

Growing Together > 1Q | 2016

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15

YEARS OF
INNOVATION



TAKE THE FIELD

**Acuron[®] Herbicide
Puts Growers
in Control**

**SYNGENTA LEADERS
SEE BRIGHT FUTURE**

**BRANDED PRODUCTS
OFFER CRUCIAL BENEFITS**

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contents

8 Take Control

Acuron® corn herbicide gives growers the power and flexibility they need to control tough weeds.

By Mary Rebecca Harakas

12 Step Changes

A robust pipeline of new products shows the commitment of Syngenta to its reseller partners and growers.

By Suzanne Bopp

16 Power of 10

Branded products have many advantages when compared with generics, such as the backing of new research and sales representatives in the field.

By Darcy Maulsby

1 WELCOME

Proven Partnerships
Syngenta works with growers and resellers to meet the needs of a dynamic industry.

By Michael Boden

2 WHAT'S IN STORE

News about products, programs and events keeps you informed.

5 DATA POINT

Rising to the Challenge

6 BEST PRACTICES

Sharing Her Story

By Lauren Jones

20 ASK THE EXPERTS

In Good Company

Interviews by Susan Fisher

22 POLICY MATTERS

Scouting the Political Landscape

By Cindy Snyder

24 KNOW-HOW

Cream of the Crop

By Vanessa Horn

26 RIPPLE EFFECT

Syngenta makes important contributions to the ag community and supports its future leaders through FFA.

ON THE COVER Left to right: Mike Erwin, sales manager at KOVA of Ohio; Nathan Miller, grower; and Greg Whitesell, Syngenta sales representative, join forces to battle tough weeds on Miller's farm. Photo: Todd Joyce

THIS PAGE The Lottinville family goes for a walk on their farm in Sheldon, Illinois. Left to right: Krista Lottinville; her mom, Sue; her dad, Kyle; and the family dog, Maggie. Photo: Laura Gioja

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 FarmAssist website at www.farmassist.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.



Proven Partnerships

Few industries experience more unexpected twists and turns than agriculture. Often at the mercy of wayward weather and market conditions, growers need to have someone they can lean on who's reliable and steady. That someone is usually you—their trusted reseller who can help them hold on to the reins of their livelihood and move ahead with confidence.

At Syngenta, we understand that you, too, depend on proven partnerships to grow your business. For more than 15 years, we've worked to earn your trust with a diverse, total-acre portfolio backed by exceptional service.

The strong link between what we hear on the farm and what we do in the laboratory helps set Syngenta apart in the marketplace. Always willing to roll up our sleeves and problem-solve by your side, we're passionate about truly listening to the real issues and opportunities in the field, so that our scientists can develop the best solutions for growers with the greatest return on investment.

“At Syngenta, our goal is to help you maneuver around the rough patches and resolve the challenges that keep growers up at night.”

This issue of *Thrive* features some of our latest product offerings, including Acuron® herbicide, a highly anticipated weed management tool in corn that debuted commercially last spring and produced outstanding results. Additionally, we've included a report on the Syngenta Harvest Chasers and their quest to find the best-performing hybrids and varieties of 2015.

As we stand on the cusp of a new growing season, we also focus our gaze on what lies ahead. In one article, you'll learn that we plan on launching 16 new products into the U.S. market alone this year. And in another article, Syngenta and retailer experts alike clearly outline the value of investing in branded products, despite predictions of lower commodity prices and tighter margins in 2016.

Like all industries, agriculture is bound to hit a few bumps in the road this year. At Syngenta, our goal is to help you maneuver around the rough patches and resolve the challenges that keep growers up at night. After all, supporting your business is essential to growing ours. And like your customers who rely on you, you can rely on us to help you chart the best course forward. 🌱



MICHAEL BODEN

MICHAEL BODEN
Head, U.S. Sales
Syngenta, North America

BIO: Michael Boden became head of U.S. sales at Syngenta in October 2015. An Iowa native and a graduate of Iowa State University with a degree in agronomy, he has spent most of his 30-plus-year career at Syngenta and its legacy companies.

➤ Read article online at www.syngentathrive.com.



What's in Store

Discover the latest news on products, programs and upcoming events.

PRODUCT UPDATES

> Equipment Rebates for Enogen Growers

Growers have long used Chief Agri/Industrial Division's stiffened bins as an integral component of commercial grain-management systems. Now, through an agreement with Syngenta, Chief Agri/Industrial Division will provide Enogen corn growers rebates on those grain bins and other equipment.

"We're excited about this opportunity," says Roger Townsend, president of Chief Agri/Industrial Division. "We look forward to providing Enogen growers with the right system to help them dry and store Enogen corn before delivering their grain to ethanol plants."

Enogen growers are required to follow specific yet simple stewardship guidelines to receive a 40-cent-per-bushel (on average) premium. These guidelines include planting non-Enogen border rows around an Enogen cornfield, cleaning out planters and combines, and dedicating separate bin space for all Enogen grain.

For more information about Enogen® corn enzyme technology, visit www.enogen.net.



>> 2016 Agrisure Duracade Sales and Stewardship

Each year, corn rootworm (CRW) costs growers more than \$1 billion in control measures and yield loss. The Agrisure Duracade® trait is an essential tool in managing this costly pest. One USDA study shows it reduces adult CRW beetle emergence by 99.97 percent, more than any other CRW trait on the market.¹ Agrisure Duracade is fully approved for sale in the U.S. and Canada and for export to many major importers of U.S. corn. Syngenta has submitted paperwork and is working to gain import approval in China and the European Union.

Syngenta believes in enabling growers to use the latest U.S.-approved technologies, like the Agrisure Duracade trait, to protect their crop's yield and profit potential, while stewarding the end-use product in a responsible way.

After two successful seasons of stewarding Agrisure Duracade grain through Right to Grow programs, Syngenta has learned that the majority of grain containing Agrisure Duracade is fed on-farm to



livestock or through feedlots in the U.S. With this in mind, Syngenta is taking a new approach to handling and stewarding grain from hybrids containing Agrisure Duracade.

For 2016 planting, Agrisure Duracade products will be sold in areas where CRW pressure is a primary concern to growers who either feed grain or silage to livestock on their own farms or who agree to deliver grain to select feedlots or ethanol plants designated by Syngenta. Working with Gavelon Grain LLC, Syngenta will offer a call center for growers to support proper stewardship and handling of corn containing Agrisure Duracade.

For more information, please contact your Agrisure Duracade seed seller or visit www.agrisureduracade.com.

1. "Mortality Impact of *Bt* Transgenic Maize Roots Expressing eCry3.1Ab, mCry3A and eCry3.1Ab plus mCry3A on Western Corn Rootworm Larvae in the Field." Bruce E. Hibbard, Daniel L. Frank, Ryan Kurtz, Eric Boudreau, Mark R. Ellersieck and J. Frederick Odhiambo. *Journal of Economic Entomology*. 2011, 104 (5). 1584–1591.



NEW TECHNOLOGIES

> Solatenol Fungicide Receives Registration

Already a blockbuster performer elsewhere in the world, Solatenol® fungicide, the newest succinate dehydrogenase inhibitor (SDHI) fungicide from Syngenta, is now available for use in the U.S. Growers can apply Solatenol on a wide range of crops, including corn, soybean, wheat, peanuts, potatoes, and various fruits and vegetables.

Solatenol fungicide offers U.S. growers of a dozen major crops an outstanding new option for disease control. It is the most potent SDHI available with longer-lasting residual control, and it offers broad-spectrum control of profit-robbing foliar diseases and soil pathogens. Its flexible application timing and tank-mix compatibility help facilitate optimum crop safety and resistance management.

"Growers can expect a step change in disease control from all the products containing Solatenol, with the added benefit of crop enhancement in the row crop market," says Steve Eury, fungicides product marketing lead at Syngenta. "These valuable new products demonstrate the continuing commitment Syngenta has to producing innovations that help growers maximize profits."

Solatenol is now available in four product offerings, pending individual state registrations.

In corn, soybeans and wheat, Syngenta will market Solatenol as Trivapro™ fungicide, a product that combines the power of three distinct active ingredients—Solatenol, azoxystrobin and propiconazole—to provide three dimensions of protection against diseases, such as gray leaf spot, stripe rust and Southern rust.

Syngenta will offer Solatenol as Aprovia® fungicide to growers of apples, grapes and pears. In fruiting vegetables and cucurbits, Syngenta will sell Aprovia® Top fungicide, a product combining Solatenol fungicide and difenoconazole, one of the leading triazoles in the world.

Elatus® fungicide, a combination of Solatenol fungicide and azoxystrobin, provides peanut growers with the disease control they need to maximize yield potential and return on investment. Syngenta will also sell Elatus as an in-furrow product for improved disease control in potatoes.



>> Syngenta Adds Orondis Fungicide to Portfolio

Orondis® fungicide has received registration from the U.S. Environmental Protection Agency (EPA) and is expected to be available for the 2016 season, pending state registrations.

Orondis contains the active ingredient oxathiapiprolin and offers a new mode of action for outstanding control of economically important soil and foliar diseases caused by oomycete fungi



in vegetables, potatoes and tobacco. Its mode of action bears no cross-resistance to other products. Orondis is also highly effective at lower active-ingredient use rates than competitive fungicides.

“Orondis is an excellent foundation fungicide and offers growers a new tool in their disease-control programs,” says Bernd Druebbisch, fungicide product lead at Syngenta. “Its new mode of action complements and enhances our diverse fungicide portfolio.”

