



It's The System That Makes The Difference

Demand is Growing for the Roundup Ready® Xtend Crop System

20 Million Acres

ROUNDUP READY 2 XTEND SOYBEANS

Planted in 2017

6 Million Acres

BOLLGARD II® XTENDFLEX COTTON

Planted in 2017

More than 40 million acres of supply of Roundup Ready 2 Xtend® soybeans are expected to be available in 2018

Xtend Your Weed Control + Xtend Your Yield

97% of soybean growers surveyed¹ in 2017 who applied **XTENDIMAX** with VaporGrip® Technology were satisfied or very satisfied with weed control.

advantage with Roundup Ready® Xtend Crop System vs. LibertyLink® System in trials based on Monsanto and University data.²

Pre-Harvest Weed Control³

Roundup Ready 2 Xtend® Soybeans



PRE	PRE	PRE
Rowel® Herbicide 2oz	Rowel® Herbicide 2oz	Rowel® Herbicide 2oz
	+	+
<u>Fb POST</u>	XtendiMax® with	XtendiMax® with
XtendiMax® with	VaporGrip® Technology 22oz	VaporGrip® Technology 22oz
VaporGrip® Technology 22oz	+	+
+	INTACT™	INTACT™
+	<u>Fb POST</u>	<u>Fb POST</u>
Roundup PowerMAX®	XtendiMax® with	XtendiMax® with
herbicide 32oz	VaporGrip® Technology 22oz	VaporGrip® Technology 22oz
	+	+
	INTACT™	INTACT™
	+	+
	Roundup PowerMAX®	Roundup PowerMAX®
	herbicide 32oz	herbicide 32oz
		+
		Warrant® Herbicide 48oz

LibertyLink® Soybeans



PRE	PRE	PRE
VALOR® SX	Authority® MAXX	Authority® MAXX
herbicide 20z	herbicide 6.4oz	herbicide 6.4oz
<u>Fb POST</u>	<u>Fb POST</u>	<u>Fb POST</u>
Liberty®	Liberty®	Liberty®
herbicide 29oz	herbicide 29oz	herbicide 29oz
		+
		Zidua®
		herbicide 20z

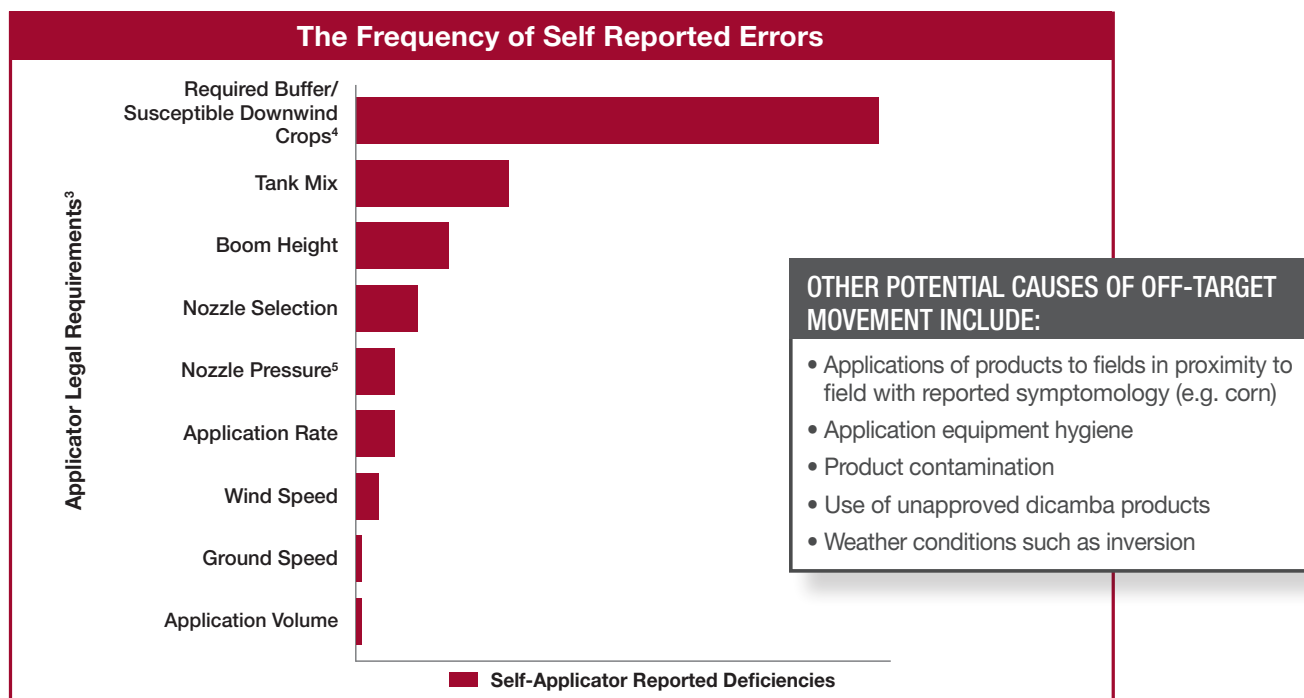
XtendiMax® herbicide with VaporGrip® Technology is a restricted use pesticide for retail sale to and use only by Certified Applicators or persons under their direct supervision.

