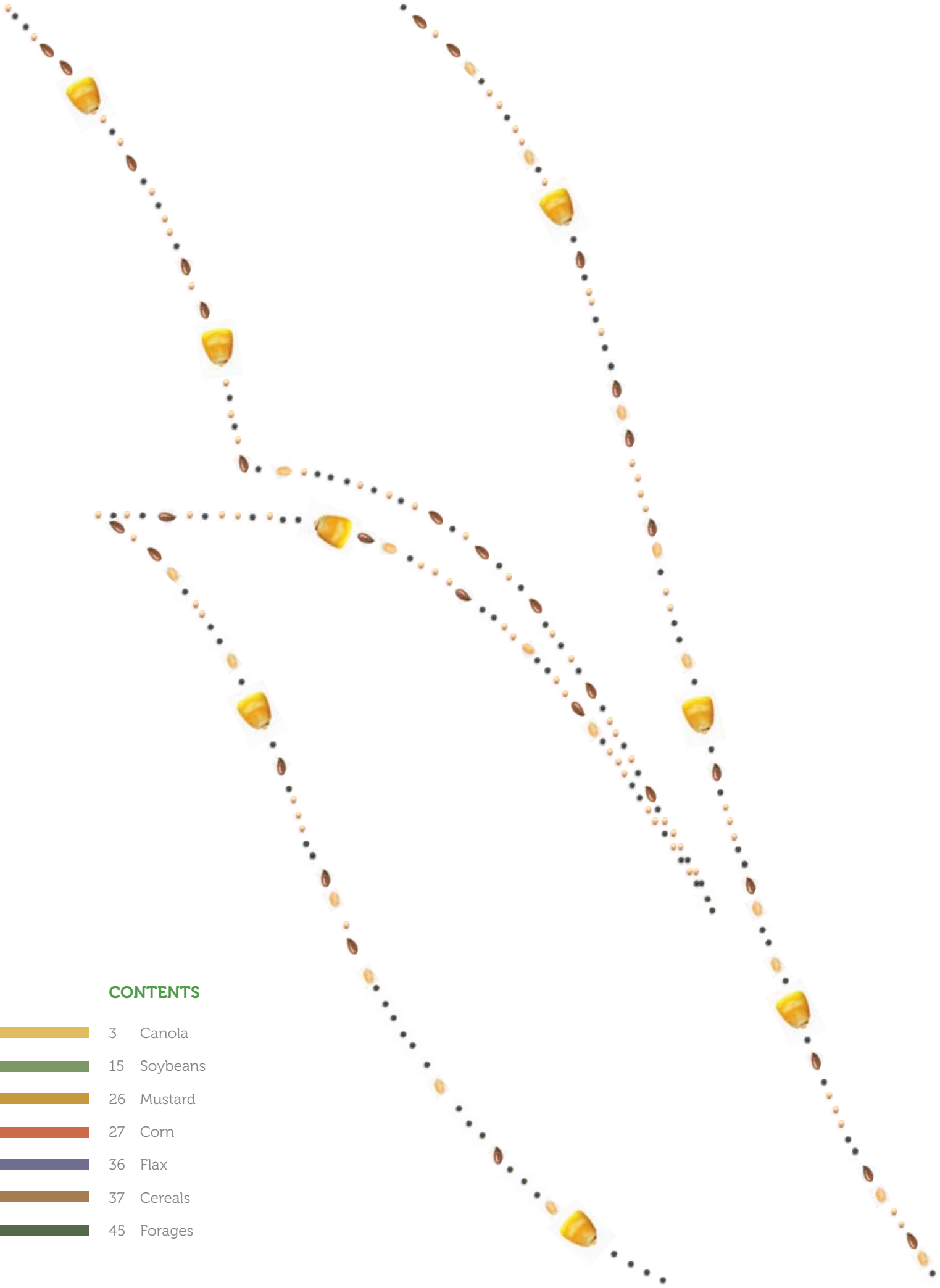
Nutrien Ag Solutions™

SEED GUIDE 2021



CONTENTS

Grow your ***potential***

Every growing season brings fresh potential for success. Like you, we have another year of experience under our belts, and have a strong understanding of how to help you unlock the season's best possible results. The first step is making well-informed seed decisions. The team at Nutrien Ag Solutions™ is ready with one of the broadest portfolios of top-quality seed brands – including Proven® Seed canola, soybeans, corn, cereals and forages.

Insight for inputs

Strong seasons start with a deep understanding of your land and its capabilities. Our reputation is built on local experience and in-depth research. Nutrien Ag Solutions delivers quality inputs and trusted advice for achieving the best growth for your region. Our whole-acre approach covers everything from selecting the right seed genetics and key nutrients for your plants, to protecting your crop during the entire growing season.

The science of success

Nutrien Ag Solutions operates the largest seed variety comparison program in Western Canada. Our Proven Performance Trials feature the most varieties of the most crops over the biggest geographic diversity. It's just one of the ways Nutrien Ag Solutions delivers the best retail knowledge and experience.

Local learning

Get your season off to a good start with a visit to your local Nutrien Ag Solutions retail. We'll look at where you farm and how you farm to determine the best seed and nutrients for your operation. We'll also provide field-tested insight on balancing maturity and disease traits with the best features for a smooth, successful harvest.

Make a strong start

Call or visit us today.
We're ready to help your
land grow to its full potential.

How to utilize data when ***selecting seed varieties***

For many growers, it's important to get accurate, current and regional information on new seed varieties to stay competitive.

There are a lot of places growers can find data to help inform their seed-buying decisions, as government agencies, universities, industry groups, seed breeders and their local retail agronomists are all good sources of variety information.

With so many options to consider, how do growers know what's the best way to get the seed information they need?

Consider the big picture first

Looking at data from third-party sources, such as the Canola Performance Trials and regional variety trials for cereal and pulse crops, is a good place to start. The Alberta, Saskatchewan and Manitoba Seed Guides do an excellent job of packaging this information, and many growers consider it their go-to source for finding out what seed varieties offer in terms of yield, agronomic and pest/disease resistance attributes. The challenge with this data is if a variety is in the trial only one year, it acts as a snapshot and is not a good indicator of how the variety performs over multiple types of growing seasons.

Seed companies and their breeding organizations also provide a lot of data. In fact, they are closest to the decisions that went into selecting the variety and have the best understanding of what can be expected from the variety. They will also have a longer experience curve with the variety, making them the authority on the specific traits and characteristics of the variety.

Other resources such as Agriculture and Agri-Food Canada and university Ag programs can be very useful as well when seeking out variety information.

Once you've completed your variety research, the next step is to apply this data to your own situation. No two farms are alike, so it's important that any varieties you select mesh with your operation.

Yield is always a key consideration when choosing a seed variety, but depending on where you farm, it may not be the most important. Soil types and local growing conditions need to be considered, as well as which weeds, insects and diseases pose the greatest threats in your area and if you have any weed or pest resistance issues in your geography. For instance, midge tolerant wheat varieties will only be top of your list if midge is a concern for you.