Syngenta will market Orondis as three multi-packs of separately registered products to customers:

- > **Orondis and Ridomil Gold® SL** fungicide, for control of soilborne oomycete diseases in vegetables and tobacco
- > **Orondis and Bravo®** fungicide, for control of downy mildew and late blight in potatoes and vegetables
- > **Orondis and Revus®** fungicide, for control of downy mildew and late blight in leafy vegetables (lettuce and spinach), potatoes, tobacco and other vegetables

Syngenta will develop premix products combining these products and, when approved by the EPA and individual states, sell these premixes under the following brand names: Orondis® Ridomil Gold® fungicide (Orondis and Ridomil Gold SL); Orondis® Opti fungicide (Orondis and Bravo); and Orondis® Ultra fungicide (Orondis and Revus).

“In extensive trials, Orondis has shown outstanding efficacy at significantly lower active-ingredient rates, compared with other fungicides,” says Paul Kuhn, Ph.D., technical product lead at Syngenta. “It has demonstrated an ability to greatly reduce disease severity in treated fields and provide measurable improvements in yield.”



NEWS AND EVENTS

> Syngenta Acquires Ag Connections

After a 14-year relationship, Syngenta is making Ag Connections a wholly owned subsidiary in order to accelerate growth of digital solutions and enhance whole-farm management.

Ag Connections provides farm-management software solutions and works extensively with Syngenta on its AgriEdge Excelsior® program, which integrates products, services, risk management and technology for growers.

The collaboration between Syngenta and Ag Connections remains focused on providing growers better tools within their farming operations to empower confident decision-making. This stronger link will enable more agility and speed in the decision process and provide direct access to resources needed to scale up and meet grower needs. Importantly, the privacy pledges of both Syngenta and Ag Connections remain intact, so growers maintain control of their data.

“The past 14 years speak for themselves in terms of the level of commitment both Syngenta and Ag Connections have shown in meeting growers’ needs and providing them with tools for success,” says Dan Burdett, head of customer marketing at Syngenta. “We have a 96 percent grower retention rate with AgriEdge Excelsior. Now we are in an even better position to strengthen our digital agriculture offerings and serve more growers’ needs in an increasingly complex and competitive area of agriculture.”



TRADE SHOWS AND CONFERENCES

Attending trade shows and conferences is an excellent way to find out what's new in the agricultural marketplace and at Syngenta. Please visit our booth at any of the events listed below:

FEBRUARY 2016

10–13 **National Farm Machinery Show**
Louisville, Kentucky

26–27 **Mid-South Farm & Gin Show**
Memphis, Tennessee

MARCH 2016

3–5 **Commodity Classic**
New Orleans, Louisiana

RISING TO THE CHALLENGE

According to the 2012 USDA Census of Agriculture, **women made up about 31 percent of U.S. farmers**, but that figure by itself doesn't tell the whole story. While women are already making major contributions to the industry, an even greater role awaits them in the future.

62.7

MILLION ACRES were farmed by women principal operators in 2012.

\$12.9

BILLION in agricultural products (crops and livestock) were sold by women principal operators in 2012.

288,264

FEMALE FARMERS were principal operators in 2012.

14

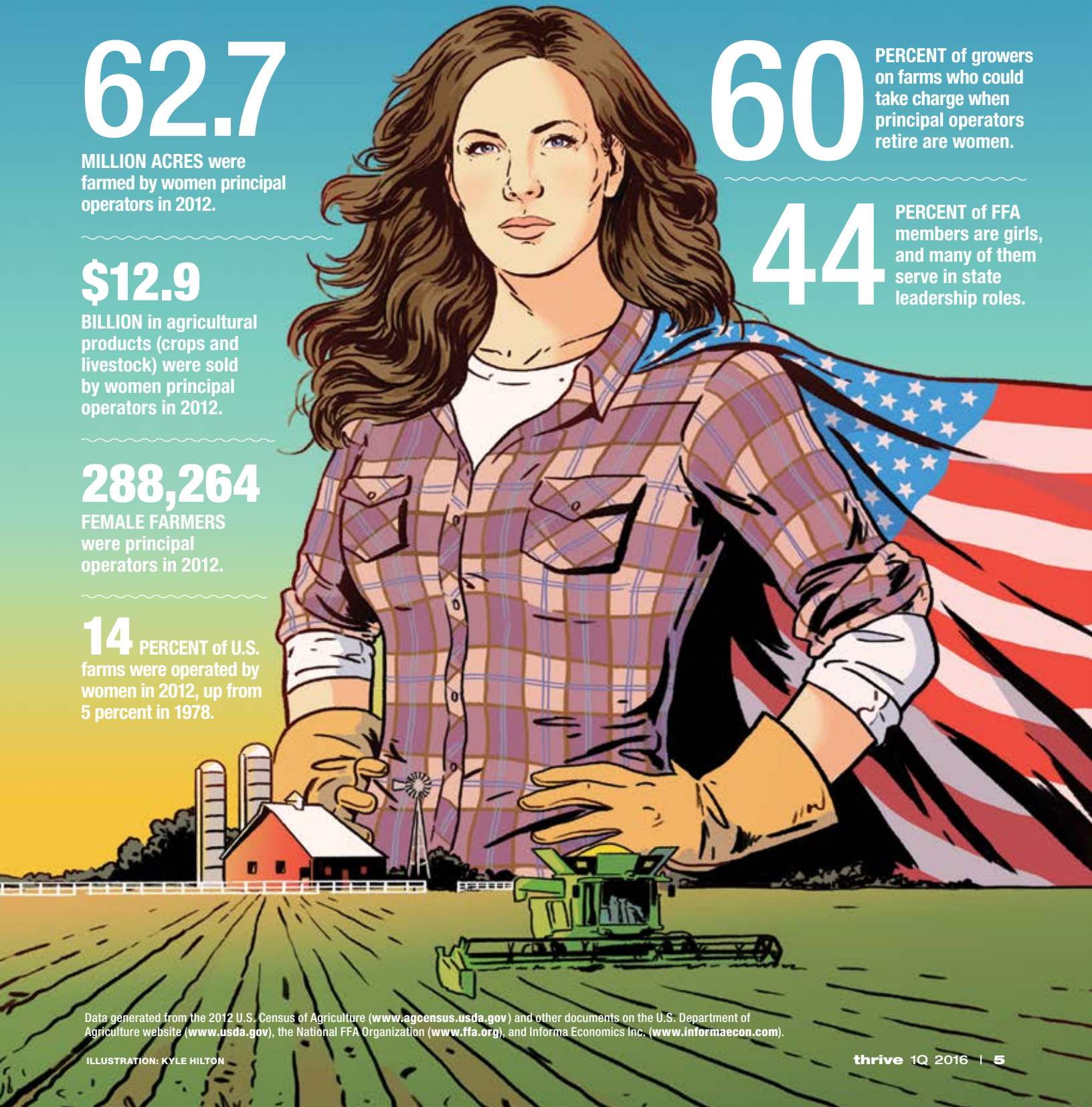
PERCENT of U.S. farms were operated by women in 2012, up from 5 percent in 1978.

60

PERCENT of growers on farms who could take charge when principal operators retire are women.

44

PERCENT of FFA members are girls, and many of them serve in state leadership roles.



Data generated from the 2012 U.S. Census of Agriculture (www.agcensus.usda.gov) and other documents on the U.S. Department of Agriculture website (www.usda.gov), the National FFA Organization (www.ffa.org), and Informa Economics Inc. (www.informaecon.com).

ILLUSTRATION: KYLE HILTON

Sharing Her Story

The Drive to *Thrive* winner embraces her agricultural roots and inspires many other young women to do the same.



SEE MORE PHOTOS.
www.syngentathrive.com/community

Like many young girls growing up on a farm, Krista Lottinville dreamed of trading in the slow, steady pace of Sheldon, Illinois, for the hustle and bustle of the big city. But exposure to the diverse opportunities that agriculture offers set her on a different course.

Lottinville shared her journey in the 2015 Drive to *Thrive* contest, in which Syngenta asked participants to explain how agriculture drives their communities to thrive. Her simple yet poignant account of how agriculture helped a little farm girl grow up to become a role model for dozens of other young women swayed the panel of judges and online voters alike to name her the grand prizewinner. A closer look at Lottinville's ongoing story reveals a caring, compassionate legacy grower, full-time Burris Seed account manager and young leader whose future in agriculture is as bright as her positive outlook on life.

Do Better, Think Bigger

During Lottinville's early years, she equated a career in agriculture with a lifetime on the farm. After all, her family had lived and worked on its farm for more than 100 years, and she was surrounded by friends with similar backgrounds.

Krista Lottinville, the 2015 Drive to *Thrive* winner, speaks to a group of 120 women at the recent Illinois Agri-Women Leadership Enhancement Skill Seminar, sponsored by Syngenta.

Her high school agriculture classes and FFA program broadened her understanding of what a career in agriculture could mean. She traveled to national events in Washington, D.C., and Louisville, Kentucky, with other highly motivated students who pushed her "to do better and think bigger" about the changing industry. And when a teacher exposed her to the industry's entire supply chain, she learned that making a living in agriculture could extend beyond the farm into business, manufacturing and policymaking.

"I was surprised when I realized just how big the industry is," Lottinville says. "But the best part of ag class was talking about it with like-minded, hard-working farm kids with big dreams."

Yet just as she grew excited about a future outside Sheldon, a devastating loss drew her closer to home. In her junior year of high school, her older brother, Clint, died suddenly, leaving Lottinville the sole remaining heir to run the family farm.