¹ XtendiMax® with VaporGrip® Technology Grower Survey – August 2017 – All growers surveyed were required to have 50+ acres of Roundup Ready 2 Xtend® soybeans or cotton with XtendFlex® Technology and treat at least some acres with XtendiMax® with VaporGrip® Technology to qualify. ² 2017 Monsanto and University Systems Trials (27 locations in 2017 reporting yield data). Significant at P ≤ 0.05 LSD of 1.6 Bu. Data as of November 13, 2017. 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® herbicide and various residual herbicides. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. ³ SIU Research Farm - Belleville, IL, September 21, 2017.

Evaluating 2017 Application Compliance

We evaluated compliance with 10 key label requirements based on applicator self-reported data.

- In **91% of the 1,222 cases** evaluated to-date¹, applicators have self-reported errors from one or more label requirements checked that could have contributed to off-target movement.
- The fields with alleged off-target movement claims **represent less than 1% of soybean fields across the U.S.**²



To help ensure for successful use of XtendiMax® herbicide with VaporGrip® Technology, Monsanto is:

- Tailoring our trainings based on 2017 learnings
- Distributing spray nozzles at no cost
- Setting up a technical support call center
- Developing a spray app to help farmers avoid problematic weather conditions
- Offering free flags to mark Roundup Ready® Xtend Crop System fields

Enhancements to XtendiMax® with VaporGrip® Technology label will help farmers use dicamba even more successfully in 2018:

- ☒ Now a Restricted Use Pesticide (RUP)
- Mandatory annual applicator training
- Expanded record keeping requirements

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¹ Applicator off-target movement inquiries as of October 26, 2017, in which complete information was available. ² Based on Monsanto inquiries and investigations reported by State Departments of Agriculture as of August 2017.

³ Applicators may have reported one or more deficiency. ⁴ Includes no/inadequate buffer and applicator reported sensitive crop downwind. ⁵ Nozzle pressure is only evaluated if correct nozzle was reported.

Visit XtendiMaxApplicationRequirements.com for approved tank-mix partners, nozzles and label.



MANDATORY TRAINING

Prior to applying, applicator must complete dicamba or auxin-specific training



RECORD KEEPING

Certified applicator **MUST** keep records for a period of 2 years



Dicamba Tolerant Crop **Susceptible Crop**
Including Non-Dicamba Tolerant Soybeans and Cotton

SUSCEPTIBLE CROPS

Do not apply when wind is blowing toward adjacent susceptible crops



Dicamba Tolerant Crop **Downwind Buffer**

DOWNWIND BUFFER

Maintain the required label buffer (Minimum 110 ft buffer at 22 fl oz/A rate)



(22 fl oz/A)

APPLICATION RATE

Apply 22 fluid ounces per acre for any single, in-crop application in crops with Roundup Ready 2 Xtend® and XtendFlex® Technologies

SUMMARY OF APPLICATION REQUIREMENTS

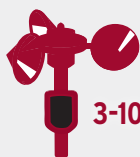
Application requirements for XtendiMax® herbicide with VaporGrip® Technology are intended to help maximize weed control with on-target applications and minimize the potential of off-target movement.

THIS SUMMARY IS NOT A SUBSTITUTE FOR READING AND FOLLOWING ALL PRODUCT LABELING.



APPLICATION TIMING

Only spray between sunrise and sunset (DO NOT spray during an INVERSION)



3-10 mph

WIND SPEED

Apply when wind speed, measured at boom height, is between 3 and 10 mph (DO NOT spray during an INVERSION)



Low Volatility Dicamba Herbicide

XtendiMax herbicide with VaporGrip Technology is a restricted use pesticide.



