CROPLAN®
By WINFIELD UNITED

2021 SEED GUIDE

Maple River Grain & Agronomy

Corn / Soybean / Sunflower / Hard Red Spring Wheat

CORN

Let's leave status quo in the dust.

It's time to tune out all the bluster and focus on what works. CROPLAN® by WinField United gives you the right tools to make the best agronomic decisions for your corn crop. CROPLAN® seed uses the latest data to recommend what hybrids to choose and where to place them to get optimal bang for your buck. And we're one of the only seed brands in the industry to offer zinc as a standard treatment on all commercial hybrids to promote early-season growth and root development. We'll work with you to determine how much, when and where to apply nutrients and crop protection products to generate the most yield and profit potential. Our expertise leads. And it yields.

KEY TAKEAWAYS

1. Be familiar with hybrid response to continuous corn (RTCC) and soil type.
2. Optimize yield potential by understanding hybrid response to population (RTP).
3. Use hybrid response-to-nitrogen (RTN) scores to maximize your nitrogen management plan.
4. Understand hybrid ROI potential with fungicide applications by knowing the response-to-fungicide (RTF) score.
5. Use quality data from WinField United to make informed decisions.

RESPONSE-TO SCORES DELIVER RESULTS YOU CAN HARVEST[1]

Nine years of nationwide Answer Plot® data show that there is a **+97.6-bushel-per-acre average response** over the four different response-to scores (response to continuous corn, response to population, response to nitrogen, response to fungicide). By using response-to scores to choose hybrids that fit specific management conditions, there are potentially 97.6 bushels per acre at stake, with a range of 43 to 203.9 bushels per acre across the four input decisions.

Response to Cont. Corn	*Response to Population*
14.4 BU/A	**8.5 BU/A**
Range: 5.8 to 36.7 bu/A	*Range: 0.84 to 21.9 bu/A*
Response to Nitrogen	*Response to Fungicide*
66.7 BU/A	**14.3 BU/A**
Range: 30.8 to 104.9 bu/A	*Range: 5.6 to 40.4 bu/A*

MAKE CONTINUOUS CORN COUNT[2]

All hybrids have strengths and weaknesses that must be considered when determining how they will respond under different cropping systems and on various soil types.

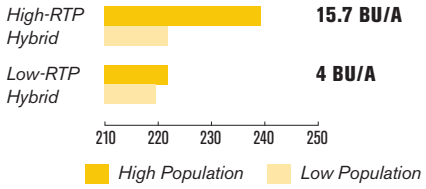
- Matching hybrids to your cropping system will allow you to achieve optimal yield potential. Good management of residue, insects and disease in addition to vigilant scouting are all critical to sustaining an optimal corn-on-corn system.
- For good emergence, plant corn at uniform depths and position stronger-emerging hybrids on continuous-corn fields with heavy residue.

▸ RTCC Average Response — 14.4 bu/A

TARGET POPULATIONS[2]

Planting each hybrid at the right population is key to optimizing its performance potential. A high RTP score identifies a hybrid that shows a potential yield gain with increased populations. A low RTP score indicates a hybrid that does not deliver high yield potential with increased populations.

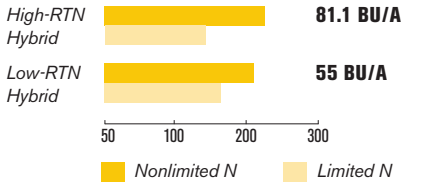
▸ RTP Yield Response Variance — 11.7 bu/A



LET NITROGEN NOURISH[2]

Be sure to consider the RTN scores of the hybrids you choose. Select hybrids with high RTN scores if you are planning to apply additional or late-season nitrogen, and hybrids with moderate or low scores in limited nitrogen environments. Perform appropriate tissue testing to determine optimal application timing for nitrogen, which may help minimize the financial and environmental costs of applying too much.

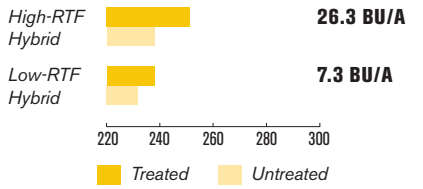
▸ RTN Yield Response Variance — 26.1 bu/A



LEVERAGE FUNGICIDES FOR PLANT HEALTH[2]

Fungicides are another tool to help you optimize the yield potential of your corn crop. RTF scores help you understand where fungicides may increase yield potential and protect ROI potential.

▸ RTF Yield Response Variance — 19 bu/A



TURN DATA INTO INSIGHTS

Trusted WinField United advisors help you connect various data sources, analyzing and interpreting different data sets to make personalized recommendations for your farm to achieve more yield and profit potential.

More Than 6 Million Data Points[3]

20-Plus Years of Answer Plot® Expertise

Nationwide Answer Plot® Locations

Exceptional Data Accuracy (low LSDs)

1. Response ranges show the importance of how hybrids respond to each management practice to help ensure the highest yield potential. 2019 nationwide Answer Plot® data. Because of factors outside of WinField United's control, such as weather, product application and any other factors, results to be obtained, including but not limited to yields, financial performance or profits, cannot be predicted or guaranteed by WinField United.
2. 2019 Answer Plot® trial data.
3. 1998–2019 Answer Plot® trial data.

CROPLAN
BY WINFIELD UNITED

CORN

CROPLAN® TRAIT LETTERING FOR CORN HYBRIDS

Descriptive hybrid numbering and trait lettering systems are used for CROPLAN® corn hybrids.

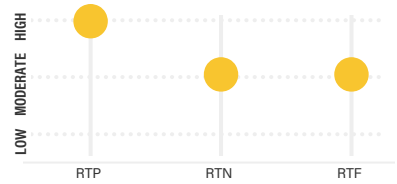
KEY	HYBRID	TRAIT	LOGO
SS	SmartStax®; GENSS	YieldGard VT Rootworm, Herculex® RW, YieldGard VT PRO® Corn Borer and Herculex® protection, Roundup Ready® 2 Technology and LibertyLink®	SmartStax
SS/RIB	SmartStax® RIB Complete® Corn Blend; GENSS	5% RIB, YieldGard VT Rootworm, Herculex® RW, YieldGard VT PRO® Corn Borer and Herculex® protection, Roundup Ready® 2 Technology and LibertyLink®	SmartStax RIB COMPLETE
VT2P	VT Double PRO®; GENVT2P	YieldGard VT PRO® Corn Borer protection, Roundup Ready® 2 Technology	VTDoublePRO
VT2P/RIB	VT Double PRO® RIB Complete® Corn Blend; GENVT2P	5% RIB, YieldGard VT PRO® Corn Borer protection, Roundup Ready® 2 Technology	VTDoublePRO RIB COMPLETE
RR	Roundup Ready® Corn 2; RR2	Roundup Ready® Corn 2	Roundup Ready CORN 2
DGVT2P	DroughtGard® VT Double PRO® Corn Blend	DroughtGard® YieldGard VT PRO® Corn Borer protection, Roundup Ready® 2 Technology	DroughtGard HYBRIDS VTDoublePRO
DGVT2P/RIB	DroughtGard® VT Double PRO® RIB Complete® Corn Blend	5% RIB, DroughtGard® YieldGard VT PRO® Corn Borer protection, Roundup Ready® 2 Technology	DroughtGard HYBRIDS VTDoublePRO
AS3000GT	Agrisure® 3000GT	Agrisure® Corn Borer and Rootworm protection, Glyphosate Tolerant and LibertyLink®	Agrisure 3000GT LIBERTY LINK
AS3011A	Agrisure Artesian® 3011A	Agrisure Artesian® and Agrisure® Corn Borer, Rootworm, Glyphosate Tolerant and LibertyLink®	Agrisure Artesian 3011A LIBERTY LINK
AS3111	Agrisure Viptera® 3111	Agrisure® Corn Borer, Rootworm and Broad Lepidopteran protection, Glyphosate Tolerant and LibertyLink®	Agrisure Viptera 3111 LIBERTY LINK
GT	Agrisure® GT	Agrisure® Glyphosate Tolerant	AgrisureGT
AS3122-EZ	Agrisure® 3122 E-Z Refuge®	Agrisure® E-Z Refuge®, Agrisure® Glyphosate Tolerant, Agrisure® Corn Borer and LibertyLink®, Agrisure® Rootworm Protection and Herculex® XTRA *Insect Protection*	Agrisure 3122 E-Z Refuge HERCULEX XTRA HX
AS3220-EZ	Agrisure Viptera® 3220 E-Z Refuge®	Agrisure Viptera®, E-Z Refuge®, Corn Borer, Glyphosate Tolerant and Herculex® I *Insect Protection*	Agrisure Viptera 3220 E-Z Refuge HERCULEX I HX
AS3220A-EZ	Agrisure Viptera® 3220A E-Z Refuge®	Agrisure Artesian®, Agrisure® Corn Borer, Broad Lepidopteran protection, Glyphosate Tolerant and Herculex® I *Insect Protection*	AgrisureViptera 3220A E-Z Refuge HERCULEX I HX

CROPLAN CP2123VT2P/RIB

Relative Maturity: **81 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Consistent yield potential and excellent emergence
- Very early flowering product with fast drydown
- Mostly fixed, girthy ear with good tip fill
- Excellent moisture-stress tolerance in cool environments

Characteristics

	Not Recommended				Excellent
Seedling Vigor					1
Drought Tolerance			3		
Root Strength					1
Staygreen			3		
Stalk Quality					1
Dry Down					1
Test Weight				2	

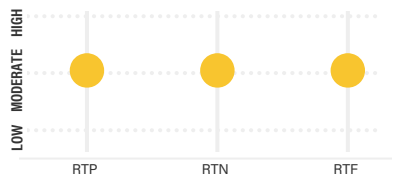
NEW

CROPLAN CP2180VT2P/RIB

Relative Maturity: **81 Days**

VTDoublePRO

Response Scores



- Position in average to high-yield-potential acres
- Strong vigor, stalks and roots
- Yield stability at moderate populations
- Flowers early for RM, keep in zone

Characteristics

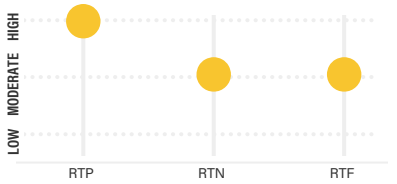
	Not Recommended			Excellent
Seedling Vigor			2	
Drought Tolerance			3	
Root Strength			2	
Staygreen			3	
Stalk Quality			2	
Dry Down			2	
Test Weight			3	

CROPLAN CP2288VT2P/RIB

Relative Maturity: **82 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Excellent yield stability across all environments; strong stress tolerance
- Excellent root strength with strong stalks and Goss's wilt tolerance
- Moderate response to enhanced nitrogen management
- Keep in relative maturity zone

Characteristics

	Not Recommended				Excellent
Seedling Vigor				2	
Drought Tolerance				2	
Root Strength					1
Staygreen				2	
Stalk Quality				2	
Dry Down				2	
Test Weight					1

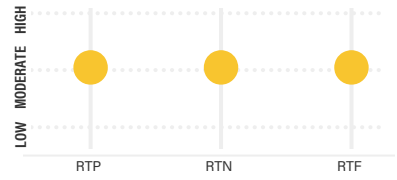
NEW

CROPLAN CP2315VT2P/RIB

Relative Maturity: **83 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Strong drought tolerance for variable and tough acres
- Solid agronomics with strong defensive characteristics
- Manage with populations and fungicide application
- Flowers early for RM, keep in zone

Characteristics

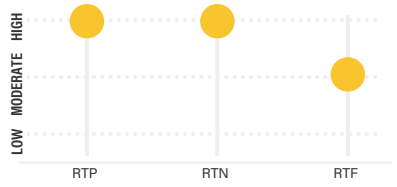
	Not Recommended			Excellent
Seedling Vigor			2	
Drought Tolerance			2	
Root Strength			2	
Staygreen			3	
Stalk Quality			3	
Dry Down			2	
Test Weight			3	

CROPLAN CP2587VT2P/RIB

Relative Maturity: **85 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Strong yield potential across multiple soil types and yield environments
- Strong staygreen and root strength ratings
- Optimize yield with high population and nitrogen management
- Fungicide application recommended for gray leaf spot control

Characteristics

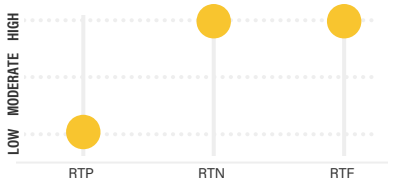
	Not Recommended			Excellent
Seedling Vigor			3	
Drought Tolerance			3	
Root Strength			2	
Staygreen			2	
Stalk Quality			3	
Dry Down			2	
Test Weight			2	

CROPLAN CP2790VT2P/RIB

Relative Maturity: **87 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- High-yielding product with strong ear flex and drought tolerance
- Excellent seedling vigor for early planting
- Strong ear flex with a moderate response-to-nitrogen; can fit a broad range of growing conditions
- Manage for late-season stalks and Goss's wilt

Characteristics

	Not Recommended			Excellent
Seedling Vigor				1
Drought Tolerance				1
Root Strength			2	
Staygreen			3	
Stalk Quality			3	
Dry Down			2	
Test Weight			2	

KEY

Scale
1 = Excellent
2 = Strong
3 = Acceptable
4 = Manage
5 = Not Recommended

Product descriptions and ratings are generated from Answer Plot® trials and/or from the genetics supplier and may change as additional data is gathered.

CROPLAN® corn silage hybrids that consistently perform for high-quality and high-tonnage in Answer Plot® trials.

