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Today's Acre

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Today's Acre

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EDITORIAL & DESIGN
Al Fava, *Cotton Editor*
Nancy Hallahan, *Soybean Editor*
Leo Madden, *Designer*

SUBMIT FEEDBACK
Today's Acre
7711 Bonhomme Ave.
St. Louis, MO 63105
email: Editor@TodaysAcre.com

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Dear Readers,

"Farming is a profession of hope," in the words of Canadian poet Brian Brett. As the year draws to a close, those of us in U.S. agriculture are hopeful that Mother Nature will be kinder and gentler to U.S. farmers in 2020 than she was in 2019, a year that will go down in the books as one of the more challenging growing seasons in modern history.


Megan McQuoid

But U.S. farmers aren't prone to dwelling on the past — there's too much work to be done, and the promise — and hope — of a new growing season dawns.

This hope is coupled with a good deal of planning and preparation. Your 2020 growing season starts well before you flip open a calendar for the new year; the planning and preparation begin before the combine even cools from the final swaths of the prior season's harvest.

No matter what opportunities or challenges the 2020 growing season may bring, farmers will count on the latest innovations to help them succeed. The Roundup Ready® Xtend Crop System will be by their sides with new recommendations to help them start the season strong, and with innovative products to help them combat weeds all season long.

In this issue of *Today's Acre*, we'll explore management practices and share winter training opportunities that can help set the stage for a successful crop season. We'll provide the latest recommendations for early-season herbicide applications. And, we'll profile innovative farmers who used the Roundup Ready Xtend Crop System to make the most of a challenging 2019, alongside the agronomists who advised them.

It's way too soon to tell whether 2020 planting will be delayed, or to know what weeds may prove particularly daunting next season. But with a little hope, a lot of planning and the latest innovations from the Roundup Ready Xtend Crop System and Bayer, you can be confident in the promise of a new year.

Wishing you a very happy new year,

Megan McQuoid

Megan McQuoid
Soybean Traits Marketing Manager
Bayer

TODAY'S CHOICES, NEXT SEASON'S SUCCESS

When it comes to farming, it's not only the quantity of decisions but also the magnitude of them that can be daunting each growing season: What inputs do I need to invest my hard-earned money in this year? What crops should I plant and on which fields should I plant them to maximize yield? How will I keep weeds in check to maximize profitability? When you only have a finite number of harvests — limited chances to "get it right" — in your career, every decision matters.

Fortunately, farmers have more data, innovation and technology today than ever before to help them answer these questions confidently. U.S. farmers chose the Roundup Ready® Xtend Crop System for an expected 60 million acres in 2019.

Clean Fields – A Matter of Pride

Not far from the Minnesota River in southern Minnesota, Burt Norell farms corn, soybeans, wheat and sweet corn and raises hogs and cattle with his brothers, Byron, who oversees tillage, and Bruce, who leads the planting. Burt leads the farm's weed management efforts and has used the Roundup Ready Xtend Crop System as long as it's been available to keep giant ragweed and waterhemp at bay.

"Keeping the weeds under control and having clean fields is a matter of pride, and we take a lot of pride in what we do," says Burt. "Keeping the fields clean can actually cost me less in the long run."

Burt Norell, Minnesota Farmer

Burt says that early and effective weed control is especially important in wet years like 2019. "When Bruce is driving out of the field with the planter, I'm close behind with the sprayer," Burt says. "Then I come back with a second application of dicamba later to get broadleaf weed control out of it. I have always believed in applying herbicide when the weeds are small; early application buys me time."

This trio of farmers has been very happy with the weed control the Roundup Ready Xtend Crop System provides. "We've had tremendous luck with it. It works very well," Burt says. Like any new technology, though, he advises farmers to invest time in learning how to use it properly.

> ***"I've always believed in applying herbicide when weeds are small."***

"It works if you're willing to take the time and energy to do it right. Follow the label, apply it when weeds are small, watch the wind direction and talk to your neighbors,"[1] he suggests, adding that these practices have worked in their area, even around sensitive crops.

As Burt and his brothers look to the future, they see dicamba continuing to be an important tool in their herbicide toolbox. "Weed management is a continuous process, because if you look the other way for even one season, waterhemp can take hold with up to 250,000 seeds per plant. You have to be patient."[2]

[1] You must attend grower training and be a certified applicator to apply XtendiMax® herbicide with VaporGrip® Technology

[2] Take Action. United Soybean Board (Sep. 12, 2019). *Waterhemp management in soybeans.* Retrieved from http://www.weedscience.missouri.edu

Show Me Cleaner Fields

About 800 miles south in the Show-Me State, Chance Limback also raises corn and soybeans and also chooses the Roundup Ready Xtend Crop System to control his weed nemeses: waterhemp and marestail. Like Norell, this Lafayette County, Missouri, farmer says seed and herbicide decisions are especially critical in challenging years.

Chance Limback, Missouri Farmer

"It seems like even in tougher years, the yield is better with our Roundup Ready 2 Xtend soybeans," Limback says. "We're happy with them, especially in very dry or very wet years. They're tough beans that can take a beating and the yield is still there."