The responsibility to carry that legacy forward renewed her commitment to a lifetime in agriculture. "I embraced the idea and knew that I needed to learn more about the industry, to both work on the farm and supplement with off-farm income," she says.

Finding Strong Women in Ag

One specific group helped Lottinville find a place where her deep-rooted passion for agriculture could flourish: Illinois Agri-Women (IAW) and its affiliated program, Women Changing the Face of Agriculture (WCFA), both of which Syngenta is proud to support.

IAW is a grassroots organization of female farmers and agribusiness women that promotes a better understanding of agriculture and family-farm systems. It organizes conferences like WCFA, a series of outreach events that give women the opportunity to explore career paths and network with other female agricultural professionals.

Lottinville began volunteering with WCFA in 2010, when she was a senior studying agriculture business at the University of Illinois. In the five years since then, she has become heavily involved in a number of groups that promote leadership in agriculture, including the Ford-Iroquois Farm Bureau Young Ag Leaders, Illinois Agricultural Leadership Foundation Program and, of course, IAW and WCFA.

"Krista has been a dynamite force in developing our programs," says Penny Lauritzen, a WCFA planner and longtime community leader. "She can relate to younger women and knows which ideas will and won't engage them." Lottinville's help in

reaching out to high schools and colleges helped the WCFA conference swell to more than 800 students in 2015, Lauritzen notes.

"Girls will come up and say they're interested in photography," Lottinville says, "and I'll say, 'Great! *AgriNews* needs people.' It's the perfect opportunity for conversations like that. As the ag industry thrives, there are more opportunities for women."

Leadership at Its Best

A longtime supporter of IAW, Syngenta recently sponsored the Leadership Enhancement Skill Seminar, which included IAW members and many previous WCFA participants. The session was part of the Syngenta Leadership at its BestSM program, through which the company partners with top agricultural organizations to help their members develop leadership skills and become stronger industry advocates.

"It's about telling your story," says Kelsey Vance, a retail sales representative for Syngenta, an IAW member and a WCFA organizer. "The program helps participants articulate what they do for

their community and how much they care about providing healthy, safe food that is grown and harvested responsibly."

The seminar gave Vance, Lottinville and other ag leaders a place to tell their stories to young women seeking guidance. "It's easier going in the direction you want once you

know someone else has done it," Vance says. "You're together, celebrating the same successes and facing the same challenges."

The event also celebrated Lottinville's Drive to Thrive win. As the grand prizewinner, she could designate one local charity to receive a \$1,000 donation from Syngenta in her name. Not surprisingly, Lottinville selected WCFA. Syngenta also presented her with a \$500 gift card, which she chose to donate to the group. Lottinville hopes the donation will help the organization continue its mission of empowering her community of women to succeed together.

"I love agriculture, and I want young women everywhere to love it, too," she says. 🌱

STORY BY LAUREN JONES

FOR MORE INFORMATION on WCFA and IAW, visit www.womenchangingthefaceofagriculture.com and www.illinoisagriwomen.org. To learn more about the national American Agri-Women organization, and to find an association near you, visit www.americanagriwomen.org.

WORKS TEN TIMES HARDER FOR A WHOLE LOT LONGER.

A relentless work ethic is what separates Trivapro[™] fungicide from the rest. It features three distinct modes of action, including a new active ingredient with ten times more potency, that allow Trivapro to protect corn, soybeans and cereals longer than the competition. This results in crops that are greener longer with increased yield potential. So keep rust, gray leaf spot, Septoria and more at bay with long-lasting and hard-working Trivapro. To learn more visit SyngentaUS.com/Trivapro or contact your local Syngenta sales representative.



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Take C

“ I could tell where other herbicide programs did not work on giant ragweed, but Acuron controlled it well. Acuron delivered a good return on my investment and is a weed management tool we'll definitely use in the future.”

—Nathan Miller, grower, Washington Court House, Ohio



Control

During its first commercial season on farms, Acuron corn herbicide delivered on its promise to control tough weeds.

By Mary Rebecca Harakas

Not all herbicides are created equally. Residual control, weed spectrum and application flexibility are a few factors that growers consider when choosing a herbicide to use against their toughest weeds in corn. To add to the complexity and importance of selecting the right herbicide, glyphosate weed resistance is expanding, and research shows that infestations of broadleaf weeds have increased by 50 percent in recent years.¹

It's no surprise that four out of five growers are actively seeking new products, primarily to achieve better weed control.² Nathan Miller, from Washington Court House, Ohio, was one of those growers. When he had the chance to try Acuron®, a promising new corn herbicide from Syngenta, on his farm in 2015, he eagerly took it.

A Giant Challenge

Like most growers in his area, Miller says weed resistance management and consistent control of tough weeds are the two features he needs most in a herbicide. "I've been fighting resistant weeds, especially giant ragweed, for as long as I can remember. Previous herbicide programs worked fine against some weeds, but definitely couldn't control giant ragweed."

Miller's farm is truly a family-run business. "We farm more than 13,000 acres with the help of about nine family

members—my uncles and cousins, plus my brother, father and grandfather. It's a cherished family operation."

Over the years, the family struggled with resistant weeds, and ineffective herbicide programs took a toll on their bottom line. "If I had a nickname for broadleaf weeds, I would call them 'the bane of my existence,'" Miller says. Fortunately, Acuron has helped change his situation.

Seeing Is Believing

After years of formulation development and testing in nationwide field trials, Acuron received registration from the Environmental Protection Agency (EPA) on April 24, 2015. Powered by four active ingredients and three complementary, overlapping modes of action, Acuron offers growers multitargeted, broad-spectrum control of more than 70 broadleaf weeds and grasses, including giant ragweed, marestail, morningglory, Palmer amaranth and waterhemp.

Immediately after EPA registration, states began approving Acuron for use during the 2015 season. Growers like Miller were anxious to try the product on their fields. "I first heard about Acuron from my Syngenta representative, who convinced us that this herbicide was expected to deliver better control against giant ragweed," says Miller. "I wanted a true one-pass system to defeat my tough weeds, like morningglory, marestail and especially giant ragweed."

In early May, Miller used a pre-emergence application of Acuron at a full rate on his field and noticed within weeks that Acuron controlled giant ragweed. "I did some late-season scouting around early August and noticed

1. 2013 Syngenta Market Research. Cocklebur, kochia, marestail, morningglory, ragweed (common, giant), waterhemp (common, tall).
2. 2014 Syngenta Market Research.



Left to right: Mike Erwin, sales manager at KOVA of Ohio; Derrick LeBeau, Syngenta agronomy sales representative; and Greg Whitesell, Syngenta sales representative, discuss the effectiveness of Acuron® herbicide.

SEE MORE PHOTOS FROM THE MILLERS' FARM.
www.syngentathrive.com/farmproduction



considerably better control on giant ragweed with Acuron,” Miller says. “I’ve been waiting a long time for a product to come to the market with that level of control.”

An Industry Leader in Herbicides

Listening to concerns from customers like Miller has a direct impact on the herbicide improvements Syngenta prioritizes. “We conduct every test and trial with the grower experience in mind,” says John Foresman, Syngenta product lead. “Weeds are becoming more difficult to control, so we evaluate our previous products and what customers appreciate about them, then create an even more robust product.”

The additional active ingredient in Acuron, bicyclopyrone, complements the more familiar mesotrione. And when combined with the other active ingredients—atrazine and S-metolachlor—the premix delivers more control across a wide range of broadleaf weeds and grasses.

“After hearing growers’ concerns, it was clear that a herbicide with season-long residual, more consistent control across a broader spectrum of weeds, and greater application flexibility was needed in the market,” Foresman explains. “Other herbicides, like Corvus[®], SureStart[®] and Verdict[®], were not working as effectively at controlling the weeds in cornfields.”

Trials demonstrate that a pre-emergence application of Acuron controls broadleaf weeds and grasses better than Corvus plus atrazine, Verdict and SureStart.³

“When I think of comparing Acuron with Corvus, SureStart or Verdict, the main differences that come to mind are with their application window, weed spectrum and residual control,” says Gordon Vail, Ph.D., technical product lead at Syngenta.

Weed control begins with strong active ingredients working together to deliver full-rate weed control. “Although Corvus contains two active ingredients, one is ineffective against ALS-resistant weeds, like waterhemp and Palmer amaranth, if conditions aren’t favorable to that ingredient,” Vail says. “An effective herbicide like Acuron contains multiple active ingredients that work well across different environments and soil types, leading to longer residual control.”

Besides residual control, the application flexibility of being able to spray Acuron 28 days before planting, including burndown, up to 12-inch corn is another additional feature that benefited growers during the 2015 use season. “We had a wet season across the Corn Belt this year,” Miller says, “so application flexibility was one of the most important features I considered when choosing a herbicide.”

Looking Ahead to 2016

In the fall, when Miller harvested his Acuron-treated cornfields, he concluded that the decision to try the herbicide

3. Weeds tested were cocklebur, kochia, morningglory, Palmer amaranth, Russian thistle, sunflower, giant ragweed and waterhemp. Products were applied pre-emergence.

WITNESSED PROTECTION

Growers across the Corn Belt were able to apply Acuron[®] corn herbicide from Syngenta for the first time on their farms in 2015. Here’s a sampling of what some are saying:

“About four days after applying Acuron, the weeds started to curl up. Cocklebur and morningglory had never curled up much in the past, but Acuron seemed to nail them both.”