Other factors such as maturity, plant height, standability and the end-use qualities you're seeking in your crop are important considerations as well. When it comes to making a final decision about which variety to choose, local input is invaluable.

Use local resources

This is where your local agronomy consultant or retail agronomist come into the picture, as they likely have had first-hand experience, participated in a learning session or researched the variety themselves. They will also be able to provide insight on how the variety integrates into your fertility and crop protection rotations.

You can also have discussions with your neighbours. Ask questions about new varieties you may be considering and whether they're a good fit for your farm. It's a conversation that's well worth the time.


CANOLA

Choose the right canola for your farm

CANOLA

	HERBICIDE MANAGEMENT		DEFENSIVE TRAITS	GROWING SEASON		
	TRAIT	HERBICIDE RESISTANCE MANAGEMENT	DISEASE PROTECTION	SHORT	MID	FULL
PV 760 TM	TruFlex™ Canola	Groups 1 & 2	BL	●●●	●●●	●●
PV 761 TM *NEW*	TruFlex Canola	Groups 1 & 2	BL	●●	●●●	●●●
PV 780 TC	TruFlex Canola	Groups 1 & 2	BL, CR	●●●	●●●	●●
PV 540 G	Roundup Ready®	Groups 1 & 2	BL	●●	●●●	●●●
PV 560 GM	Roundup Ready	Groups 1 & 2	BL	●●	●●●	●●
PV 581 GC	Roundup Ready	Groups 1 & 2	BL, CR	●●	●●●	●●
PV 585 GC	Roundup Ready	Groups 1 & 2	BL, CR	●●	●●●	●●●
PV 591 GCS	Roundup Ready	Groups 1 & 2	BL, SCL, CR	●●●	●●●	●●
PV 660 LCM *NEW*	LibertyLink®	Groups 2 & 9	BL, CR	●●	●●●	●●●
PV 680 LC	LibertyLink	Groups 2 & 9	BL, CR	●●	●●●	●●●
PV 681 LC *NEW*	LibertyLink	Groups 2 & 9	BL, CR	●●●	●●●	●●
PV 200 CL	Clearfield	Groups 1 & 9	BL	●●	●●●	●●
Evolve RR	Roundup Ready	Groups 1 & 2	BL, CR	●●	●●●	●●●

TruFlex™ Canola = TruFlex CANOLA with Roundup Ready® Technology Roundup Ready® = Roundup Ready CANOLA

BL = Blackleg, SCL = Sclerotinia, CR = Clubroot

What you should know about straight cutting canola

Many growers have successfully adopted this practice and it's a viable alternative to the conventional approach of swathing and combining.

As a standing canola crop reaches maturity the risk of pod shatter and/or pod drop is a key impediment to straight cutting. However, the introduction of varieties with pod shatter reduction traits has eased this concern. Growers attempting this practice for the first time should strongly consider selecting a hybrid recommended for harvest management characteristics or pod shatter traits. After that, growing the crop is no different up to the point of harvest management.

HARVESTABILITY		DISEASE PACKAGE			GRAIN MARKETING
STANDABILITY	STRAIGHT CUT	BLACKLEG	SCLEROTINIA	CLUBROOT RESISTANCE	PREMIUM CONTRACTS
●●	●●●	●●●			
●●●	●●●	●●●			
●●		●●●		●●	
●●●	●	●●●			
●●	●●●	●			
●●	◐	●●●		●●	
●●●		●●●		●●●	
●●		●●●	●●●	●●	
●●●	●●●	●●●		●●	
●●●		●●●		●●	
●●●		●●●		●●	
●●●		●●●			Non-GMO
●●		●●●			High Erucic Oil

●●● BEST OPTION ●● BETTER OPTION ◐ GOOD OPTION ▭ NONE

As the crop approaches maturity, terminating growth with a pre-harvest herbicide application is strongly recommended. Spraying is essentially the replacement for swathing. This will allow the crop to dry down uniformly. If the crop is not terminated, later maturing plants or patches will delay combining. The selection of the product used to terminate crop growth will depend on the herbicide tolerant canola system. Glyphosate can be used in LibertyLink® and Clearfield® canola. Apply it at about the same time as swathing. Glyphosate works slow and can take three to four weeks before attempting to combine. Desiccant-type products such as Heat® or Reglone® (Stage)® are faster acting but provide minimal pre-harvest perennial weed management benefits.

In the case of Roundup Ready canola the desiccant type products are the only option. Talk to your retail about various chemical options that can be used as harvest management aids when attempting to straight cut canola.

A final note, when assessing the crop for combining, the physical appearance of the plants is not always a good indicator of seed moisture content. In many cases, growers have found seed moisture content to be much less than expected based on plant colour change.

TruFlex™ CANOLA with Roundup Ready® Technology

	HYBRID	DESCRIPTION	YIELD (CHECK DK 75-65)	
Proven SEED	PV 760 TM	A new TruFlex™ Canola with Roundup Ready® Technology with pod shatter reduction traits allowing growers to have the flexibility at harvest to straight cut or delay swathing. PV 760 TM brings a wider spray window and application rate flexibility helping growers maximize yields in all geographies in Western Canada.	103%	
Proven SEED	PV 761 TM NEW	A high yielding TruFlex hybrid. PV 761 TM provides growers flexibility on herbicide rates, application windows and harvest management. Following Proven Seed's high standards on blackleg protection and standability, this hybrid is designed to perform.	102%	
Proven SEED	PV 780 TC	A new TruFlex canola with Roundup Ready technology with clubroot resistance. PV 780 TC brings a wider spray window and application rate flexibility helping growers maximize yields in all geographies in Western Canada.	102%	

Source: 2019 Nutrien Ag Solutions Local Performance Checks – 9 locations, 27 replicates

LIBERTY LINK®

	HYBRID	DESCRIPTION	YIELD (CHECK L233P)	
Proven SEED	PV 660 LCM NEW	Strong yield, harvest management and clubroot protection – PV 660 LCM has it all. This new LibertyLink hybrid from Proven Seed is a solid choice for all growing zones across Western Canada.	99%	
Proven SEED	PV 680 LC	The first LibertyLink hybrid from Proven Seed. With strong resistance to blackleg and clubroot, this high yielding hybrid will excel in rotations across Western Canada.	102%	
Proven SEED	PV 681 LC NEW	New PV 681 LC is the earliest maturing LibertyLink hybrid from Proven Seed. Suitable for all growing zones, this mid-season hybrid is an excellent choice for geographies at risk of clubroot in Western Canada.	100%	

Source: 2019 Nutrien Ag Solutions Local Performance Checks – 9 locations, 27 replicates and breeding data 2019

TruFlex™ canola provides enhanced flexibility in spray rates and timing to deliver next-level weed control. Built on Roundup Ready® technology, it offers the flexibility to manage more weed species to help exceed yield expectations. Introducing three TruFlex canola hybrids with Roundup Ready technology from Proven Seed.