Limback typically does spring tillage but went all no-till in 2019. He sprayed XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide) early postemergence and credits this decision with knocking out tough weeds.

"Our fields have never looked cleaner," he says. "We're very happy with it."

Limback's decision to spray weeds early aligns with the latest weed management strategy outlined by the 2020 Spray Early With Confidence Program. Those who choose the No. 1 soybean system planted by farmers[3] expect to see results. That's why Bayer designed a proven weed management strategy built on residuals and backed by a weed control guarantee.

"The right strategy begins with choosing the right products," says Dr. Neha Rana, Market Development Manager, Bayer. "Farmers should start clean, with an appropriate burndown herbicide at labeled rate or tillage, apply a pre-emergence herbicide application and follow up with a postemergence application. If they experience less than commercially acceptable performance on labeled weeds within 30 days after the postemergence applications [while following program requirements], Bayer will pay up to $15/acre to assist in a second application on the affected areas."[4]

> ***"Our fields have never looked cleaner... We're very happy with it."***

Farmers can visit RoundupReadyXtend.com/SprayEarly for a complete list of program requirements and product details.

The System Is Working

The number-one challenge each season for Barnes Farms, located near Kenton, Tennessee, is resistant Palmer amaranth, commonly known as pigweed. It has plagued Tennessee farmland for better than a decade and, recently, University of Tennessee researchers have documented Palmer amaranth to be resistant to four herbicide sites of action.[5]

Since adopting the Roundup Ready Xtend Crop System, however, this family farm once again has a good handle on weed management, including pigweed.

Rance Barnes, Jr., grew up on this farm, located in the Obion River Bottoms, with its rich Memphis silt loam soils on hilly fields and low-lying river bottoms with streaks of clay-type "gumbo" dirt. Cotton and corn are the primary crops, with soybeans thrown in on river bottom fields planted later in the spring due to slow-to-recede floodwater or behind wheat on the hill ground.

Before adopting the Roundup Ready Xtend Crop System, Barnes Farms operators found themselves making multiple Roundup® agricultural herbicide applications, trying in vain to control glyphosate-resistant weeds. They applied Gramoxone® herbicide under row-crop hoods in an attempt to kill weeds between the rows. And they hired extra employees during the summer to walk fields and pull resistant pigweeds.

[3] Based on approved EPA herbicide labels as of Aug. 2018.
[4] Up to $10/acre for broadleaf weeds and up to $5/acre for grasses if all program requirements are met.
[5] Take Action. United Soybean Board (Sep. 12, 2019). *Waterhemp management in soybeans.* Retrieved from http://www.weedscience.missouri.edu

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Chance Limback scouting his soybean field in Missouri

Continued from page 4

Today, all of the farm's cotton and the majority of its soybean acres are planted to the Roundup Ready® Xtend Crop System. While the system has been important for improving pigweed management on the farm, a key to making the system work effectively is application timing, Barnes says.

Rance Barnes, Tennessee Farmer

On the Barnes farm, cotton and soybeans get the same burndown treatment in early March of Valor® herbicide, Roundup PowerMAX® herbicide and a clethodim product for ryegrass control. Their soybean planter is followed with a spray rig to apply Gramoxone as a pre-emergence treatment. In cotton, the planter is followed up with an application of Prowl® herbicide and Gramoxone.

Within 10 to 15 days after the crops emerge, Barnes expects to be in the field again making the first in-crop application of XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide).

"The most urgent weed to control in our fields is resistant pigweed, so we want to be out there spraying about 10 days after emergence — that quick," he says. "We are scouting for weeds as soon as the crops emerge, and at the first sight of pigweed, we spray."

Barnes plants soybeans on 15-inch row spacings, allowing them to canopy quickly. After the first in-crop application of XtendiMax with VaporGrip Technology, in a tank mix with Roundup PowerMAX herbicide and an approved acetochlor product, plus an approved drift-reduction agent (DRA), the soybean fields are typically finished with herbicide application needs.

In cotton, Barnes likes for young plants to have some legs on them before he makes the in-crop dicamba application. That typically occurs about 15 days after planting, applying XtendiMax with VaporGrip Technology, Roundup PowerMAX herbicide, acetochlor and an approved DRA. Most cotton fields will require a second dicamba application before rows are canopied over. For a lay-by application, Barnes will go in with an application of Liberty® herbicide and Roundup PowerMAX herbicide.

From burndown to lay-by application, just five herbicide trips are needed to keep his cotton fields clean, and just three for soybean fields.

> ***"...You ride around and don't see pigweed in the fields...it just shows you how much the system has meant to the farming community around here."***

"In the past, you'd get to the point where you did not want to spend any more money on weed management and would just let them go," Barnes recalls. "The fact now that you ride around and don't see pigweed in fields like you used to see them, it just shows you how much the system has meant to the farming community around here. The system is working."

Promise of a New Season

These three farmers have very different operations and faced very different challenges in 2019. But each is confidently looking ahead to the 2020 growing season, which they'll enter with their tried-and-true management practices and a few new innovations, too. Looking down the road, XtendFlex® soybeans, expected soon, will feature triple-stack herbicide tolerance to provide farmers like them another option to help control the most challenging weeds.