—FRED STECK, GROWER, CARMAN, ILLINOIS

“The performance of Acuron has been excellent; and especially after seeing it in action at Grow More Experience Sites in 2014, it’s a no-brainer to use Acuron.”

—AARON ZAGONEL, GROWER, GIRARD, KANSAS

“The weather is sporadic in Minnesota. We can have patches of rain and wind, but the application flexibility in Acuron is great for the unpredictable weather.”

—BUD SANKEN, GROWER, HUTCHINSON, MINNESOTA

“Season-long control with one pass is what I was looking for most, and Acuron has done a fantastic job in controlling our most difficult weeds, like cocklebur, marestail, morningglory and waterhemp.”

—BRIAN BUFORD, GROWER, KAHOKA, MISSOURI

back in May paid off. “I could tell where other herbicide programs did not work on giant ragweed, but Acuron controlled it well,” he says. “Acuron delivered a good return on my investment and is a weed management tool we’ll definitely use in the future.”

Always looking for new ways to innovate, Syngenta is hoping to introduce growers to a new herbicide formulation named Acuron[®] Flexi, following its EPA registration, which is anticipated in 2016. Using a combination of three active ingredients, including bicyclopyrone, mesotrione and S-metolachlor, and two complementary modes of action, Acuron Flexi will deliver greater tank-mix flexibility than other herbicides, because it does not contain atrazine or glyphosate. Farmers in certain areas of the Corn Belt, including Minnesota and Wisconsin, will find this product especially appealing, since they are limited from using Atrazine. Syngenta also expects Acuron Flexi to have an even greater application window than Acuron—from 28 days pre-plant, including burndown, up to 30-inch corn.

“We understand that choosing the right herbicide can play a vital role in the long-term viability of a farm,” says Foresman. “Our goal is to put growers back in control.”

For more information, visit www.acuronherbicide.com.

SOYBEAN

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

DEVELOPMENT OF A SOYBEAN ROOT NODULE

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Fig. 7.

Fig. 8.

53

Adelman Prize



Step manages

An active pipeline of research and development propels Syngenta—and the industry—forward.

By Suzanne Bopp

In agriculture, one thing never changes: Growers want innovative solutions that will make their efforts more productive. That's because increased yield is a constant goal. At the same time, factors such as resistance, environmental conditions, pest shifts and changing regulations complicate growers' efforts in the field.

That's why Syngenta is committed to a robust pipeline of new technologies. "In 2016, we will launch 16 new products into the market, mostly from the three new active ingredients that we introduced in 2015," says Jeff Cecil, the company's head of crop protection product marketing, "and 2018 will bring further launches of new fungicides, insecticides and herbicides. Resellers and growers can be confident that we are working to develop products that will fit their needs."

Syngenta devotes enormous resources to finding game-changing improvements. The company invests \$1.3 billion in research and development (R&D) globally each year—more than \$3.5 million every day—and employs more than 5,000 scientists worldwide to deliver local solutions to customers.

"We are successfully meeting the demand for innovation with our three technology pipelines: chemistry, breeding and genetically modified traits,"



“I don’t think there’s any other company represented like we are in the field. Our number of scientists and their level of training are exceptional.” —MIKE JOHNSON

says Trish Malarkey, Ph.D., global head of R&D for Syngenta. “They guarantee that we will work to sustain the broadest portfolio in the industry.”

This portfolio not only helps individual farmers, but it also moves the entire industry. “Syngenta R&D delivers innovation that addresses growers’ needs to increase farm productivity sustainably, while continuing to meet the ever-higher expectations of regulators, crop processors and consumers,” says Marian Stypa, Ph.D., head of regional product development for Syngenta in North America. “Thanks to our expertise in seeds, crop protection and seed treatment, and our deep understanding of plant physiology, we have the knowledge and global capabilities to solve growers’ challenges through the combination of crop genetics and chemistry. Our objective is to develop and bring to the market technologies that add value to our customers.”

Advancements in Crop Protection

A major reason for the success of Syngenta R&D is the sheer size and breadth of its investment, says Mike

Johnson, Ph.D., the company’s head of biological R&D in North America. “We invest more dollars than our competitors in the development of new products across the entire spectrum of crop-growing needs.”

In 2015, those investments translated into multiple major product launches. “It’s the first year ever that we launched three major new active ingredients in the same year,” says Cecil.

One of those launches was for the active ingredient bicyclopyrone. Marketed in a premixture under the brand name Acuron[®], this herbicide addresses growers’ continuing struggles with weed resistance, which now affects millions of crop acres in the U.S. Acuron not only combats glyphosate-resistant weeds, but it also helps manage the development of further weed resistance, thanks to its multiple modes of action.

“Acuron is a step change in control of large-seeded broadleaf weeds like giant ragweed, and it’s also providing benefit against other weeds that have become resistant to certain chemistries in the marketplace,” says David Laird, head of product biology for Syngenta in North America. “It’s really a new standard for residual herbicide control in the U.S.”

The other two active ingredients that Syngenta launched in 2015 are in the disease-control area. Solatenol[®] fungicide is one of those game changers. It offers residual disease control in corn, soybean, wheat, peanuts, potatoes, and various fruit and vegetable crops. “We’ve launched four new products based on Solatenol technology,” Cecil says. “Trivapro[™] is our fungicide for row crops. In dozens of 2015 trials, it lasted longer and worked harder than competitive programs.” The other Solatenol-based products are Aprovia[®] fungicide for apples, grapes and pears; Aprovia[®] Top fungicide for fruiting and cucurbit vegetables; and Elatus[®] fungicide for peanuts and potatoes.

The second major fungicide release in 2015 was Orondis[®]. It contains the active ingredient oxathiapiprolin and offers a new mode of action for controlling economically devastating soil and foliar diseases, such as late blight and downy mildews, in vegetables, potatoes and tobacco. “Orondis provides excellent systemic control and can be used at very low use rates,” Laird says, adding that it’s been about 30 years since agriculture has seen a product with this level of oomycete activity and movement in the plant.

Ensuring Communication and Representation

A vast network of scientists in the field provides a crucial piece in the Syngenta approach to R&D. “We’ve got master’s- and Ph.D.-level scientists in the field across the country,” Johnson says. These field scientists interact with growers,

HYBRIDS POISED TO CHANGE WHEAT PRODUCTION

Syngenta AgriPro[®] brand wheat, which boasts the best wheat research network in North America, is going through an exciting transition, says Carlos Iglesias, Ph.D., the company’s head of North America wheat breeding. The current work, which is taking place at different regional centers and is coordinated from the Wheat Center of Excellence in Junction City, Kansas, may soon revolutionize the way wheat is grown.

“We are moving from developing leading conventional varieties to commercializing wheat hybrids,” Iglesias says. “We have gone through a proof-of-concept protocol, which has been successful, and now we’re developing the technology to launch the first hybrids by the end of this decade.”

Most researchers agree that hybrid wheat, produced by crossing two pure lines, is the key to increasing wheat yields. That’s because the resulting hybrid generally has higher yield potential and consistency than either of its parents. Higher-yielding wheat is something the world will demand, as populations grow through the middle of this century. The World Bank estimates the output of wheat will have to climb by 60 percent from 2000 to 2050 to meet rising demand, and we are well positioned to meet that challenge.

Syngenta breeders are doing their part by re-engineering wheat from a self-pollinated crop into one that can be cross-pollinated reliably and efficiently. “We need hybrids that will deliver sustained performance improvement,” Iglesias says. “There is great expectation around hybrid wheat, and we are confident we will succeed in bringing superior hybrids to the market that will help our customers succeed and enhance the world’s capacity to feed a growing population.”



retailers and other agricultural researchers to learn about local issues and help solve problems. “I don’t think there’s any other company represented like we are in the field,” he says. “Our number of scientists and their level of training are exceptional; and they work closely with university researchers, retailers and growers in their geographies.”

It’s a representation channel that works two ways. “Our field scientists represent us, but they also represent the geography they cover back into the Syngenta R&D network,” Johnson says. “They know their local market; they know the agricultural issues there. They represent their growers, university researchers and that geography back into Syngenta.”

This information exchange drives R&D, including the significant pipeline of innovations coming soon, developed in response to specific grower demands. In total, Syngenta crop protection has some 50 or more new innovations in the U.S. pipeline alone, including 19 new active ingredients, 15 label or use expansions, and at least 10 new premixes. “That gives growers and resellers more options,” Laird says. “Syngenta is a trusted name in the industry for delivering products that work and do what we say they’ll do.”

All this R&D activity means more solutions for growers in their ongoing search for ways to be more productive, season after season. 🍀

Eric Rawls, R&D scientist 3 at the Syngenta Vero Beach Research Center in Florida, checks a solution mixture for suspension prior to a spray application.

SYNGENTA REVOLUTIONIZES CROP PRODUCTION, WINS PRESTIGIOUS PRIZE

When it comes to seeds, Syngenta research and development (R&D) makes possible more than 500 breeding launches worldwide each year in eight major crops.

In 2015, the company’s work in soybeans helped it win the prestigious Franz Edelman Award from INFORMS, the largest society in the world for professionals in operations research, management science and analytics.

“Syngenta is an industry leader in data analytics and applied mathematics,” says Joseph Byrum, Ph.D., the company’s global head of product development for soybeans. “The proof of that is our Edelman prize win. No one from agriculture has ever been invited to compete for it, let alone won it.”

To growers, the R&D efforts mean an acceleration of genetic gain. “The culmination of all the science and applied mathematics is yield,” Byrum says. “We’re long overdue for a mathematical revolution in agriculture.”