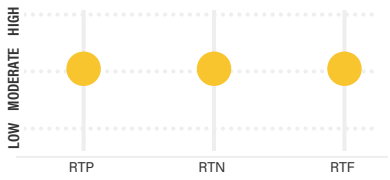
NEW

CROPLAN CP2851VT2P/RIB

Relative Maturity: **88 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Great option for Red River Valley and East
- Solid stalks, roots and emergence
- Semideterminate ear; keep plant densities moderate to high
- Plant on rotated acres

Characteristics

	Not Recommended				Excellent
Seedling Vigor			3		
Drought Tolerance			3		
Root Strength				2	
Staygreen			3		
Stalk Quality				2	
Dry Down				2	
Test Weight				2	

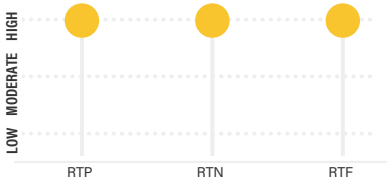
CROPLAN CP2845SS/RIB

[VT2P/RIB]*

Relative Maturity: **89 Days**

SmartStax RIB COMPLETE

Response Scores



- High-yield-potential product for most soil types and environments
- Earlier flowering date and fast drydown
- High response to nitrogen; population optimizes yield potential
- Manage placement for Goss's wilt

Characteristics

	Not Recommended				Excellent
Seedling Vigor					1
Drought Tolerance					1
Root Strength					1
Staygreen			3		
Stalk Quality				2	
Dry Down					1
Test Weight			3		

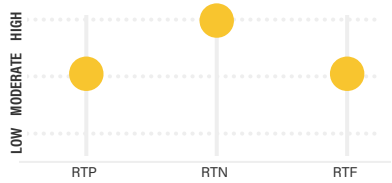
CROPLAN CP2965VT2P/RIB

[RR]

Relative Maturity: **89 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Yield leader in 85-90 RM in 2018 Answer Plot® trials
- Excellent early vigor for early planting
- Moderate response to population and high response to nitrogen for additional yield on average to productive soils
- Acceptable Goss's wilt tolerance

Characteristics

	Not Recommended				Excellent
Seedling Vigor					1
Drought Tolerance				2	
Root Strength				2	
Staygreen			3		
Stalk Quality					1
Dry Down				2	
Test Weight				2	

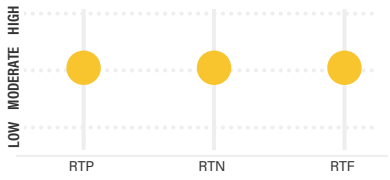
CROPLAN CP3337VT2P/RIB

[RR]

Relative Maturity: **93 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Solid yield potential with early flowering enables northern movement
- Massive roots for coarse soil types and consistent silking under drought stress
- Moderate response to population handles variable plant densities
- Not recommended for acres with Goss's wilt history

Characteristics

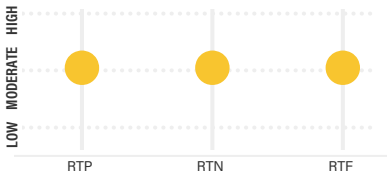
	Not Recommended				Excellent
Seedling Vigor				2	
Drought Tolerance					1
Root Strength					1
Staygreen			3		
Stalk Quality			3		
Dry Down				2	
Test Weight				2	

CROPLAN CP3499VT2P/RIB

Relative Maturity: **94 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- Excellent consistency in all yield environments from east to west
- Offers strong roots, stalks and staygreen
- Some ear flex, although great stress tolerance allows for higher planting populations
- Medium-short hybrid with medium-low ear placement

Characteristics

	Not Recommended				Excellent
Seedling Vigor					1
Drought Tolerance				2	
Root Strength				2	
Staygreen				2	
Stalk Quality				2	
Dry Down			3		
Test Weight				2	

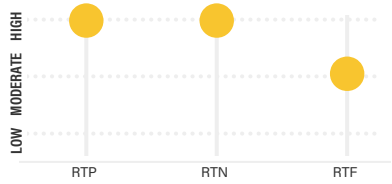
CROPLAN CP3575SS/RIB

[VT2P/RIB*, CONV]

Relative Maturity: **95 Days**

SmartStax RIB COMPLETE

Response Scores



- Excels in moderate- to high-yield environments and moves across all soil types
- Strong stalk quality and root strength
- Has good ear flex for low plant densities, but will respond to higher management
- Manage for Goss's wilt

Characteristics

	Not Recommended				Excellent
Seedling Vigor				2	
Drought Tolerance			3		
Root Strength				2	
Staygreen				2	
Stalk Quality				2	
Dry Down				2	
Test Weight					1

KEY

Scale
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2 = Strong
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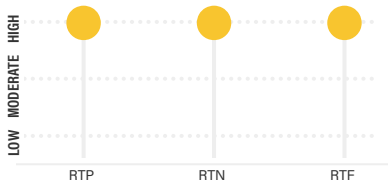
CROPLAN® corn silage hybrids that consistently perform for high-quality and high-tonnage in Answer Plot® trials.

CP3899VT2P/RIB

Relative Maturity: **98 Days**

VTDoublePRO RIB COMPLETE

Response Scores



- High yield performance across multiple environments and soils
- Medium-tall hybrid with excellent seedling vigor; strong stalks, roots and drought tolerance
- High response to intensive management, but not required
- Manage in areas with gray leaf spot and northern corn leaf blight

Characteristics

	Not Recommended → Excellent
Seedling Vigor	1
Drought Tolerance	2
Root Strength	2
Staygreen	2
Stalk Quality	2
Dry Down	3
Test Weight	2

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CORN

CROPLAN BY WINFIELD UNITED

	BRAND	Relative Maturity	Population [RTP]	Response to Nitrogen [RTN] 1	Response to Corn [RTCC] 1	Response to Fungicide [RTF] 1	GDU to Maturity	Plant Height 2	Ear Height 3	Cob Color	Ear Flex 4	Flower Date 5	Kernel Rows	Seedling Vigor	Stalk Quality	Root Strength	Staygreen 6	Drydown	Drought Tolerance	Test Weight	Gray Leaf Spot	NCLB	SCLB	Common Rust	Goss's Wilt	Anthracnose Stalk Rot	Physoderma Node Breakage	Diplodia Ear Rot
	RM: 77-89																											
	CP1756VT2P/RIB*	77	M	M	H	M	1758	M	M-L	RED	FX	Early	12-14	2	3	3	2	3	3	2	N/A	3	N/A	3	3	3	N/A	N/A
	CP184RR	80	M	L	H	H	2000	M-T	M	PINK	FL	Early	16-18	2	3	2	2	4	3	1	N/A	3	N/A	3	5	N/A	N/A	N/A
	CP2123VT2P/RIB*	81	H	M	H	M	2020	M-T	M-L	RED	FL	Early	14-18	1	1	1	3	1	3	2	N/A	3	N/A	3	4	4	N/A	N/A
NEW	CP2180VT2P/RIB*	81	M	M	M	M	2223	M	M	RED	SD	Medium-Early	18-20	2	2	2	3	2	3	3	N/A	2	N/A	N/A	3	3	N/A	N/A
	CP2288VT2P/RIB*	82	H	M	M	M	1967	M	M	RED	SF	Medium	16-18	2	2	1	2	2	2	1	N/A	2	N/A	N/A	2	3	N/A	N/A
	CP2330VT2P/RIB*	83	H	M	H	M	2147	M	M	RED	SF	Medium	16-18	2	3	2	3	2	1	3	N/A	N/A	N/A	2	4	4	N/A	N/A
NEW	CP2315VT2P/RIB*	83	M	M	M	M	2254	M-T	M	RED	SF	Early	18-20	2	3	2	3	2	2	3	3	3	N/A	2	3	4	N/A	N/A
	CP2417VT2P/RIB*	85	M	M	M	H	2170	M-T	M	RED	SF	Medium	18-20	3	2	2	3	1	3	2	3	3	N/A	3	5	3	N/A	N/A
	CP2587VT2P/RIB*	85	H	H	H	M	2030	M-T	M	RED	SF	Medium	16-18	3	3	2	2	2	3	2	4	3	N/A	3	3	3	N/A	N/A
	CP2692AS3011A	86	L	M	M	M	2150	M-T	M	Red	SF	Medium	16-18	3	2	3	3	3	3	3	N/A	2	N/A	2	3	N/A	N/A	N/A
	CP2790VT2P/RIB*	87	L	H	M	H	2148	M	M	RED	SF	Early	16-18	1	3	2	3	2	1	2	3	2	2	N/A	4	3	N/A	2
NEW	CP2851VT2P/RIB*	88	M	M	L	M	2407	M	M	RED	SD	Medium	16-18	3	2	2	3	2	3	2	3	3	3	N/A	3	3	N/A	N/A
	CP2845SS/RIB*	89	H	H	L	H	2290	M-T	M	RED	SF	Early	16-18	1	2	1	3	1	1	3	N/A	3	N/A	3	4	4	N/A	N/A
	CP2965VT2P/RIB*	89	M	H	L	M	2214	M	M	RED	SF	Medium	14-16	1	1	2	3	2	2	2	3	3	1	N/A	3	2	N/A	N/A

KEY

Scale
1 = Excellent
2 = Strong
3 = Acceptable
4 = Manage
5 = Not Recommended

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1 RTP/RTN/RTCC/RTF Ratings
- **L** = Low Response
- **M** = Moderate Response
- **H** = High Response
- **TBD** = To be tested in 2020.

2 Plant Height
- **T** = Tall
- **M** = Medium
- **S** = Short

3 Ear Height
- **H** = High
- **M** = Medium
- **L** = Low

4 Ear Flex
- **FL** = Flex
- **SF** = Semi-flex
- **FX** = Fixed

5 Flower Date
- **L** = Late
- **M** = Medium
- **E** = Early

6 Staygreen
Late-season health coming from strong leaf-disease resistance, enhancing hybrid standability.

These ratings reflect trends observed in research trials that change with variations in rainfall, temperature, crop production patterns and other factors. Ratings on new hybrids are based on limited data and may change as more data is collected.

*Follow IRM guidelines and refuge configurations to preserve the benefits and insect protection of these technology crops.

CORN

CROPLAN BY WINFIELD UNITED

BRAND	Relative Maturity	Population [RTP] 1	Response to Nitrogen [RTN] 1	Response to Corn [RTCC] 1	Response to Continuous Corn [RTCC] 1	Response to Fungicide [RTF] 1	GDU to Maturity	Plant Height 2	Ear Height 3	Cob Color	Ear Flex 4	Flower Date 5	Kernel Rows	Seedling Vigor	Stalk Quality	Root Strength	Staygreen 6	Drydown	Drought Tolerance	Test Weight	Gray Leaf Spot	NCLB	SCLB	Common Rust	Goss's Wilt	Anthracnose Stalk Rot	Physoderma Node Breakage	Diplodia Ear Rot
RM: 90-99																												
CP3146SS/RIB*	91	H	M	M	M	2266	M	M	RED	FX	Medium	18-20	1	2	1	2	2	3	3	N/A	2	N/A	2	4	3	N/A	N/A
CP3240AS3220-EZ*	92	H	H	M	H	2300	M-T	M-H	RED	SF	Early	16-18	2	2	2	2	4	1	2	N/A	3	N/A	N/A	4	N/A	N/A	N/A
CP3314VT2P/RIB*	93	M	L	M	M	2330	M	M	RED	FL	Medium	16-18	2	2	2	2	2	2	2	3	3	N/A	3	4	N/A	N/A	N/A
CP3337VT2P/RIB*	93	M	M	L	M	2340	M	M	RED	FL	Early	16-18	2	3	1	3	2	1	2	4	2	4	2	5	3	N/A	N/A
CP3399SS/RIB*	94	M	H	M	M	2380	M	M	RED	SF	Medium	16-18	2	2	2	2	2	2	2	3	3	N/A	3	4	3	N/A	N/A
CP3499VT2P/RIB*	94	M	M	M	M	2370	M-S	M-L	RED	SF	Late	16-18	1	2	2	2	3	2	2	3	3	N/A	3	3	N/A	N/A	N/A
CP3533VT2P/RIB*	95	M	L	L	M	2390	M	M	RED	FL	Medium	16-18	2	3	1	3	2	1	2	N/A	3	N/A	3	5	N/A	N/A	N/A
CP3575SS/RIB*	95	H	H	M	M	2358	M	M	RED	SF	Medium-Late	16-18	2	2	2	2	2	3	1	3	2	N/A	N/A	4	1	N/A	N/A
CP3611SS/RIB*	96	M	H	L	M	2416	M-T	M	RED	SF	Medium	16-18	1	3	1	2	1	2	3	3	3	N/A	3	3	N/A	N/A	N/A
CP3614VT2P/RIB*	96	H	M	L	M	2510	M	M	RED	SF	Medium	16-18	1	3	1	3	2	3	2	3	N/A	N/A	3	3	N/A	N/A	N/A
CP3699RR	96	M	M	M	M	2430	M-T	M-H	RED	SF	Medium	16-18	1	1	1	3	3	2	2	3	3	N/A	3	3	3	N/A	N/A
CP3705SS/RIB*	97	H	M	M	H	2244	M-T	M	RED	SF	Medium-Early	16-18	2	1	3	3	3	3	2	3	3	N/A	N/A	3	N/A	N/A	N/A
NEW CP3735SS/RIB*	97	M	H	M	H	2375	M	M	RED	SD	Medium	16-18	1	2	2	2	2	3	1	3	3	N/A	N/A	3	3	3	N/A
CP3795VT2P/RIB*	97	M	H	M	L	2412	M-T	M-H	RED	SF	Medium-Late	16-18	2	2	2	3	1	1	2	3	2	2	N/A	2	2	N/A	N/A
CP3899VT2P/RIB*	98	H	H	M	H	2400	M-T	M-H	PINK	SF	Late	16-20	1	2	2	2	3	2	2	4	4	N/A	3	3	3	N/A	N/A
CP3909SS/RIB*	99	M	M	M	H	2400	M	M	RED	SF	Early	16-18	2	2	2	3	1	2	3	3	3	N/A	1	4	N/A	N/A	N/A

KEY

Scale
1 = Excellent
2 = Strong
3 = Acceptable
4 = Manage
5 = Not Recommended

Product descriptions and ratings are generated from Answer Plot® trials and/or from the genetics supplier and may change as additional data is gathered.

1 RTP/RTN/RTCC/RTF Ratings
- **L** = Low Response
- **M** = Moderate Response
- **H** = High Response
- **TBD** = To be tested in 2020.

2 Plant Height
- **T** = Tall
- **M** = Medium
- **S** = Short

3 Ear Height
- **H** = High
- **M** = Medium
- **L** = Low

4 Ear Flex
- **FL** = Flex
- **SF** = Semi-flex
- **FX** = Fixed

5 Flower Date
- **L** = Late
- **M** = Medium
- **E** = Early

6 Staygreen
Late-season health coming from strong leaf-disease resistance, enhancing hybrid standability.

These ratings reflect trends observed in research trials that change with variations in rainfall, temperature, crop production patterns and other factors. Ratings on new hybrids are based on limited data and may change as more data is collected.

*Follow IRM guidelines and refuge configurations to preserve the benefits and insect protection of these technology crops.

CORN

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

SOYBEAN

There's no good reason risk has to increase with yield.

We won't promise you the world. We will promise you an honest and insightful approach to maximizing your soybean yield potential. At WinField United, we use proven technologies to match the right soybean genetics and traits to your field's conditions. Plus, our CROPLAN® seed varieties are selected for disease tolerance that helps protect the soybean plant throughout all stages of growth. We know this is the best way to help you achieve optimal return on your seed and crop inputs.

KEY TAKEAWAYS

1. Use appropriate trait technology to achieve effective weed control.
2. Introduce stability to your fields with CROPLAN® WinPak® soybean varieties.
3. Ensure optimal plant health at the start of the season with Warden® CX seed treatment.
4. Use the R7® Tool to help choose the right soybean varieties for your specific fields.
5. Select varieties for disease tolerance and manage them throughout the season.