"With their tolerance to three different sites of action — glyphosate, dicamba and glufosinate — farmers will have their choice of three effective herbicides to support them no matter what their weed challenge might be," says Lisa Streck, North America Soybean Launch Lead, Bayer.

While XtendFlex soybeans are expected soon, Stewarded Ground Breakers® Field Trial participants had the opportunity to conduct field trials in 2019.

"Having the additional over-the-top option is big," says Ben Buesing, Missouri Stewarded Ground Breakers Field Trial participant. "The three herbicides provide flexibility, which is the biggest advantage I see."

XtendFlex soybeans are just one more reason farmers can look confidently forward to the future. *(See page 12 for more on XtendFlex soybeans.)*

Rance with Garrett Montgomery, Bayer, Weed Control TDR, discussing weed control in the field

Soybean Farmers

"SPRAY EARLY WITH CONFIDENCE" IN 2020

When it comes to weed control, it's all about strategy. This is the premise of the **2020 Spray Early With Confidence Program,** the flexible weed control guarantee from the Roundup Ready® Xtend Crop System that pays farmers **up to $15/A on additional applications**[1] if they experience less than acceptable performance on labeled weeds.

North Central Region*

Option 1

Step 1 | START CLEAN

Use an appropriate burndown herbicide at labeled rate or tillage.

Step 2 | APPLY A PRE-EMERGENCE APPLICATION

Use a qualifying residual product (Group 3, 14 or 15) at the labeled rate within 2 weeks before planting or prior to soybean emergence to control broadleaf weeds.

Step 3 | APPLY A POSTEMERGENCE APPLICATION

Make POST application when weeds are less than 4 inches tall and within 30 days after planting soybeans. Application should include:

- Warrant® Herbicide (3-4 pts) or Warrant Ultra Herbicide[2] (50 fl oz) **+** Roundup PowerMAX® herbicide ***or*** Roundup WeatherMAX® herbicide (32 fl oz) **+** XtendiMax® herbicide with VaporGrip® Technology (22 fl oz) (Restricted Use Pesticide) **+** an approved DRA at labeled rate

Option 2

Step 1 | START CLEAN

Use an appropriate burndown herbicide at labeled rate or tillage.

Step 2 | APPLY A PRE-EMERGENCE APPLICATION

Make an application that includes:

- XtendiMax with VaporGrip Technology (22-44 fl oz) **+** Warrant Herbicide (3-4 pts) + metribuzin[3] at planting or as soon as possible after planting but prior to soybean emergence. Include Roundup PowerMAX herbicide ***or*** Roundup WeatherMAX herbicide in minimum-till and no-till situations.

Step 3 | APPLY A POSTEMERGENCE APPLICATION

Make POST application when weeds are less than 4 inches tall and within 21 days after soybean emergence. Application should include:

- Roundup PowerMAX herbicide ***or*** Roundup WeatherMAX herbicide (32 fl oz) **+** Warrant Ultra Herbicide (50 fl oz)

*Eligible states include Colorado, Delaware, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri (excluding Bollinger, Butler, Cape Girardeau, Dunklin, New Madrid, Mississippi, Pemiscot, Ripley, Scott and Stoddard Counties), Nebraska, New Jersey, New York, North Dakota, South Dakota, Ohio, Pennsylvania, Virginia, West Virginia and Wisconsin.

Southern Region**

Step 1 | START CLEAN

Use an appropriate burndown herbicide at labeled rate or tillage.

Step 2 | APPLY A PRE-EMERGENCE APPLICATION

Make PRE application within 5 days before planting through emergence. Application should include:

- XtendiMax with VaporGrip Technology (22 fl oz) **+** Warrant Ultra Herbicide[2] (50 fl oz) **+** an approved DRA at labeled rate
  - *– Substitution for Warrant Ultra Herbicide can include a combination of Group 14 and Group 15 residual herbicides*[2]
  - *– Recommend adding metribuzin in areas with* Amaranthus *species or PPO-resistant species*[3]

Step 3 | APPLY A POSTEMERGENCE APPLICATION

Make POST application when weeds are less than 4 inches tall and within 30 days after planting soybeans (recommended application between 20-30 days after planting). Application should include:

- Warrant Herbicide (3-4 pts) or Warrant Ultra Herbicide[2] (50 fl oz) **+** Roundup® brand agricultural herbicides (32 fl oz) **+** XtendiMax with VaporGrip Technology (22 fl oz) **+** an approved DRA at labeled rate
  - *– Recommend adding clethodim/Fusilade® in postemergence application in cases of resistant or tough-to-control grasses*

For >20" Row Spacing, Apply a Second Postemergence Application.

Make second POST application when weeds are less than 4 inches tall and within 45 days after planting or prior to R1.

Application should include:

A Roundup brand agricultural herbicide (32 fl oz) + XtendiMax with VaporGrip Technology (22 fl oz) + an approved DRA at labeled rate or Roundup brand agricultural herbicide (32 fl oz) + labeled PPO-inhibiting herbicide

**Eligible states include Alabama, Arizona, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri (Bollinger, Butler, Cape Girardeau, Dunklin, New Madrid, Mississippi, Pemiscot, Ripley, Scott and Stoddard Counties), New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee and Texas.