The recent introduction of four innovative trait technologies has redefined the landscape for corn production: Agrisure Viptera® trait stacks, which offer higher grain quality through the most comprehensive insect control; Agrisure Duracade® trait, which features a unique mode of action essential for managing corn rootworm; Agrisure Artesian®, an elite class of hybrids that optimize the conversion of available water-optimization hybrids to grain; and Enogen® corn enzyme technology, the industry’s first and only biotech corn designed specifically to enhance ethanol production. “These four technologies, built on our extensive germplasm platform, are industry-changing,” says Dwight Bostwick, Ph.D., head of North America corn breeding projects for Syngenta. “We’re probably the most innovative company out there in terms of traits released to the marketplace over the last five or six years.”



POWER of 10

From state-of-the-art research to nonstop support, branded products offer multiple benefits that generics don't.

By Darcy Maulsby





It's no secret growers are looking at major ways to cut costs in this era of lower commodity prices and tight margins. Tim Danberry, an agronomist with Crystal Valley Coop in Janesville, Minnesota, urges growers in his area to be careful, however, when considering generic crop inputs.

"The biggest risk with a generic is that you have no clue what inactive ingredients the product contains," says Danberry. "That means you have no idea what you're actually putting on your fields."

Danberry doesn't view this as a risk any grower can afford to take. It's also why he feels comfortable recommending branded products from Syngenta. "We know what's in Syngenta products, and we know they deliver proven results."

At Syngenta, a brand is much more than a name. "There's a tremendous amount of value that comes with our brand," says Scott Langkamp, head of national accounts and customer service for Syngenta.

This value is reflected in 10 key areas, including:

1. COLLABORATIVE RELATIONSHIPS. Unlike those at generic competitors, Syngenta sales representatives are much more than order takers. They are trusted, engaged problem solvers whose goal is to help each customer maximize his or her success. "Our sales reps are willing to get their hands dirty, so to speak, and come up with good, viable solutions," says Michael Boden, head of U.S. sales at Syngenta. "For us, it's about our customers having the confidence, the relationship and the knowledge that Syngenta is going to be there—in good times and in bad."
Dedicated



WHO ARE YOU GOING TO CALL?

Syngenta doesn't stop working for its customers after the sale. Its Customer Service Center is just a phone call or click away with the industry-leading support customers need.

"Better foundation chemistry is just one of the big differences that define Syngenta and set us apart from the competition," says Randy Ratliff, Ph.D., head of the Customer Service Center. "From discovery, formulation and product development to order management and product delivery, we strive to excel in every component. We have a team of professionals who make sure that we offer direct, immediate service to our customers that no generic supplier can provide."

The Customer Service Center is on the frontlines, giving retailers and seed advisors the timely support and answers they need. "While generic products might be supplied by two guys in an office, we have a team of experts in our Customer Service Center as well as colleagues in distribution and logistics to support us in delivering the right product, to the right place at the right time," Ratliff says. "We also have extended hours during the busy seasons to serve our customers."

In addition to extended hours from mid-March to mid-June, Syngenta staff is available on Saturdays and also monitors email requests on nights and weekends. Syngenta also works with carriers who can provide Saturday and Sunday deliveries during the busy season, Ratliff says. "We're proud to stand behind our products and make it a priority to offer tremendous customer service through our Customer Service Center."

agronomists from Syngenta are also in the field to offer additional assistance when needed. "Each of our sales reps has a local agronomy expert who can help pinpoint the best mix of products and agronomic practices for each farm," Boden adds.

2. PROVEN PERFORMANCE. The formulations of generic products that reflect little or no research and development are a stark contrast to Syngenta products. "A lot of work goes into our formulations to ensure they offer proven performance," says Andrew Pearson, formulation development manager for Syngenta. Retailers and growers know upfront what they can expect from Syngenta products, adds Jamie Eichorn, head of technical services at Syngenta. When the company introduces new technologies, it's Eichorn's group that helps educate and give hands-on experience to Syngenta sales representatives and reseller partners alike. "Our commitment to providing better product performance and boosting growers' profit potential gives you confidence and greater peace of mind," he notes.

This is valuable to Robert Templeton, a sales consultant with Crop Production Services in Sikeston, Missouri, especially when it comes to weed control and disease management. "Multiple modes of action are important," says Templeton, who counts on Syngenta products like Quilt Xcel® fungicide for superior disease control. "Syngenta has done the research to develop products that get the job done."

3. AN ARRAY OF OPTIONS. Syngenta offers a wide range of product choices. "I like how Syngenta offers a lot of options, whether you need pre-plant or post-emerge products," says Templeton, who works with corn, soybean, wheat and cotton growers. Syngenta also continues to introduce crop protection products, Eichorn notes, including Acuron® corn herbicide, which provides season-long weed control, thanks to its combination of four active ingredients and three modes of action. Another new Syngenta product, Trivapro™ fungicide, delivers long-lasting, broad-spectrum disease control. "Trivapro's performance was exceptional in 2015 development trials," Eichorn says.

Syngenta also understands the importance of supporting its more tried-and-true lineup.

"Our regulatory teams are very involved in defending our more established products," Langkamp adds.

“We want to make sure growers continue to have the tools they need to produce a safe, abundant food supply.”

4. CONVENIENCE. While generic products often require users to measure and mix additional products, Syngenta crop protection products offer complete solutions in one container. “Growers like simple and easy,” Danberry says. “Generics aren’t always easy, and they can create too much room for error. I like Syngenta, because they’ve done all the work for you, plus you don’t have to worry about compatibility issues.”

5. RELIABILITY. Careful forecasting and an extensive distribution network help ensure that Syngenta products are available where they are needed, when they are needed. “This is more important than ever, when you consider that the whole U.S. corn and soybean crop can be planted in 10 to 14 days, weather permitting,” Langkamp says. An efficient distribution network from Syngenta made a big difference when the Corn Belt saw elevated disease pressure in late July and early August 2015. “The disease pressure this summer was excessive,” Langkamp says. “Our Omaha, Nebraska, production facility was able to respond quickly and deliver Quilt Xcel in time to protect the crop.”

6. FIELD-TESTED RESULTS. The direct link between local growing conditions and the expertise of Syngenta is strong, thanks to Grow More Experience Sites and Syngenta agronomists based across the country. “We work closely with our agronomists and sales representatives,” says Eichorn, whose team manages these sites. “Their input, combined with field evaluation trials, let us see firsthand how Syngenta products perform. This feedback also helps the Technical Services team better understand any challenges that arise with Syngenta products and provide solutions for growers.”

7. CROP SAFETY. Active ingredients aren’t the only components that can affect crop safety—so can inert ingredients and other co-formulants. “Protecting your crop is vital,” Pearson says. “That’s why we evaluate everything from water compatibility to drift management in our products to ensure crop safety, and we look for ways to better protect the environment.”

8. TRUSTED TECHNICAL EXPERTISE. When retailers and growers have technical questions about products, the Syngenta Technical Support team, also a part of Eichorn’s Technical Services group, offers a wide range of specialists, including Ph.D. scientists whose field and R&D experience with products is extensive. “Our team offers more than 80 years of combined experience,” says Team Manager Clark Ouzts. “Our experts assist our customers by providing pest management and agronomic solutions. We’ll help you find the answers you need.”

9. NONSTOP SUPPORT. When a grower or reseller needs immediate assistance, the Customer Service Center is just a phone call or click away. (See “Who Are You Going to Call?” on page 18.) “If you need help with a Syngenta product right away, you’ve got a whole support system to help,” Templeton says. “With generics, you’re on your own.”

10. INNOVATIVE SOLUTIONS. It can take more than 10 years, on average, and more than \$100 million to bring a new crop protection product to market. Syngenta is an innovation company that’s focused on what’s next. (See “Step Changes,” page 12.) It invests \$1.3 billion in research and development globally each year to provide new solutions, Langkamp says. In addition, 5,000 Syngenta scientists around the world are working on new, improved technologies for growers. “This is a dynamic, exciting time when you consider the number of new products we are bringing to market,” Eichorn says. “This is a clear benefit Syngenta provides, and it’s not easily matched.”

All this shows the value of branded Syngenta products makes good sense from a return-on-investment perspective, Templeton says. “Saving on the front end can easily cost you more in the long run. We’re sticking with Syngenta, because they bring tremendous value to the table.”



In Good Company

To mark the 15th anniversary of Syngenta, the co-leaders of the North America region reflect on the company's journey so far—and the exciting road ahead.



PONSI TRIVISVAVET
North America region director and
president of Syngenta Seeds, LLC

Q. What do you consider to be the greatest accomplishment of Syngenta?

A. Vern Hawkins, North America region director and president of Syngenta Crop Protection, LLC: I've been with Syngenta and its legacy companies for more than 30 years, and I think our most important achievement is the long-standing customer partnerships that we've earned, sustained and continued to build on. Beyond our great portfolio, we have the people and relationships—with resellers, growers, suppliers, regulators and legislators—that are helping us bring the most value to the industry we serve.

A. Ponsi Trivisvavet, North America region director and president of Syngenta Seeds, LLC:

Our ability to provide a strong portfolio of products to our customers in

“As we map out the future of Syngenta, we will not alter our basic course. Rather, we will intensify our focus, so that our results are even better and more far-reaching than they were during our first 15 years.”