MANAGE WEEDS WITH TRAIT TECHNOLOGY

CROPLAN® soybean seed offers the newest genetics with multiple herbicide trait options developed to effectively manage your weed-resistance issues.

SOYBEAN HERBICIDE TOLERANCE AND WEED CONTROL

Weed control in soybeans starts with seed selection. With several herbicide-tolerant traits now available and more on the way with full commercial approval, the number of tools in the toolbox is increasing. But as you face hard-to-control weeds, creating a plan for season-long weed management is critical. The chart outlines the soybean herbicide-tolerant varieties available today. These traits offer some great postemergence options.

	Glyphosate	Glufosinate	2,4-D Choline	Dicamba	HPPD Isoxaflutole
LIBERTYLINK®		X			
LIBERTYLINK® GT27™	X	X			X
ROUNDUP READY 2 YIELD®	X				
ROUNDUP READY 2 XTEND®	X			X	
ENLIST E3®	X	X	X		

REDUCE RISK WITH WINPAK® SOYBEAN VARIETIES

WinPak® soybean varieties from CROPLAN® seed are a unique combination of two varieties that provide an exceptional level of stability throughout the field. Designed to address field variability, WinPak® varieties have excellent yield potential on productive acres along with the ability to handle the stress of performing on more challenging acres.

EXAMPLE OF HOW A WINPAK® VARIETY CAN BE FORMULATED

	VARIETY A EXAMPLE	VARIETY B EXAMPLE
PLACEMENT	Average to below-average yield environments.	Best-suited to productive acres.
DISEASE PACKAGE	Strong soybean white mold and iron deficiency chlorosis (IDC) tolerance.	Excellent phytophthora root rot and frogeye field tolerance.
AGRONOMICS	• Narrow canopy type • Tall height • Excellent standability	• Bushy canopy type • Medium height • Average standability
STRESS TOLERANCE	Excellent stress tolerance.	Strong stress tolerance.

▸ **WinPak® varieties are designed to mitigate risk across the whole field by offering more stability on variable acres, delivering high yield potential on productive acres and maintaining consistency on more challenging acres. They also provide an enhanced disease and agronomic package for the whole farm.**

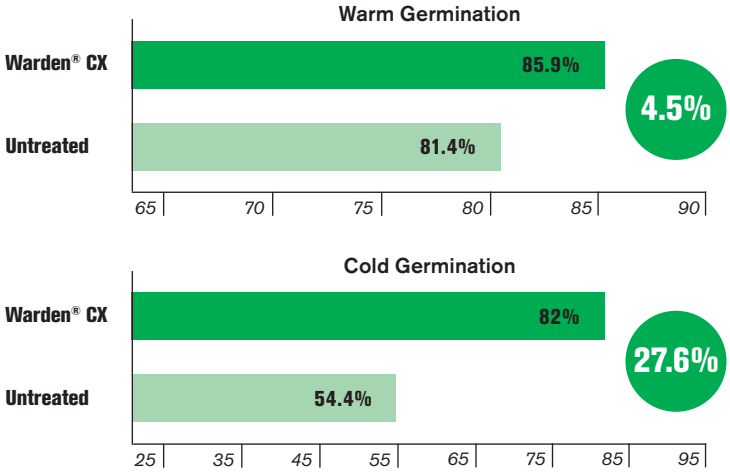
SOYBEAN

2 of 2

PROTECT YIELD POTENTIAL WITH WARDEN® CX SEED TREATMENT

Guard high-value soybean seed from early-season disease and insect threats with Warden® CX seed treatment. In 2018, testing by an independent seed lab and the University of Minnesota Plant Disease Clinic indicated a positive response to soybean seed treated with Warden® CX seed treatment compared to an untreated control group. Compared to untreated seed, Warden® CX treated seed improved the warm germination test by 4.5% and the cold germination test by 27.6%.

AVERAGE GERMINATION IMPROVEMENT: WARDEN® CX VS. UNTREATED



OPTIMAL CONDITIONS FOR DISEASE INFECTION

FUNGUS	DISEASE	TEMPERATURE (F) RANGE/OPTIMUM	MOISTURE
Pythium	Damping-off	50°–68°/<59°	Saturated
Rhizoctonia	Damping-off	60°–86°/80°	30%–60% water
Phytophthora	Damping-off	59°–86°/77°–80°	Saturated; weekly periodic rain
Fusarium	SDS and root rot	50°–86°/59°	Wet to saturated

MANAGE IN-SEASON

Select your disease package based on field conditions.

- Knowing where yield potential is falling behind alerts you to disease and other potential threats, allowing you to make in-season adjustments.
- Satellite imagery highlights field variability and indicates where appropriate crop inputs might help optimize yield potential.
- Use R7® Tool satellite imagery to monitor plant health.

SOYBEAN

CROPLAN® TRAIT LETTERING FOR SOYBEAN VARIETIES

Descriptive variety numbering and trait lettering systems are used for CROPLAN® soybean varieties.

KEY	VARIETY	TRAIT HERBICIDE TOLERANCE	LOGO
L	LibertyLink®	Liberty® tolerant	
LG	LibertyLink® GT27™	Liberty® and glyphosate tolerant	
RR	Roundup Ready 2 Yield®	Roundup® tolerant	
X	Roundup Ready 2 Xtend®	Roundup® and dicamba tolerant	
E	Enlist E3®	Glyphosate, glufosinate and 2,4-D choline tolerant	
S	STS®	Sulfonylurea tolerant	N/A

CP0329E

Group: **0.3 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance			3		
SDS Tolerance	N/A				
SWM Tolerance		4			
BSR Tolerance	5				
Iron Chlorosis			3		

Height	M	Canopy Type	Int
Stress Tolerance	2	Emergence	1
Standability	2		

- Strong yield performance in 2019 Answer Plot® trials
- Acceptable IDC tolerance
- Strong stress tolerance
- Manage for SWM areas

CP0337X

Group: **0.3 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance			3		
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance		4			
Iron Chlorosis					1

Height	M	Canopy Type	-
Stress Tolerance	1	Emergence	1
Standability	3		

- Also available in WinPak® variety CP0200X
- Intermediate plant type with strong lateral expression for high-yield environments
- Excellent IDC tolerance, similar to CP0426X
- Acceptable PRR field tolerance with Rps1c gene

NEW

CP0400X

Group: **0.4 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance				2	
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance	N/A				
Iron Chlorosis				2	

Height	M	Canopy Type	-
Stress Tolerance	N/A	Emergence	2
Standability	1		

- WinPak® variety consisting of CP0411X and CP0426X
- Better yield potential and SWM tolerance to replace CP0500X
- Strong IDC and PRR tolerance
- Manage for BSR areas

NEW

CP0520E

Group: **0.5 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance			3		
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance			3		
Iron Chlorosis				2	

Height	M	Canopy Type	-
Stress Tolerance	2	Emergence	1
Standability	2		

- WinPak® variety consisting of CP0421E and CP0529E
- Strong IDC tolerance
- Acceptable SWM tolerance with strong standability

CP0700X

Group: **0.7 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance				2	
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance		4			
Iron Chlorosis				2	

Height	M	Canopy Type	-
Stress Tolerance	2	Emergence	2
Standability	2		

- WinPak® variety consisting of CP0678X and CP0878X
- A versatile WinPak variety for all yield environments tested
- Solid agronomic package suited for IDC and stressed acres
- Acceptable SWM tolerance

CP0819X

Group: **0.8 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance					1
SDS Tolerance	N/A				
SWM Tolerance		4			
BSR Tolerance			3		
Iron Chlorosis				2	

Height	M	Canopy Type	-
Stress Tolerance	2	Emergence	1
Standability	2		

- Also available in WinPak® variety CP0970X
- Excellent PRR field tolerance and strong stress tolerance across variable acres
- Strong performance on IDC-prone acres
- Manage placement on acres with significant SWM history

KEY

Scale

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2 = Strong
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4 = Manage
5 = Not Recommended

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NEW

CROPLAN CP0820E

Group: **0.8 Days**

Enlist E3 | WinPak® by WinField United

Characteristics

	Not Recommended				Excellent
PRR Tolerance				2	
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance			3		
Iron Chlorosis			3		

Height	MT	Canopy Type	-
Stress Tolerance	1	Emergence	1
Standability	2		

- WinPak® variety consisting of CP0721E and CP0821E
- Rps1c,3a/NG PRR gene with strong PRR tolerance for PRR-prone acres
- Strong standability and acceptable IDC tolerance
- Acceptable SWM tolerance

CROPLAN CP0957RR

Group: **0.9 Days**

Characteristics

	Not Recommended				Excellent
PRR Tolerance			3		
SDS Tolerance	N/A				
SWM Tolerance					1
BSR Tolerance			3		
Iron Chlorosis			3		

Height	M	Canopy Type	Int/Nar
Stress Tolerance	1	Emergence	1
Standability	1		

- Top-yielding variety year-over-year in Answer Plot® trials
- Peking soybean with excellent white mold tolerance
- Acceptable IDC tolerance with stacked gene for Phytophthora resistance

NEW

CROPLAN CP1120E

Group: **1.1 Days**

Enlist E3 | WinPak® by WinField United

Characteristics

	Not Recommended				Excellent
PRR Tolerance				2	
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance			3		
Iron Chlorosis				2	

Height	M	Canopy Type	-
Stress Tolerance	2	Emergence	1
Standability	2		

- WinPak® variety consisting of CP1021E and CP1121E
- Excellent yield potential over 2019 Enlist® products at the same maturity
- Acceptable white mold and strong IDC tolerance
- Manage PRR with seed treatment

NEW

CROPLAN CP1121E

Group: **1.1 Days**

Enlist E3

Characteristics

	Not Recommended				Excellent
PRR Tolerance				2	
SDS Tolerance	N/A				
SWM Tolerance			3		
BSR Tolerance		4			
Iron Chlorosis				2	

Height	M	Canopy Type	-
Stress Tolerance	1	Emergence	1
Standability	2		

- Also available in WinPak® variety CP1120E
- Excellent yield performance in both high- and low-yield environments in 2019 supplier trials
- Average white mold tolerance is enhanced with strong standability
- Use caution on BSR-prone areas

CROPLAN CP1200L

Group: **1.2 Days**

LIBERTY LINK® | WinPak® by WinField United

Characteristics

	Not Recommended				Excellent
PRR Tolerance					1
SDS Tolerance				2	
SWM Tolerance		4			
BSR Tolerance			3		
Iron Chlorosis			3		

Height	MT	Canopy Type	-
Stress Tolerance	N/A	Emergence	2
Standability	2		

- LibertyLink® WinPak® variety consisting of CP1225L and CP1384L
- Excellent yield potential and defensive package
- Strong PRR field tolerance
- Acceptable IDC and BSR tolerance

KEY

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1 = Excellent
2 = Strong
3 = Acceptable
4 = Manage
5 = Not Recommended

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SOYBEAN

CROPLAN By WINFIELD UNITED

ROUNDUP READY 2 XTEND®/ROUNDUP READY 2 YIELD® – RM: 0.0-0.9

	WinPak® Variety Components	Relative Maturity	Determinate/Indeterminate	SCN Resistant Source 1	PRR Gene 2	PRR Tolerance	SDS Tolerance	Chloride Tolerance	SWM Tolerance	BSR Tolerance	Iron Chlorosis	Southern Stem Canker 3	Frogeye Leaf Spot	Root-Knot Nematode 3	Emergence	Standability	Stress Tolerance	Canopy Type 4	Plant Height 5	Flower Color 6	Pubescence Type 7	Pod Color 8	Hilum Color 9
	CP00319X		0.03	IND	None	Rps1c	3	N/A	Includer	2	N/A	2	N/A	N/A	N/A	2	1	N/A	Int	M	P	GR	BR	BF
NEW	CP00710X	CP00711X*/CP00777X*	0.07	IND	PI88.788/none	Rps1c	2	N/A	Includer	3	N/A	2	N/A	N/A	N/A	2	2	N/A	Int	M	P	TW/LTW	BR/TN	BL/BR
NEW	CP00711X*		0.07	IND	None	Rps1c	3	NA	Includer	3	N/A	2	N/A	N/A	N/A	2	2	N/A	Int/Bush		P	TW	TN	BR
	CP00777X*		0.07	IND	PI88.788	Rps1c	1	N/A	Includer	3	5	2	N/A	N/A	N/A	1	1	2	Int/Nar	M	P	LTW	BR	BL
	CP00847X		0.08	IND	PI88.788	Rps1k	1	N/A	Includer	3	1	1	N/A	N/A	N/A	1	3	1	Int/Nar		P	TW	BR	BL
	CP00926X		0.09	IND	None	Rps1k	3	N/A	Includer	3	2	2	N/A	N/A	N/A	1	3	3	Int	M	P	TW	BR	BL
	CP0200X	CP0268X*/CP0337X	0.2	IND	None/PI88.788	Rps3a/Rps1c	3	N/A	Includer	3	N/A	3	N/A	N/A	N/A	2	3	2	Int	M	P	TW/LTW	TN/BR	BR
	CP0264RR		0.2	IND	None	Rps1c	3	N/A	Includer	3	N/A	5	N/A	N/A	N/A	3	1	1	Int	M	P	TW/LTW	TN	BL
	CP0268X*		0.2	IND	None	Rps3a	2	N/A	Includer	2	N/A	4	N/A	N/A	N/A	2	2	3	Int	MS	P	LTW	TN	BR
	CP0337X		0.3	IND	PI88.788	Rps1c	3	N/A	Includer	3	4	1	N/A	N/A	N/A	1	3	1	Int	M	P	TW	BR	BR
NEW	CP0400X	CP0411X*/CP0426X	0.4	IND	PI88.788	Rps3a/None	2	N/A	Includer	3	N/A	2	N/A	N/A	N/A	2	1	N/A	Int	M	P	LTW	BR/TN	BL/BR
NEW	CP0411X*		0.4	IND	PI88.788	None	2	N/A	Includer	3	N/A	2	N/A	N/A	N/A	2	1	N/A	Int		P	LTW	TN	BL
	CP0426X		0.4	IND	PI88.788	Rps3a	1	N/A	Includer	3	4	2	N/A	N/A	N/A	1	1	1	Int	M	P	LTW	BR	BR
	CP0678X*		0.6	IND	PI88.788	None	1	N/A	Includer	3	4	2	N/A	N/A	N/A	1	3	1	Int		P	LTW	BR	BL
	CP0700X	CP0678X*/CP0878X*	0.7	IND	PI88.788	None/Rps1c	2	N/A	Includer	3	4	2	N/A	N/A	N/A	2	2	2	Int	M	P	LTW	BR	BL
	CP0819X		0.8	IND	PI88.788	Rps1c,HRps3a	1	N/A	Includer	4	3	2	N/A	N/A	N/A	1	2	2	Int	M	P	LTW	BR	BR
	CP0878X*		0.8	IND	PI88.788	Rps1c	3	N/A	Includer	3	3	2	N/A	N/A	N/A	3	1	3	Int	M	P	LTW	BR	BL
	CP0919X*		0.9	IND	PI88.788	None	2	N/A	Includer	2	3	2	N/A	N/A	N/A	1	2	2	Int	M	P	LTW	BR	BR
	CP0957RR		0.9	IND	Peking	Rps1k,3a	3	N/A	Includer	1	3	3	N/A	N/A	N/A	1	1	1	Int/Nar	M	P	GR	BR	BF
	CP0970X	CP0819X/CP0919X*	0.9	IND	PI88.788	Rps1c,HRps3a/None	2	N/A	Includer	3	3	2	N/A	N/A	N/A	1	2	2	Int	M	P	LTW	BR	BR

KEY

Scale
1 = Excellent
2 = Strong
3 = Acceptable
4 = Manage
5 = Not Recommended

Product descriptions and ratings are generated from Answer Plot® trials and/or from the genetics supplier and may change as additional data is gathered.