View full program details at
RoundupReadyXtend.com/SprayEarlyTA

See program terms and conditions for full details.

[1] Up to $10/acre for broadleaf weeds and up to $5/acre for grasses if all program requirements are met.

[2] Substitute Warrant® Herbicide where carry-over is a concern or where Warrant Ultra Herbicide is not labeled. Refer to product label for special precautions or use rates by area and rotational restrictions.

[3] Metribuzin required unless in high soil pH of 7.5 abd/or higher and low organic matter (0.5%). Refer to product labels for special precautions on use of metribuzin in soybeans and in pre-emergence applications.

Cover Crops:

FARMING'S STRATEGIC COVER

Cover crop choices can benefit soil, wildlife and weed control

Farmers aim to get the most out of their land — but yield is not the only goal. U.S. farmers are increasingly using cover crops as a tool for sustainable management of their fields.

Cover crops also offer farmers additional options in weed control, which mean they might have a growing role in herbicide resistance management.

Researchers agree that cover crops are one of farming's best tools. "This is because they provide many different environmental benefits," explains Dr. Robert Myers, Associate Professor in the Division of Plant Sciences at the University of Missouri. "First, they help to keep the soil in place, so you don't have the erosion. Secondly, they help keep nitrogen and phosphorus in the field, where the crop can use it instead of getting into our water supply."

"Research at the University of Illinois demonstrated that a uniform cover crop of cereal rye (seeded at 40 pounds per acre) before soybeans can provide 98% control of marestail, also known as horseweed," says Chad Watts, Executive Director for the Conservation Technology Information Center (CTIC), located in West Lafayette, Indiana.

The CTIC provides reliable information to support environmentally responsible and economically viable decision making in agriculture. "Cover crops take up space and sunlight and therefore suppress the germination of weeds," Watts continues. "Some of the cover crops also sequester chemicals to the soil, which inhibits the germination or even the growth of these grasses."

If you've planted a cover crop to protect your fields this winter, chances are it's from one of three categories:

- **Legumes — Clover, peas, vetch**
  Legumes live in symbiosis with bacteria, which capture nitrogen and make it available to neighboring crops.
- **Grasses — Cereal rye, wheats, barley, triticale**
  Grasses are the most popular cover crops planted in the U.S. Instead of being harvested for grain, they are produced for vegetative cover and removed before they produce seeds.
- **Brassica — Mustards, radishes**
  Radishes, in particular, are an increasingly common choice for U.S. farm fields, second only to cereal rye. Other popular choices include turnips, canola and rapeseed.

Start Small and Simple

West Central, Illinois, farmer Andrew Reuschel uses a variety of cover crops on his farm. He uses cereal rye-based cover crops in front of soybeans and favors annual ryegrass and clover-based cover crops in front of corn. He plants more than 30 species in total and says the exact mix is ever-changing.

"We choose cover crops based on what will work with our timing, our application and our goals," he says. "Cover crops function well for any producer who's willing to think outside the box and make them work, whether they are organic or conventional and no matter what herbicide program they use."

Reuschel offers this advice for farmers considering cover crops: "Start small and simple. Insights gleaned from web research or social media are fine, but be sure to speak with other farmers in your area who use them — that local expertise is key."

*Excerpts from article that originally appeared on **CropScience.Bayer.com**. Copyright Bayer AG 2018.*

Are Cover Crops Right for You?

Cover crops help in controlling erosion, help keep fertilizer where you apply it and promote nutrient cycling in your soil. But did you know that they can also help keep weeds in check?

"Like any plants, weed seeds need sunlight and water to grow, and 12-month ground cover and plant residue keep soil shaded so weed seeds don't germinate," says Randy McElroy, Technology Development Representative, Bayer. "Ecosystems respond to management practices. Waterhemp and Palmer amaranth, in particular, do not tolerate competition well; therefore, cover crops can be very effective in controlling them. They also function well when used in tandem with the Roundup Ready® Xtend Crop System."

McElroy says that winter is the perfect time to evaluate cover crops for your operation as part of an 18-month planning cycle. He advises farmers to study cover crops within their latitude (50-75 miles north – south) to see which grow well. And, he shares several helpful resources for additional information:

- **28th annual National No-Tillage Conference — Jan. 7-10, 2020, St. Louis, Missouri**
- **Midwest Cover Crops Council**

"Take a field and start practicing with cover crops. You don't have to cover the whole farm overnight," McElroy advises.

No Mixed Results: TANK MIXING IS EFFECTIVE

Tank mixing is a common practice in agriculture for addressing multiple weed species in a timely manner

The current label for XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide) allows for tank mixing a list of approved products, including glyphosate-based herbicides such as Roundup PowerMAX® herbicide. Farmers have found this combination to be an effective application for addressing broad-spectrum control of multiple grasses and broadleaf weeds.

Bayer implemented a proactive process through which tank-mix products are tested for volatility potential. This process helps to ensure that tested products do not adversely affect the volatility potential of XtendiMax with VaporGrip Technology. In 2018 field testing, the common tank mix of XtendiMax with VaporGrip Technology + Roundup PowerMAX + Intact™ (a drift-reducing adjuvant) was tested to evaluate volatility potential under varying conditions in six states.