AMMONIUM SULFATE

Ammonium sulfate and ammonium-based additives are prohibited in applications that include XtendiMax with VaporGrip Technology



NOZZLES

Use only approved nozzles within specified pressure



SPRAY VOLUME

Apply in a minimum of 15 gallons of spray solution per acre



GROUND SPEED

Do not exceed 15 mph ground speed



SPRAY SYSTEM EQUIPMENT CLEANOUT

Ensure that entire sprayer system is properly cleaned before AND after using this product



SPRAY BOOM HEIGHT

Do not exceed a boom height of 24 inches above target pest or crop canopy.



TANK-MIX PARTNERS

Use only approved tank-mix partners. Please refer to all product labels to determine mix order or perform mix compatibility test.

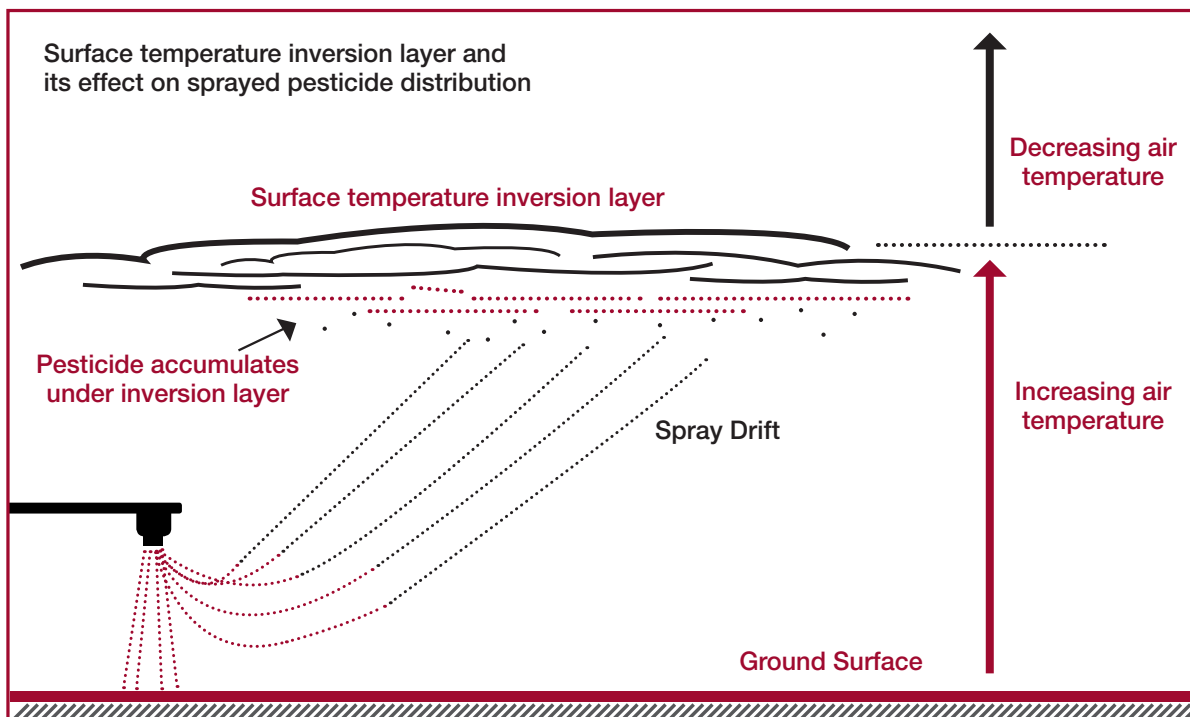
For best results, spray weeds that are less than 4 inches tall.

Check for and comply with additional state and local requirements if any, on application.

What Can Cause Off-Target Movement?