1 SCN Resistant Source
Peking = These varieties contain SCN resistance genes from the Peking soybean breeding lines
PI88.788 = These varieties contain SCN resistance genes from the PI88.788 soybean breeding lines

2 PRR Gene
Rps = Resistance to Phytophthora sojae
HRps = Heterozygous segregating Rps occurrence

3 Southern Stem Canker and Root-Knot Nematode
1 = Resistant
2 = Moderately Resistant
3 = Moderately Resistant–Moderately Susceptible
4 = Moderately Susceptible
5 = Susceptible

4 Canopy Type
Nar = Narrow
Int = Intermediate
Bush = Bushy

5 Plant Height
T = Tall
M = Medium
S = Short

6 Flower Color
P = Purple
W = White

7 Pubescence Type
GR = Gray
TW = Tawny
LTW = Light Tawny

8 Pod Color
TN = Tan
BR = Brown

These ratings reflect trends observed in research trials that change with variations in rainfall, temperature, crop production patterns and other factors. Ratings on new soybean varieties are based on limited data and may change as more data is collected.

This symbol indicates that there has been a new component added to the WinPak® variety for 2021.

*WinPak® seed components only. Not for sale individually.

SOYBEAN

CROPLAN By WINFIELD UNITED

ENLIST E3® – RM: 0.0-1.9

	WinPak® Variety Components	Relative Maturity	Determinate/Indeterminate	SCN Resistant Source 1	PRR Gene 2	PRR Tolerance	SDS Tolerance	Chloride Tolerance	SWM Tolerance	BSR Tolerance	Iron Chlorosis	Southern Stem Canker 3	Frogeye Leaf Spot	Root-Knot Nematode 3	Emergence	Standability	Stress Tolerance	Canopy Type 4	Plant Height 5	Flower Color 6	Pubescence Type 7	Pod Color 8	Hilum Color 9
	CP00729E		0.07	IND	PI88.788	Rps1a	3	N/A	Includer	2	3	2	N/A	N/A	N/A	1	3	2	Int	M	P	GR	BR	BF
	CP0329E		0.3	IND	PI88.788	None	3	N/A	Includer	4	5	3	1	N/A	N/A	1	2	2	Int	M		GR	TN	BF
NEW	CP0421E*		0.4	IND	None	None	3	N/A	Includer	3	5	1	1	N/A	N/A	1	2	3	Int		P	GR	BR	YE
NEW	CP0520E	CP0421E*/CP0529E*	0.5	IND	PI88.788/none	Rps3a/None	3	N/A	Includer	3	3	2	N/A	N/A	N/A	1	2	2	Int/Bush	M	P	GR	BR/TN	BF/YE
	CP0529E*		0.5	IND	PI88.788	Rps3a	2	N/A	Includer	4	1	2	N/A	N/A	N/A	1	2	1	Int/Bush	M	P	GR	TN	BF
NEW	CP0721E		0.7	IND	PI88.788	Rps1c/3a	1	N/A	Includer	2	5	2	1	N/A	N/A	1	2	1	Int		P	GR	BR	IB
NEW	CP0820E	CP0721E*/CP0821E*	0.8	IND	PI88.788	Rps1c,3a/NG	2	N/A	Includer	3	3	3	1	N/A	N/A	1	2	1	Int			GR	BR/TN	BF/IB
NEW	CP0821E*		0.8	IND	PI88.788	NG	2	N/A	Includer	3	1	3	1	N/A	N/A	1	2	1	Int			GR	TN	BF
NEW	CP1021E*		1	IND	PI88.788	NG	2	N/A	Excluder	2	1	2	1	N/A	N/A	1	2	2	Int/Bush	M	P	GR	BR	GR
NEW	CP1120E	CP1021E*/CP1121E	1.1	IND	PI88.788	NG	2	N/A	Inc/Exc	3	3	2	1	N/A	N/A	1	2	2	Int/Bush	M	P	GR	BR	GR/IB
NEW	CP1121E		1.1	IND	PI88.788	NG	2	N/A	Includer	3	4	2	1	N/A	N/A	1	2	1	Int	M	P	GR	BR	IB
	CP1329E*		1.3	IND	PI88.788	Rps1c	2	4	Includer	4	1	2	N/A	N/A	N/A	1	2	1	Int/Bush		P	GR	TN	IB
NEW	CP1420E	CP1329E*/CP1421E*	1.4	IND	PI88.788	Rps1c,1k	2	4	Includer	3	1	3	N/A	N/A	N/A	1	2	2	Int/Bush		P	GR	BR/TN	IB
NEW	CP1421E*		1.4	IND	PI88.788	Rps1k	2	3	Includer	2	1	3	1	N/A	N/A	1	2	2	Int		P	GR	BR	IB
NEW	CP1721E		1.7	IND	PI88.788	Rps1k	2	3	Includer	2	5	2	N/A	N/A	N/A	1	2	2	Int	M	P	GR	BR	IB
NEW	CP1820E	CP1721E/CP1921E*	1.8	IND	PI88.788	Rps1k/None	2	3	Includer	2	4	2	N/A	N/A	N/A	1	2	2	Int	M	P	GR	BR	IB
NEW	CP1921E*		1.9	IND	PI88.788	None	2	3	Includer	2	3	2	N/A	N/A	N/A	1	2	2	Int	M	P	GR	BR	IB

KEY

Scale
1 = Excellent
2 = Strong
3 = Acceptable
4 = Manage
5 = Not Recommended

Product descriptions and ratings are generated from Answer Plot® trials and/or from the genetics supplier and may change as additional data is gathered.

1 SCN Resistant Source
Peking = These varieties contain SCN resistance genes from the Peking soybean breeding lines
PI88.788 = These varieties contain SCN resistance genes from the PI88.788 soybean breeding lines

2 PRR Gene
Rps = Resistance to Phytophthora sojae
HRps = Heterozygous segregating Rps occurrence

3 Southern Stem Canker and Root-Knot Nematode
1 = Resistant
2 = Moderately Resistant
3 = Moderately Resistant–Moderately Susceptible
4 = Moderately Susceptible
5 = Susceptible

4 Canopy Type
Nar = Narrow
Int = Intermediate
Bush = Bushy

5 Plant Height
T = Tall
M = Medium
S = Short

6 Flower Color
P = Purple
W = White

7 Pubescence Type
GR = Gray
TW = Tawny
LTW = Light Tawny

8 Pod Color
TN = Tan
BR = Brown

9 Hilum Color
YE = Yellow/Clear
GR = Gray
BL = Black
IB = Imperfect Black
BR = Brown
BF = Buff
SL = Slate
TN = Tan

These ratings reflect trends observed in research trials that change with variations in rainfall, temperature, crop production patterns and other factors. Ratings on new soybean varieties are based on limited data and may change as more data is collected.

▲ This symbol indicates that there has been a new component added to the WinPak® variety for 2021.

*WinPak® seed components only. Not for sale individually.

SOYBEAN

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

SUNFLOWER

Target your markets and hold nothing back.

In the seed business, experience matters. CROPLAN® seed has been in the sunflower business for more than 20 years. That history and know-how allow us to offer you a broad spectrum of diverse sunflower genetics.

Because of extensive testing and screening conducted locally through the Answer Plot® program, we can help select the best sunflower seed genetics for your operation. The genetics we offer can help manage disease pressure in your fields, with hybrids that can be positioned based on specific field stresses. And we have the latest traits in our portfolio. That's technology – and experience – you can count on.

KEY TAKEAWAYS

1. Understand your market options.
2. Gain access to new genetics.
3. Choose traits designed to manage weed pressure.
4. Implement an effective weed-control strategy.

ACHIEVE YOUR MARKETING OBJECTIVES

Sunflower has become a market segmented by grain uses, and any single hybrid might fit one or more market options. Sunflower markets include:

OIL-TYPE SUNFLOWER

▸ **High Oleic**

Specific oil levels trending above 85% oleic based on market requirements.*

▸ **NuSun®**

Standard for the oil market.

▸ **Hulling**

All oil types that have proper seed size and ease of shell removal.

▸ **Birdseed**

Regional markets throughout the United States for all oil types.

**Contracting buyers' current high oleic percent rate.*

CONSIDER SEED SIZE AND COATING

SUNFLOWER SEED SIZE

Plant-to-plant spacing is important, and seed size can play a role in achieving the correct spacing and population in sunflower crops.

PROSUN™ PRECISE SEED COATING

Prosun™ precise seed coating is available on a number of CROPLAN® sunflower varieties and offers:

- More seed size options per variety
- Consistent seed size, which helps optimize yield potential
- Uniformity in stand establishment
- Even growth for optimal weed, disease and insect management

CHOOSE THE RIGHT TRAITS

We have a long history of offering farmers the DuPont™ ExpressSun® and the Clearfield® Production System traits. Both provide good weed-control options to farmers.

CONTROL WEEDS

BEYOND® AND EXPRESS® HERBICIDES

- Both traits have advanced yield potential.
- Both require preemergence herbicide treatments (Spartan® Charge, BroadAxe® or Prowl® H_20) or preplant-incorporated herbicides (Framework®, Prowl® H_20 or Sonalan®) to combat kochia and Russian thistle.
- Both are a Group 2 herbicide mode of action.
- The DuPont™ ExpressSun® trait is tolerant to Express® herbicide.
- The Clearfield® Production System is tolerant to Beyond® herbicide.

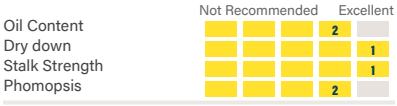
ACTIVITY	BEYOND® HERBICIDE	EXPRESS® HERBICIDE
Activity on grass	Yes	No
Recommended Section® Three herbicide tank mix	Yes	Yes
Residual control	Yes	No
Better control of cocklebur, nightshade, lanceleaf sage, smartweed and grasses	Yes	No
Better control of Canada thistle, lambsquarters and wild buckwheat	No	Yes
Can be applied across a broader crop stage, from one leaf to bud	No	Yes
Can be applied a second time for later flushes	No	Yes

CP455E

ExpressSun® Sunflower

DuPont™ ExpressSun™ trait

Characteristics



- Excellent yield potential; top performer in CROPLAN® lineup
- Widely adapted across regions and field conditions
- Medium-short plant with excellent drydown
- DMR PI 6; resistant to most common U.S. races of downy mildew

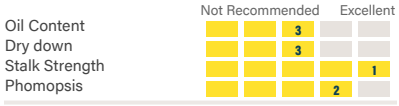
CP545CL

Clearfield® Sunflower

Clearfield® Production System for Sunflower

NuSun®

Characteristics



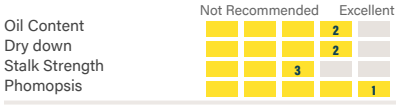
- Outstanding yield and high oil-per-acre potential
- Mid-maturity with strong overall disease package
- DMR PI 6; resistant to most common U.S. races of downy mildew
- Increased staygreen and slower drydown in cooler environments

CP549CL

Clearfield® Sunflower

Clearfield® Production System for Sunflower

Characteristics



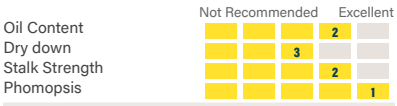
- Excellent yield potential and disease tolerance
- DMR PI 15; resistant to all known races of downy mildew
- Excellent Phomopsis tolerance
- Potential to cross into both NuSun® and high oleic markets

CP7919CL

Clearfield® Sunflower

Clearfield® Production System for Sunflower

Characteristics



- High yield potential, oil and oleic levels
- Above-average disease tolerance
- DMR PI 6; resistant to most common U.S. races of downy mildew
- Full maturity; best kept in S.D. through High Plains

KEY

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SUNFLOWER

CROPLAN BY WINFIELD UNITED

	High Oleic [1]	NuSun® [1]	Dehulling [1]	Birdseed [1]	Common Planting Seed Size	Days to Maturity	Downy Mildew Resistance [2]	Phomopsis	Sclerotinia	Height	Oil Content	Oleic Content	Drydown	Stalk Strength	Drought Tolerance
EXPRESSSUN® SUNFLOWER															
CP432E		●	●	●	2,3,4	89	PI 8	3	3	Short	3	N/A	1	2	2
CP450E	●		●	●	2,3,4	94	PI 8	2	2	Med-Short	3	1	2	1	1
CP455E	●		●	●	2,3,4	94	PI 6	2	2	Med-Short	2	1	1	1	2
CP4909E		●		●	P3,3,4	91	-	3	2	Med-Short	2	N/A	1	1	3
CLEARFIELD® SUNFLOWER															
CP545CL		●		●	P3, 3, 4	94	PI 6	2	2	Medium	3	N/A	3	1	2
CP549CL		●		●	P3, 3, 4	95	PI 15	1	1	Med-Tall	2	3	2	3	1
CP568CL	●				3,4	99	PI 6	1	5	Med-Tall	1	2	3	2	1
CP7919CL	●			●	2,3,4	98	PI 6	1	3	Med-Tall	2	2	3	2	2
CONVENTIONAL SUNFLOWER															
CP3845	●		●	●	3,4	96	-	4	5	Medium	1	1	2	2	4

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1 Market Options

Grain not guaranteed to be sold in your area.

Due to factors outside our control, WinField United does not guarantee oleic levels

2 Downy Mildew Resistance

PI 2 gene = This gene is resistant to some of the early races of downy mildew, but it is susceptible to most of the common races found today.

PI 6 gene = This gene is resistant to races prevalent before 2009; it is susceptible to races 314, 704, 714, 734 and 774.

PI 8 gene = This gene can get infected, but then stops downy mildew from advancing or having an economic impact on all common races.

PI 15 gene = This gene is exclusive to CROPLAN® hybrids and is resistant to all known races of downy mildew.