This same tank mix was also extensively evaluated by the Environmental Protection Agency (EPA) in its most recent assessment of XtendiMax with VaporGrip Technology prior to re-registering the herbicide in November 2018. The EPA's assessment also considered extensive field trial research conducted by several academic partners during the 2018 growing season. These academic trials were conducted using the tank mix of XtendiMax with VaporGrip Technology + Roundup PowerMAX + Intact™.

The EPA has evaluated Bayer's research, as well as independent research of academic partners, which confirms that XtendiMax with VaporGrip Technology tank mixes with potassium salt (K-salt) formulations of glyphosate, such as Roundup PowerMAX (in accordance with those tank-mix partners listed on the website), do not increase volatility potential in a way that would impact plants outside of the field.

The use of approved glyphosate herbicide tank-mix products is required to include an approved drift reduction adjuvant and meet Bayer's standard for low volatility. IPA salt glyphosates, on the other hand, have a higher potential to impact volatility; as a result, they are prohibited from being used as tank-mix partners. Other additives such as ammonium salts, including ammonium sulfate and ammonium nitrate, are also prohibited from the tank mix because of significant increase in volatility potential.

Visit **XtendiMaxApplicationRequirements.com** for an approved list of tank mixes.

Loading tank mix into sprayer, Illinois

CHOICES AND CHALLENGES

Iowa farmer chooses Roundup Ready® Xtend Crop System to control ragweed

Like Mother Nature, sometimes life itself throws unexpected and heartbreaking challenges at us. Stephanie Ballantine lost her husband, Chuck, in 2016. As a new widow, she was faced with one of the biggest decisions of her life — sell the farm that her father-in-law started in 1945 or take the reins and manage it. She chose the latter and has never looked back.

Today, Stephanie owns and operates a medium-sized row crop farm in northern Crawford County, Iowa, along with her operations manager, Josh Blair. They rotate corn and soybeans and practice no-till when possible.

Stephanie Ballantine, Iowa Farmer

"I was reluctant to try anything new," Stephanie remembers of that first season farming without Chuck. As her weed pressure increased and giant ragweed crept in, however, she began trialing new herbicide tools.

"We sprayed XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide) on one of our fields, and the weeds started to wilt almost immediately," she recalls.

Stephanie has continued to rely on XtendiMax with VaporGrip Technology. They do a pre-emergence application and follow up with a postemergence spray. "So far, XtendiMax with VaporGrip Technology has done what it claims to do, and we've been happy with the results," she says. "In addition to raising the best crop possible, we strive to have clean, nice-looking fields. Weed pressure can really harm your crop, so clean fields give us peace of mind."

She attributes some of the herbicide's effectiveness to its 14 days of soil activity.[1] "It's always good to have a product that lasts longer than [the products of] competitors," Stephanie states. "With soybeans, there's always a chance that weeds are going to pop up until that canopy is completely shut, so the longer the product [XtendiMax with VaporGrip Technology] is out there killing weeds [in combination with a residual product], the better."

The proof is in her fields. Giant ragweed and waterhemp are no longer a threat to her yields, and she doesn't have to use any tillage.

She offers advice to others trialing XtendiMax with VaporGrip Technology on their own fields. "Go to the classes, follow the directions and wait for the ideal weather conditions," she advises. "As farmers, we have to be very responsible. If people in the city know we're doing things right, they're going to have a lot more respect for us and what we do."

She uses the RRXtend Spray App, along with other weather apps like DTN, to gauge conditions prior to spraying XtendiMax with VaporGrip Technology.

Trial and Error

"We're always trying different things," says Stephanie of her own side-by-side soybean trials. "We like to compare products under the same weather conditions and in the same general soil types. There's a learning curve, but we like to experiment."

A trial-and-error approach is serving this farmer well. "If you keep doing the same things over and over, you'll never see a different result," she says. "So, if you have a problem, you have to try a variety of solutions to see what works. You have to extend yourself a little bit and meet a challenge head-on."

Spoken by a woman who knows more than most of us about meeting challenges head-on.

[1] XtendiMax® herbicide with VaporGrip® Technology is most effective when used in conjunction with traditional residual herbicides in pre-emergence and postemergence applications that have different effective sites of action, along with other Diversified Weed Management Practices.