	STANDABILITY (1-5, 5=FLAT)	MATURITY (DAYS)	HEIGHT (CM)	BLACKLEG RATING	AGRONOMIC FEATURES
	2.0 Excellent	-0.3	+1.0	R	Flexibility in application rate and staging providing improved weed control. Harvest management hybrid.
	2.1 Excellent	+1.7	+8.0	R	High yielding hybrid with TruFlex Roundup Ready technology for flexibility in application rate and staging providing improved weed control.
	2.0 Excellent	-0.5	+4.0	R	Flexibility in application rate and staging providing improved weed control. Clubroot resistance.

As weed management becomes increasingly complex, the LibertyLink® system offers a different solution to tackle tough weeds. Proven Seed has now launched three LibertyLink hybrids, featuring high-performing genetics and superior weed control for strong yields.

	STANDABILITY (1-5, 5=FLAT)	MATURITY (DAYS)	HEIGHT (CM)	BLACKLEG RATING	AGRONOMIC FEATURES
	1.9 Excellent	+2.6	+5.0	R	High yield, mid-late maturity, clubroot resistance, Liberty herbicide resistance, harvest management for straight cutting
	1.7 Excellent	+0.8	+10.0	R	High yield, clubroot resistance, Liberty herbicide resistance
	1.5 World class	-1.3	-1.0	R	Early to mid-maturity, high yield, Liberty herbicide resistance, clubroot resistance

Roundup Ready® CANOLA

	HYBRID	DESCRIPTION	YIELD (CHECK DK 75-65)	
Proven® SEED	PV 540 G	A yield leading and yield stable hybrid that performs across all geographies of Western Canada with extremely strong blackleg resistance genetics.	106%	
PIONEER®	PV 560 GM	A hybrid that can reduce the risk of harvest losses in canola from pod shatter and pod drop. A great option that delivers harvest flexibility for swathing or straight cut situations.	104%	
PIONEER®	PV 581 GC	A high-yielding clubroot resistant hybrid with very good standability. An exceptional tool for use within a responsible clubroot management rotation.	105%	
PIONEER®	PV 591 GCS	A high-yielding canola hybrid with an increased tolerance to sclerotinia and clubroot resistance in one complete package. Uniquely suited for canola production in areas at highest risk for sclerotinia, clubroot and blackleg.	101%	
	HYBRID	**DESCRIPTION**	**YIELD (CHECK PV 580 GC)**	
Proven® SEED	PV 585 GC	A Roundup Ready®, multigenic clubroot resistant canola hybrid. The complete package, boasting superior resistance to both clubroot and blackleg, along with excellent agronomic traits and strong yields. The latest addition to Proven Seed's line of sustainable clubroot management options for existing and high-risk clubroot fields, allowing growers to protect their canola rotations and yields.	106%	

Source: 2019 Nutrien Ag Solutions Local Performance Checks - 10 locations, 30 replicates

Clearfield® Production System for Canola

	HYBRID	DESCRIPTION	YIELD (CHECK 45H33)	
Proven® SEED	PV 200 CL	A high-yielding Clearfield® hybrid that performs as well as the best in the industry but with the addition of an improved standability rating and non-GMO contract premium offerings.	101%	

Source: 2019 Nutrien Ag Solutions Local Performance Checks - 10 locations, 30 replicates

A selection of top-performing canola hybrids with Roundup Ready® technology for growers who prefer leading genetics and high yield potential coupled with a simple approach to weed management including broad application flexibility.

	STANDABILITY (1-5, 5=FLAT)	MATURITY (DAYS)	HEIGHT (CM)	BLACKLEG RATING	AGRONOMIC FEATURES	
	1.3 World class	+2.9	+11	Very strong R	Consistent high yield, excellent blackleg resistance, superior harvestability, world class standability	
	1.7 Excellent	+1.3	+13	MR	High yield, Pioneer Protector® HarvestMax traits	PIONEER PROTECTOR HarvestMax
	1.8 Excellent	+2.3	+11	R	High yield, Pioneer Protector® clubroot resistance traits	PIONEER PROTECTOR CLUBROOT
	1.6 Excellent	-0.5	+11	R	Pioneer Protector® Plus with sclerotinia and clubroot resistance traits	PIONEER PROTECTOR PLUS
	STANDABILITY (1-5, 5=FLAT)	**MATURITY (DAYS)**	**HEIGHT (CM)**	**BLACKLEG RATING**	**AGRONOMIC FEATURES**	
	1.4 World class	+0.6	-1	Very strong R	Multigenic clubroot resistant hybrid, R rating for blackleg and fusarium wilt, world class standability	

Proven Seed offers leading canola hybrids with the Clearfield® production system. Clearfield canola offers growers an option for the control of volunteer non-Clearfield canola, making it a strong tool for rotation management.

	STANDABILITY (1-5, 5=FLAT)	MATURITY (DAYS)	HEIGHT (CM)	BLACKLEG RATING	AGRONOMIC FEATURES
	2.4 Good	+1.3	-0.7	R	High yield, standability, non-GMO