PI P gene = Proprietary gene developed to control all known races of downy mildew.

SUNFLOWER

Product Name _____

Attributes _____

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Placement _____

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Product Name _____

Attributes _____

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Placement _____

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Product Name _____

Attributes _____

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Placement _____

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Product Name _____

Attributes _____

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Placement _____

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HARD RED SPRING WHEAT

Managing for high performance leads to optimal results.

Our CROPLAN® seed spring wheat varieties have demonstrated phenomenal performance nationally. We can help you select the right genetics to manage a strong wheat crop. According to the most recent Answer Plot® data, spring wheat varieties respond differently to various management techniques, so be sure to manage the varieties you plant appropriately. What's more, targeted input applications support responsible land use by eliminating unnecessary treatments.

Starting with high-performing varieties, we help you bring it all together to make for a great ending to your season.

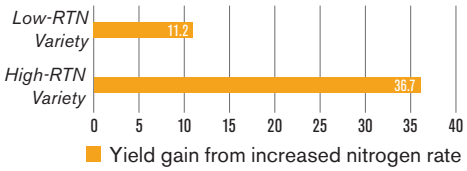
KEY TAKEAWAYS

1. Top-dress nitrogen on responsive genetics for added potential.
2. Plant at the right population for optimal varietal performance.
3. Know how to manage your variety to best enable its response-to-fungicide (RTF) score.

MANAGE YOUR VARIETY'S RESPONSE-TO-NITROGEN (RTN) SCORE[1]

Customize nitrogen rate by variety to capture ROI potential. Optimize yield potential on more productive acres with higher nitrogen management by planting varieties with higher RTN scores. Protect yield potential on tougher acres by utilizing lower RTN score varieties on acres with lower-productivity soils or less nitrogen management.

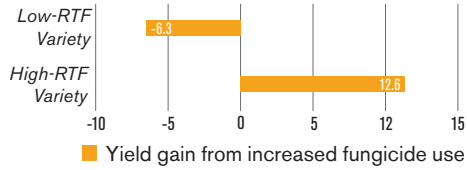
▸ RTN Yield Response Variance — 25.5 bu/A



USE RESPONSE-TO-FUNGICIDE (RTF) SCORES TO AID DECISION-MAKING[1]

Fungicides are another tool to help you optimize the yield potential of your wheat crop. RTF scores help you understand where fungicides may increase yield potential and protect ROI potential.

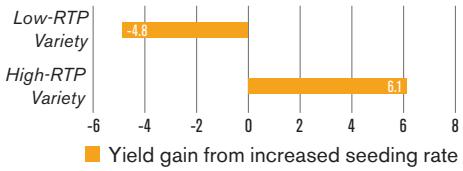
▸ RTF Yield Response Variance — 18.9 bu/A



OPTIMIZE SEEDING RATE BY VARIETY[1]

Each CROPLAN® variety has its own response to population (RTP). Managing population correctly will help you optimize yield potential and help increase standability. Use seed size when determining optimal seeding rates. For more uniform emergence, use Warden® Cereals seed treatments plus Ascend® plant growth regulators.

▸ RTP Yield Response Variance — 10.9 bu/A



SEEDING RATE CHART[2]

Example of how to use the chart:

1. Select total planting seed.
   Example: 1.4 million seeds per acre
2. Select seeds per pound.
   Example: 13,000
3. Determine recommended seeding rate.
   Example: 108 lbs. per acre

Calculation assumptions:
Germ: 95%
Survivability: 10%
Total stand loss: 15%

1 MILLION SEEDS PER ACRE
2 PLANTS PER ACRE
3 PLANTS PER SQUARE FOOT

SEED SIZE: SEEDS PER POUND

TOTAL PLANTING SEED (1)	PURE LIVE SEED (1)	11,000	12,000	13,000	14,000	15,000	FINAL STAND (2)	PLANTS/SQ FT (3)
0.8	0.8	73	67	**62**	57	53	0.7	15.6
1.0	1.0	91	83	**77**	71	67	0.9	19.5
1.2	1.1	109	100	**92**	86	80	1.0	23.4
1.4	**1.3**	**127**	**117**	**108**	100	93	1.2	27.3
1.6	1.5	145	133	123	114	107	1.4	31.2
1.8	1.7	164	150	138	129	120	1.5	35.1
2.0	1.9	182	167	154	143	133	1.7	39.0
2.2	2.1	200	183	169	157	147	1.9	42.9

SEEDING RATE (LBS/A)

1. Response ranges show the importance of how varieties respond to each management practice to help ensure the highest yield potential. 2019 nationwide Answer Plot® data.

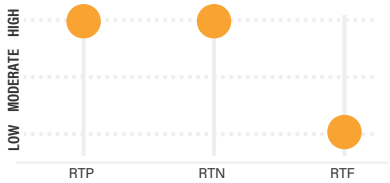
2. Because of factors outside of WinField United's control, such as weather, product application and any other factors, results to be obtained, including but not limited to yields, financial performance or profits, cannot be predicted or guaranteed by WinField United.

CROPLAN
BY WINFIELD UNITED

CP3419

Hard Red Spring

Response Scores



Characteristics

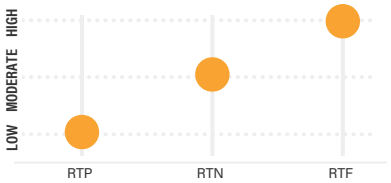
	Not Recommended				Excellent
Standability					1
Fusarium Head Blight				2	
Test Weight			3		
Protein		4			

- Outstanding yield potential under high-management and irrigated acres
- Excellent standability allows for increased nitrogen to maintain protein
- Solid disease package; best stripe rust tolerance in CROPLAN® lineup
- Later heading but finishes fast; head ripens faster than plant

CP3530

Hard Red Spring

Response Scores



Characteristics

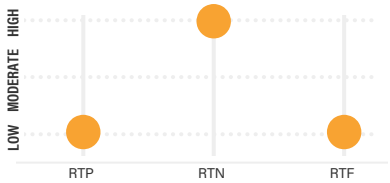
	Not Recommended				Excellent
Standability		4			
Fusarium Head Blight				2	
Test Weight			3		
Protein				2	

- Excellent yield potential and strong protein variety
- Performs best at low-to-medium plant populations and with higher split-application nitrogen management
- Strong fusarium head blight and leaf disease tolerance; acceptable bacterial blight tolerance
- Strong standability for a taller plant

CP3915

Hard Red Spring

Response Scores



Characteristics

	Not Recommended				Excellent
Standability				2	
Fusarium Head Blight			3		
Test Weight				2	
Protein				2	

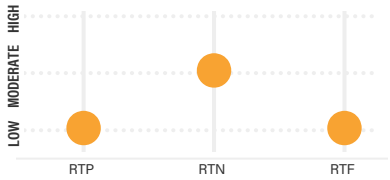
- Best-suited for eastern Mont. through the Dakotas into northwestern Minn.
- Very good test weight; protein is an improvement over CP3888, similar to CP3616 and CP3530
- Medium height with good standability
- Low response to population; moderate response to nitrogen

NEW

CP3910

Hard Red Spring

Response Scores



Characteristics

	Not Recommended				Excellent
Standability			3		
Fusarium Head Blight			3		
Test Weight			3		
Protein			3		

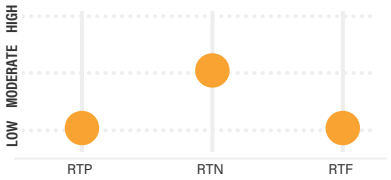
- Top-end yield potential and acceptable protein rating
- Best performance on moderate- to higher-yielding ground
- Recommend moderate planting populations
- Medium-tall variety with very good standability

NEW

CP3903

Hard Red Spring

Response Scores



Characteristics

	Not Recommended				Excellent
Standability				2	
Fusarium Head Blight				2	
Test Weight				2	
Protein				2	

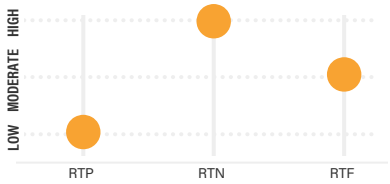
- Excellent yield potential balanced with strong protein
- Best performance is on highly productive ground; performs well across management styles
- Shorter plant type with very good standability
- Lower response to population; moderate response to nitrogen, consider split N applications

NEW

CP3055

Hard Red Spring

Response Scores



Characteristics

	Not Recommended				Excellent
Standability					1
Fusarium Head Blight				2	
Test Weight		4			
Protein		4			

- Genetics new to the CROPLAN® lineup and the industry
- Extremely high yield potential with acceptable protein rating
- Strong disease package on a very large plant type; extremely large flag leaf
- High response to increased nitrogen; a great candidate for split-applications; very strong standability

KEY

Scale

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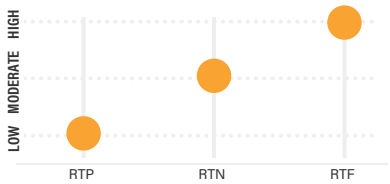
NEW

CP3099A

Hard Red Spring

Response Scores



Characteristics

	Not Recommended				Excellent
Standability					1
Fusarium Head Blight				2	
Test Weight			3		
Protein	5				

- Genetics new to the CROPLAN® lineup and the industry; awnless style variety
- Excellent yield potential; lower protein
- Strong disease package; sturdy plant type; large flag leaf allows for high yield opportunity
- Excellent forage/dual-purpose potential as silage or dry hay

KEY

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HARD RED SPRING WHEAT

	VARIETY	Wheat Class	Days to Heading	Days to Maturity	Height	Standability	Test Weight	Protein	Baking Quality	Shatter	Response to Population (RTP) 1	Response to Nitrogen (RTN) 1	Response to Fungicide (RTF) 1	Placement on Irrigation	Fusarium Head Blight	Leaf Rust	Stem Rust	Stripe Rust	Leaf Disease	Bacterial Leaf Streak	Wheat Stem Sawfly
	CP3419	Hard Red	58	85	M	1	3	4	4	4	H	H	L	1	2	3	1	1	2	5	N/A
	CP3530	Hard Red	57	87	T	4	3	2	3	2	L	M	H	4	2	2	1	3	2	3	N/A
	CP3915	Hard Red	55	86	M	2	2	2	2	2	L	H	L	1	3	3	2	N/A	3	1	3
	CP3910	Hard Red	54	85	M	3	3	3	2	2	L	M	L	3	3	3	2	3	3	4	N/A
NEW	CP3903	Hard Red	55	85	M	2	2	2	3	2	L	M	L	1	2	3	1	1	2	3	N/A
NEW	CP3055	Hard Red	57	92	T	1	4	4	N/A	2	L	H	M	1	2	N/A	N/A	N/A	2	1	N/A
NEW	CP3099A	Hard Red	57	92	T	1	3	5	N/A	2	L	M	H	1	2	N/A	N/A	N/A	2	1	N/A

KEY

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1 RTP/RTN/RTF Ratings
- **L** = Low Response
- **M** = Moderate Response
- **H** = High Response

The comparison ratings are with CROPLAN® wheats only. These ratings reflect trends observed in research trials, which will change based on various factors, including variations in rainfall, temperature and production patterns.

HARD RED SPRING WHEAT

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

Product Name _____

Attributes _____

Placement _____

SEED TREATMENTS

1 of 2

Warden® CX

By WinField United

WARDEN® CX SEED TREATMENT HELPS PROTECT YIELD POTENTIAL FROM THE START

Warden® CX insecticide-fungicide seed treatment is designed to protect high-value seed from yield-robbing seedling disease and insect pests. Containing three fungicides for multiple modes of action, Warden® CX seed treatment can help provide optimal protection against *Fusarium, Rhizoctonia, Phytophthora* and *Pythium*. With Cruiser® insecticide for unmatched defense against seed and foliar-feeding insects, Warden® CX seed treatment is the first step toward high yield and profit potential.

EARLY-SEASON ADVANTAGES

Warden® CX seed treatment features the following crop protection advantages over untreated seed:

- Increases plant stands, promotes quick canopy closure and can improve yield potential.
- Helps improve root health and provides industry-leading *Rhizoctonia* protection.
- Contains sedaxane, the first fungicide developed exclusively for use as a seed treatment.
- Warden® CX includes one of the highest available rates of Apron XL® fungicide available in the industry. This allows for extended *Phytophthora* control in tough growing conditions.

ADDITIONAL ADVANTAGES

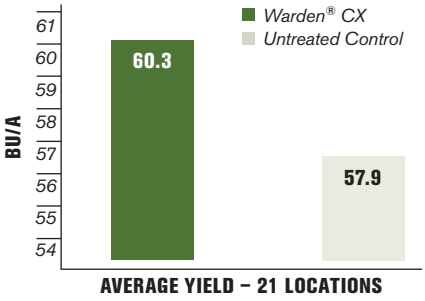
- Incorporates the active ingredient from Cruiser® insecticide, an industry standard for seed-applied insect protection, delivering the patented vigor effect (U.S. Patent number 6,753,296).
- Improves seed handling and flowability.

OUTSTANDING DISEASE PROTECTION

Warden® CX seed treatment contains sedaxane, a fungicide designed exclusively as a seed treatment. Creating strong, healthy root systems, it also provides *Rhizoctonia* protection. Warden® CX seed treatment has a high rate of mefenoxam, providing *Pythium* and *Phytophthora* seed and young seedling protection.

WARDEN® CX SEED TREATMENT HAS BEEN SHOWN TO IMPROVE PLANT STANDS, REGARDLESS OF PLANTING DATE[1]

Data from these trials showed that Warden® CX is a premier soybean seed treatment.



Source: 21 locations across key soybean-growing states; trials conducted with independent contract researchers.

1. Because of factors outside of WinField United's control, such as weather, product application and any other factors, results to be obtained, including but not limited to yields, financial performance or profits, cannot be predicted or guaranteed by WinField United.

DISEASES AND INSECTS CONTROLLED

Warden® CX seed treatment is designed to control a broad spectrum of destructive diseases, including the following:

DAMPING-OFF AND SEED ROTS

- *Fusarium*
- *Pythium*
- *Phytophthora*
- *Rhizoctonia*

ROOT ROT

- *Phomopsis**
- *Sclerotinia**
- *Phytophthora*

**Suppression only.*

Warden® CX seed treatment is also designed to control a wide variety of destructive insects, including the following:

- Aphids
- Bean leaf beetles
- Grape colaspis
- Leafhoppers
- Leaf miners
- Mexican bean beetles
- Seedcorn maggots
- Threecornered alfalfa hoppers
- Thrips
- White grubs
- Wireworms

PAIR WARDEN® CX WITH AN INOCULANT

Help meet the nitrogen needs of soybean crops by adding a microbial inoculant. These symbiotic rhizobia bacteria fix atmospheric nitrogen, improving modulation and boosting plant-available nitrogen.

