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Today's Acre

ISSUE 02

SUMMER 2019



PARTNERS *in* SUCCESS

Across the U.S., Farmers Trust the Roundup Ready® Xtend Crop System

- **Driving Profit Potential Through Effective Weed Control**
- **Farmers Sprayed Early With Confidence in 2019**
- **Five Questions About Dicamba With a Custom Applicator**
- **Putting Yield on the Line**

Today's Acre



ISSUE 02 | SUMMER 2019

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Dear Readers,

Across America this summer, farmers are scouting their crops. It's a practice as old as farming itself. As farmers walk the land that has, in many cases, been passed down for generations, they do so armed with technology their forefathers couldn't have imagined.

From iPad® devices to drones to precision technology, farmers rely on innovations to help them achieve unprecedented success — and perhaps no innovations are more important than those that work on a plant's nemesis: *weeds*.

From seed to herbicides, farmers rely on the Roundup Ready® Xtend Crop System to provide them with effective weed control that protects the yield potential of their cotton and soybean crops by starting the season with clean fields and maintaining an effective weed management system, all season long. Throughout this issue, you'll meet several farmers who put their trust in the Roundup Ready Xtend Crop System last year and were so impressed with the results this technology yielded that they went "all in" on their acres this year.



Ryan Rubischko

While farmers are focused on their 2019 crops today, Bayer is working to develop innovations that will raise yield potential even higher tomorrow. As you read this magazine, Bayer is working to bring to fruition the next crop of technologies to give farmers unmatched flexibility in seasons to come.

Like farmers, custom applicators also use technology to maximize performance and keep weeds at bay. On page 10, you'll meet a custom applicator who sprayed approximately 10,000 acres of Roundup Ready 2 Xtend® soybeans last year.

As a member of the Bayer team, I'm proud of the work we do to support farmers who work tirelessly each season to provide us all with feed, food and fiber, and I'm excited to see what innovations are yet to come — innovations that we can't yet dream of but that will be commonplace to generations of farmers that follow.

Here's to a successful 2019 growing season.

A handwritten signature in black ink that reads "Ryan Rubischko". The signature is fluid and cursive, with a large loop at the end.

Ryan Rubischko
North American Dicamba Portfolio Lead
Bayer Crop Science

PARTNERS IN SUCCESS

Across the U.S., Farmers Trust the Roundup Ready® Xtend Crop System

It's been said that trust is the cornerstone of any successful relationship. Each season, U.S. farmers place their trust in a number of partners to achieve success, from landowners to seed dealers, bankers to brokers. Not to mention, farmers must build trust with consumers.

There's an adage that "trust can take years to build and a moment to erode." Dicamba, arguably the most misunderstood herbicide technology to hit farm fields this decade, has been villainized by some in the press. Yet again this summer, U.S. soybean and cotton farmers are proving to be knowledgeable stewards of this technology, using it effectively to combat unprecedented weed pressure from adversaries like waterhemp (not to mention the 350 other weeds XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, controls).¹

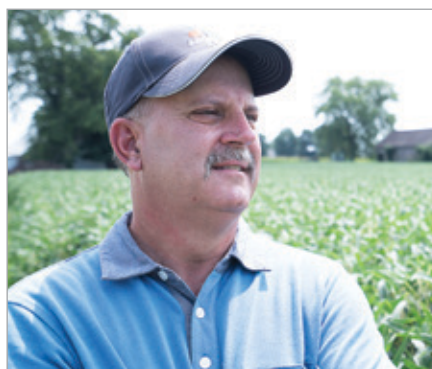
"Dicamba has proven to be a valuable herbicide choice for several reasons," says Boyd Carey, Regional Agronomy Lead, Bayer. "It controls many tough broadleaf weeds, helps to control glyphosate-resistant weeds and provides up to 14 days of soil activity on certain small-seeded broadleaf weeds.² It has the flexibility to be applied prior to planting all the way through crop emergence. It's a key component of an effective overall weed control system."

Illinois farmer Fred Helms, Texas farmer Mac Kutzenberger and Minnesota retailer Jeff Einck may be separated by hundreds of miles and may have vastly different soil conditions and unique weed challenges — but they all trust their fields to the Roundup Ready® Xtend Crop System and count themselves among those satisfied with the effective weed control it provides.

Illinois Farmer Finds "Winning Combination" for Soybean Yields

One-hundred-percent. That's the satisfaction level that Illinois farmer Fred Helms, who is also a DEKALB®/Asgrow® seed dealer, says he had with the Roundup Ready Xtend Crop System last year, and the percentage of his soybean acres that are planted to Roundup Ready 2 Xtend® soybeans in 2019, his third year of planting them and using the system.

"We were extremely pleased with last season's harvest results, which we attribute to a winning combination of the Roundup Ready Xtend Crop System and a great gift that Mother Nature gave us," he says. "The Roundup Ready Xtend Crop System not only provided us high-yielding genetics but also cleaner fields and the ability to relieve the competition of weeds from our soybean plants." Helms incorporates innovation into his herbicide management to help him align



Fred Helms, Illinois Farmer

his practices with Mother Nature. Several seasons ago, he set up a weather station on his farm, which was linked with his team's phones to monitor conditions and alert them when conditions were right for application. Last season, he added

the RRXtend Spray App to the mix. The tool allowed him to better anticipate changing weather conditions to manage application successfully.