InVigor®

HYBRID	DESCRIPTION	YIELD	
InVigor L357P *NEW**	A thrilling addition to the 300 series. A Pod Shatter Reduction hybrid that fits in non-clubroot areas for growers looking to push for high yields with very strong standability. This hybrid also features the added benefit of exceptional blackleg resistance.	112.9% of the checks (InVigor L233P and Pioneer 45H33) in the 2018/2019 WCC/RRC** trials 109.7% of InVigor L233P (n=39, 2018 & 2019)	
InVigor L340PC *NEW**	An exciting 300 series for growers that want it all. A high yielding, mid maturing, Pod Shatter Reduction hybrid that offers first generation clubroot resistance and strong standability.	108.9% of the checks (InVigor L233P and Pioneer 45H33) in the 2019 WCC/RRC 107.8% of InVigor L233P (n=16, 2019)	
InVigor L345PC	InVigor L345PC offers a significant jump in yield potential over InVigor L233P and features our patented Pod Shatter Reduction technology plus first generation clubroot resistance.	111.9% of the checks (InVigor 5440 and Pioneer 45H29) in the 2017/2018 WCC/RRC trials 111.4% of InVigor L233P (n=28, 2018)	
InVigor L352C	InVigor L352C offers yield potential that exceeds InVigor L252. Along with outstanding yield, it also features first generation clubroot resistance. This hybrid is ideal for growers that prefer to swath.	108.6% of the checks (InVigor 5440 and Pioneer 45H29) in the 2017/2018 WCC/RRC trials 104% of InVigor L252 (n=28, 2018)	
InVigor LR344PC	InVigor Choice hybrid with Pod Shatter Reduction and clubroot resistance. InVigor LR344PC features both the LibertyLink technology system and TruFlex™ canola with Roundup Ready® Technology. Perfect for growers looking for high-yielding InVigor genetics with the flexibility of Liberty herbicide or Roundup herbicide applications.	104.1% of the checks (InVigor L233P and Pioneer 45H33) in the 2018 WCC/RRC trials 103.6% of InVigor L233P (n=12, 2018)	
InVigor L233P	A strong performer, InVigor L233P was grown on more acres in Western Canada than any other canola hybrid in 2019 and 2020.** Featuring patented Pod Shatter Reduction technology, this very early maturing, high yielding hybrid provides the harvest flexibility you can count on.	108.8% of checks (InVigor 5440 and Pioneer 45H29) in 2014–2015 WCC/RRC trials	
InVigor L234PC	A great fit for growers in known clubroot-affected areas. This early maturing Pod Shatter Reduction with second generation clubroot-resistant hybrid is a nice fit for growers. We recommend growing InVigor L234PC with second generation clubroot resistance after two cycles of growing first generation clubroot-resistant hybrids in clubroot-affected areas or when clubroot symptoms are noticed in first generation clubroot-resistant hybrids (whichever comes first).	104% of the checks (InVigor 5440 and Pioneer 45H29) in 2017 WCC/RRC trials	
InVigor L255PC	InVigor L255PC offers a Pod Shatter Reduction and first generation clubroot-resistant hybrid. InVigor L255PC separates itself from other hybrids due to its very impressive standability.	109% of the checks (InVigor 5440 and Pioneer 45H29) in 2016 WCC/RRC trials	
InVigor L241C	With InVigor L241C you can expect strong standability and high yields from this mid-maturing hybrid, first generation clubroot resistant hybrid. This hybrid is well suited to all clubroot-affected regions of Western Canada and for growers that prefer to swath.	102% of the checks (InVigor 5440 and Pioneer 45H29) in 2012/2013 WCC/RRC trials	
InVigor L252	A consistent top performer, InVigor L252 continues to offer incredible yield performance and strong standability with mid-season maturity. For growers that prefer to swath.	110% of the checks (InVigor 5440 and Pioneer 45H29) in 2011/2012 WCC/RRC trials	
InVigor L230	Early-maturing InVigor L230 displays outstanding yield potential with excellent standability. This hybrid is ideal for growers who prefer an early-maturing hybrid and prefer to swath.	103.9% of the checks (InVigor 5440 and Pioneer 45H29) in 2014/2015 WCC/RRC trials	

Please note: Maturity, height and standability are based on performance ratings and data compiled from several InVigor internal trials over multiple years. Results may vary on your farm due to environmental factors and preferred management practices

n=# of trials

*Submitted for registration

MATURITY

Average maturity in days versus the average maturity in days of InVigor 5440 from InVigor internal trials.

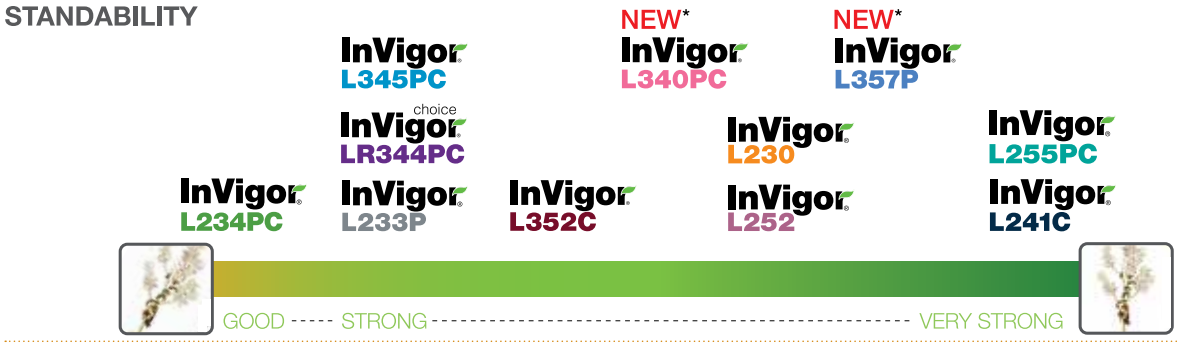
InVigor® hybrid canola represents the latest advancements in hybrid canola innovation and solutions. With a wide range of InVigor options and maturities, you can grow multiple InVigor hybrids to spread out your harvest. No matter which hybrids you choose to grow, you get genetics you can depend on and exceptional yields from your canola.

	ZONE	BLACKLEG RATING	AGRONOMIC TRAIT	STANDABILITY	MATURITY
	Mid- to long growing zones in Western Canada	R	Pod shatter reduction	Very strong	1/2 day later than InVigor L252
	All growing zones in Western Canada	R	Pod shatter reduction, 1st generation clubroot resistance	Strong	1 day earlier than InVigor L252
	All growing zones in Western Canada	R	Pod shatter reduction, 1st generation clubroot resistance	Strong	1 day earlier than InVigor L252
	All growing zones in Western Canada	R	1st generation clubroot resistance	Strong	1/2 day later than InVigor L252
	All growing zones in Western Canada	R	Pod shatter reduction, 1st generation clubroot resistance, LibertyLink technology system and TruFlex canola with Roundup Ready technology	Strong	Over 1 day earlier than InVigor L252
	All growing zones in Western Canada	R	Pod shatter reduction	Strong	Over 3 days earlier than the average of the checks
	All growing zones in Western Canada	R	Pod shatter reduction, 2nd generation clubroot resistance	Good	3 days earlier than the average of the checks
	Mid- to long growing zones in Western Canada	R	Pod shatter reduction, 1st generation clubroot resistance	Very strong	1 1/2 days later than the average of the checks
	All growing zones in Western Canada	R	1st generation clubroot resistance	Very strong	1 day earlier than the average of the checks
	All growing zones in Western Canada	R		Strong	1 day later than the average of the checks
	All growing zones in Western Canada	R		Strong	3 days earlier than the average of the checks

InVigor L340PC, InVigor L255PC, InVigor L352C, InVigor L345PC, InVigor Choice LR344PC and InVigor L241C all share the same first generation clubroot resistance profile.
InVigor L234PC has this resistance profile plus it contains second generation multi-genetic clubroot resistance to additional clubroot pathotypes to help combat evolving clubroot pathogens.

** Western Canadian Canola/Rapeseed Recommending Committee (WCC/RRC)

** Source 2019 & 2020 BPI planning data



* Pending registration
Please note: Information displayed on this chart is based on performance ratings and data compiled from several InVigor internal trials over multiple years. Results may vary on your farm due to environmental factors and preferred management practices.