The NEW

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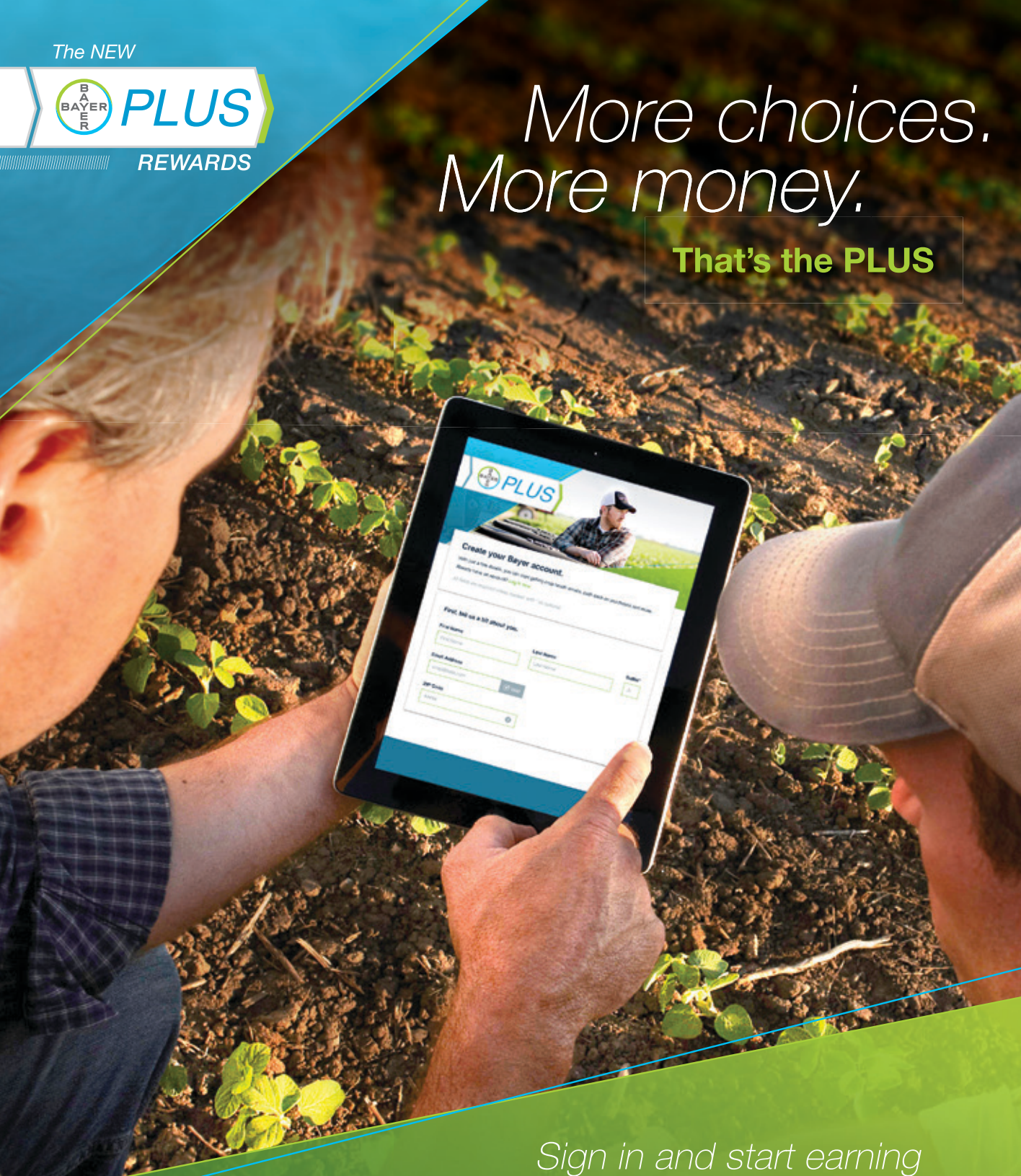

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TEXAS TRIFECTA:

Technology, weed control and management spell success in West Texas

Farming in West Texas can be a tough challenge season to season, with little rainfall, limited water available for irrigation and relentless heat and blowing sand during summer months. Yet, in this harsh growing environment, despite all the other challenges, weed pressure can be another obstacle to a successful crop.

In Plainview, Texas, Steve Olson adheres to a fairly strict crop rotation: a third cotton, a third wheat, a third corn. Moisture is oftentimes a limiting factor to get cotton up and growing, and preventing weeds from competing with young cotton for moisture is an annual objective.

"Our growing environment is harsh and we don't have a lot of extra water, so we do not need weeds taking water or nutrients away from the crop," Olson says.

Steve Olson, Texas Farmer

Olson's cotton acres have a variety of weed species, including Russian thistle, marestail, bindweed, ragweed and Johnsongrass. As resistance to glyphosate crept onto his farm a few seasons ago, he decided to switch to cotton with XtendFlex® Technology.

"We felt like the Roundup Ready® Xtend Crop System was the most cost-effective way to manage our weed problems, and we've seen it to be true," he says. "Roundup® brand agricultural herbicide is still really good on weeds like Johnsongrass and several other weeds, but since the development of glyphosate-resistance problems, the system has been able to alleviate issues for us."

> ***"We felt like the Roundup Ready® Xtend Crop System was the most cost-effective way to manage our weed problems."***

Early Management

Olson's weed management program has always included pre-emergence residual herbicides and overlapping modes of action. His strategy is to start clean and hit escaped weeds when they are small. He'll do a burndown application in his fields 30 days prior to planting. Behind the planter, he'll run Roundup PowerMAX® herbicide and Warrant® Herbicide for pre-emergence residual activity. Once the crop has emerged to about the first-true leaf stage, he makes an application of Roundup PowerMAX herbicide plus XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide) plus Outlook® herbicide. Sometimes he'll make a Liberty® herbicide application depending on weather conditions, which provides another site of action in fields that may need one.