"The biggest benefit the RRXtend Spray App gave us was detailing the inversion risk and timing when it occurred," he says. This year, he appreciates the enhanced functionality the app offers, including longer-term weather predictions.

Technology isn't the only factor in Helms' success; he says taking an early approach to weed control also set him up for high yield potential last season.

"I think the key to getting the weeds killed is to get them early, when they're little," he advises. "That way, the spray can penetrate down through the canopy and get to the weeds. It's all part of an early postemergence program and can be implemented by everybody in that early-season window."

This approach worked well for him in both 2017 and 2018. "We really have not had any resprays that we've needed to do," he says. "The system has worked that well."

For Helms, the payoff can be measured in more than yield — the effectiveness of the Roundup Ready Xtend Crop System also earned him the continued trust of his community.

"I've seen smiles on the faces of many of my neighbors and customers," he says.

Cotton with XtendFlex® technology and Roundup Ready 2 Xtend soybeans are

¹ Based on approved EPA herbicide labels as of Aug. 2018.

² 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 including the use of glyphosate. XtendiMax with VaporGrip Technology and in crop use may not be approved in all states. **Performance may vary** from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

planted on an estimated 60 million acres of U.S. farm fields this growing season — which is equal to the square footage of Illinois and Indiana combined. This broad adoption shows the need farmers have for the technology and the trust they place in the Roundup Ready® Xtend Crop System. The adoption of this technology has improved weed management, optimized the amount of herbicides needed to achieve weed control, and potentially lowered overall costs associated with keeping fields clean.

Timing Is Everything Below the Mason-Dixon Line

Down south, Mac Kutzenberger serves as a farm manager for both Terrell Farm and Songer Farm in the Brazos River Bottoms of Texas, located between College Station and Houston. He oversees a little under 5,000 acres divided among cotton, corn, grain sorghum and cattle. In 2019, he planted 3,500 acres of cotton with XtendFlex® technology.

U.S. cotton farmers have adopted the Roundup Ready Xtend Crop System at a fast pace since it was introduced in 2016. Cotton with XtendFlex technology,



Mac Kutzenberger, Texas Farmer

tolerant to glyphosate, dicamba and glufosinate, was planted on 73% of U.S. cotton acres in 2018, according to the U.S. Department of Agriculture (USDA). This wide adoption is a strong indication of the benefits cotton farmers experience with the system.

Prior to the approval of the Roundup Ready Xtend Crop System for cotton, this region, like many others in the South, had developed several species of weeds that were resistant to glyphosate. Weed management was becoming costly and

more difficult to achieve in cotton due to resistant pigweed and giant ragweed, to name a few.

“Cotton with XtendFlex technology has given us herbicide options to use that we did not have in the past, and it has resulted in improved weed control,” Kutzenberger says. “Having the ability to use XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, at burndown, as part of a pre-emerge residual program and in-crop, pretty much has proven itself. It’s difficult to explain in words what we’ve experienced before, when we could not use dicamba in cotton, and today, when we can use it in cotton. The system is very crucial to our operation.”

“Early weed control sets the stage for the entire season.”

With three seasons of managing cotton with XtendFlex technology under his belt, Kutzenberger offers one simple answer when asked what he has learned about the herbicide system — timing is everything.

“It’s so critical,” he says. “Dicamba is a very effective herbicide, but like with most products, the bigger the weed gets, the more difficult it is to kill. If you stay on top of things and hit these weeds before they reach four inches, you can kill them.”

His herbicide program is built around timing. Herbicide burndown applications made 20–30 days before planting typically consist of Roundup PowerMAX® herbicide, XtendiMax with VaporGrip Technology and Caporal® herbicide (plus an approved DRA), a combination that provides contact kill on actively growing weeds and residual protection that can last until the planters crank up. Behind the planter, he makes an application that includes XtendiMax with VaporGrip Technology and Roundup PowerMAX herbicide (plus an approved DRA) with the goal of killing emerged weeds — along with Warrant® Ultra herbicide to provide residual protection for at least 30 days.

About 30 days after planting the crop, he’s checking fields for weed emergence.

When they are spotted in fields, he knows it is time to get the sprayers out and make an in-crop application of XtendiMax with VaporGrip Technology and Roundup PowerMAX herbicide (plus an approved DRA). In some fields, some seasons, he’ll make a Warrant Herbicide application with the final fertility application to provide residual activity to last through crop canopy.

Getting control of weeds early in cotton is important for several reasons, according to Kutzenberger. Weeds can block sunlight from reaching the crop, and they take nutrients and moisture from the soil intended for the cotton plants.



“Early weed control sets the stage for the entire season,” he says. “We have some XtendFlex cotton varieties that have performed well in terms of yield, lint turnout and fiber grades. XtendFlex cotton is very important to us, from a profitability standpoint.”

Kutzenberger says communicating with neighbors is critically important. “Be aggressive to find out what’s being planted around you,” he advises. “The first year we planted [cotton with XtendFlex technology], it was very easy for me to go to all of my neighbors and tell them I wanted to plant this new cotton. They knew what I was doing, and I knew what they were planting. Today, everyone around us is pretty much growing Roundup Ready 2 Xtend® soybeans and cotton with XtendFlex technology, or using dicamba in some way. That has made things even easier. We stay within the label, but we know what’s planted around us.”