HYBRID	DESCRIPTION	
DEKALB TRUFLEX™ CANOLA HYBRIDS		
DKTF 96 SC	DEKALB TruFlex canola hybrid bred for straight cutting with improved pod integrity offering high yield potential and multi-genic blackleg resistance (AG). 100.9% of 45CM39 in yield (n=16, 2019 Bayer Market Development Trials).	
DKTF 98 CR	Concerned about clubroot? Then this is the hybrid for you. The latest high performing multi-genetic clubroot resistant hybrid from DEKALB. 99.6% of 45CM39 yield (n=30, 2019 Bayer Market Development Trials).	
DEKALB LIBERTYLINK® HYBRIDS		
DKLL 82 SC	The next addition to DEKALB's LibertyLink offering and built for straight cutting. Complete with high yield potential and multi-genic blackleg resistance (ACG). 97.9% of L233P (n=32, 2019 Bayer Market Development Trials).	
DEKALB TRUFLEX™ CANOLA + LIBERTYLINK® HYBRIDS		
DKTFLL 21 SC	The first DEKALB TruFlex canola with Roundup Ready and LibertyLink Technologies. Offering improved pod integrity for straight cutting, flexibility in spray timing and rates, with very good standability and high yield potential. Complete with multi-genic blackleg resistance (ACG). 103.8% of 45CM39 in yield (n=13, 2019 Bayer Market Development Trials).	

HYBRID	DESCRIPTION	
DEKALB ROUNDUP READY® CANOLA HYBRIDS		
75-42 CR	Outstanding yield potential, excellent disease package and an early maturity advantage. 100% of 74-44 BL in yield (n=71, 2018 Bayer Market Development Trials).	
75-45 RR	Seed first and you can be first in your field at harvest. 101% of 74-44 BL in yield (n=57, 2018 Bayer Market Development Trials).	
75-65 RR	This hybrid was built to straight cut. 101% of 74-44 BL in yield (n=67, 2018 Bayer Market Development Trials).	

*Relative to DKTFLL 21 SC - 2019 Bayer Market Development Trials
**Relative to 74-44 BL - 2016-2018 Market Development Trials
[1]Standability Rating 1- 9; 1=Excellent, 9=Poor | Blackleg Labelling (Resistance Genes); A=LepR3, C=Rlms3, G=RlmS

Get the most out of your canola hybrids

To optimize the performance of your chosen canola hybrid, consider the following key factors – herbicide system, field selection, crop rotation, crop fertility and harvest management. First, consider your herbicide options – Roundup Ready®, TruFlex™, LibertyLink® or Clearfield®. Many seed companies now offer a broad choice in herbicide systems. Think about the features of each system. For example, the use of glyphosate in Roundup Ready canola provides broad spectrum control and ease of application but does not control Roundup Ready volunteers. With LibertyLink, consider pre-seed burn, be prepared for two applications if needed and be aware of weeds like cleavers. Review each field's history and think about

DEKALB® is excited to offer four straight cut hybrids and two clubroot hybrids for the 2021 season. DEKALB now also offers multiple herbicide trait technologies like TruFlex™ Canola with Roundup Ready® Technology, LibertyLink® canola and TruFlex Canola with Roundup Ready and LibertyLink® Technologies. DEKALB truly has a hybrid for every canola farmer.

	HERBICIDE TRAIT	MATURITY Relative to DKTFLL 21 SC*	BLACKLEG RATING	AGRONOMIC TRAIT	STANDABILITY[1]
	TruFlex CANOLA with Roundup Ready® Technology	Early Maturity 1.3 days	R Rating (AG)	SC BL	Strong 2.5 (n=27)
	TruFlex CANOLA with Roundup Ready® Technology	Early Maturity 0.6 days	R Rating (AC)	CR	Very Good 2.7 (n=31)
	LIBERTY LINK®	Early Maturity 0.6 days	R Rating (ACG)	SC BL	Strong 2.2 (n=30)
	TruFlex CANOLA with Roundup Ready® Technology LIBERTY LINK®	Early Maturity Check	R Rating (ACG)	SC BL	Strong 2.1 (n=41)
	HERBICIDE TRAIT	**MATURITY Relative to 74-44 BL****	**BLACKLEG RATING**	**AGRONOMIC TRAIT**	**STANDABILITY[1]**
	Roundup Ready® CANOLA	Early Maturity -0.2 days	R Rating (AC)	CR	Strong 2.2 (n=189)
	Roundup Ready® CANOLA	Very Early Maturity -2.6 days	R Rating (CG)	EM	Strong 2.1 (n=254)
	Roundup Ready® CANOLA	Early Maturity +0.5 days	R Rating (C)	SC	Strong 2.0 (n=322)

n=# of trials;
BL=Blackleg; CR=Clubroot; EM=Early Maturity; SC=Straight Cutting

what product you're rotating to or from and think about any potential problem weeds.

Next, think about your field decision and crop rotation. Review your crop history. Are you one, two or three years into your crop rotation? Are there any potential disease issues with tight crop rotations or volunteers? Ensure the variety you chose has multi-gene blackleg and/or clubroot protection in light of increased risk.

Another factor is crop fertility. What fertility is being used? Once you plant the seed, fertilizer is the key input that generates yield response. Other inputs like fungicides protect the yield potential. Take a close look at fertility, do some soil sampling, examine past success with your blends and watch your level of seed-placed fertilizer.

Finally, keep in mind harvest management. Would you like the option to straight cut? Review the rated maturity of the hybrid and consider where it fits in your harvest schedule. Maturity matters. Spreading out your maturities to help your harvest management is key.

These factors will help maximize the performance of your canola hybrids.

BREVANT™ seeds

High Yields and Maximum Returns

Maximize your marketing options and support the North American food industry. Plant a Brevant™ seeds canola hybrid for a Nexera™ production contract and get high yields, the convenience of Roundup Ready® or Clearfield® production systems, great agronomic characteristics like clubroot, blackleg and lodging resistance, and easy harvestability. There are hybrids for every farm.

HYBRID	EARLY SEASON VIGOUR[1]	DAYS TO MATURITY	LODGING[2]	BLACKLEG[3]	CLUBROOT	STRAIGHT CUT[4]
ROUNDUP READY®						
1026 RR	8	99.6	8	R	R	N
1028 RR	7	99.9	9	R	R	N
CLEARFIELD						
B2030MN *NEW*	7	100.2	9	R	R	Y
2026 CL	8	100.6	9	R	N/A	N
2028 CL	7	100.3	9	R	R	N

[1]Early Season Vigour Scale: 9=Excellent, 5=Average, 1=Poor
[2]Lodging Scale: 9=Excellent, 5=Average, 1=Poor
[3]Blackleg Scale: R=Resistant
[4]Can be considered for straight cutting
*Average of 2017 Advanced Demonstration Trial Results.
Maturity data based on 2018-2019 Corteva Agriscience Research Data.

Brevant.ca

Nexera™ Roundup Ready® CANOLA Clearfield® Production System for Canola

Lumiderm™

INSECTICIDE SEED TREATMENT

Key benefits

- Enhanced crucifer and striped flea beetle protection
- Excellent control of early season cutworms
- Excellent early season seedling stand establishment, vigour and biomass
- Up to 35 days of protection through the critical stages of seedling growth
- Novel class of chemistry (Group 28) for resistance management

Serious seed protection. Get serious flea beetle and cutworm protection.