—PONSI TRIVISVAVET

North America is what I'm most proud of. I'm particularly excited about the new innovations that we've added to our portfolio, just over the last 16 to 18 months. Acuron® corn herbicide, Trivapro™ fungicide, Clariva® Complete Beans seed treatment and Agrisure® corn hybrids are bringing exceptional performance and success to our customers. We're also creating new opportunities in the renewable fuels industry with Enogen® corn, which we've bioengineered to

enhance ethanol production. Since we introduced the corn enzyme four years ago, the rate of industry acceptance has been remarkable, with 18 commercial plants contracting to use Enogen grain to produce ethanol in 2016.

Q. What's the biggest challenge the company faces?

A. Hawkins: The biggest challenge for us, as a business, is today's regulatory environment. The requirements and judgment around endangered species, pollinators and waterways are so much more intense than they were even five years ago. The global inconsistencies with regard to deregulating traits are also difficult. While we can't control these regulatory hurdles, they have a huge impact on our business as well as our customers' businesses and farms. Of course, the economic downturn in the ag cycle is impacting growth tremendously. It's difficult for any business to grow when the market isn't. But thanks to our expanding portfolio, our people and our strong customer partnerships, we've got a lot more punch in our offer moving into 2016.

A. Trivisvavet: What most concerns me is the whole market situation, in which lower commodity prices are impacting grower profitability. But a grower's priority of managing his or her crop to maximize yield should not change. Cutting inputs to compromise that priority would not be a winning game. We understand that it's our responsibility to continue to come up with the products that provide growers with the highest return on investment.

“We continuously work to earn the trust of our partners and collaborate with them to identify the right solutions for each farm, even when times are difficult.”

—VERN HAWKINS



VERN HAWKINS
North America region
director and president
of Syngenta Crop
Protection, LLC

Q. What makes Syngenta unique in the marketplace?

A. Hawkins: It's not one thing but a combination of factors that sets us apart. We're a technology leader across the three major parts of our business—seed traits, crop protection and seed treatment—making us a total-crop-solution provider. Our AgriEdge Excelsior® program reinforces the value of our broad product portfolio and helps growers access the information and tools they need to make better farm-management decisions, ultimately resulting in improvement in their return on investment. Our people are certainly another Syngenta strength, because they have the knowledge and skills to represent our entire product portfolio and the commitment to service our customers at the level they deserve. We continuously work to earn the trust of our partners and collaborate with them to identify the right solutions for each farm, even when times are difficult.

A. Trivisvavet: First and foremost is the commitment of our people to make a positive difference in the industry they serve and the communities where they live. They fully embrace the Syngenta culture, which is built on the purpose of “Bringing plant potential to life.” From scientists to sales representatives, each employee understands his or her role in delivering the overall value of Syngenta to customers. Of course, to fulfill that purpose, we need to offer our customers the right tools. That's where our unique portfolio and pipeline come into play. We have the depth and breadth of products to help growers manage weeds, insects, diseases and resistance, with the end goal of increasing yield.

Q. What does the future look like for Syngenta?

A. Hawkins: This is a pretty exciting time for Syngenta, despite a challenging market environment. We launched three new active ingredients in 2015 [bicyclopyrone in Acuron, Solatenol® in Trivapro and oxathiapiprolin in Orondis®], with first-use experiences in commercial fields coming in 2016. By 2020, we expect to launch five additional active ingredients. When Syngenta was formed 15 years ago, we had the benefit of two good portfolios coming together. Our latest wave of new products is the first wave of Syngenta-invented technology that has received full regulatory approval. Any time you have a market-leading portfolio grounded in strong partnerships, the result is increased opportunity—for the industry, the channel and, ultimately, the grower.

A. Trivisvavet: As we map out the future of Syngenta, we will not alter our basic course. Rather, we will intensify our focus, so that our results are even better and more far-reaching than they were during our first 15 years. We will continue to innovate, with the goal of bringing even more cutting-edge products to market. We also will continue our commitment to help feed the world through our Good Growth Plan. After all, Syngenta is not just a product provider, but a truly integrated agribusiness company that addresses the needs of the total farm and tackles the challenges of a growing planet. 🌱

INTERVIEWS BY SUSAN FISHER

Scouting the Political Landscape

Legacy issues are likely to affect agricultural policies during this election year.



As presidential candidates stake out their positions on key priorities and debate the merits of policy platforms in the 2016 election, it's unlikely that agricultural issues will dominate the headlines or get captured in soundbites. That doesn't mean, however, that the election cycle won't have a significant impact on farmers, growers and resellers.

Bruce Knight, principal and founder of Strategic Conservation Solutions, believes American agriculture is fortunate to be in a period when growers primarily base many farming decisions on the marketplace.

"The upcoming election won't determine the size and scope of a farm bill or determine farm prosperity, but it could impact areas related to immigration or regulatory friction," he says.

Additionally, not only is 2016 a presidential election year, it's the last year of President Barack Obama's second term. That's when presidents often turn their attention to their legacy issues.

Jeffrey Sands, manager of federal government relations for Syngenta, believes that international trade and energy are among the legacy issues that ag interests might be able to work on with the Obama administration during its waning months.

Below, in no particular order, are some important political developments agricultural policy experts

"The key thing is putting ourselves in front of these legacy issues. We have to drive home the importance of rural America inside the beltway and to the presidential hopefuls."

—JEFFREY SANDS

think growers and resellers should be following over the next 12 to 15 months:

> **Trade Pact Delay.** Negotiations have concluded on the Trans-Pacific Partnership, and now it's up to Congress to pass the massive trade deal among 12 Pacific Rim countries. Many view the deal as beneficial for American agriculture, but some analysts think Congress won't act on the deal until after the 2016 election cycle.

"Trade expansion could face some setbacks as a result of 2016 campaigning and concerns about specific provisions that make up the agreement," says Sara Wyant, editor of Agri-Pulse. "But I think Congress will ultimately pass the Trans-Pacific Partnership."

> **Immigration Reform Challenges.** The majority in Congress has indicated that it is not particularly interested in working with the president on immigration in 2016. While rhetoric about immigration may be part of the campaign trail, inactivity will likely continue on any plans to overhaul the program in the immediate future.

> **Regulatory Focus.** Many experts expect to see regulatory action increase significantly, as agency heads have been charged with putting the finishing touches on key legacy issues in the final hours of the Obama administration. Although a federal court ruled in late 2015 that the U.S. Environmental Protection Agency (EPA) overstepped its authority on the Waters of the United States rule, similar proposals may become talking points for various groups in an attempt to influence campaigns.

Jane DeMarchi, vice president of government and regulatory affairs at the American Seed Trade Association, believes

regulatory agencies will have a huge impact on policies that will continue to affect agriculture into the next administration.

“Where we have struggled in the past is that a lot of blame for problems is placed on agriculture, instead of looking to agriculture to be part of the solution,” DeMarchi says.

➤ **Biotech Acceptance.** Known as the Coordinated Framework, a proposed effort to modernize the regulatory channels for approving new biotech traits within three federal agencies (U.S. Department of Agriculture, Food and Drug Administration, and EPA) is speeding up the conversation regarding biotechnology acceptance. A federal bill to standardize how food containing genetically modified ingredients is labeled is also moving through Congress.

While Agri-Pulse’s Wyant acknowledges that progress is being made, biotech still faces strong headwinds from special interest groups. “The whole area of biotech regulatory approvals is still unsettled,” she cautions, adding that this is an example where ag policy is influenced by regulation or litigation, rather than legislation.

➤ **Energy and Climate Change.** This is another legacy area where agricultural interests may be able to work with the Obama administration, but regulatory and congressional action late in 2015 impacted the possibilities.

The EPA’s recent release of a new renewable fuel standard (RFS) for 2014, 2015 and 2016 means that more biofuels will be blended in 2016 when compared with the agency’s May proposal. But the prospect of additional blending of biofuels in future years is uncertain because of the EPA’s movement away from the volumes in the RFS statute. Efforts to roll back the RFS or make it less ambitious could impact the marketplace and demand for commodities, as well as slow the overall demand for biofuels, says John Fuher, director of legislative affairs for Growth Energy.

Looking Forward

Although the emphasis may not be on agriculture as an industry in this election cycle, there’s still a lot at stake for agribusiness. Farmers and their business partners alike need to measure what opportunities are available to move agricultural priorities forward.