Continued on page 5

Better Performance in the Land of 10,000 Lakes

Farmers aren't the only ones placing trust in the Roundup Ready® Xtend Crop System again this year. As a retailer and custom applicator for Chandler Co-Op in Chandler, Minnesota, Jeff Einck is a trusted adviser to soybean farmers who deal with a myriad of challenges by Mother Nature. While he was powerless to offset 2019's cold, wet spring, he is able to support his customers' herbicide management



Jeff Einck, Minnesota Retailer/Custom Applicator

plans. He says his customers, like most farmers, contend with aggressive and yield-robbing waterhemp pressure. Last year, about 60% of his customers planted Roundup Ready 2 Xtend® soybeans — a number that he estimates increased slightly in 2019. He says these customers often report better performance.

"Despite untimely rains last year that allowed weeds to grow taller than we would have liked, my customers overall were really pleased with all the weeds XtendiMax® herbicide with VaporGrip® Technology [a restricted use pesticide] killed," Einck says.

As a retailer, Einck appreciates the trust that both his clients and their neighbors must place in his team to use the product safely and effectively. For this reason, he adheres to a careful process.

"The first thing we do when we meet with a customer and decide to spray dicamba is to determine what's growing around the field," Einck says. "We scout the field and watch to make sure we get the weeds at the proper height. We also make sure our machinery is clean — we do a rinse-out prior to spraying XtendiMax [with VaporGrip Technology]. And, finally, we spray when winds are not going to drift the product into any other crop."

His advice to customers and other custom applicators? "Know your surroundings. Spray early, when the weeds are small. Make sure you fill out proper documentation about the fields you are spraying. And, finally, follow the rules — it's important for us to be good stewards of the technology to make sure that other, better traits are brought to fruition in the future."

Those who heed his advice may spend a little extra time in the fields up-front, but Einck says the success of a clean field is well worth the time investment. "There are a lot of steps you need to take, but you're actually going to kill the weeds," he says.

While there's a lot of 2019 growing season yet to come, Einck is cautiously optimistic that farmers who put their trust in the Roundup Ready Xtend Crop System will once again see high yield potential and clean fields at harvest.

Time will tell, but one thing is certain: farmers have come to rely on the Roundup Ready Xtend Crop System to arm them with the tools and resources they need to finish the season strong. It's a trust that has been built over generations, from the advent of Roundup® branded agricultural herbicides — and one that Bayer researchers are committed to expanding upon for many crop seasons and generations to come.

"It's important to be good stewards of the technology to make sure that other, better traits are brought to fruition in the future."

XtendiMax with VaporGrip Technology has a 95% satisfaction rate, on average, by the farmers who used it in 2017 and 2018.* The latest herbicide technology, backed by tools and resources to help farmers maximize profit potential, is why farmers are putting their trust in the Roundup Ready Xtend Crop System, even on their traditionally challenging fields.

*XtendiMax® herbicide with VaporGrip® Technology grower survey – August 2017 and September 2018 – All growers surveyed were required to have 50+ acres of Roundup Ready 2 Xtend® soybeans or cotton with XtendiFlex® Technology and treat at least some acres with XtendiMax with VaporGrip Technology to qualify. Average of 95% based on the results of 97% in 2017 and 93% in 2018.



Jeff Einck surveys soybean field, Chandler, Minnesota

Driving Profit Potential Through EFFECTIVE WEED CONTROL

No matter the weed challenge, environment or growing conditions, U.S. soybean and cotton farmers rely on the Roundup Ready® Xtend Crop System

"Roundup Ready® Xtend Crop System is an amazing program. My Roundup Ready 2 Xtend® beans are the best beans I ever raised. XtendiMax® [herbicide] with VaporGrip® Technology [a restricted use pesticide] killed waterhemp and pigweed quickly. I wish I'd sprayed all my fields with XtendiMax with VaporGrip Technology."

Dan Stewart
Ramona, South Dakota

"Using the Roundup Ready Xtend Crop System is a no-brainer. I have the greenest and cleanest soybean fields around. My neighbors compliment my beans."

Dustin Dobesh
Dwight, Nebraska

"We planted Roundup Ready 2 Xtend soybeans for two reasons. Number one, we feel like the best genetics are in the Roundup Ready 2 Xtend soybeans, so that makes for better yields. And number two, we were having problems controlling certain weeds such as waterhemp and marehail, and that is why we decided to go with this program."

Doug Aylward
Memphis, Missouri

"The yields were outstanding last year... Nearly every field made over three bales to the acre."

Blaine Nichols
Seminole, Texas

"The Roundup Ready Xtend Crop System did a super job. We had a little bit of an issue with ragweeds and horseweeds in the past, but this was probably the best ragweed control I've ever had."

Pat Maloney
Manchester, Iowa

"The Roundup Ready Xtend Crop System has been exactly what we needed to combat resistant weeds. We will definitely be using the Roundup Ready Xtend Crop System again."

Grant Davidson
Deckerville, Michigan

"We've seen amazing control on waterhemp, ragweed, marehail and lambsquarters with XtendiMax with VaporGrip Technology — weeds that we were having a hard time previously controlling within soybeans."

Kurt Williams
Randolph, Wisconsin

"The Roundup Ready Xtend Crop System is great technology. It requires us to practice good stewardship and communication with our neighbors. It causes us to pay attention and practice good management. We need to protect this technology."

