.
- > Four- to six-times-less residue buildup on equipment surfaces leads to easier equipment cleanout.

“Because of the insecticide’s performance in lab testing and field trials, we’re confident these improvements will lead to a more satisfactory user experience at planting,” Koenig says. “And with the same amount of active ingredient as Force CS, Force Evo will provide the same superior control of CRW and other early-season insect pests in corn.”

Koenig notes that even in the absence of CRW, Force Evo helps increase yield, because early-season pests that it controls, including white grubs, wireworms and seedcorn maggots, can damage developing roots.

Key Partnership

But the Syngenta commitment doesn’t stop with product development and registration. Stewardship and education will be important once growers begin using Force Evo in

their fields, Koenig says.

Direct Contact, Inc., a Syngenta service partner, employs trained professionals to expand the ground game of Syngenta and work with growers one-on-one to make sure they calibrate and winterize their application equipment appropriately.

Jackie Weldon, account manager at Direct Contact, expects the Force Evo formulation will deliver the experience growers want, from start to finish. “The choice to involve Direct Contact demonstrates the commitment Syngenta has to product stewardship,” she says. “From the Syngenta sales reps who prescribe the use rates to my team at Direct Contact, we’re working together to deliver a positive experience to the ultimate end-user—the grower.”

Guerts was one of three growers in the Midwest selected to trial Force Evo during the 2017 planting season, as part of Syngenta on-farm trials. The trials showed that the formulation performed well, not just in the lab but also in the field.

“The Force Evo trials on my farm showed me that this product is going to deliver the pest control I expect with the convenience I need to be efficient at planting,” Guerts says. “I’m excited about Force Evo because it will not only provide that same superior CRW control, but it also will be easier to handle at planting. It’s an investment worth making.”

Like the smartphones that most growers carry in their pockets, Force insecticides are great tools that have become better over time, based on user needs.

“Some companies deliver solutions that work for the short term; Syngenta delivers solutions for the long term,” Koenig says.

To learn more about Force Evo, visit www.syngentaus.com/forceevo. 🌱

STORY BY MARY REBECCA HARAKAS

“The Force Evo trials on my farm showed me that this product is going to deliver the pest control I expect with the convenience I need to be efficient at planting.”

—MICHAEL GUERTS



From left to right: Force insecticide is loaded into the John Deere Central Insecticide System; Force Evo (left) shows superior flowability than Force CS (right); corn treated with Force (right) has healthier roots than untreated corn (left) and corn treated with Capture® LFR® (center).

Saving the Safety Net

Crop insurance, growers' most important risk-management tool, faces threats in the new budget.

The disastrous effects of the Great Depression and the Dust Bowl initially drove Congress to authorize the federal crop insurance program. Since then, the program has been a critical tool to help growers affordably manage the many risks that come with farming. Today, it's widely acknowledged to be the best risk-management tool crop producers have; it protects 90 percent of U.S. cropland.

"Almost any farmer you talk to across the country will tell you crop insurance is the primary risk-management tool that they need," says Ryan Findlay, industry relations lead for Syngenta. "We can talk about trade. We can talk about prices. We can talk about Farm Bill support programs, but farmers will tell you they need to have crop insurance."

But today, farm operators are concerned about its future, because the Trump administration's budget has called for \$29 billion in cuts to the crop insurance program over the next 10 years.

Cuts to Premium Subsidies

The bulk of those cuts—\$16 billion—would come from enacting a \$40,000 limit on crop insurance premium subsidies. Currently, there is no limit, and the federal government pays approximately 60 percent of the premium cost for most common levels of crop insurance coverage.

Data from the Government Accountability Office in 2011 showed that 26 percent of crops covered would be negatively impacted by a \$40,000 cap. "It actually hits

a lot of farmers," says Tara Smith, vice president of federal affairs at Michael Torrey Associates, LLC. "It's not just big farmers; it's not just wealthy farmers. It disproportionately hits farmers who grow high-value crops and farmers who are in high-risk areas and need crop insurance the most." Those are also the reasons the U.S. Department of Agriculture cited in calling this idea "ill advised."