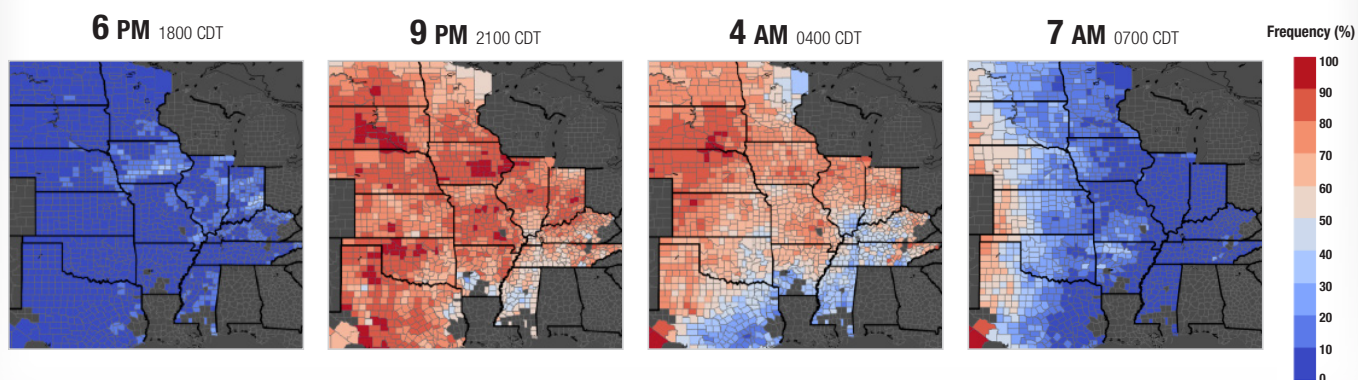
Temperature Inversions

Air temperature inversions can occur when the temperature at a higher level is greater than the temperature at a lower level. The greater the temperature difference between the two levels, the more intense the inversion. Temperature inversions may create near-perfect conditions for small droplets to drift to non-target areas. Learning how to recognize when a temperature inversion may develop can help applicators avoid potential spray drift.



Air temperature inversions are common during night time hours.

Inversion Frequency for a Given Hour in June 2017 in the Midwest



The label for XtendiMax® with VaporGrip® Technology specifically states do not spray in an inversion and only spray between sunrise and sunset¹

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¹ Check for and comply with additional state and local requirements if any, on application.

Proper Nozzle Selection and Boom Height

Using approved nozzles and boom height can help significantly reduce potential spray drift distance.

Monsanto Trials Predict Effects from Nozzle Selection and Boom Height

DROPLETS		SPRAY DRIFT DISTANCE	
CATEGORY	MICRONS	BOOM HT. 20"	BOOM HT. 50"
APPROVED	UC ULTRA COARSE >622	50 ft.	90 ft.
	XC EXTREMELY COARSE 428-622	69 ft.	138 ft.
NOT APPROVED	VC* VERY COARSE 349-428	108 ft.	207 ft.
	M MEDIUM COARSE 177-218	358 ft.	544 ft.



The label for XtendiMax® with VaporGrip® Technology specifically states applicators must use only approved nozzles with specified pressure.



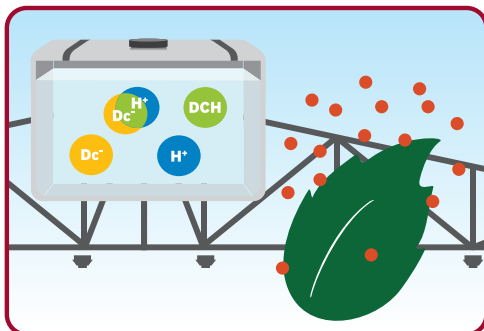
The label for XtendiMax® with VaporGrip® Technology also specifically states not to exceed a boom height of 24 inches above target pest or crop canopy.

For approved tank-mix products and nozzles visit
XtendiMaxApplicationRequirements.com.

VaporGrip® Technology is a proprietary technology developed by Monsanto that can help significantly reduce dicamba volatility

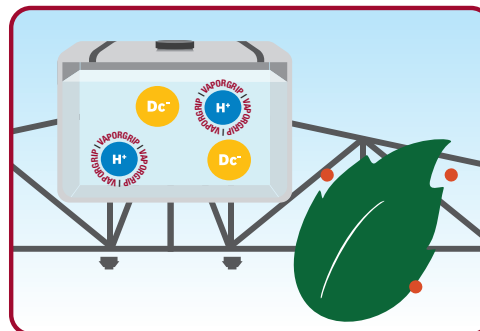
How VaporGrip® Technology Works

Dicamba without VaporGrip® Technology



In the tank there is the potential for dicamba acid (DCH) to form in solution and create off-target movement of dicamba through volatility after spraying