Ron Swanson
Princeton, Illinois

"The weed control for our Roundup Ready 2 Xtend beans has been excellent; it's worked out great. We've been able to extend the window for our spraying operation a few days, which has allowed for great weed control."

Chuck Ries
Mt. Vernon, Indiana

"Growing Roundup Ready 2 Xtend soybeans has been great. We had really gotten into a situation where pigweeds had gotten out of hand. XtendiMax with VaporGrip Technology has really helped us clean that up."

Kenneth Barnes
Obion County, Tennessee

Take Action Against RESISTANT WEEDS

Knowledge often equals power — especially when it comes to taming tough-to-control and resistant weeds. Devising a herbicide management plan is an easier task when you know what you're combating.

If you farm soybeans or cotton, chances are that you are all too familiar with four of the nation's most prolific weeds. But how well do you really know these enemies?



GIANT RAGWEED

Giant ragweed is a competitive weed that is adapted to the fertile soil crop production acres of the Midwest and Eastern Corn Belt. It quickly grows above crops to compete for sunlight and create a dense canopy with its 4- to 8-inch-wide leaves.

Herbicide Recommendations

1. Start weed-free at planting. Take full advantage of early-emerging populations by controlling all emerged weeds with tillage or an effective burndown.
2. Suppress late-emerging weeds through the use of a residual herbicide, either in combination with a burndown or at planting in a tilled seedbed.
3. Finish strong with multiple postemergence applications to control dense infestation of giant ragweed, especially in populations that exhibit extended emergence.



MARESTAIL (HORSEWEED)

Horseweed competes with soybeans throughout the growing season and reduces crop yield. It matures in late summer or early fall and produces up to 200,000 seeds per plant, which are readily dispersed by wind.

Herbicide Recommendations

1. Use fall or early spring herbicide treatments in fields where horseweed seedlings are observed.
2. Apply effective burndown herbicides in spring. Do not plant into existing stands of horseweed. Start weed-free at planting.
3. Include residual herbicides with the preplant-burndown treatment.
4. In Roundup Ready 2 Xtend® soybeans, a postemergence application of XtendiMax® herbicide with VaporGrip® Technology, Roundup PowerMAX® herbicide and Warrant® Herbicide (with an approved DRA) will control horseweed plants that emerge after planting and also prevent a new flush of weeds from emerging later in the season.



KOCHIA

Kochia is competitive with crops and problematic in fallow periods between crops. Early-emerging kochia can reduce crop yields by 70% or more and can interfere with harvest.

Herbicide Recommendations

1. Rotate crops to help diversify kochia-control strategies and herbicide programs over time.
2. Start clean. It is imperative to control kochia in early spring because of its emergence patterns, dense populations and difficult-to-control large plants.
3. Apply an effective soil-applied, pre-emergence herbicide.
4. Target small weeds after they emerge.
5. Prevent seed production. Strategic tillage and cover crops might be helpful in minimizing kochia seed production.



WATERHEMP

Waterhemp is a prolific seed producer and able to produce as many as 1.5 times more seeds than most other pigweed species.

Herbicide Recommendations

1. The most effective strategies to reduce herbicide-resistant waterhemp populations will integrate cultural and mechanical techniques with chemical control. Right before or after soybean planting, apply a full rate (according to label guidelines for soil type and organic matter content) of an effective pre-emergence, soil-residual herbicide.
2. Apply an effective postemergence herbicide with an overlapping residual herbicide.
3. Scout the field within seven to 14 days after the initial postemergence application to determine treatment effectiveness. If there are still surviving plants present, remove these plants from the field before they reach a productive growth stage.

Ask your local agronomist for herbicide management recommendations tailored to your county and growing conditions, and visit IWillTakeAction.com for additional details on common and costly weeds.

Courtesy Take Action Pesticide-Resistance Management, 2019 United Soybean Board.



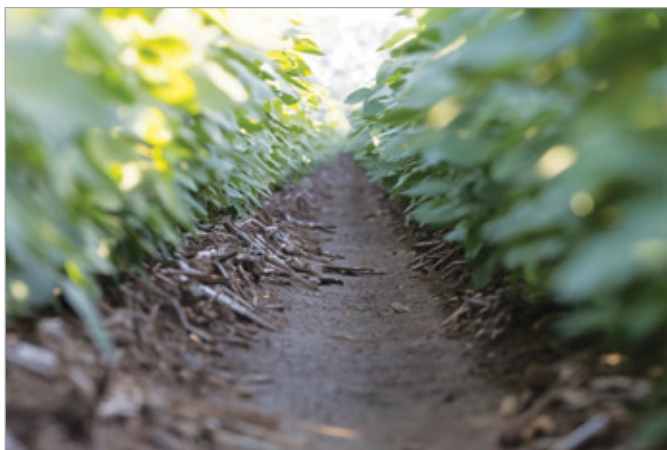
Farmers With Roundup Ready 2 Xtend® Soybeans

SPRAYED EARLY WITH CONFIDENCE IN 2019

This season, the Roundup Ready® Xtend Crop System updated agronomic recommendations to help farmers get the most out of their early-season applications.