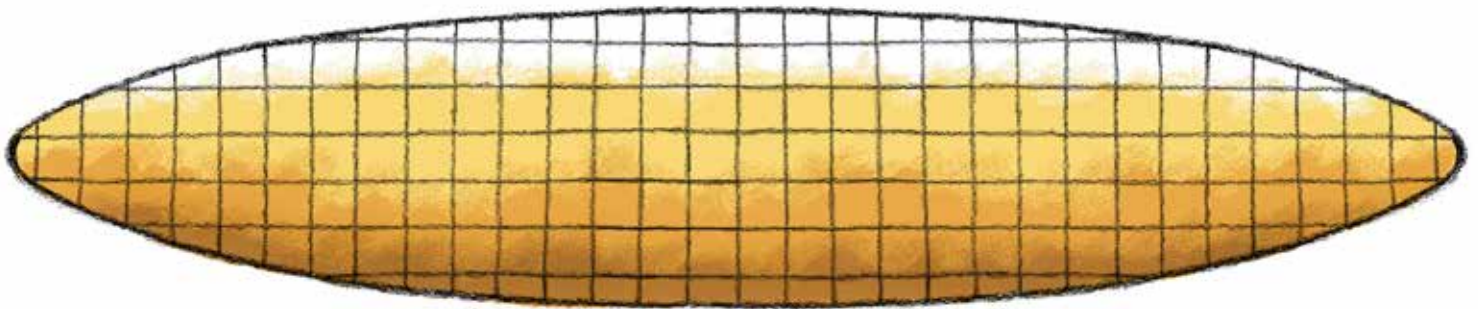
And although every farmer wouldn't hit the cap, every farmer would be affected by it through the weakening of the overall insurance pool, says Laura Peterson, head of federal government relations at Syngenta. "The crop insurance program is dependent on a lot of people participating; that's how you manage the cost of the program. If we start taking people out of the program, it would impact every farmer."

The cap would also trigger a paper trail, adds Sam Willett, senior director of public policy with the National Corn Growers Association (NCGA). "A lot of farms would be reorganized and restructured so that they would not be subject to that cap. It would create a lot of work for accountants and lawyers."



Cuts to the Harvest Price Option

Another proposed \$11 billion in cuts to the crop insurance program would come from eliminating the subsidy for the harvest price option, which farmers say allows them to make better decisions and take some of the risk off the table. That's because it provides protection on lost production at the



higher of the price projected, just before planting time or the price at harvest. This option is especially important for young and beginning farmers who might be more leveraged, Peterson says.

Opponents of crop insurance have long vilified the harvest price option, Smith says. "There's a lot of misunderstanding about its purpose. It isn't about creating a Cadillac policy for farmers that's going to make them money; it's about being able to get the

"Almost any farmer you talk to across the country will tell you crop insurance is the primary risk-management tool that they need."

—RYAN FINDLAY

replacement value for your crop when you lose your crop."

That becomes crucial if a farmer, for example, uses forward contracting as a risk-management tool, as many do. "If you don't have enough corn to meet that contract because you've had a disaster, you have

to go into the open market to purchase that corn, and that replacement value is extremely important," Smith says.

"Farmers still have to meet a deductible; they have to pay an actuarially sound premium. But there are very real reasons why that policy exists."

An Actuarially Sound Program

Recently, the NCGA hired Integrated Financial Analytics Research to look at the crop insurance program, Willett says. "They concluded that the program is a superior risk-management tool for a variety of reasons," he explains. "Their report underscores that the program does a very, very effective job targeting losses, both in a drop year as well as in a very good year." In 2016, for example, the loss ratio—the indemnity payments divided by the total premium paid—was 0.27. "So for every dollar that went in the program, only 27 cents went out for indemnity payments."

Right now, crop insurance is actuarially sound, Smith agrees. "But any time you change that risk pool, you change the premiums for every single producer who remains. If you're a small farm, you might think you're in the clear because you're under that cap, but you're only in the clear until you get your bill for crop insurance next year."

Smith encourages everyone in agriculture to stay engaged on the subject. "They know the benefits of crop insurance, and they understand the value. But in D.C. that doesn't necessarily translate," she says. "We're encouraging folks to reach out to their members of Congress to be sure they are hearing what folks in the country already know—that crop insurance works, it's vital and we need to maintain it appropriately."

To learn how to reach your congressional representatives in the U.S. Senate and House, go to www.contactingcongress.org.