XtendiMax® herbicide with VaporGrip® Technology



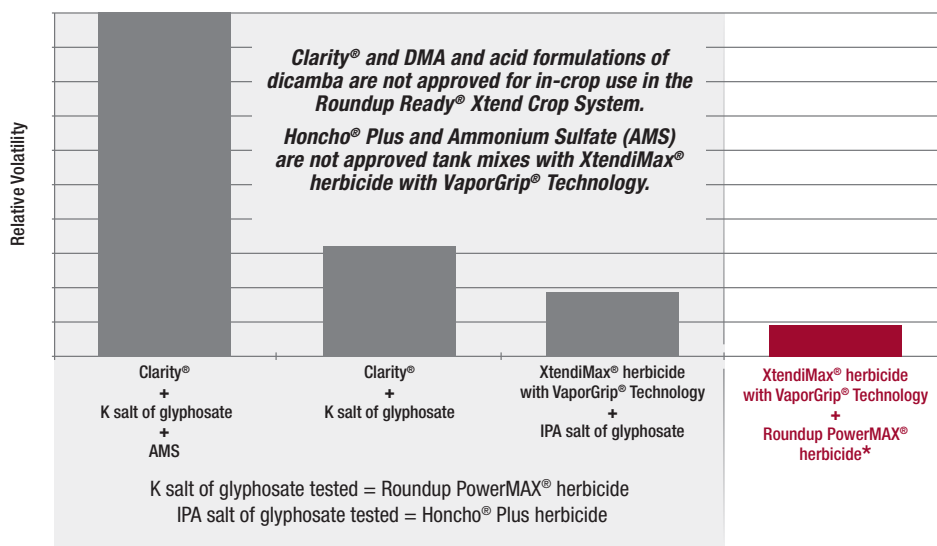
In the tank, VaporGrip® Technology reduces the formation of dicamba acid (DCH) in solution, minimizing volatility potential of dicamba after spraying

XtendiMax® herbicide with VaporGrip® Technology is a Restricted Use Pesticide.

Monsanto is committed to enabling growers with the lowest volatility options

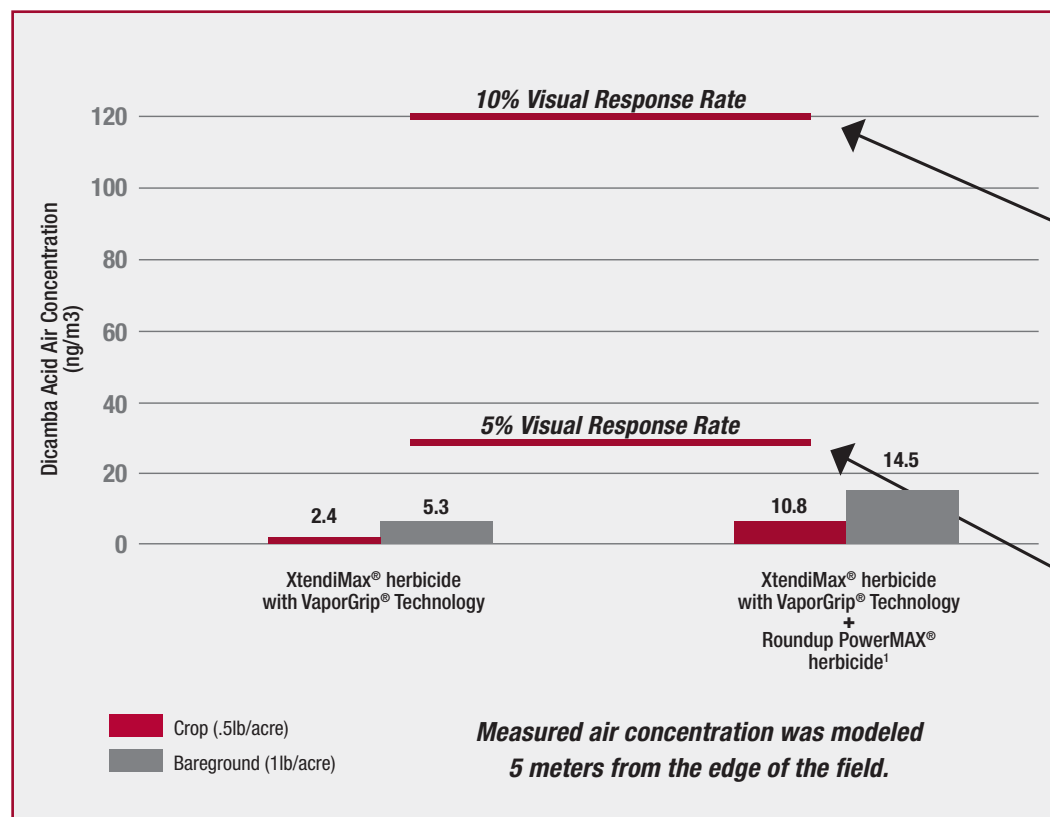
Relative Volatility of Dicamba + Glyphosate Combinations