“Early-season weed control is important for optimizing soybean yield potential. Creating a management plan for effectively controlling weeds is one of the most important decisions farmers make,” says Neha Rana, Market Development Manager, Bayer. “It’s important that they have a sound recommendation that they can count on for weed control.

In years like this one, weed control is critically important — and farmers can count on XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, to help manage tough-to-control weeds and provide up to 14 days of soil activity on certain small-seeded broadleaf weeds. The use of a soil residual product in combination with XtendiMax with VaporGrip Technology, either pre-plant or at planting, provides an excellent opportunity to maximize herbicide soil residual activity.



“The 3-step Spray Early With Confidence program is always the first recommendation,” says Boyd Carey, Regional Agronomy Lead, Bayer, “as it is the most sustainable and reliably effective approach. The good news is that, even in less than ideal conditions, the Roundup Ready Xtend Crop System still works effectively.”

Other Advantages:

1. In Roundup Ready 2 Xtend® soybeans, there are no planting restrictions. If you are in no-till, you don’t have to wait to plant after the pre-plant burndown application. XtendiMax with VaporGrip Technology can be applied at any point prior to planting through emergence.
2. The water solubility properties of XtendiMax with VaporGrip Technology and Warrant® Herbicide complement each other so that the combination can provide control of germinating weeds in a greater variety of soil moisture environments than either herbicide alone. “You don’t have to wait — and you shouldn’t wait — for all the weeds to emerge before making your postemergence application,” says Carey. “Spray early while weeds are small and then rely on the combination of XtendiMax with VaporGrip Technology, Roundup PowerMAX® herbicide and Warrant Herbicide (plus an approved DRA) to control emerged tough-to-control broadleaves and grasses and subsequent emerging weeds in Roundup Ready 2 Xtend soybeans.”

Consult your seed dealer for details.

Farmers who planted Roundup Ready 2 Xtend® soybeans were encouraged to follow three easy steps:

START CLEAN

Use an appropriate burndown herbicide at the labeled rate or tillage.

APPLY A PRE-EMERGENCE RESIDUAL HERBICIDE

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

POSTEMERGENCE APPLICATION

Apply when weeds are less than 4 inches tall and within 30 days after planting soybeans:

- XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide
- Roundup PowerMAX® herbicide or Roundup WeatherMAX® herbicide
- Warrant® Herbicide or Warrant Ultra Herbicide
- An approved DRA



“We have three years of data indicating that farmers who follow these three steps will experience effective weed control and increased flexibility,” Rana says.

Tennessee Farmer

SEEING IMPROVED WEED CONTROL

Cotton with XtendFlex® technology is making this crop king again in the South

Will Espey got out of college and rejoined the family farming operation around the time resistant pigweed became a costly problem in West Tennessee. He and his father watched as weed control costs soared and managing weeds became more difficult until 2017, when they turned to Bollgard II® XtendFlex® cotton.

Espey is a third-generation farmer in McLemoresville, Tennessee, where, along with his father, he oversees some 3,000 acres of cotton and 1,500 acres of corn in



Will Espey, McLemoresville, Tennessee

Carroll County. Their fields are mainly rolling hills, with a few smaller creek bottom fields that are tilled for drainage. The family also runs a cotton gin. Cotton is an important crop for their operation, and the Roundup Ready® Xtend Crop System is credited with keeping it viable for the farm.

“Being able to use dicamba in our cotton has improved weed control in our fields,” he says. “Before, we were in a Liberty® herbicide system, using it and Roundup PowerMAX® herbicide, plus lots of residuals and other products, and were not getting adequate control.”

When chemical measures failed, they turned to manual labor, chopping fields twice a month. Time is money, and that was time not well spent for the farm’s employees. There were many other important things to do on the large farm instead of walking rows of cotton chopping out pigweed.



Battling a Prolific Weed

Since adopting Bollgard II XtendFlex cotton, the number of different herbicide products they’ve had to use to achieve control has decreased. This has resulted in fewer incidents of crop injury in young cotton. The reduction in the number of products being sprayed plus the elimination of the need to manually chop pigweed out of the cotton fields has decreased overall weed management costs for the operation.

“We’ve reduced the amount of herbicide we’ve had to spray, and we’ve reduced weed pressure in our fields dramatically,” Espey says. “And, we’ve seen a huge difference in time spent on weed management across the farm. We went from chopping cotton twice a month to not having to chop a single field with Bollgard II XtendFlex cotton.”

He’s also seen yield and fiber quality performance improve since planting Bollgard II XtendFlex cotton. Both DP 1518 B2XF and DP 1725 B2XF performed well in 2018 despite a rough harvest period of rainfall on open cotton. Both varieties have been planted again on the farm in 2019.

This season, the dicamba cutoff date in Tennessee is 60 days after cotton is planted. Espey’s herbicide program is based on overlapping chemistries to get the crop to layby stage. The burndown application consists of Roundup PowerMAX herbicide and dicamba. He’ll run Gramoxone® herbicide behind the planter. About 20 – 25 days later,

he’ll make an application of XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, plus Roundup PowerMAX herbicide with a residual product, such as Warrant® Herbicide (plus an approved DRA).

With any luck, that can hold the crop until layby, when the crop is canopying and shading out weeds. Espey has the ability to make another in-crop application of XtendiMax with VaporGrip Technology if fields need more attention. Immediately after planting, he is watching fields for weed emergence.