SEED TREATMENTS

2 of 2

Fortivent® Plus

By WINFIELD UNITED

EARLY-SEASON INSECT AND DISEASE CONTROL WITH OPTIMIZED PLANT VIGOR

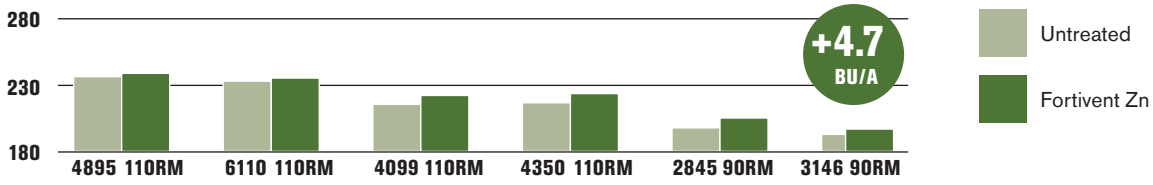
Fortivent® Plus seed treatment combines the early-season insect control of Poncho® VOTiVO® seed treatment, INTEGO® Solo fungicide for enhanced *Pythium* control and Fortivent Zn for early-season corn vigor. The Poncho® insecticide at a rate of 500 mg active ingredient combined with the nematode control of VOTiVO® seed treatment is designed to help control insects, while Fortivent Zn aids in early corn development, including stand establishment and enhanced yield potential.

▸ **Fortivent® Plus Features and Benefits**

- All CROPLAN® Signature hybrids come with Poncho® VOTiVO® seed treatment
- Provides enhanced *Pythium* control with INTEGO® Solo fungicide
- Includes Fortivent Zn for success in early-season growth and root development
- Includes 100% replant offering on all CROPLAN® Signature hybrids

YIELD ADVANTAGE

▸ **Fortivent Zn – 2018 Answer Plot® Testing**



Active Ingredients*	Rates
Insecticide	
Clothianidin	500
*Clothianidin	1,250
Base Fungicides (Acceleron® Seed Treatment)	
Fluoxastrobin	0.24 fl. oz./100 lbs. of seed
Prothioconazole	0.24 fl. oz./100 lbs. of seed
Metalaxyl	0.10 fl. oz./100 lbs. of seed
Ethaboxam (INTEGO® Solo)	0.34 fl. oz./100 lbs. of seed
Nematicide	
Poncho® VOTiVO® - 500	2.7 fl. oz./80,000 seeds

**Always read and follow label instructions.*

TECHNOLOGY

INNOVATIVE TECHNOLOGY

Traits include SmartStax® corn technology with the broadest spectrum of control for above- and belowground insects, along with herbicide tolerance. DroughtGard® Hybrids are available with risk-management benefits for corn hybrids facing drought stress.

CORN TRAITS

- Farmers choose their level of insect protection field by field.
- SmartStax® RIB Complete® corn blend offers the broadest spectrum of above- and belowground insect protection with the simplicity and convenience of a single-bag refuge solution. Two modes of action against corn earworm and corn rootworm help optimize yield potential.
- VT Double PRO® RIB Complete® corn blend contains the first double-stacked trait with dual modes of action against aboveground insects and maximum protection against corn earworm. This extra protection helps increase yield potential while providing the simplicity and convenience of a single-bag refuge solution.
- DroughtGard® Hybrids provide farmers with a valuable tool for managing water-deficit risks.

SmartStax® technology helps protect corn against ear-feeding insects.

SmartStax® RIB COMPLETE

SMARTSTAX® RIB COMPLETE® CORN BLEND

- It includes a 5% structured refuge, the lowest in the corn-growing area.
- Roundup Ready® 2 Technology and LibertyLink® herbicide tolerance provide weed control.
- This corn trait platform is achieved through best-in-class trait integration to help provide the highest level of whole-farm success.

▸ Aboveground Control

SmartStax® technology controls aboveground insects by uniting *Bacillus thuringiensis* (B.t.) proteins with multiple modes of action from VT Triple PRO® and Herculex®. It stops stalk-feeding insects, such as corn borers, and protects against ear-feeding insects, including western bean cutworm, corn earworm and black cutworm. This protection has the potential to help improve grain quality.

▸ Belowground Control

Belowground, SmartStax® technology combines high-performing VT Triple PRO® trait protection with complementary Herculex® XTRA rootworm protection. This unique combination of B.t. technologies provides season-long control of corn rootworm, a primary pest.

▸ Roundup Ready® 2 Technology and LibertyLink® Traits Together

In addition to above- and belowground insect control traits, SmartStax® products include standard-setting weed control – the Roundup Ready® 2 Technology and LibertyLink® systems – for unprecedented weed management.

▸ The First Single-Bag Refuge Solution

SmartStax® RIB Complete® corn blend products are a single-bag refuge solution for farmers – the first of its kind on the market. With SmartStax® RIB Complete® corn blend, the refuge seed is distributed in the bag along with seeds containing the SmartStax® trait, allowing farmers to plant an entire field with just one product. Farmers in corn-growing areas will no longer need to plant a separate, structured refuge when they use SmartStax® RIB Complete® corn blend.

▸ SmartStax® RIB Complete® Corn Blend Benefits

- Controls the most above- and belowground insects.
- Provides optimal yield protection with two ways to control corn rootworm and corn earworm.
- Includes a blend of 95% traited and 5% refuge seed with no separate, structured refuge required in the corn-growing area.
- Offers a truly simple refuge-in-a-bag solution – just fill your planter and go.

▸ Bringing New Germplasm to Market Faster

SmartStax® RIB Complete® corn blend products are developed using best-in-class trait integration that can bypass traditional slower breeding processes. This allows seed brands to bring new germplasm to market sooner. With all-in-one protection, seed brands will now be able to better evaluate each product's true performance in the field.

VTDoublePRO RIB COMPLETE

VT DOUBLE PRO® RIB COMPLETE® CORN BLEND

VT Double PRO® RIB Complete® corn blend allows you to plant the most traited acres fencerow to fencerow with the simplicity of a single-bag solution. There's no need to calculate or plant a separate structured refuge ever again. VT Double PRO® RIB Complete® corn includes 95% traited seed and 5% refuge seed. You get all the benefits of the VT Double PRO® trait plus the convenience of 5% refuge seed interspersed in every bag.

▸ VT Double PRO® RIB Complete® Corn Blend Benefits

- Optimal yield protection with two ways to control corn earworm.
- A blend of 95% traited and 5% refuge seed with no separate, structured refuge required in corn-growing areas.
- The truly simple refuge-in-a-bag solution – just fill your planter and go.

TECHNOLOGY

VT Double PRO® RIB COMPLETE®

THE TRULY SIMPLE REFUGE-IN-A-BAG SOLUTION

RIB Complete® is a single-bag refuge solution for farmers. With RIB Complete® corn blend, the refuge seed is distributed in the bag along with seeds containing B.t. traits, allowing farmers to plant an entire field with just one product. Farmers in the Corn Belt will no longer need to plant a structured refuge when they use RIB Complete® corn blend products.

20% refuge | *5% refuge* | *5% refuge in the bag*

DroughtGard® HYBRIDS

DROUGHTGARD® HYBRIDS

DroughtGard® Hybrids are part of a system to help farmers manage risk by mitigating yield loss due to drought. The system offers farmers improved genetics, agronomic practice recommendations and the drought-tolerant biotech trait. DroughtGard® Hybrids can help increase hydroefficiency under drought stress, which can result in increased kernel numbers and reduced frequency of barren plants, providing the opportunity to reduce yield loss in certain drought conditions. DroughtGard® Hybrids are available for sale in all states.

▸ Traits Available With DroughtGard® Hybrids

DroughtGard® Hybrids will be available with the following corn traits: VT Double PRO® corn, VT Double PRO® RIB Complete® corn blend and Roundup Ready® Corn 2.

▸ Advantages of DroughtGard® Hybrids

- In drought-stress conditions that caused damaging yield losses, comparisons demonstrated a 5-bushel-per-acre performance advantage with DroughtGard® Hybrids over commercially available competitive check products.[1]
- Ongoing research indicates that products with the drought-tolerant biotech trait have had more kernels per ear and can use less water during severe drought stress.
- DroughtGard® Hybrids have the potential to maintain top-end yield in well-watered conditions and provide a valuable tool for managing water-deficit risks.

Roundup Ready® CORN 2

ROUNDUP READY® CORN 2 SYSTEM

Whether you follow a pre- and postemergence spray program or only spray postemergence, Roundup Ready® Corn 2 will fit your system. Designed to work with Roundup® agricultural herbicides, the Roundup Ready® Corn 2 System provides outstanding yield potential without the crop injury other postemergence herbicides can cause.

ROUNDUP READY 2 XTEND® SOYBEANS

ROUNDUP READY 2 XTEND® SOYBEANS

Built on high-yielding Roundup Ready 2 Yield® soybean technology, Roundup Ready 2 Xtend® soybeans contain the industry's first biotech-stacked soybean trait with both dicamba and glyphosate herbicide tolerance.

This tolerance gives farmers access to additional tools to help control glyphosate-resistant broadleaf weeds such as Palmer amaranth, waterhemp and marestail, along with other tough-to-control broadleaf weeds such as lambsquarters and velvetleaf.

This technology offers the yield and quality potential that farmers already know and trust from Roundup Ready 2 Yield® soybeans.

1. 2012 Monsanto GroundBreaker plot trial based on approximately 250 growers in the western Great Plains.

TECHNOLOGY

ROUNDUP READY 2 YIELD® SOYBEANS

With more three-, four- and five-bean pods, Roundup Ready 2 Yield® soybeans offer a proven yield advantage over the competition. With more beans per pod and more bushels per acre, Roundup Ready 2 Yield® soybeans also provide more profit potential.

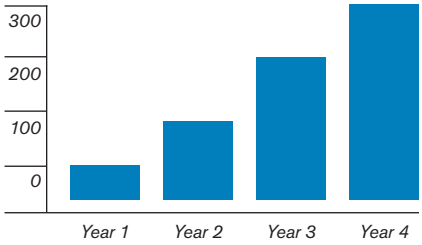
Research demonstrates a significant yield increase with Roundup Ready 2 Yield® soybeans over Roundup Ready® soybeans, with the same simple, dependable weed control as the Roundup Ready® Soybean System.[1]

▸ Powerful Performance

Roundup Ready 2 Yield® soybeans contain in-plant tolerance to Roundup® agricultural herbicides, allowing farmers to spray Roundup® agricultural herbicides on crops from emergence through flowering.

The occurrence of more three-, four- and five-bean pods per plant is contributing to the increased yields seen with Roundup Ready 2 Yield® soybeans. These soybeans have demonstrated a clear yield advantage opportunity over the competition by delivering an average of 4.5 bushels per acre more than original Roundup Ready® soybeans.[2]

CUMULATIVE NUMBER OF ROUNDUP READY 2 YIELD® VARIETIES



1. Roundup Ready 2 Yield® soybeans yield higher than Roundup Ready® soybeans, based on 73 Monsanto field trials (17 to 20 per year) from 2004 to 2007. The four-year average percentage increase for Roundup Ready 2 Yield® equals 8.63, with a 95% confidence interval of 6.8% to 10.5% advantage from Roundup Ready 2 Yield®.
2. Data as of October 29, 2012. Includes all breeding and commercial strip trial data. All head-to-head comparisons are within a +/-0.4 day maturity. Data represents the top-performing Roundup Ready 2 Yield® products (with a minimum of 30 comparisons per product) versus competitive Pioneer® and NK® brands with Roundup Ready® by state.

ACCELERON® PROMOTES STRONG EARLY-SEASON GROWTH

ACCELERON® SEED APPLIED SOLUTIONS FOR CORN

Acceleron® Seed Applied Solutions help corn seedlings emerge strong by providing superior protection against seed and seedling diseases as well as early-season insects and pests. With protection from Acceleron® Seed Applied Solutions at planting, high-yielding seed develop more uniform, vigorous plant stands for high yield potential.

▸ Insect and Disease Protection for Corn

Insect Protection: Protection from early-season pests such as wireworms, seedcorn maggots, white grubs, grape colaspis and black cutworms (suppression).

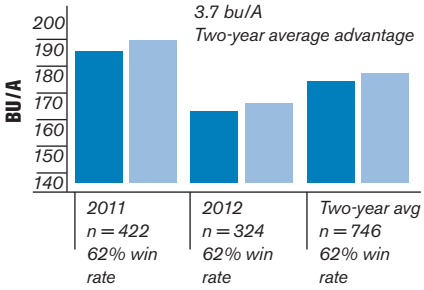
Disease-Fighting Protection: Excellent control of soilborne and seedborne disease, including *Fusarium*, *Rhizoctonia* and *Pythium*.

▸ Poncho®/VOTiVO® for Corn, Soybeans and Cotton

Acceleron® Seed Applied Solutions paired with Poncho®/VOTiVO® helps protect against seed and seedling diseases and early-season pests.

- **For corn:** Offers a unique biological mode of action for nematode management. Protects against damage from a range of nematode species and early-season insects, from planting through early development.
- **For soybeans:** Can provide the maximum level of protection against seed and seedling diseases; early-season insects; and nematodes including soybean cyst, reniform and root-knot.
- **For cotton:** Controls early-season insects such as thrips and aphids, and also protects against damage from nematodes including reniform and root-knot.

▸ Two-Year Performance



Source: 2011 and 2012 Internal Monsanto Commercial Field Trials. Individual results may vary.

TECHNOLOGY

ECONOMICAL, CONSISTENT HERCULEX® YIELD PROTECTION

Herculex® *Insect Protection* technology helps top-performing hybrids achieve their highest performance potential.

HERCULEX® XTRA

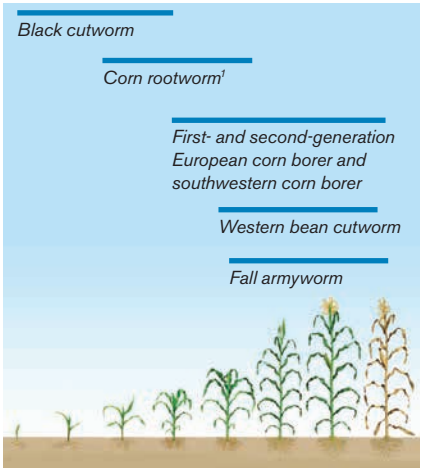
Herculex® XTRA *Insect Protection* combines Herculex® I *Insect Protection* and Herculex® RW *Rootworm Protection* for powerful protection above- and belowground. It enables top-performing hybrids to reach their optimal yield potential by combining high-yielding genetics with consistent, season-long control of European corn borer, corn rootworm and black cutworm.