STORY BY SUZANNE BOPP

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Ripple Effect

Syngenta honors this year's #RootedinAg finalists, celebrates its 150th anniversary as a provider of vegetable seeds and plants pollinator habitats at its corporate locations.

CONTEST

Syngenta Names Winner in #RootedinAg Contest

Your online votes combined with judges' scores have determined the grand prizewinner of the 2017 #RootedinAg Contest.

The journey began in April when *Thrive* asked its readers to describe in 200 words or less the person who most nourished their agricultural roots. A panel of judges then named five finalists, based on the quality of their entries, which also included a supporting photograph or video. Syngenta awarded each finalist with a mini touch-screen tablet and the chance to compete for the grand prize—a \$500 gift card and \$1,000 donation to his or her favorite local charity or civic organization.

"We're grateful to everyone who shared their inspiring stories with us," says Wendell Calhoun, Syngenta communications manager. "And we're so proud to honor the people who have helped shape the great men and women of agriculture."

Thrive will feature a more in-depth article on the winner in our 2018 winter issue. But to find out now which one of the following finalists is the 2017 #RootedinAg champion, go to www.syngentathrive.com:

1. **Tori Streitmatter** from Sparland, Illinois, spends time with her family on their farm. From left to right: Streitmatter, her twin sister Taylor, her mother Ann, her father Dave, her sister-in-law Kaitlyn and her brother Jay.
2. **Nicole Swinson** from Kenansville, North Carolina, (center) receives the 2017 Golden Star Award for community involvement and increased partnership at the annual Expanded Food and Nutrition, Education



thrive

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Programs (EFNEP) conference. Suzanne P. van Rijn (left), retired North Carolina State University (NCSU) Extension agent, and Lorelei Jones (right), NCSU Extension associate and EFNEP coordinator, presented the award to Swinson, who is the Duplin County 4H-EFNEP assistant.

3. **(Thomas) Luke Andrews** from Boyle, Mississippi, credits his late grandmother for nurturing his agricultural roots.
4. **Steve Groves** from Bakersfield, California, enjoys riding horses with his two granddaughters.
5. **Lauren Grimes** from Tifton, Georgia, celebrates being named a finalist in the state's 2016 Young Farm Family Program with her husband Andrew and three young children.



MILESTONES

Syngenta Vegetable Seeds Celebrates a Milestone

Through its vegetables seeds business, Syngenta has been helping people around the world “eat their veggies” for 150 years. With 30 crop species and 2,500 varieties, the company is celebrating this milestone and its position as a global leader in vegetable seeds.

“We’re focused on bringing innovation to our customers and to the entire value chain,” says Teresa Mitzel, head of vegetables biological operations at Syngenta in North America and Mexico. “Our goal is to help meet the consumer demand for high-quality, tasty, nutritious vegetables and make them available every day of the year.”

Syngenta conducts vegetable seeds research and development at several sites in key production regions of the U.S., including Woodland and Gilroy, California; Nampa, Idaho; Plainfield, Wisconsin; Hall, New York; Stanton, Minnesota; and Naples, Florida.

Trialing occurs at these sites and other key markets throughout the year, allowing Syngenta to continually introduce innovative new varieties. Seed resellers and vegetable growers who visited the sites in 2017 had a chance to get a glimpse of what the future holds, such as enhanced disease resistance packages, varieties with earlier maturity and improved fruit quality.

“We’re excited about the performance of our varieties in trial,” Mitzel says. “Our goal is to continue introducing vegetable seed offerings that address production challenges, while setting a new standard for consumer appeal.”



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Good Gardens

On-site gardens highlight the commitment of Syngenta to planting pollinator habitats and educating employees.

S yngenta has established three new pollinator gardens at its corporate locations in Minnetonka, Minnesota, and Greensboro and Research Triangle Park (RTP), North Carolina. The gardens feature plants that attract butterflies, bees, hummingbirds and other pollinators.

“The gardens fit very well with our goals for employee engagement, education, biodiversity enhancement and local outreach,” says Volker Mittendorf, Ph.D., molecular analytics group leader at Syngenta in RTP.