"I think the biggest thing is to catch weeds when they're small, and don't let yourself get behind the curve," Olson says. "We've not had the issues that people have talked about with the volatility because we've just always tried to spray when it's the right time to spray and use the right nozzle and the right pressure to get good coverage. We've been very successful with the program."

Without a doubt, says Olson, the Roundup Ready Xtend Crop System has improved cotton production on his farm.

"It works, and you know, we're able to do exactly what we need to do," he says. "We're able to produce so many more pounds because we're not competing with weeds."

Technology Shifts

Olson has had success growing Bollgard II® XtendFlex® cotton varieties, such as DP 1612 B2XF, and he chooses his varieties based on genetics and performance. He says Deltapine® varieties have performed well in good growing seasons and hung on in tough seasons to make good yield.

The Bollgard II XtendFlex cotton has been key in preventing bollworms from reducing yield potential. In 2019, he planted and grew Bollgard® 3 XtendFlex cotton varieties from Deltapine, looking for added insect protection in the same high-yielding genetics he has become accustomed to growing.

"The Bollgard II XtendFlex cotton that we've had in the past has been really good, because we haven't sprayed for bollworm in I don't know how long," he says. "Now, we're growing a lot of the Bollgard 3 XtendFlex cotton varieties, and they've been really good too."

New technologies to manage pests, proven genetics and sound management decisions help this West Texas farmer be productive and successful. A little rain from Mother Nature doesn't hurt, either.

LIsa Streck,
North America Soybean Launch Lead,
Bayer

Five Questions About
XTENDFLEX® SOYBEANS
Expected Soon*

As the North America Soybean Launch Lead for Bayer, Lisa Streck helps bring to market new soybean solutions.

Today's Acre caught up with her to learn about XtendFlex® soybeans, expected soon.

Question	*Answer*
What are XtendFlex soybeans?	XtendFlex soybeans are soybeans that have tolerance to three different sites of action — dicamba, glyphosate and glufosinate. This soybean system will provide flexibility for farmers, giving them the option for over-the-top applications of XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide), Roundup® agricultural herbicides or Liberty® herbicide applications, depending on each farmer's unique needs.
Why is this new technology being brought to market?	One of our goals at Bayer is to continue to provide farmers with new technologies to help them manage the challenges on their farms. When available we will bring XtendFlex soybeans to market to help farmers control their tough-to-control and resistant weeds. Because these soybeans will have tolerances to three different sites of action, they will be an important tool for farmers.
What type of seed genetics will this new technology be brought to market in?	The seed genetics behind XtendFlex soybeans are built on the proven high-yielding Roundup Ready 2 Xtend® soybeans that farmers know and trust. Bayer has made significant investments in the XtendFlex soybean pipeline to deliver strong agronomic performance in high-yield potential varieties across all maturity groups. When commercialized, XtendFlex soybeans will be available in Asgrow® brand, Channel® brand and regional and local seed brands that currently sell Roundup Ready 2 Xtend soybeans.
When do you expect farmers to have access to XtendFlex soybeans?	We are targeting a 2020 launch, pending European approval, which is the last remaining approval needed in key markets. We have U.S. approval, as well as approval in key Asian export markets.
How can I learn more, or see these new soybeans, between now and then?	In 2019, we had a large number of field trials across the country at our field days for farmers to see this new technology. We also had trials conducted with academics, and we had many farmer cooperators who were able to experience this technology on their farms this year; some have called it the ultimate trait combination. You can learn more about XtendFlex soybeans at **RoundupReadyXtend.com/XtendFlexTA**

*Commercialization of XtendFlex® soybeans is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell.

INNOVATION FOR THE GENERATIONS

Father-son team chooses the Roundup Ready® Xtend Crop System to stay on top of evolving weed pressure

David and Adam Maas are proud to be early adopters of new technology, so it's not surprising they were quick to try the Roundup Ready® Xtend Crop System. The father-son duo, who farm a corn/soybean rotation near Arlington, Nebraska, and also run a seed business, say marestail was their most prolific weed several years ago. Waterhemp followed. This year, marestail was back.

While their weed pressure may change from season to season, their approach to controlling it does not. *Today's Acre* caught up with David and Adam for more on their experiences with the Roundup Ready Xtend Crop System.

David (left) and Adam scout field, Nebraska

Question: ***How did you incorporate the Roundup Ready Xtend Crop System into your weed management strategy?***

David: As soon as it was introduced I thought it was likely the right way for us to go. We use a pre-burndown, and we want to get the weeds before they germinate, so we've been planting into clean fields. Then, we spray when weeds are small. And we always go by the label.

Adam: When I was growing up, Roundup® [brand agricultural herbicide] was the game changer. [An approved formulation of] dicamba is that today, with a different mode of action for keeping weeds at bay. We're early adopters and really embraced the product. We made sure we followed the label. We also use multiple modes of action. I really don't want resistance, so we rotate to avoid exhausting any one mode of action.

Question: ***How important are the 14 days of soil activity that XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide) provides?***[1]

David: It's great. You can start when beans are a little smaller, then get out of the field. Mother Nature will do the rest.