(Based on published ASTM humidome methodology)

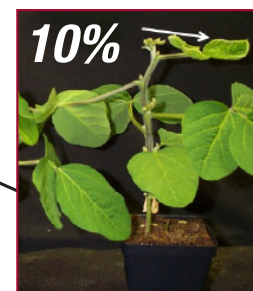


*Specific drift reducing adjuvants (DRAs) are required when tank mixing XtendiMax® herbicide with VaporGrip® Technology with Roundup PowerMAX® herbicide. Approved tank-mix products and nozzles for XtendiMax® herbicide with VaporGrip® Technology are listed on: XtendiMaxApplicationRequirements.com

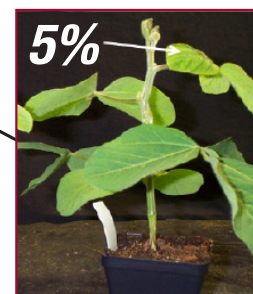
XtendiMax® herbicide with VaporGrip® Technology, is a Low Volatility Formulation



Represents non-Roundup Ready 2 Xtend® soybean plant response associated with various air concentrations of dicamba.



10% RESPONSES:
Slight stunt apparent and margin cupping on top expanding trifoliate.



5% RESPONSES:
Distortion of emerging trifoliate, and "tighter in the bud." Slight waviness on newer leaves.

Volatility studies show that dicamba air concentrations (from volatility) measured in actual field trials in Texas and Georgia are insufficient to produce 5% visual response at more than 5 meters from the edge of the field and do not result in reduced plant growth beyond treated areas.

- Under typical environmental conditions, volatile dicamba dissipates and does not build up concentration in the atmosphere.²
- 90% of the potential volatility with XtendiMax® with VaporGrip® Technology occurs within the first 24 hours after application.

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¹ Based on Monsanto field volatility studies conducted at locations in Georgia, May 2015, and Texas, June 2015.

² Typical growing conditions are defined as those in which temperature, light and water, among other inputs are suitable for plant growth.

GROW YOUR INCENTIVES. NOT WEEDS.

Earn an additional **\$6/A cash back** when you apply XtendiMax® herbicide with VaporGrip® Technology, on your Roundup Ready 2 Xtend® soybeans along with endorsed herbicides from Roundup Ready PLUS® Crop Management Solutions.

Herbicide Recommendations

APPLICATION TIMING	Genuity® Roundup Ready 2 Yield® soybeans		Roundup Ready 2 Xtend® soybeans with XTENDIMAX [™] <small>with VaporGrip[®] Technology</small>	
	PRODUCT/RATE	INCENTIVE	PRODUCT/RATE	INCENTIVE
BURNDOWN	32 fl oz of a Roundup® Brand Agricultural Glyphosate Only Herbicide		<div>XTENDIMAX[™] <small>22 fl oz with VaporGrip[®] Technology</small></div> + 32 fl oz of a Roundup® Brand Agricultural Glyphosate Only Herbicide + <div>INTACT[™] <small>8 fl oz</small></div>	\$.50/A
PRE-EMERGENCE	<div>WARRANT[™] <small>HERBICIDE</small> 4 pt</div> + <div>MAULER[™] <small>HERBICIDE</small> 8 fl oz</div>	\$3.00/A	<div>WARRANT[™] <small>HERBICIDE</small> 4 pt</div> + <div>MAULER[™] <small>HERBICIDE</small> 8 fl oz</div>	\$5.00/A
POST-EMERGENCE	32 fl oz of a Roundup® Brand Agricultural Glyphosate Only Herbicide + <div>WARRANT[™] <small>HERBICIDE</small> 4 pt</div> + <div>SELECTMAX[™] <small>SELECTIVE POST-EMERGENT GLYPHOSATE TECHNOLOGY</small> 6 fl oz</div>	\$2.50/A	<div>XTENDIMAX[™] <small>22 fl oz with VaporGrip[®] Technology</small></div> + 32 fl oz of a Roundup® Brand Agricultural Glyphosate Only Herbicide + <div>WARRANT[™] <small>HERBICIDE</small> 4 pt</div> + <div>SELECTMAX[™] <small>SELECTIVE POST-EMERGENT GLYPHOSATE TECHNOLOGY</small> 6 fl oz</div> + <div>INTACT[™] <small>8 fl oz</small></div>	\$6.00/A
TOTAL INCENTIVE	\$5.50/A		\$11.50/A	