“The key thing is putting ourselves in front of these legacy issues,” Sands says. “We have to drive home the importance of rural America inside the beltway and to the presidential hopefuls.” 🌱

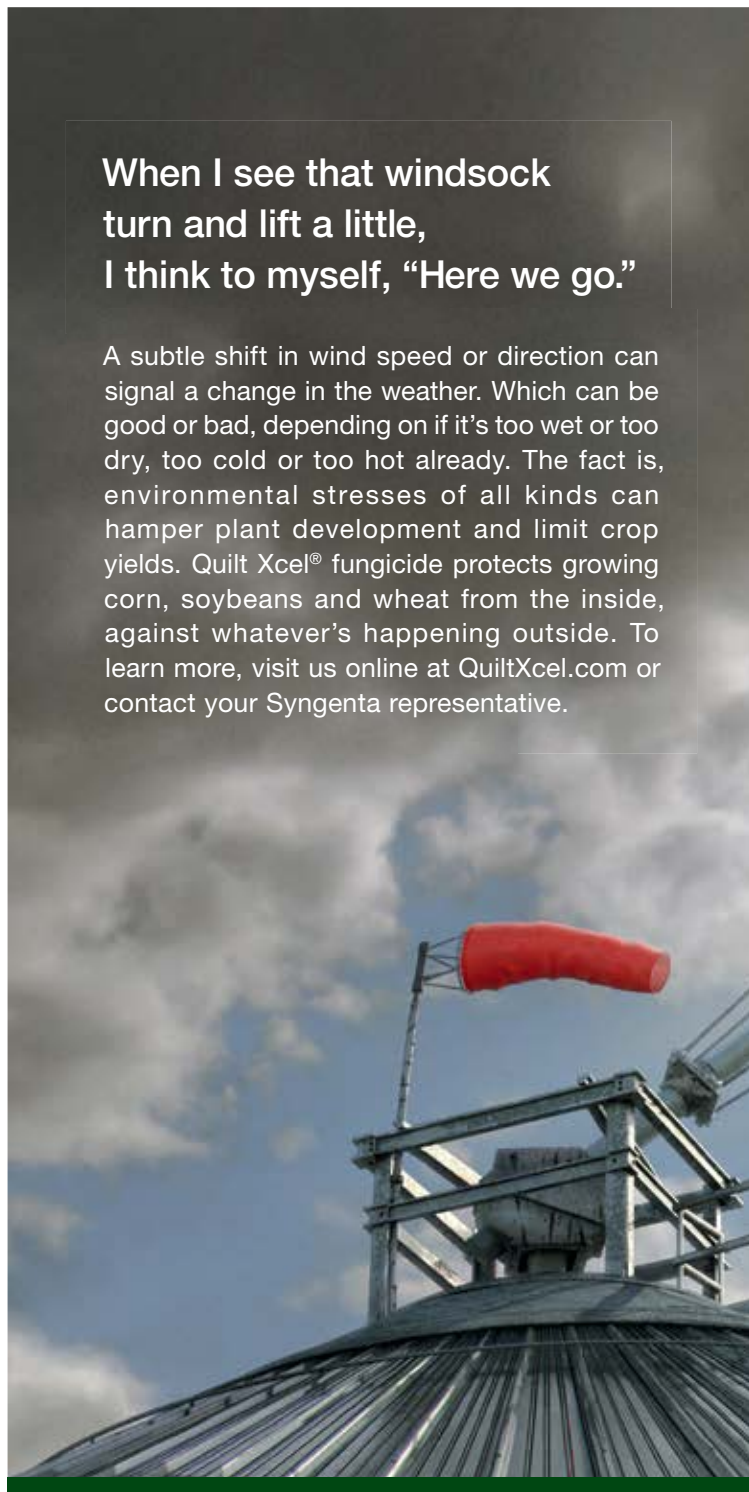
STORY BY CINDY SNYDER

FOR UPDATES on these and other policies, visit these sources:

- Ag Retailers Association, “Public Policy” page, www.aradc.org/governmentaffairs/overview
- Agri-Pulse, www.agri-pulse.com
- American Seed Trade Association, “Issues/Advocacy” tab, www.amseed.org
- American Farm Bureau, “Issues” and “Legislative Action” pages, www.fb.org
- CropLife America, www.croplifeamerica.org
- Growth Energy, “Ethanol Issues and Policy,” www.growthenergy.org

When I see that windsock
turn and lift a little,
I think to myself, “Here we go.”

A subtle shift in wind speed or direction can signal a change in the weather. Which can be good or bad, depending on if it’s too wet or too dry, too cold or too hot already. The fact is, environmental stresses of all kinds can hamper plant development and limit crop yields. Quilt Xcel® fungicide protects growing corn, soybeans and wheat from the inside, against whatever’s happening outside. To learn more, visit us online at QuiltXcel.com or contact your Syngenta representative.



QuiltXcel®

syngenta®

Plant Performance assumes the presence of disease pressure.

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Cream of the Crop

After selecting seeds and battling weather extremes, growers across the Corn Belt and in the South assess the success of the 2015 season.

For the second consecutive year, Syngenta Harvest Chasers took to the road in search of the season's corn and soybean superstars. The Harvest Chasers traveled from farm to farm across the U.S. to talk with growers about the best-performing Syngenta brand varieties and hybrids in their regions, as well as the traits and technologies that had the biggest impact in mitigating their toughest challenges.

Real Results

The U.S. Department of Agriculture predicted that corn and soybean growers would produce record-breaking yields in 2015, and the Syngenta Harvest Chasers found plenty of success stories. Chad Renner, a grower from Pine Bluff, Arkansas, tells one of them. Despite the season's heavy rains and strong winds, he achieved above-average yields

in corn and soybeans by using NK® brand selections.

"I really like NK Soybeans S47-K5 and S49-F8 brands on the heavier soils, and I'm also very pleased with NK

Corn hybrid N78-3111 brand," he says. "From one weather extreme to the other, our NK Soybeans and NK Corn held up well. We had really nice yields, getting 70 bushels per acre (bu/A) for soybeans and more than 200 bu/A for corn. We were tickled across the board."

He credits his yield results in part to advancements in Syngenta seed technology. "The yield has improved along with the technology," he says. "Syngenta has adapted and made things better as far as disease packages go, as well as everything else that contributes to higher yields."

Trait Success

More than 900 miles away in southwest Minnesota, grower and Syngenta Seed Advisor™ Ken Lanoue says choosing Golden Harvest® hybrid G01P52-3011A brand was a winning decision for his corn acreage in 2015. This water-optimized hybrid out-yielded adjacent hybrids by 50 bu/A and now comprises approximately 60 percent of his corn acres. Among the attributes Lanoue values most is the hybrid's ability to yield on some of his more variable soil types.

"It's good on all types of ground," says Lanoue, whose average corn yield in 2015 was about 220 bu/A. "You can

"Syngenta has a truly integrated approach to help keep fields clean, maximize yields and generate the greatest return on investment for our growers."

—TODD MCROBERTS

A field of Golden Harvest® hybrid G99Z33-3111A brand, belonging to Minnesota grower and Syngenta Seed Advisor™ Ralph Pabst, is ready for harvest.



really put it anywhere. The only mistake you can make with this hybrid is not planting enough of it.”

For years, Golden Harvest hybrids have also provided Hugoton, Kansas, grower CJ Skinner with peace of mind, especially those with the Agrisure Viptera trait. Skinner has a lot of positive things to say about Agrisure Viptera and his two top-performing Golden Harvest hybrids, G16K01-3111 and G13N18-3111 brands, which yielded well over 200 bu/A in 2015. He says that Golden Harvest hybrids “put bushels in the bin” and adds that the Agrisure Viptera trait provided excellent above-ground control of insects, including one of his top menaces—the corn earworm.

“I like the protection that Agrisure Viptera provides,” he says, “and I’m glad I don’t have to worry about corn earworm.”

The Power of Partnerships

For some growers, the decision to plant a particular hybrid or variety can be as simple as trusting the person behind the seed bag. For grower Curt Corzine of Shelby County, Illinois, that person is Syngenta Seed Advisor Darrick Fleming of Christian County Seeds. Each year, Fleming helps Corzine select the hybrids that best fit the different soils on which Corzine farms. Corzine values the insight that Fleming provides, especially since the hybrids that Fleming recommends produce results that always pay off.

Take, for example, 2015’s top performer on Corzine’s farms, Golden Harvest hybrid G16K01-3111 brand. This broadly adapted hybrid with the Agrisure Viptera trait

stack was a good fit in a year when the weather threw plenty of curveballs, including heavy rains and storms during the heart of the growing season.

“Normally, I don’t like 116-day hybrids, but this one has worked out great,” Corzine says. “The standability is excellent, and it’s been one of the better yielders. I’m going to plant more of it in 2016.”

Fleming has also kept Corzine well-stocked with NK Soybeans S35-C3 brand. “They are the best bean for us,” Corzine says. “They’re adaptable to any row spacing, soil type and weather. Light dirt, dark dirt—it doesn’t matter. They will grow.”

On to Next Year

Syngenta representatives are already working to help growers develop their management plans for 2016. “In a time of softening prices and extreme weather challenges, Syngenta has a truly integrated approach to help keep fields clean, maximize yields and generate the greatest return on investment for our growers,” says Todd McRoberts, Syngenta product development agronomy manager. “With the 2015 harvest season behind us, we’re already thinking about the 2016 chase to help growers select the right seed, so they can achieve the best yield possible.”

STORY BY VANESSA HORN

Harvest Chaser Ryan Didsbury (left) and grower Steve Mummelthai discuss Enogen® corn in a Waverly, Iowa, field.

FOR MORE HIGHLIGHTS from the Harvest Chasers’ 2015 quest to find high-performing corn and soybeans, visit the Know More, Grow More blog (www.knowmoregrowmore.com).



Ripple Effect

From research and development to farm production to the next generation of ag professionals, Syngenta is committed to the long-term prosperity of agriculture and rural America.

HONORS AND AWARDS

> USDA Honors Syngenta Scientist


The U.S. Department of Agriculture (USDA) recently inducted Mary-Dell Chilton, Ph.D., a distinguished science fellow at Syngenta, into its Hall of Heroes in recognition of her groundbreaking contributions to agriculture.

Chilton's work with plant biotechnology led her to produce the first transgenic plant in 1983 and showed plant genomes could be altered more precisely than previously thought. Her research at Syngenta eventually resulted in improving the ability of plants to resist insects and diseases and tolerate extreme environmental conditions.

"I am proud of my efforts and my Syngenta colleagues' continued drive to innovate new ways to deliver solutions to farmers," says Chilton. "That's what it's all about."

Chilton's fellow Hall of Heroes inductee was the late Cesar Chavez, an American farm worker, labor leader and civil rights activist who co-founded the National Farm Workers Association. Plaques in the entry hall of the USDA federal building in Washington, D.C., will serve as permanent tributes to Chilton and Chavez.