Adam: Using products like Warrant® Herbicide to get residual control into the post-spraying period is really important. You really have to knock the weeds down and keep pressure at bay. XtendiMax with VaporGrip Technology does a really good job. It really burns down the weeds so the soybeans can take over and close the canopy. We have a nice-looking field, at the end of the day.

Question: ***Why do you strive for clean fields?***

David: Clean fields make me feel better, like I did a good job.

Adam: Obviously, we want to be good stewards of the land. When you start with clean fields, you know you've got a good jump on weed pressure. You can really tell which fields have used dicamba [an approved formulation] and which have not. Those that didn't really make the combines growl.

Question: ***How are your yields with Roundup Ready 2 Xtend® soybeans?***

David: Our yields have been good. I think they've got top genetics, which has really helped increase yields.

Adam: There's definitely a yield advantage with the best technology and best soybean varieties you can buy. We've seen a yield increase for sure.

Question: ***What keeps you coming back to the Roundup Ready Xtend Crop System?***

David: The results. It just really does a good job, and I can show people that it will improve their weed control. As a seed dealer, if I didn't think it was the best product, I wouldn't be endorsing it. I'm really satisfied.

Adam: Resistant weeds are such a persistent issue that you really have to use XtendiMax with VaporGrip Technology. It's following in the footsteps of Roundup herbicides. On our farm, Roundup Ready 2 Xtend soybeans have shown great yield gains, and the weed control with XtendiMax with VaporGrip Technology has been impressive. It's a no-brainer.

[1] On certain small-seeded broadleaf weeds. Results may vary, depending on rainfall and soil type. Always use dicamba with traditional residual herbicides in pre-emergence and postemergence applications that have different effective sites of action, along with other Diversified Weed Management Practices.

PLAN FOR 2020 DICAMBA TRAINING

Using the Roundup Ready® Xtend Crop System, including XtendiMax® herbicide with VaporGrip® Technology (Restricted Use Pesticide), per label directions not only minimizes chances of off-target movement but also helps maximize weed control in the field. As farmers and applicators prepare for the 2020 season, a refresher course on the XtendiMax with VaporGrip Technology label and application requirements will be beneficial. Five things to keep in mind:

1. The federal mandatory applicator training for using auxin-specific products such as XtendiMax with VaporGrip Technology will continue into the 2020 season. This means that even if you received mandatory dicamba training for the 2019 season, you must complete it again for the 2020 season.

2. For 2020, farmers and applicators must be fully certified and a licensed commercial applicator, or a private applicator or a farmer to purchase or use XtendiMax with VaporGrip Technology.

3. Ahead of the 2020 season, applicators will need to check with their state Department of Agriculture for state-specific requirements.

4. Once again, Bayer's in-person dicamba training sessions will be focused on compliance with the product label, application requirements, required record keeping, understanding of susceptible/sensitive crops, window of application and understanding environmental conditions such as inversions and tank cleanout procedures, along with best management practices and weed management recommendations.

5. Visit **RoundupReadyXtend.com/TrainingTA** to find out more about in-person and online training opportunities.

The Roundup Ready Xtend Crop System offers many tools and resources, including:

RRXtend Spray App – RoundupReadyXtend.com/SprayAppTA

Use the app to forecast the weather, keep application records, watch educational videos and monitor wind conditions.

Find An Applicator

Visit **RoundupReadyXtend.com/FindAnApplicatorTA** and enter your ZIP code to see a list of applicators and contacts and to get localized product recommendations.

EXPECT RESULTS. Or we'll have you covered on up to $15/A for an additional application.*

SPRAY EARLY WITH CONFIDENCE PROGRAM

RoundupReadyXtend.com/SprayEarly

I CHOOSE *RESULTS*

4 BU/A ADVANTAGE
on average vs LibertyLink® soybeans in herbicide system trials[1]

#1 SOYBEAN SYSTEM
planted by farmers[2]

CONTROLS MORE WEEDS
than any other soybean system[3]

[1] 2018 Farmer Soybean System Trials (39 locations in 2018 reporting yield data). Significant at P≤ 0.05 LSD at 1.7 Bu SE as of December 2018. Roundup Ready® Xtend Crop System data = Roundup Ready 2 Xtend® soybeans treated with dicamba, glyphosate and various residual herbicides. LibertyLink® system data = LibertyLink® soybeans treated with Liberty® 280 SL herbicide and various residual herbicides.

[2] Traited U.S. acres based on Bayer internal estimates.

[3] Based on approved EPA herbicide labels as of Aug. 2018.

* Up to $10/acre for broadleaf weeds and up to $5/acre for grasses if all program requirements are met.

XtendiMax® herbicide with VaporGrip® Technology is part of the Roundup Ready® Xtend Crop System and is a restricted use pesticide.

ALWAYS READ AND FOLLOW GRAIN MARKETING AND ALL OTHER STEWARDSHIP PRACTICES AND PESTICIDE LABEL DIRECTIONS.

ROUNDUP READY® XTEND CROP SYSTEM

ROUNDUP READY 2 XTEND SOYBEANS + XTENDIMAX® with VaporGrip® Technology

Restricted Use Pesticide
Low-Volatility Dicamba

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