“We’ve reduced the weed pressure in our fields dramatically.”

“Pigweed is a prolific weed. If it were 85 degrees with some moisture in the ground today, you’d see them emerged tomorrow,” Espey says with a laugh. “We try to hit them when they are small and easier to kill. Walking the fields is a must.

“Before cotton with XtendFlex technology, we could have a 100-acre field, and 50 acres would be nothing but pigweed,” Espey says. “We’ve reduced our costs associated with weed control, our cotton crop is in better health and we’re getting good yield and fiber quality. We would not want to farm cotton today without having the technology.”



Jim Coop, Tri-Ag, Inc., Emden, Illinois

Five Questions About Dicamba With A CUSTOM APPLICATOR

Jim Coop, assistant manager of Tri-Ag, Inc., in Emden, Illinois, has responsibility over custom application and sprayer technology. The seed, chemicals and fertilizer dealer and custom applicator services 30,000 acres. In 2018, he and his team sprayed approximately 10,000 acres of Roundup Ready 2 Xtend® soybeans for their customers.

Today's Acre caught up with him before the 2019 spraying season began to get his thoughts on dicamba applications.

Question

How did you prepare for the 2019 spraying season?

Answer

We have formal in-house training that all of our employees are required to attend. We did the mandatory training online, and for us, it was a good reinforcement of everything we've been training on. It reinforced what we need to think about in our approach to spraying. All herbicides have a label that spells out how to use the product so it works best and it is sprayed safely. We've been studying the label of the dicamba formulations for use in Roundup Ready 2 Xtend soybeans. As professional applicators, we strive for no particle drift. We tell our applicators that the public is watching, and the farmers who do not want to be drifted on will be watching very closely. So, we have to watch weather conditions around sensitive areas. It is as simple as being aware of your surroundings.

How are you using the RRXtend Spray App?

The RRXtend Spray App was extremely helpful to us. When our applicators go to a field to spray, they check conditions there and report back to me. The app allows me to check wind and conditions at their location to reaffirm the information they are getting. I can double-check conditions at a location they are planning to spray.

How have results been for your farmers who are using the Roundup Ready® Xtend Crop System?

For farmers in our region, the Roundup Ready Xtend Crop System has been a savior. We were having trouble controlling waterhemp effectively and easily. Dicamba has allowed us to keep fields clean. We now have fewer people walking fields pulling weeds because of the Roundup Ready Xtend [Crop System] technology. The genetics for yield have been extremely good as well.

How important has this technology been for your business, and what do you see going forward?

The Roundup Ready Xtend Crop System has made us better applicators. It has showed us that there is particle drift when we spray almost any chemical. Now we have to continue focusing on how to make it better, and this goes for all chemicals we spray.

Can farmers count on custom applicators for dicamba applications?

Custom applicators must be certified, know the label and have knowledge and the equipment to apply dicamba to fields correctly. They have the support staff available to help manage things so that a job gets done, not only correctly but also in a timely manner.

To find a custom applicator for dicamba near you, visit RoundupReadyXtend.com/LocateApplicators.

Only use dicamba formulations that are specifically labeled for in-crop use and approved for such use in the state of application.

PUTTING YIELD ON THE LINE

The use of dicamba in-crop proves very important for brothers farming soybeans in both Arkansas and Missouri

The ability to spray dicamba in-crop is important for achieving weed control in the Roundup Ready® Xtend Crop System, and what happened in 2018 at DaVault Farms (headquartered in Paragould, Arkansas) is a perfect example of why it is so crucial.



Brad and David DaVault, Paragould, Arkansas

Brothers Brad, 35, and David, 33, are the fourth generation of their family to be involved in the operation, which began in Missouri with their great-grandfather. Today, the farm includes 7,500 acres across Greene County, Arkansas, and Dunklin County, Missouri. The brothers, with their father, Mike, raise soybeans, corn and rice.

Last season, Arkansas had a dicamba application cutoff date of April 15. Missouri's was extended to June 10. The DaVaults planted Roundup Ready 2 Xtend® soybeans on 3,000 acres in Arkansas and on 1,500 acres in Missouri.

"We really like the yield in Roundup Ready 2 Xtend soybeans, but in Arkansas last season, because of the cutoff date for dicamba spraying of April 15, we were not going to be able to spray dicamba in the crop," recalls Brad. "We were willing to chance it and try to keep the crop clean with overlapping residuals and get the yield performance we know these soybeans can deliver."

Planting did not begin until April 15 in many Arkansas fields, where they were forced

to rely on glyphosate and overlapping residual herbicides. Due to an early dry spell, there was little moisture available to activate residual herbicides. They turned to spraying Gramoxone® herbicide between the rows using a hooded sprayer. Many fields required manual labor to pull weeds.

"I lost sleep thinking about what we were going to do if pigweeds broke through the residuals we had down in those Arkansas fields," says David. "They broke through, and we had to keep coming back with more residuals. We ran Gramoxone under hoods. We were still not getting the control we needed, and every time you apply another herbicide over the top or go through the young crop with equipment, you run the risk of damaging plants."

In Missouri, the brothers were able to maintain their normal herbicide program, which included pre-emerge residual herbicides and spraying XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, with Roundup PowerMAX® herbicide (plus an approved DRA) in-crop. The ability to use dicamba in-crop, versus not having the ability to do so because of an earlier cutoff date, was painfully apparent to the DaVault brothers.