Lumiderm™ insecticide seed treatment provides excellent plant protection against both flea beetles and cutworms in one convenient bag.

Source: Seven Persons, AB. 42 Days After Seeding.

CORTEVA™ agriscience


SOYBEANS

Choose the right soybeans for your farm

SOYBEANS

	SEASON SUITABILITY					
	HEAT UNITS	RELATIVE MATURITY	HERBICIDE TRAITS	SHORT SEASON	MID SEASON	FULL SEASON
PROVEN SEED						
PV 15s0009 R2X	2300	0009	RR2X	●●●	●●	●
PV 22s002 R2X *NEW*	2350	002	RR2X	●●	●●●	●
PV 16s004 R2X	2400	004	RR2X	●	●●●	●●
PV 10s005 RR2	2425	005	RR2Y		●●●	●●●
PV 19s006 R2X *NEW*	2450	006	RR2X		●●●	●●●
PV 12s007 R2X	2475	007	RR2X		●●●	●●●
NK						
S0009-F2X *NEW*	2275	0009	RR2X	●●●	●●	
S0009-M2	2275	0009	RR2Y	●●●	●●	
S001-D8X *NEW*	2300	001	RR2X	●●●	●●●	
S003-Z4X	2325	003	RR2X	●●	●●●	●
S005-C9X *NEW*	2350	005	RR2X		●●●	●●
S007-Y4	2350	005	RR2Y		●●●	●●●
S006-M4X	2375	006	RR2X		●●●	●●●
S007-A4XS *NEW*	2400	007	RR2X,STS		●●	●●●
DEKALB						
DKB0005-44	2175	0005	RR2X	●●●		
DKB0009-89	2275	0009	RR2X	●●●	●	
DKB002-32 *NEW*	2350	002	RR2X	●●	●●●	●
DKB003-29	2375	003	RR2X	●	●●●	●
DKB005-52	2425	005	RR2X		●●●	●●
24-10RY	2425	005	RR2Y		●●●	●●
DKB006-29	2450	006	RR2X		●●●	●●●
25-10RY	2500	008	RR2Y		●	●●●

●●● BEST OPTION ●● BETTER OPTION ● GOOD OPTION ▭ NONE RR2Y= Roundup Ready 2 YIELD SOYBEANS, RR2X= ROUNDUP READY 2 XTEND SOYBEANS

Choose the right type of pulse inoculant

When choosing an inoculant, first select the correct species of rhizobia. There are many species, each linked to a specific set of pulse crop hosts.

Inoculant formulation is also important. Liquid and peat inoculants are applied directly to the seed, while granular inoculants are placed in the soil at planting. Liquid inoculants, although easy to handle, should only be used if the field has a history of the pulse crop grown in rotation.

Because the liquid carrier offers limited protection for the rhizobia, survivability can be a challenge in sub-optimal conditions. Most of the risk centers around desiccation of the rhizobia which can be reduced by planting as soon as possible into moist soil.

Peat inoculants can be messier to handle, but they tend to perform better than liquid inoculants. Peat carriers provide more protection to the live rhizobia, but this protection also has limits, so it's still important to plant soon after application.

PRODUCTION & MANAGEMENT						PEST RESISTANCE		
SUITABLE FOR WIDE ROW	SUITABLE FOR NARROW ROW	ROLLING OR ROCKY FIELDS	IRON DEFICIENCY CHLOROSIS RESISTANCE	STANDABILITY	EMERGENCE	WHITE MOULD	PHYTOPHTHORA ROOT ROT**	SOYBEAN CYST NEMATODE
●●	●●●	●●●	●●	●●●	●●	●●	Rps1c	●●●
●●●	●●●	●●	●●●	●●●	●●●	●●	Rps1k	●●●
●●●	●●	●●●	●●	●●●	●●●	●●	Rps1k	●●●
●●●	●●	●●	●●●	●●●	●●●	●●		
●●●	●●	●	●●●	●●●	●	●●●	Rps1c	●●●
●●●	●	●●●	●●	●●●	●●	●●		
●	●●●	●●	●●●	●●	●●	●●	Rps1c	
●●	●●●	●●●	●●●	●●●	●●	●●	Rps6	
●●	●●●	●●	●●	●●	●●	●●	Rps1c	
●●●	●●	●●●	●●	●●●	●●	●●	Rps1c	
●●	●●●	●●	●	●●	●●●	●●	Rps1c	
●●●	●●●	●●●	●●	●●●	●●	●	Rps1c	
●●●	●●●	●●	●●	●●●	●●	●●●	Rps1c	
●●●	●	●●	●●	●●●	●●	●●		
	●●●	●	●●	●●●	●●	●●●	Rps1c	●●●
●●●	●●●		●●	●●●	●●	●●●	Rps1c	●●●
●●●	●●	●●	●	●●●	●●	●●●	Rps1k	●●●
●●●	●●●		●●	●●●	●●●	●●●	Rps1k	●●●
●●●	●●●		●●	●●	●●●	●●●	Rps1c	●●●
●●●	●●●		●●●	●●●	●●●	●●●	Rps1k	●●●
●●●	●●●		●●	●●●	●●●	●●	Rps1c	

STS = Sulfonylurea-tolerant soybeans

For more information regarding Phytophthora, visit **www.apsnet.org/edcenter

Peat inoculants are available in sterile and non-sterile formulations. The peat sterilization process increases cost but reduces the amount of undesirable microorganisms present. This results in higher concentrations of rhizobia and generally lower application rates.

When using a seed treatment, ensure it's compatible with your peat or liquid inoculant. Compatibility charts are available from your retailer or the inoculant manufacturer.

Granular inoculants generally produce the best results, but they tend to be the most expensive and require a separate tank for application. Granular inoculants cannot be mixed with dry fertilizer as direct contact with fertilizer can be harmful to the rhizobia.

When planting soybeans, double inoculating may be advisable. If the field has a limited history of soybeans or hasn't been planted to soybeans in several years, using two types of inoculant (e.g. liquid on the seed, granular in the seed row) is often beneficial.