Pollinators are critical to sustain crop yields and quality. “Unfortunately, populations of bees and other pollinators

are dwindling, partly due to a lack of forage and habitat,” says Cathy Stone, who leads corporate real estate facilities management services at Syngenta in Greensboro.

Her colleague in Greensboro, Caydee Savinelli, Ph.D., agrees. “On a small scale, the gardens mirror the Syngenta Operation Pollinator program,” says Savinelli, who is the company’s pollinator and IPM stewardship lead. “The program was initiated more than 15 years ago, because we recognized that pollinator habitat was disappearing from the landscape.”

To date, Syngenta has established Operation Pollinator sites in the U.S. on more than 200 golf courses and 7,000 acres of farmland.

“Operation Pollinator has been one of the big success stories in our ongoing work with sustainability,” says Jill Wheeler, sustainable productivity head for Syngenta, North America.

Like the Operation Pollinator plots on farms and golf courses, the on-site gardens feature plant varieties native to each location. For example, the garden at the Minnetonka facility, where Wheeler is based, includes coneflower, bee balm and other types of mint plants, wild quinine, yellow Indian grass, Appalachian sunflower and milkweed.

Two smaller gardens are in place in Greensboro; and a larger, 1-acre garden and arboretum, under construction at press time, will feature Syngenta products, walking paths, a stone bridge and a waterway.

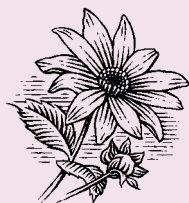
The pollinator garden in RTP is named the Native Prairie Project and contains nearly 40 species of plants. Syngenta employees started locally collected seeds in a greenhouse and planted the resulting 7,000 plants 15 to 18 inches apart on 0.4-acre plot this summer.

“It’s a lot more effort to start plants in the greenhouse and then transplant them, versus just spreading seeds, but the outcome is much more controlled,” says Mittendorf.

Employees and visitors at the three Syngenta locations can now take a break during the workday, while also gaining a greater appreciation of the important role that pollinators play in propagating plants.

“We’re providing bees and other pollinators gardens where they can thrive and showing people how valuable pollinators are,” says Stone. 🌱 STORY BY ANN BEHLING WOLF

FLOWERS THAT ATTRACT POLLINATORS



Appalachian Sunflower



Bee Balm



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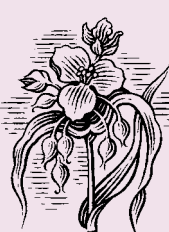
Gayfeather



Milkweed



Mint



Ohio Spiderwort



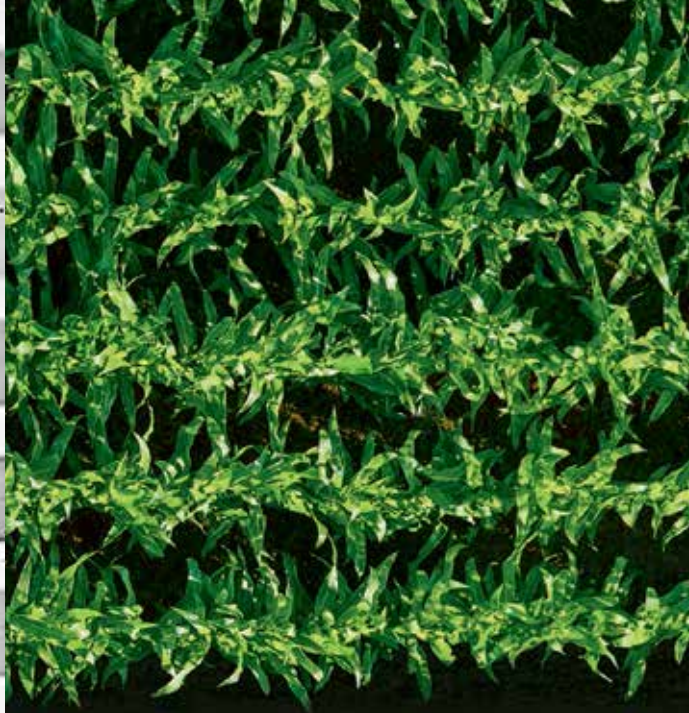
Yellow Indian Grass

A tiger swallowtail butterfly lands on a coneflower growing in the pollinator garden at the Syngenta corporate location in Greensboro, North Carolina.





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