Herculex® XTRA is stacked with LibertyLink® technology, offering the ability to use a cost-effective, alternative weed-control option such as Liberty® herbicide or a conventional herbicide program. Herculex® XTRA is an effective corn insect management trait option for greater profit potential.

HERCULEX® I

If you don't need corn rootworm protection, **Herculex® I *Insect Protection*** gives full-plant protection all season long against European corn borer, black cutworm and other yield-robbing, aboveground pests. All Herculex® I hybrids contain LibertyLink® technology, making them resistant to over-the-top applications of Liberty® herbicide.

HERCULEX® XTRA AND HERCULEX® I DELIVER A WIDE WINDOW OF PROTECTION



CROP AND GRAIN MARKETING STEWARDSHIP

Dow AgroSciences is a member of Excellence Through Stewardship® (ETS). Dow AgroSciences products are commercialized in accordance with ETS product launch stewardship guidance and Dow AgroSciences Product Launch Stewardship Policy. No crop or material produced from this product can be exported to, used, processed or sold 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. For further information about your crop or grain marketing options, contact DAS at 877-4-TRAITS (877-487-2487). Information regarding the regulatory and market status of agricultural biotechnology products can be found at www.biotradestatus.com.

Properly managing trait technology is key to preserving it as a long-term crop protection tool. Growers who fail to comply with insect resistance management (IRM) requirements risk losing access to this product. To help preserve the effectiveness of B.t. corn technologies, growers planting B.t. corn technologies are required to follow an IRM Plan. Consult the Corn Product Use Guide for appropriate refuge configuration options. 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 Technology Use Agreement and Product Use Guide. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements. For complete details on IRM requirements for hybrids with B.t. technology, including refuge examples and important information on the use of insecticides on refuge and B.t. corn acres, please consult the appropriate Product Use Guide. Go to www.corteva.us/Resources/trait-stewardship.html to download the latest Dow AgroSciences Corn Product Use Guide.

1. Corn rootworm is only controlled with Herculex® XTRA Insect Protection. *Follow IRM, grain marketing and all other stewardship practices and pesticide label directions.*

TECHNOLOGY

BREAKTHROUGH AGRISURE® TRAIT TECHNOLOGY

Agrisure® traits deliver corn insect control, water optimization technology and outstanding herbicide tolerance to optimize the yield potential of elite hybrids.

AGRISURE ARTESIAN®

- **Maximize yield potential when it rains and increase yield potential when it doesn't.**

Built using scientifically selected genes, this elite class of high-performing hybrids can respond to water stress with multiple genes and at virtually any stage of growth – managing gaps in rainfall throughout the season. Artesian™ corn hybrids can help manage the unpredictability of weather and improve yield consistency by converting water to grain more efficiently than other hybrids.

AGRISURE ARTESIAN® ADVANTAGE

Elkville, Ill., 2012

AGRISURE VIPTERA®

- **More control of more insects for more yield potential.**

Agrisure Viptera® trait stacks provide the most comprehensive corn insect control, reducing insect feeding damage to ears and the subsequent development of molds and mycotoxins. By controlling major leaf-, stalk- and ear-feeding corn insects, the Agrisure Viptera® trait offers better crop stands and lower levels of disease, resulting in increased yield and profit potential.

- **Agrisure Viptera® 3111**

Above- and belowground insect control.

- **Agrisure Viptera® 3220 E-Z Refuge®**

Dual modes of action against aboveground insects, with a 5% single-bag refuge.

Trait stacks containing the Agrisure Viptera® trait are also available in combination with Agrisure Artesian® technology for maximized yield in water-stressed environments.

AGRISURE VIPTERA® TRAIT PERFORMANCE ON WESTERN BEAN CUTWORM[1]

Hybrid with the Agrisure Viptera® trait

Hybrid without the Agrisure Viptera® trait

1. Agrisure Viptera® on western bean cutworm vs. competitive hybrid. Sterling, Colo., 2014.

TECHNOLOGY

ACHIEVE REAL YIELDS WITH THE LIBERTYLINK® SYSTEM

The LibertyLink® trait and Liberty® herbicide offer a broad-spectrum weed-control program and an effective resistance-management tool.

Farmers can preserve the value of glyphosate-tolerant crops by rotating them to the LibertyLink® trait and Liberty® herbicide. This efficient system is the only alternative crop technology available that maintains the simplicity of glyphosate-tolerant crop systems while controlling a wide spectrum of broadleaf weeds and grasses, including weeds resistant to glyphosate and other herbicide classes.

Liberty®

LIBERTY® HERBICIDE

Liberty® herbicide delivers superior weed control across enabled trait systems, with greater application flexibility, unmatched convenience and no known resistance in U.S. row crops. Liberty® provides:

- 98% control of a broad spectrum of broadleaf weeds and grasses[1]
- Excellent control of resistant weeds, including key weeds like Palmer amaranth, waterhemp and marestail
- A unique herbicide site of action (Group 10), unlike any other active ingredient on the market[2]
- Plus, Liberty® is backed by the Liberty® Weed Control Guarantee

Talk to your retailer to learn how you can qualify for the Liberty® Guarantee as well as to learn more about your local S.T.O.P. Weeds application guidelines for maximum weed control.

LIBERTYLINK® SYSTEM

LIBERTY LINK®

▸ **LibertyLink® Soybeans**[1]

LibertyLink® soybeans provide $33+/A more profit potential. With the 2+ bushel advantage over Asgrow® Roundup Ready 2 Xtend® soybeans, there is an $18+/A profit potential on yield coupled with a $15+/A potential in lower system input costs. That is smart math. The LibertyLink® system is simply the better solution for stronger yield and superior weed control.

▸ **LibertyLink® Corn**

The LibertyLink® system enables growers to use powerful Liberty®, the only working nonselective herbicide that is effective on tough-to-control grasses and broadleaf weeds, for over-the-top use on over 50 million LibertyLink®-enabled corn hybrid acres with Herculex®, Genuity® SmartStax® and Agrisure® hybrids with corn-borer protection.[2] The LibertyLink® system is simply the better solution built upon high-performing genetics and superior weed control for a stronger yield.

1. Results based on five years of trials where Liberty® herbicide was applied according to S.T.O.P. Weeds with Liberty® herbicide guidelines and as part of a complete weed control program where an effective residual product was used, followed by Liberty® herbicide. Endorsement or recommendation by the universities is not implied. Seed costs based on survey of average trait pricing across the U.S. Herbicide costs based on 2017 grower pricing. No results guaranteed. Results may vary year to year and depending on rate of application, use, yield, geography, seed pricing and herbicide application costs.
2. The active ingredient in Liberty® is a Group 10 herbicide, which is the only broad-spectrum herbicide that effectively controls grasses and broadleaf weeds, and it has no known resistance in U.S. broadacre crops.

Seeds containing the LibertyLink® trait may be protected under one or more U.S. patents and may be planted only to produce one commercial crop in a single season, and only after signing a BASF Grower Technology Agreement. It is illegal to save seeds containing the LibertyLink® trait for use as planting seed or for transfer to others for use as planting seed.

CROPLAN BY WINFIELD UNITED

TECHNOLOGY

CALIBRATE® TECHNOLOGIES

KNOW THE QUALITY OF YOUR FORAGES

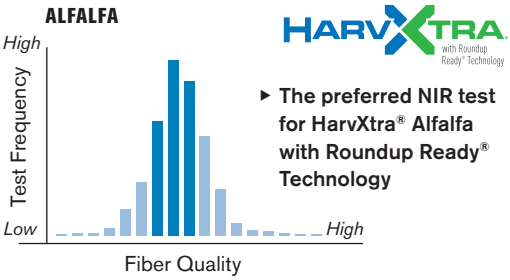
Variation in any dairy feeding program can cause underperformance: lost milk production, lower feed efficiency and lower profit potential. Calibrate® fiber and starch quality tests are designed to reduce the impact of nutrition variation in feedstuffs and allow more value to be obtained from forages, grown or purchased.

Calibrate® patented forage quality tests are designed to:

- Feed homegrown forages more effectively.
- Assist in making informed decisions when purchasing hay.
- Enable and assist your nutritionist to further improve rations.
- Confidently feed highly digestible forages in the ration and maximize ROI potential.
- Get optimal performance out of lower-quality forages.
- Determine if forage quality is a limiting factor to milk production.
- Provide more peace of mind because better decisions are made with available feedstuffs.

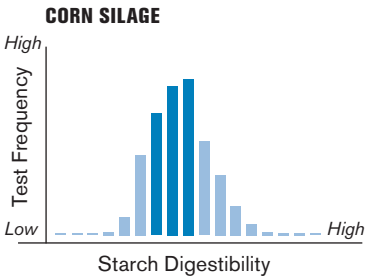
WITH HIGH- OR LOW-QUALITY FORAGES, CALIBRATE® TESTS DELIVER RELIABLE ACCURACY

Laboratory analysis can be less accurate when forage quality is not average. In the quality graphs below, the light bars represent where fiber and starch digestibility is either high or low. The analysis accuracy of these extremes is financially critical to forage growers and dairy farmers. Calibrate® forage quality tests maintain their accuracy as feeds drift toward the extremes.



HARVXTRA with Roundup Ready® Technology

▸ **The preferred NIR test for HarvXtra® Alfalfa with Roundup Ready® Technology**



CALIBRATE® PATENTED FORAGE QUALITY TESTS OFFER EXCEPTIONAL DIGESTIBILITY INFORMATION

Calibrate® technology provides forage analysis testing with improved accuracy for forages of all qualities. Designed to eliminate the necessity of an in vitro analysis (wet chem), Calibrate® forage analysis tests were developed using in vitro results from over 125,000 samples and 15 years of research, representing a wide range of forage quality from across the U.S. The volume of samples tested and the emphasis on samples of extreme quality (high and low) make Calibrate® forage analysis more precise.

For more information, contact your local WinField United representative or go to www.calibratetechnologies.com.

CALIBRATE®

TECHNOLOGY

THE KEMIN® NUTRISAVE® SYSTEM HELPS OPTIMIZE FORAGE QUALITY

The Kemin® NutriSAVE® Forage Management System is a complete forage management approach to retaining quality in the forages you grow for use in dairy or beef production. The products and support offered through the NutriSAVE® System aid producers in helping preserve forage quality by reducing shrinkage and spoilage, resulting in better nutrition. The NutriSAVE® System includes management recommendations from harvest to storage and through feeding. The system's crop- and condition-specific products include the latest technology and are backed by current research and experts in the forage management field.

ACID-BASED PRODUCTS

- **Fresh CUT® Plus Liquid Hay Preservative**
  Applied to hay baled at up to 25% moisture. The blend of acids helps control the growth of mold and wild yeast, preventing bale heating and preserving nutrients.
- **Silage SAVOR® Plus Liquid and Silage SAVOR® Dry Silage Preservatives**
  These forage preservatives are applied to ensiled crops before storage. The acid blends are used to prevent mold and wild yeast growth, allowing for improved fermentation.
- **Myco CURB® Liquid and Dry Mold Inhibitors**
  Designed to prevent mold growth on stored grain, feed and feed ingredients. For more than 35 years, Myco CURB® has been the gold standard for mold control.
- **Ultra CURB® Liquid and Dry Mold Inhibitors**
  These products contain a powerful blend of four organic acids designed to control heating in total mixed rations (TMRs).

INOCULANTS

- **Kem LAC® HD Bacterial Inoculant**
  A blend of three lactic-acid-producing bacteria to rapidly drop the pH of ensiled crops. Applied to all ensiled crops before storage, Kem LAC® HD helps speed fermentation for better dry matter retention.
- **Kem LAC® LB 500 Bacterial Inoculant**
  This combination product contains two strains of bacteria, one for producing high levels of lactic acid and a second to produce acetic acid. The result is better aerobic stability of the TMR during feedout.

BENEFITS OF THE NUTRISAVE® PROGRAM AND PRODUCTS

The minute forages are harvested, the race against time begins. The crop quickly deteriorates after cutting, and the quality CROPLAN® seed that was so carefully selected can fail to deliver the nutrients expected without proper preservation. Forage quality can have a huge impact on your operation's profitability and performance. That is why generating the most value from the forages you grow is important. High-quality forage optimizes productivity and herd health.

The NutriSAVE® Forage Management System features both acid-based and inoculant-based solutions. The Kem LAC® line of silage inoculants is designed to work on a wide variety of forages. The blended organic acid products work to reduce mold and wild yeast growth to widen harvest windows, enhance fermentation and increase aerobic stability, both before and after storage. The flexibility to offer the ideal solution for nearly every forage management challenge is why producers have relied on the NutriSAVE® Forage Management System for decades.

KEY FEATURES OF USING NUTRISAVE® PRODUCTS

- Acid- and bacterial-based products for all forage applications.
- Helps reduce shrinkage and spoilage of dry matter.
- Reduces growth of mold and wild yeast.
- Promotes faster fermentation or curing.
- Extends aerobic stability at feedout.
- Supports optimal animal performance.

PROVEN PERFORMANCE WITH NUTRISAVE® PRODUCTS AND PROGRAMS

Extensive laboratory, university and field trials show that NutriSAVE® products can outperform other additives. By using the tools and resources available, NutriSAVE® programs can help you achieve a greater potential return on your forage investment. For more information about the Kemin® NutriSAVE® Forage Management System, talk with your WinField United representative or contact Kemin® at KeminAg@kemin.com or 515-559-5304. Additional product details are available online at kemin.com/feedquality.

TECHNOLOGY

PROPER MANAGEMENT PROTECTS TECHNOLOGY'S VALUE

Sound management practices and compliance with stewardship requirements will help protect the benefits and value of biotech trait seed technology for future generations.

THINK BEFORE YOU USE BIN-RUN SEED

▸ **Verification Required**

The last patent on the original Roundup Ready® soybean trait expired a few years ago, and U.S. farmers may legally plant saved seed from some varieties of soybean containing the Roundup Ready® soybean trait. However, it is important that you check with your seed supplier to determine if a specific Roundup Ready® soybean variety is covered by other intellectual property rights and, if so, the policy for saving seed of that variety.

▸ **Higher Seeding Rate**

A higher seeding rate may be required for bin-run Roundup Ready® soybeans compared to new branded seed.

▸ **Yield Loss**

Roundup Ready 2 Yield® soybean varieties and Roundup Ready 2 Xtend® soybean varieties typically have a higher yield opportunity than Roundup Ready® soybean varieties.[1]

▸ **Cleanout Loss**

Loss of seed and/or shrink occurs during the seed cleaning and handling processes for bin-run seed.

▸ **Seed Treatment Costs**

Treating your seed will add costs – both the cost of the treatment and the application of that treatment.

▸ **Lost Income**

Every bushel of saved seed you plant is a bushel you're not selling as commodity grain.

▸ **Increased Seed Management**

If you plan to save and bin-run Roundup Ready® soybeans for planting, you will have to manage your harvest operations and grain storage so that the seed isn't commingled with other seed that's covered by intellectual property rights.