Proven Seed is excited to strengthen our soybean portfolio across all soybean regions in Western Canada. Providing industry leading agronomic expertise, we position soybeans as an excellent rotational cropping option for western Canadian farms. Leading edge product

	AGRONOMIC TRAITS						
VARIETY	**HEAT UNITS**	**RELATIVE MATURITY**	**HERBICIDE TRAITS**	**EMERGENCE**	**STANDABILITY**	**PLANT HEIGHT**	
PV 15s0009 R2X	2300	0009	RR2X	G	E	Tall	
PV 22s002 R2X *NEW*	2350	002	RR2X	E	VG	Tall	
PV 16s004 R2X	2400	004	RR2X	E	G	Tall	
PV 10s005 RR2	2425	005	RR2Y	G	VG	Medium/Tall	
PV 19s006 R2X *NEW*	2450	006	RR2X	G	VG	Medium	
PV 12s007 R2X	2475	007	RR2X	G	VG	Tall	

E=Excellent; VG=Very Good; G=Good; P=Poor
Nematode rating scale: S=Susceptible, R=Resistant

RR2Y=, RR2X=

Seed treatments and inoculants enable crops to achieve their full genetic potential

SEED TREATMENT	CLASS	CORN	CEREALS	PEAS & LENTILS	SOYBEANS	DESCRIPTION
CONSENSUS® L	Plant Growth Regulator			✓	✓	A new and unique seed treatment, designed to promote early germination and quicker root development in pulse crops, CONSENSUS L provides faster emergence, healthier stands, plant stress resistance and higher yield potential.
Cover® 2	Fungicide seed treatment		✓			For use on cereal crops, Cover 2 seed treatment combines two fungicides that provide both contact and systemic activity against a broad-spectrum of both seed- and soil-borne diseases.
Loveland Vitaflo	Fungicide	✓	✓	✓	✓	Seed protectant for use on wheat, barley, oats, rye, triticale, flax, corn, dry common beans, snap common beans, peas, lentils and soybeans. Contains carbathiin and thiram for the control of smuts, common bunt, dwarf bunt, leaf stripe, seed rots and seedling blights, and suppression of root rot.

evaluations are second to none. Positioning our strong genetics in specific zones where they perform the best, ultimately helping growers maximize returns. These varieties contain the strongest technology options allowing growers to overcome tough pest problems with a specific solution in all maturities. The excitement is building around Proven Seed soybeans.

	DEFENSIVE TRAITS				
	PHYTO-PHTHORA	WHITE MOULD	IRON DEFICIENCY CHLOROSIS	SOYBEAN CYST NEMATODE	DESCRIPTION
	Rps1c	G	G	R	Tall variety with excellent standability make this ultra-early soybean easy to harvest. With excellent yield for maturity and Phytophthora and SCN resistance, this RR2X Proven Seed soybean allows production west of traditional soybean growing areas. Ideal for light fertile soils under narrow row production.
	Rps1k	VG	E	R	PV 22s002 R2X boasts strong and stable yields across multiple environments. Excellent emergence for Manitoba and eastern Saskatchewan. Contains Rps1k Phytophthora gene with good field tolerance. Very good white mould and outstanding IDC tolerance, with resistance to SCN, this new RR2X soybeans rounds out a very solid defensive package.
	Rps1k	G	G	R	This tall bushy RR2X variety with nice appearance is a great choice for heavier soils in wide row production. With Phytophthora and SCN resistance a strong defensive option for reliable results under tough reduced tillage conditions.
	Field tolerance	VG	VG	S	PV 10s005 RR2 raises the bar in western Canadian soybean fields. Proven Seed entered the western Canadian soybean market with unprecedented performance from this Genuity RR2Y soybean, with its strong agronomics and excellent disease resistance.
	Rps1c	E	E	R	PV 19s006 R2X is a medium height plant with excellent standability and yield potential. This defensive beast protects yield through excellent IDC scores, strong white mould tolerance, Rps1c gene for Phytophthora coupled with strong field tolerance and SCN resistance. Best suited on rows 20 inches and under.
	Field tolerance	G	G	S	PV 12s007 R2X adds the strong herbicide control of Roundup Ready Xtend® to Proven Seed's soybean lineup. With strong performance and aggressive growth, this tall, branchy product is well suited to wide row production in heavier soil types in the Red River Valley and reduced tillage production.

INOCULANT	CLASS	CORN	CEREALS	PEAS & LENTILS	SOYBEANS	DESCRIPTION
So-Fast® XL Liquid	Liquid Inoculant			✔		A convenient, easy-to-use liquid inoculant that maximizes nodulation resulting in increased fixation of nitrogen for higher yield and protein potential in pea and lentil crops.
Establish® XL Granular	Granular Inoculant (SCG)			✔		An advanced granular formulation technology with a highly-effective, more active inoculant strain for increased yield potential of peas and lentils.

At Syngenta, we know you want consistent performance from your soybeans year in and year out. That's why we draw on proprietary genetics and produce

	AGRONOMIC TRAITS					
VARIETY	**HERBICIDE TECHNOLOGY**	**RELATIVE MATURITY**	**HEAT UNITS**	**SEEDLING VIGOUR**	**PLANT HEIGHT**	
S0009-F2X *NEW*	RR2X	0009	2275	3	Medium	
S0009-M2	RR2Y	0009	2275	3	Medium	
S001-D8X *NEW*	RR2X	001	2300	3	Medium/Tall	
S003-Z4X	RR2X	003	2325	2	Medium	
S005-C9X *NEW*	RR2X	005	2350	2	Medium	
S007-Y4	RR2Y	005	2350	3	Medium	
S006-M4X	RR2X	006	2375	3	Medium	
S007-A2XS *NEW*	RR2X/STS	007	2400	3	Medium/Tall	

Rating scale: All numerical ratings are on a 1-9 scale where 1=best
Nematode rating scale: S=Susceptible, R=Resistant
STS=Sulfonylurea-tolerant soybeans

RR2Y= Roundup Ready 2 YIELD SOYBEANS, RR2X= ROUNDUP READY 2 XTEND SOYBEANS

Protect your seed from insects and diseases

Syngenta offers great seed treatment options to meet the needs of your soybean crop while supporting sustainable practices that help preserve the environment. Vibrance® fungicide provides best-in-class Rhizoctonia control with the

SEEDCARE FOR SOYBEANS	INSECTS/PESTS CONTROLLED	DISEASES CONTROLLED
CruiserMaxx® Vibrance® Beans	Bean leaf beetle, European chafer, Seed corn maggot, Soybean aphid[1], Wireworm	Root rot[1] (*Phytophthora megasperma* var. *sojae*) Seedling disease complex (seedling blight, damping off[2], seed rot and root rot) caused by *Pythium* spp., *Fusarium* spp., *Rhizoctonia* spp. and seed-borne *Phomopsis* spp.
Vibrance® Maxx RFC	N/A	Seedling disease complex (seedling blight, seed rot/pre- and post-emergence damping-off and root rot) caused by *Pythium* spp., *Fusarium* spp., *Rhizoctonia* spp. and seed-borne *Phomopsis* spp. and seed-borne *Botrytis* spp. Early-season root rot caused by *Phytophthora megasperma* var. *sojae*

varieties that deliver high yields and strong disease tolerance in early maturity geographies. This season, we've added four new varieties to the NK® soybean seed lineup in Western Canada.