"Last year...you saw clean fields in Missouri and fields with pigweed problems in Arkansas. That is directly related to not being able to spray dicamba in-crop in Arkansas."

The DaVault brothers found that the cost to manage weeds in their Arkansas fields averaged \$45.00 per acre more than in their Missouri fields, and weed control was much more difficult to achieve. In Missouri, fields had better weed control and costs were down. No chopping was required.



DaVault Farms includes 7,500 acres across Greene County, Arkansas, and Dunklin County, Missouri

The ability to use XtendiMax with VaporGrip Technology in-crop is important in so many ways.

"The yield, weed control and cost and time associated with that are all related and all impact our bottom line," says David. "The Roundup Ready Xtend Crop System has helped us control weeds and control our costs, but the key part of that is having dicamba for postemergence application."

Big brother Brad is quick to add to that.

"We need dicamba," he states. "We need a postemergence product like XtendiMax [with VaporGrip Technology] to take out pigweed. We saw last year in Arkansas that we cannot rely on residual herbicides alone; we need dicamba for postemergence use. Last year, driving down roads, you saw clean fields in Missouri and fields with pigweed problems in Arkansas. That is directly related to not being able to spray dicamba in-crop in Arkansas."

For 2019, the state of Arkansas set a dicamba cutoff date of May 25. The state of Missouri elected to go with the EPA-labeled 45 days after soybean planting. While the DaVault brothers would have liked to have the 45 days after planting rule in effect for Arkansas, at least they had more of a spraying window and could create a herbicide plan to stick with.

ENHANCED INCENTIVES PROGRAM COMING SOON

*Bayer PLUS Rewards offers improved incentives,
more options, increased flexibility*

Bayer PLUS Rewards lives up to its name by providing farmers with incentives when they purchase the Bayer crop inputs they've grown to rely on over the years. There is also more transparency and flexibility with how and when their incentives are redeemed, which gives farmers more control.

"Bayer is proud to support U.S. farmers and offer them a more robust product portfolio than ever before," says Scott Burchette, Bayer Crop Science Crop Protection Systems Lead. "But we didn't stop there. We heard farmers' requests for better incentives with more flexibility. Bayer PLUS Rewards is our way of delivering on that request and thanking them for entrusting us to deliver the crop performance they need to maximize profitability."

With Bayer PLUS Rewards, members control how and when they redeem incentives. They can choose a "cash-out" option earlier

than ever before (after a minimum incentives total is achieved), or they can work with their retailer to direct their incentives toward future seed and/or chemistry purchases.

"Farmers will now have complete line of sight into the incentives they've earned by simply signing in and activating their account on the new Bayer PLUS Rewards portal," Burchette says. "The portal will offer snapshots of their purchases, up-to-date incentives and redemption options."

Farmers should go to **MyBayerPLUS.com** today to activate their account, register for the program or find out more. If they have a valid Tech ID associated with their operation, they should receive information in the mail in the coming weeks. Once signed in they'll begin earning rewards on their purchases from a robust portfolio of products.

Introducing Bayer PLUS Rewards

The NEW



PLUS

REWARDS



To learn more talk to
your retailer or visit

MyBayerPLUS.com



HONEY BEES AND HERBICIDES

Protecting the pollinators that play a vital role in farming and food production

You don't have to be an environmentalist to have heard the concerns about a declining honey bee population and that there might be a connection between this and herbicide usage. Bees play a vital role

in modern, sustainable farming. What are herbicide manufacturers like Bayer, and regulators like the U.S. Environmental Protection Agency (EPA), doing to protect honey bees?

Five things you might not know about Bayer's efforts to protect pollinator populations:

1. Before registering any pesticide, including herbicides, the EPA conducts comprehensive evaluations and creates product label requirements to ensure pesticides can be used safely in the environment. This means that products like XtendiMax® herbicide with VaporGrip® Technology, a restricted use pesticide, have passed an extensive, unbiased environmental safety assessment.
2. Because of their importance to food production and farmers, Bayer has spent 30 years studying the factors that affect honey bee health through the Bayer Bee Care program. (Visit beecare.bayer.com to learn more.) In addition, the company's national pollinator forage initiative, the Bayer Feed a Bee Program, recently hit its goal of funding the creation of new, pollinator-attractant wildflower refuges in all 50 states.
3. The EPA's pollinator risk assessment for dicamba shows that direct effects on honey bee larvae and adults are unlikely for even the highest maximum application rate for the label instructions. This means that the EPA expects no adverse long-term effects on pollinator populations.
4. The XtendiMax with VaporGrip Technology product label includes application requirements to protect endangered species.*
5. Applicators are required by the EPA to consult a sensitive crop registry, like FieldWatch®, and survey adjacent fields prior to application. Through FieldWatch, farmers and beekeepers can also access BeeCheck™, a voluntary communication tool that enables beekeepers and pesticide applicators to work together to protect apiaries through use of the BeeCheck™ mapping program. By using registries like these along with specified nozzles and adhering to other label requirements, you're playing an important role in protecting honey bees, pollinator forage and endangered species.

Bayer's commitment to honey bees extends to the plants they pollinate. Both Bayer and the EPA have strict measures in place to protect sensitive crops (EPA Group 8).