HIGH VALUE OF NEW BRANDED SEED

▸ **Latest Technology**

- High-yielding soybean technologies
- Better variety options
- Leading seed treatment options

▸ **Customer Service**

- Dealer agronomic support before and after the sale
- Replant policy support
- Convenient packaging and delivery

▸ **Reliable Germination and Quality**

- Rigorously tested for quality and meets U.S. Federal Seed Act requirements
- Free of seedborne diseases
- Properly stored and conditioned

SOYBEAN AND CANOLA PIRACY

Seed containing a patented trait can only be used to plant a single commercial crop from which seed cannot be saved and replanted. Examples of seed containing a patented trait include but are not limited to Roundup Ready 2 Yield® soybeans, Roundup Ready 2 Xtend® soybeans, Roundup Ready® spring canola and Roundup Ready® winter canola. Additional information and limitations on the use of these products are provided in the Monsanto Technology Stewardship Agreement and the Monsanto Technology Use Guide. U.S. patents for Monsanto technologies can be found at the following webpage: http://www.monsantotechnology.com.

INSECT RESISTANCE MANAGEMENT

Insect-protected crops are genetically improved to provide in-plant protection against selected insect pests. Beneficial insects are not affected. To preserve the benefits and insect protection of these technology crops, Monsanto Technology LLC, Syngenta Crop Protection and Dow AgroSciences have developed IRM guidelines that must be incorporated by everyone purchasing and planting insect-protected crops.

CORN REFUGE OPTIONS

The refuge on each farm may be arranged in a number of configurations. These options offer the flexibility to easily incorporate an effective corn refuge into farm operations. Options include the following:

- Plant a corn refuge as a block within a traited cornfield.
- Split the planter to alternate at least four consecutive rows of corn refuge with traited corn.
- Plant field perimeters or end rows to a corn refuge.
- See product tag for specific refuge configurations.

1. Roundup Ready 2 Yield® soybeans and Roundup Ready 2 Xtend® soybeans are covered by different patents than original Roundup Ready® soybeans and cannot be saved and planted. For more information about seed innovation and intellectual property protection, please visit www.seedipalliance.com.

TECHNOLOGY

CORN INSECT RESISTANCE MANAGEMENT OVERVIEW[1]

QUICK COMPLIANCE GUIDE FOR DEALERS AND FARMERS

1 REFUGE SIZE

Plant the correct size refuge for the area and corn product.

▸ **The Corn-Growing Area**

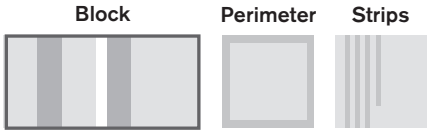
- 20% required for some B.t. products, such as VT Triple PRO® (20 acres of refuge for every 80 acres of B.t.)
- 5% only for SmartStax® and VT Double PRO® (5 acres of refuge for every 95 acres of B.t.)

▸ **The Cotton-Growing Area**

- 20% only for SmartStax®, VT Triple PRO® and VT Double PRO® (20 acres of refuge for every 80 acres of B.t.)

2 REFUGE LOCATION

Plant the required refuge within each field that contains B.t. insect-protected corn. There are other options, but an in-field refuge is always accepted. The refuge should always be a minimum of four contiguous rows wide.



3 REFUGE PLANTING

In each field, plant your refuge first before planting any insect-protected corn. This will ensure that the minimum refuge size requirement is met should unforeseen circumstances (e.g., adverse weather) alter your planting schedule and strategy. Use a refuge product that contains no B.t. insect-protection traits (e.g., Roundup Ready® or conventional corn are acceptable). Growers must read the IRM/Grower Guide for complete refuge planting requirements.

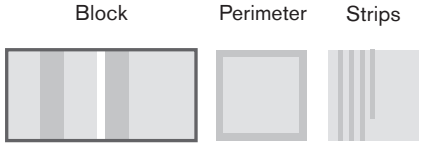
4 TREATMENT

If you need to treat your refuge with a non-B.t. foliar insecticide, you may have to treat the B.t. technology in a similar manner. Growers must read the IRM/Grower Guide for complete treatment options.

COMMON REFUGE CONFIGURATIONS

Traited corn hybrid[2] Refuge

▸ **In-Field Configuration Examples**



Minimum of four rows

▸ **Adjacent-Field Configuration Examples**

Separated by road, path, ditch, etc., but not by another field

SEPARATE REFUGE CONFIGURATIONS

Corn borer and corn rootworm stacked hybrid

Corn rootworm refuge

Corn borer refuge

▸ **Block**

≤ 1/2 mile *≤ 1/2 mile*

▸ **Perimeter**

≤ 1/2 mile

▸ **Strips**

≤ 1/2 mile

1. Provided as a summary only. Farmers must read the IRM/Grower Guide prior to planting for important information on planting and insect resistance management.
2. Traited = B.t., RW or B.t./RW.

TECHNOLOGY

REFUGE REQUIREMENTS FOR BIOTECH CORN PRODUCTS[1, 2]

	% NON-B.T. REFUGE	CONFIGURATIONS	REFUGE LOCATION
SMARTSTAX® RIB COMPLETE® CORN BLEND[3]	5% in the bag	–	No separate planted refuge is required
VT DOUBLE PRO® RIB COMPLETE® CORN BLEND	5% in the bag	–	No separate planted refuge is required
DROUGHTGARD® HYBRIDS WITH VT DOUBLE PRO® RIB COMPLETE® CORN BLEND	5% in the bag	–	No separate planted refuge is required
SMARTSTAX® CORN[3]	5% corn-growing areas; 20% cotton-growing areas	Block, Perimeter, Strips, Adjacent	Within or adjacent to SmartStax® field; if adjacent, may be separated by a road, path, ditch, etc., but not another field
VT DOUBLE PRO® CORN	5% corn-growing areas; 20% cotton-growing areas	Block, Perimeter, Strips, Adjacent	Within, adjacent to or within 1/2 mile from VT Double PRO® field
AGRISURE VIPTERA®	20% corn-growing areas	Block, Perimeter, Strips, Adjacent	Within or adjacent to Agrisure Viptera® field; if adjacent, may be separated by a road, path, ditch, etc., but not another field
AGRISURE® 3000GT, AGRISURE® CB/LL/RW	20% corn-growing areas; 50% cotton-growing areas	Block, Perimeter, Strips, Adjacent	Within or adjacent to Agrisure® 3000GT or Agrisure® CB/LL/RW field; if adjacent, may be separated by a road, path, ditch, etc., but not another field
AGRISURE® GT/CB/LL, AGRISURE® CB/LL	20% corn-growing areas; 50% cotton-growing areas	Block, Perimeter, Strips, Adjacent	Within, adjacent to or within 1/2 mile from Agrisure® GT/CB/LL or Agrisure® CB/LL field
HERCULEX® XTRA *INSECT PROTECTION*	20% corn-growing areas; 50% cotton-growing areas	Block, Perimeter, Strips, Adjacent	Within or adjacent to Herculex® XTRA field; if adjacent, may be separated by a road, path, ditch, etc., but not another field
HERCULEX® I *INSECT PROTECTION*	20% corn-growing areas 50% cotton-growing areas	Block, Perimeter, Strips, Adjacent	Within, adjacent to or within 1/2 mile from Herculex® field

1. All refuge configurations require a minimum of four rows.
2. Provided as a summary only. Farmers must read the IRM/Grower Guide prior to planting.
3. SmartStax® RIB Complete®, VT Double PRO® RIB Complete® and DroughtGard® Hybrids with VT Double PRO® RIB Complete® corn blends are each a blend of 95% traited seed and 5% refuge seed interspersed in the bag and do not require a separate structured refuge in corn-growing areas.

EXCELLENCE THROUGH STEWARDSHIP

Monsanto Company and Forage Genetics International, LLC are members of Excellence Through Stewardship® (ETS). Their respective products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with their respective Policies for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Only commercialized products have 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.

INSECT RESISTANCE MANAGEMENT

IMPORTANT IRM INFORMATION: Always read and follow IRM requirements. Insect-protected crops are genetically improved to provide in-plant protection against selected insect pests. Beneficial insects are not affected. To preserve the benefits and insect protection of these technology crops, Monsanto Technology LLC, Syngenta Crop Protection and Dow AgroSciences have developed insect resistance management (IRM) guidelines that must be incorporated by everyone purchasing and planting insect-protected crops.

IMPORTANT IRM INFORMATION: RIB Complete® corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. SmartStax® RIB Complete® corn blend is not allowed to be sold for planting in the Cotton-Growing Area.

See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.

In DroughtGard® Hybrids with RIB Complete® corn blend, the refuge seed may not always contain DroughtGard® Hybrids trait. RIB Complete® corn blend products do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. SmartStax® RIB Complete® corn blend is not allowed to be sold for planting in the Cotton-Growing Area. See the IRM/Grower Guide for additional information.

Important: Always read and follow label and bag tag instructions; only those labeled as tolerant to glufosinate may be sprayed with glufosinate ammonium based herbicides.

Agrisure® Technology incorporated into these seeds is commercialized under license from Syngenta Seeds, Inc. Herculex® Technology incorporated into these seeds is commercialized under license from Dow AgroSciences LLC. HERCULEX® and the HERCULEX shield are registered trademarks of Dow AgroSciences LLC.

Seed products with the LibertyLink® (LL) trait are resistant to the herbicide glufosinate ammonium, an alternative to glyphosate in corn, and combine high-yielding genetics with the powerful, non-selective, postemergent weed control of Liberty® herbicide for optimum yield and excellent weed control. LibertyLink®, Liberty® and the Water Droplet logo are registered trademarks of BASF Corporation.

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

PLANTING REFUGE, PRESERVING TECHNOLOGY

Before opening a bag of seed, be sure to read and understand the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed set forth in the technology agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with those stewardship requirements.

Insect Resistance Management
Planting Refuges, Preserving Technology

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.

RESPECT THE REFUGE®

RESPECT THE REFUGE®

GENERAL DISCLAIMERS

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 growers' fields.

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

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 and cotton with Xtend Flex® Technology contain genes that confer tolerance to glyphosate and dicamba. Cotton with Xtend Flex® Technology also contains genes that contain glufosinate. Nonselective herbicides, glyphosate, glufosinate and dicamba will kill crops that are not specifically tolerant to that herbicide. Contact your Monsanto dealer or refer to Monsanto's Technology Use Guide for recommended weed control programs.

Roundup Ready® Technology contains genes that confer tolerance to glyphosate, an active ingredient in Roundup® brand agricultural herbicides. Agricultural herbicides containing glyphosate will kill crops that are not tolerant to glyphosate.

COTTON

Bollgard® 3 XtendFlex® cotton and Bollgard II® XtendFlex® cotton contain genes that confer tolerance to glyphosate, dicamba and glufosinate. 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 Monsanto dealer or refer to Monsanto's Technology Use Guide for recommended weed control programs. Insect control technology provided by **Vip3A** is utilized under license from Syngenta Crop Protection AG.

IMPORTANT NOTICE CONCERNING ROUNDUP READY XTEND® CROP SYSTEM AND XTENDIMAX® HERBICIDE WITH VAPORGRIP® TECHNOLOGY

This notice updates or amends the information contained in this publication.

A 9th Circuit court ruling dated June 3rd, 2020, vacated the registration for XtendiMax® herbicide with VaporGrip® technology and certain other low-volatility dicamba products. The EPA is currently reviewing Bayer's submission in support of a new registration for XtendiMax® herbicide for the 2021 season and beyond. Bayer's submission included multiple new data and analyses, including by independent academics, which will allow EPA to make a science-based decision on a new XtendiMax® herbicide registration. Visit Bayer's XtendiMax® herbicide updates page for the latest information on the current registration status of XtendiMax® herbicide at www.roundupreadyxtend.com/xtendimaxupdates

Please know that, despite the challenges, Bayer stands fully behind XtendiMax® herbicide and will continue working with the EPA, growers, academics, and others to provide long-term access to this important herbicide.

However, no dicamba may be used in-crop with seed in the Roundup Ready® Xtend Crop System, unless and until approved or specifically permitted by the U.S. EPA and the appropriate state agency for such use. As of July 13, 2020, no dicamba formulations are currently registered by the U.S. EPA for in-crop use with seed in the Roundup Ready® Xtend Crop System in the 2021 season. Current stocks of low-volatility dicamba herbicides XtendiMax® herbicide, Engenia® herbicide, and FeXapan® herbicide previously approved for in-crop use with seed in the Roundup Ready® Xtend Crop System may not be used after July 31, 2020. Dicamba may harm crops that are not tolerant to dicamba. 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 seed in the Roundup Ready® Xtend Crop System.

NOTICE: DO NOT APPLY ANY HERBICIDE TO SEED IN THE ROUNDUP READY® XTEND CROP SYSTEM UNLESS IT HAS A PRODUCT LABEL SPECIFICALLY AUTHORIZING THAT USE. TO USE A HERBICIDE IN ANY MANNER INCONSISTENT WITH ITS LABELING IS A VIOLATION OF FEDERAL LAW. REFER TO THE BAYER TECHNOLOGY USE GUIDE FOR DETAILS AND RECOMMENDATIONS ON USING APPROVED HERBICIDES ON SEED IN THE ROUNDUP READY® XTEND CROP SYSTEM.

SOYBEAN AND CANOLA PIRACY

Seed containing a patented trait can only be used to plant a single commercial crop from which seed cannot be saved and replanted. Examples of seed containing a patented trait include but are not limited to Genuity® Roundup Ready 2 Yield® soybeans, Roundup Ready 2 Xtend® soybeans, Genuity® Roundup Ready® spring canola and Genuity® Roundup Ready® winter canola. Additional information and limitations on the use of these products are provided in the Monsanto Technology Stewardship Agreement and the Monsanto Technology Use Guide. U.S. patents for Monsanto technologies can be found at the following webpage: http://www.monsantotechnology.com.

ALFALFA

HarvXtra® Alfalfa with Roundup Ready® Technology: Purchase and use of HarvXtra® Alfalfa with Roundup Ready® Technology is subject to a Seed and Feed Use Agreement, requiring that products of this technology can only be used on farm or otherwise be used in the following states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. In addition, due to the unique cropping practices do not plant HarvXtra® Alfalfa with Roundup Ready® Technology in Imperial County, California, pending import approval and until Forage Genetics International, LLC (FGI) grants express permission for such planting. HarvXtra® Alfalfa with Roundup Ready® Technology has pending import approvals. GROWERS MUST DIRECT ANY PRODUCT PRODUCED FROM HARVXTRA® ALFALFA WITH ROUNDUP READY® TECHNOLOGY SEED OR CROPS (INCLUDING HAY AND HAY PRODUCTS) ONLY TO UNITED STATES DOMESTIC USE. 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.