FOR A DIFFERENCE OF \$6.00/A

With XTENDIMAX[™]
with VaporGrip[®] Technology

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NOW YOU HAVE THE RIGHT TOOLS TO MANAGE WEEDS AND YOUR BOTTOM LINE.

Talk to your chem retailer or visit **growyourincentives.com** to see your total incentives opportunity for soybeans or cotton.

For product questions or inquiries and/or to report any nonperformance of this product against any particular weed species, call **1-844-RRXTEND**

For additional training and stewardship information, visit **xtendimaxapplicationrequirements.com**

XTENDIMAX™
VaporGrip® Technology

A Restricted Use Pesticide

ROUNDUP READY PLUS®
CROP MANAGEMENT SOLUTIONS

XtendiMax® herbicide with VaporGrip® Technology is a restricted use pesticide for retail sale to and use only by Certified Applicators or persons under their direct supervision.

ALWAYS READ AND FOLLOW DIRECTIONS FOR USE ON PESTICIDE LABELING. It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. XtendiMax® herbicide with VaporGrip® Technology and cotton with XtendFlex® Technology may not be approved in all states and may be subject to use restrictions in some states. Check with your local Monsanto dealer or representative or U.S. EPA and your state pesticide regulatory agency for the product registration status and additional restrictions in your state. For approved tank-mix products and nozzles visit XtendiMaxApplicationRequirements.com. **ALWAYS READ AND FOLLOW DIRECTIONS FOR USE ON PESTICIDE LABELING. IT IS A VIOLATION OF FEDERAL AND STATE LAW** to use any pesticide product other than in accordance with its labeling. NOT ALL formulations of dicamba or glyphosate are approved for in-crop use with Roundup Ready 2 Xtend® soybeans and cotton with XtendFlex® technology. 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 and cotton with XtendFlex® technology.

Roundup Ready 2 Xtend® soybeans contains genes that confer tolerance to glyphosate and dicamba. Cotton with XtendFlex® technology contains genes that confer tolerance to glyphosate, glufosinate and dicamba. Glyphosate will kill crops that are not tolerant to glyphosate. Glufosinate will kill crops that are not tolerant to glufosinate. Dicamba will kill crops that are not tolerant to dicamba. Contact your Monsanto dealer or refer to Monsanto's Technology Use Guide for recommended weed control programs.

Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

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

Roundup Technology® includes Monsanto's glyphosate-based herbicide technologies. **Individual results may vary**, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

Tank mixtures: The applicable labeling for each product must be in the possession of the user at the time of application. Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. Monsanto has not tested all tank mix product formulations for compatibility or performance other than specifically listed by brand name. Always predetermine the compatibility of tank mixtures by mixing small proportional quantities in advance.

The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local Monsanto dealer or representative for the product registration status in your state. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. Rowel® Herbicide and Warrant® Herbicide are not registered in all states and may be subject to use restrictions. The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local Monsanto dealer or representative for the product registration status in your state. Authority®, Bollgard II®, Genuity®, Honcho®, Respect the Refuge and Cotton Design®, Roundup PowerMAX®, Roundup Ready 2 Xtend®, Roundup Ready 2 Yield®, Roundup Ready PLUS®, Roundup Ready®, Roundup Technology®, Roundup®, Rowel®, VaporGrip®, Warrant®, XtendFlex® and XtendiMax® are registered trademarks of Monsanto Technology LLC. Liberty®, LibertyLink® and the Water Droplet Design® are registered trademarks of Bayer. Intact™ is a trademark of Precision Laboratories. Mauler™, Select Max® and Valor® are registered trademarks of Valent U.S.A. Corporation. Intact™ is a trademark of Precision Laboratories. All other trademarks are the property of their respective owners.

Intact™ use rate based on 64 oz per 100 gallons and spray volume of 12 gallons/acre.

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