XtendiMax with VaporGrip Technology, like other dicamba products, has label restrictions warning applicators not to apply the product when the wind is blowing toward sensitive

crops/areas. They must also record application details, including dates and survey documentation — all measures to ensure the product is being used safely for animals and plants alike.

To read more about Bayer's efforts to protect honey bees and pollinator forage, visit beecare.bayer.com/what-we-do/bayer-for-biodiversity-initiative.

*Additional protection measures are required in specific counties where endangered species may exist. Visit EPA.gov/Endangered-Species or call 1-844-447-3813 for more information.



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It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. NOT ALL formulations dicamba, glyphosate or glufosinate are approved for in-crop use with cotton with XtendFlex® Technology. NOT ALL formulations of dicamba or glyphosate are approved for in-crop use with Roundup Ready 2 Xtend® soybeans. **ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USES AND APPROVED FOR SUCH USE IN THE STATE OF APPLICATION.** Contact the U.S. EPA and your state pesticide regulatory agency with any questions about the approval status of dicamba herbicide products for in-crop use with Roundup Ready 2 Xtend® soybeans or cotton with XtendFlex® Technology.

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

The RRXtend Spray App provides forecasts for locations within the contiguous United States. Do not use this app for forecasts outside the contiguous United States. Forecasts are for planning purposes only and are not a substitute for checking actual weather conditions at your location at the time of application and comply with the product label and other legal requirements.

Roundup Technology® includes glyphosate-based herbicide technologies.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Cotton with XtendFlex® Technology contains genes that confer tolerance to glyphosate, glufosinate and dicamba. Roundup Ready 2 Xtend® soybeans contains genes that confer tolerance to glyphosate and dicamba. Glyphosate will kill crops that are not tolerant to glyphosate. Dicamba will kill crops that are not tolerant to dicamba. Glufosinate will kill crops that are not tolerant to glufosinate. Contact your seed brand dealer or refer to the Monsanto Technology Use Guide for recommended weed control programs.

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Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, **including applicable refuge requirements for insect resistance management**, for the biotechnology traits expressed in the seed as set forth in the Monsanto Technology/Stewardship Agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements.

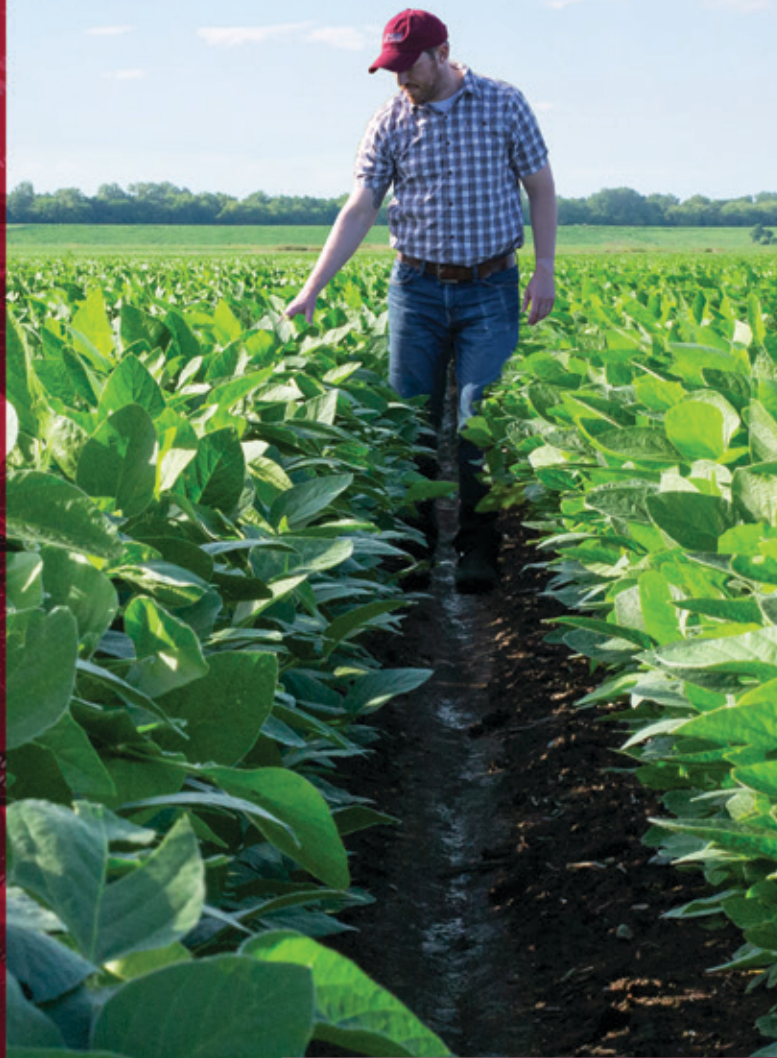


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WEEDS than any other
soybean system²

UP TO 14 DAYS OF
SOIL ACTIVITY on certain
small-seeded broadleaf weeds³



¹ Trained acres based on Bayer internal estimates.

² Based on approved EPA herbicide labels as of Aug. 2018.

³ Results may vary, depending on rainfall and soil type. Always use dicamba with residual herbicides in pre-emergence and postemergence applications that have different, effective sites of action, along with other Diversified Weed Management Practices.

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. ©2019 Bayer Group. All rights reserved.

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CROP SYSTEM

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