This recognition is one of many honors Chilton has received in recent years. Other honors include being awarded the World Food Prize and being inducted into the National Inventor's Hall of Fame.



Acuron® corn herbicide, *Agri Marketing's* 2015 New Product of the Year, will help growers achieve weed-free cornfields like this one in Clinton, Wisconsin.

>> Acuron Named New Product of the Year

Helping farmers control tough and resistant weeds was the motivation behind the development of Acuron® corn herbicide from Syngenta. It's also a key reason why *Agri Marketing* magazine named the herbicide its 2015 New Product of the Year.

"This is the 18th anniversary of *Agri Marketing's* New Product of the Year award, which is given to a product that benefits the marketplace and growers, making their operations more efficient while improving their bottom lines," says Lynn Henderson, publisher and editorial director of the magazine.

Infestations of tough broadleaf weeds in corn have increased by 50 percent in the last four years, and farmers across the Midwest are seeking new products for better weed control. With four active ingredients, including the latest technology, bicyclopyrone, and three complementary modes of action, Acuron targets more than 70 broadleaf weeds in corn.

Henderson notes that several years ago, *Agri Marketing* conducted a survey that showed the ag industry annually launches an average of 7,000 new products, services and major label changes.

"That makes this win for Acuron even more impressive," he says. "And just as impressive, Syngenta has won the Product of the Year award three times in 12 years: for Callisto® herbicide in 2003, for Avicta® Complete Cotton nematocide/insecticide/fungicide seed treatment in 2006 and for Enogen® corn enzyme technology in 2014."

Visit www.acuron-herbicide.com for more information about Acuron.



>>> Minnesota Farm Manager Recognized

Corey Prins wears many hats at Northwestern Farm Management Company in Marshall, Minnesota. He's an accredited farm manager, a certified crop adviser and a licensed real estate salesperson. He's also the 2015 Professional Farm Manager of the Year. To honor Prins for this achievement, Syngenta has made a \$1,000 donation in his name, allocated between the Minnesota Agriculture in the Classroom Foundation and the Lyon County 4-H.

Prins currently works with 121 clients, who own more than 27,000 acres of land throughout Minnesota and Iowa. He has retained 100 percent of those clients over the past three years due to his vast industry knowledge and excellent communication skills. Because of his own experiences growing up on a farm, Prins understands his clients' needs and respects their opinions. They, in turn, consider him a partner and trust the decisions he helps them make on their farms.

"I'd personally like to thank the American Society of Farm Managers and Rural Appraisers, Syngenta and *Ag Professional* magazine for sponsoring the Professional Farm Manager of the Year award," says Prins. "It is truly an honor to receive this award."

Visit www.farmmanageroftheyear.com to view the Professional Farm Manager of the Year video honoring Prins.



Corey Prins with Northwestern Farm Management Company in Marshall, Minnesota, receives a plaque, commemorating his being named the 2015 Professional Farm Manager of the Year. Celebrating with him at the American Society of Farm Managers and Rural Appraisers (ASFMRA) annual convention in San Antonio, Texas, are, from left to right: Fred L. Hepler of ASFMRA, Craig Abell of Syngenta, Corey Prins, Brent Rockers and Bob Kacvinsky of Syngenta, and Scott McMurray of *Ag Professional* magazine.

thrive

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Important: Always read and follow all bag tag and label instructions. Some crop protection products may not be registered for sale or use in all states or counties. Please check with your local extension service to ensure registration status.

Cautionary Statement Regarding Forward-Looking Statements

This document contains forward-looking statements, which can be identified by terminology such as 'expect,' 'would,' 'will,' 'potential,' 'plans,' 'prospects,' 'estimated,' 'aiming,' 'on track' and similar expressions. Such statements may be subject to risks and uncertainties that could cause the actual results to differ materially from these statements. We refer you to Syngenta's publicly available filings with the U.S. Securities and Exchange Commission for information about these and other risks and uncertainties. Syngenta assumes no obligation to update forward-looking statements to reflect actual results, changed assumptions or other factors. This document does not constitute, or form part of, any offer or invitation to sell or issue, or any solicitation of any offer, to purchase or subscribe for any ordinary shares in Syngenta AG, or Syngenta ADSs, nor shall it form the basis of, or be relied on in connection with, any contract thereof.

Acuron and Avicta Duo Cotton are Restricted Use Pesticides. Orondis Gold, Orondis Opti and Orondis Ultra are not currently registered for sale or use in the U.S. and are not being offered for sale.

Orondis Ridomil Gold Multi-Pack is a combination of separately registered products: Orondis and Ridomil Gold SL; Orondis Opti Multi-Pack is a combination of separately registered products: Orondis OD and Bravo; Orondis Ultra Multi-Pack is a combination of separately registered products: Orondis OD and Revus. Trivapro is a combination of separately registered products: Trivapro A and Trivapro B. Avicta Complete Cotton is an on-seed application of Avicta Duo Cotton nematocide/insecticide and Dynasty CST fungicide. Avicta technology is protected by U.S. Patent No. 6,875,727. Clariva Complete Beans is an on-seed application of Clariva pn and CruiserMaxx Vibrance. Acuron®, Acuron® Flexi, AgriEdge®, AgriEdge Excelsior®, AgriPro®, Agrisure®, Agrisure Artesian®, Agrisure Duracade®, Agrisure Viptera®, Aprovia®, Artesian™, Avicta®, Avicta Duo®, Bravo®, Callisto®, Clariva®, CruiserMaxx®, Elatus®, Enogen®, Golden Harvest®, NK®, Orondis®, Quilt Xcel®, Revus®, Ridomil Gold®, Solatenol®, Syngenta Seed Advisor™, Thrive®, Trivapro™, Vibrance®, the Alliance Frame, the Purpose Icon and the Syngenta logo are trademarks of a Syngenta Group Company. Leadership at Its Best™ is a service mark of a Syngenta Group Company. Corvus® is a registered trademark of Bayer CropScience. SureStart® is a registered trademark of Dow AgroSciences, LLC. Verdict® is a registered trademark of BASF Corporation.

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Tomorrow's Leaders

Syngenta supports FFA's commitment to provide young adults opportunities for personal growth and the chance to explore careers in agriculture.

The National FFA Organization's mission is to make a positive difference in the lives of students by developing their potential for leadership, personal growth and career success through agricultural education. With nearly 630,000 current members (an all-time high) and more than 11,000 FFA advisers and teachers, the organization is a powerful force that has positive benefits for agriculture and the country.

The American FFA Degree, National Collegiate Agricultural Ambassador and FFA Blue Jacket programs are just a few examples of initiatives that get to the core of FFA's goal of building strong communities through strong leadership, says Glenn Sims, senior regional director of corporate giving for the National FFA Organization.

With support from companies like Syngenta, these programs help develop leaders who will not only have a lasting impact on their communities, but who will also proactively advocate for agriculture, he says.

Syngenta is a sponsor of the American FFA Degree program, which was established in 1928. During 2015, 3,424 members received the American FFA Degree, the highest honor an FFA member can achieve. The degree

recognizes exceptional commitment to FFA and acknowledges significant accomplishments in a supervised environment that involves classroom instruction, work experience, leadership and community service. This experience prepares FFA members for college, while also helping them explore career opportunities.

Syngenta also was one of the two founding companies to support the launch of the National Collegiate Agricultural Ambassadors program. Established in 2007, the program aims to increase the public's understanding of agriculture and promote awareness of the innovations and technologies that are essential to producing a safe, reliable food supply. Through the financial support this program receives, FFA members get the opportunity to travel to numerous service clubs, university groups and other organizations to promote agricultural literacy, advocate for agriculture and promote careers in agriculture.

"Many FFA members will become agribusiness leaders, potential customers and possibly Syngenta employees," says Warren Boerger, head of Syngenta business services. An FFA member in his youth, Boerger currently serves on the National FFA Sponsors Board.

Syngenta also supports FFA at the local level. For example, the company has previously invited members to practice their public speaking and debate skills at its offices in Research Triangle Park and Greensboro, North Carolina, as well as in Minnetonka, Minnesota, says Shelley Olds, community engagement lead for Syngenta. The company also works with local FFA groups on its community garden program and United Way drives, she adds.

In partnership with ag retailers, Syngenta has taken a leadership role in the FFA Blue Jacket program, which contributes a jacket to an FFA member in need and \$750 annually to a local chapter that the participating retailer designates. Syngenta matches every \$2,500 a retailer pledges to the FFA.

Support at the local and national levels helps further the mission of FFA to develop tomorrow's leaders. The skills, confidence and pride gained through FFA programs can help those future leaders make a positive difference in agriculture and their communities. ■ STORY BY LYNN GROOMS

Syngenta Head of Sustainable Productivity Jill Wheeler (right) speaks with FFA student representatives.





SEE MORE PHOTOS.
www.syngentathrive.com/community



FFA students play miniature golf, one of the activities featured at the Syngenta booth.



It's time to shut down the party in your cornfield.

▶▶ If tough broadleaf weeds like giant ragweed, waterhemp and Palmer amaranth are laughing away at your current corn herbicide, it's time to make a switch. This year load the sprayer with Acuron[®], the new corn herbicide from Syngenta. With a brand-new active ingredient that herbicide-resistant weeds have never been up against, Acuron can wipe the nutrient-sucking smiles right off their faces. Learn more about Acuron at Acuron-Herbicide.com. And get the last laugh. ◀◀

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