	DEFENSIVE TRAITS				
	PHYTO-PHTHORA GENE	WHITE MOULD	IRON DEFICIENCY CHLOROSIS	SOYBEAN CYST NEMATODE	DESCRIPTION
	Rps1c	5	2	S	Excellent Iron Deficiency Chlorosis tolerance. Best performance on medium to coarse textured soils.
	Rps6	3	2	S	Maintains medium plant height across variable environments. Dependable Phytophthora root rot field tolerance with Rps6 gene. Superb Iron Deficiency Chlorosis tolerance.
	Rps1c	3	3	S	Very good standability and tolerance to white mould. Strong stress tolerance allows it to perform across a range of soil types and yield environments.
	Rps1c	3	3	S	Excellent standability, tolerance to white mould. Broadly adapted across a wide range of soil types.
	Rps1c	3	5	S	Dependable yield potential. Very good Phytophthora root rot tolerance combined with the Rps1c gene. Solid standability and white mould tolerance.
	Rps1c	2	3	S	Recognized yield performer with broad adaptation. Strong Phytophthora root rot field tolerance with the Rps1c gene. Strong emergence with excellent white mould tolerance.
	Rps1c	3	4	S	Consistent performance across yield environments. Excellent standability with strong tolerance to white mould. Good choice for narrow row spacings.
	S	3	3	S	Outstanding yield with consistent performance across yield environments and soil types. Very strong standability with good performance in all row widths. Solid tolerance to Iron Deficiency Chlorosis.

Performance evaluations are based on field observations and public information. Data from multiple locations and years should be evaluated whenever possible. Individual results may vary depending on local growing, soil and weather conditions. Always read and follow pesticide label directions. The Syngenta logo is a registered trademark of a Syngenta Group Company.

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 and Roundup Ready 2 Xtend® soybeans. Patents for Monsanto technologies can be found at the following webpage: www.monsantotechnology.com.

added benefit of Rooting Power®, delivering stronger roots that can better defend against soil-borne diseases. Cruiser® insecticide provides powerful insect protection plus the Vigor Trigger® effect for improved emergence, great uniformity and enhanced stand establishment.

SEEDCARE FOR SOYBEANS	INSECTS/PESTS CONTROLLED	DISEASES CONTROLLED
Apron XL®	N/A	Damping-off caused by *Pythium* spp. Root rot[1] (*Phytophthora megasperma* var. *sojae*)

[1] Early-season protection.

[2] Pre- and post-emergence.

Always read and follow label directions. Cruiser Maxx Vibrance Beans is an on-seed application of Cruiser Maxx Beans seed treatment insecticide/fungicide and Vibrance 500 FS seed treatment fungicide. Apron XL®, Cruiser®, Cruiser Maxx®, NK®, NK® & Design, Rooting Power®, Syngenta®, Vibrance®, and Vigor Trigger® are trademarks of a Syngenta Group Company. © 2020 Syngenta.

	AGRONOMIC TRAITS					
VARIETY	**HERBICIDE TECHNOLOGY**	**RELATIVE MATURITY**	**HEAT UNITS**	**EMERGENCE**	**PLANT HEIGHT**	
DKB0005-44	RR2X	0005	2175	VG	Medium	
DKB0009-89	RR2X	0009	2275	VG	Medium	
DKB002-32 *NEW*	RR2X	002	2350	VG	Medium	
DKB003-29	RR2X	003	2375	E	Medium/Tall	
DKB005-52	RR2X	005	2425	VG	Medium/Tall	
24-10RY	RR2Y	005	2425	VG	Medium/Tall	
DKB006-29	RR2X	006	2450	E	Medium/Tall	
25-10RY	RR2Y	008	2500	E	Tall	

Rating scale: E=Excellent; VG=Very Good; G=Good; P=Poor; S=Susceptible; R3=Resistant to Race 3

RR2Y= Roundup Ready 2 YIELD SOYBEANS, RR2X= ROUNDUP READY 2 XTEND SOYBEANS

Bayer SeedGrowth™

Getting your soybeans off to a strong start can pay big dividends come harvest time. The seed treatment experts at Bayer offer the products, technical expertise and application knowledge to help safeguard your crop. Consider seed treatments part of your insurance policy – protecting vulnerable crops from seed- and soil-borne diseases and insects – delivering the energy they need to emerge, stronger and healthier.

EverGol® Energy

EverGol® Energy seed treatment fungicide provides soybeans with protection against the most important seed and soil-borne diseases caused by rhizoctonia, fusarium, pythium, botrytis and phomopsis. It provides quicker emergence, healthier plants and higher yields. For the complete package of protection, EverGol Energy can be tank-mixed with Allegiance® fungicide for protection against seed rot and seedling blights caused by early season *Phytophthora* spp and Stress Shield® insecticide for superior insect protection, including wireworms.

Get higher yield potential from your DEKALB® soybean acres when you combine early season genetics and enhanced chemistry options with the Roundup Ready® Xtend Crop System.

	DEFENSIVE TRAITS				
	PHYTO-PHTHORA GENE	WHITE MOULD	IRON DEFICIENCY CHLOROSIS	SOYBEAN CYST NEMATODE	DESCRIPTION
	Rps1c	E	VG	R3	Ultra-early variety. Branchy, medium height with excellent standability.
	Rps1c & Rps1k	E	E	R3	Bushy and branches well, medium height variety with excellent standability. Good disease and agronomic characteristics.
	Rps1k	E	G	R3	DKB002-32 is a branchy, medium height variety with excellent standability. This variety excels in moderate to high fertility environments, is well adapted to all row widths, soil types and a good fit for no-till.
		E	VG	R3	Medium-to-tall height, branchy variety. Well suited to tough, low productivity growing conditions as well as high yield environments.
	Rps1c	E	VG	R3	Medium-tall height with excellent standability and excellent agronomic package. Well suited to all soil types and row widths.
	Rps1k	E	VG	S	Excellent standability and tolerance to white mould. Consistent variety that performs well in a range of yield environments.
	Rps1k	E	E	S	Medium-tall height, very branchy variety with excellent standability. Well suited to highly productive loam soils.
	Rps1c	VG	VG	S	Consistent variety that performs well in a range of yield environments and soil types.

Factors to consider when growing soybeans

There are several important factors to keep in mind when growing soybeans. Consider your climatic conditions including heat units and moisture. Soybeans require a full season of cumulative heat to mature adequately. Varieties with maturities ranging from 2350 to 2500 heat units are well adapted to the Manitoba Red River Valley while early maturing varieties (2175 to 2350 CHU) are gaining traction in southeast Saskatchewan and southern Alberta.

Adequate soil moisture throughout the growing season is necessary to optimize soybean yields. Annual precipitation in Manitoba and southeast Saskatchewan (where soybeans are commonly grown) amounts to 15 to 20 inches. Maintaining adequate soil moisture in July and August is particularly important. Seed number and bulking up of seed size is highly dependent on this moisture.

Another factor to consider is seedbed preparation. Successful crop establishment is dependent on a warm seedbed (above 10C). Excess trash can cause challenges with soil warming and crop establishment. Assess and remediate fields with tillage in the fall or spring prior to planting.

Finally, consider your crop rotation. A three to four year rotation between soybean crops is important for diversity and yield stability over time.

Roundup Ready® Xtend Crop System

IT'S THE SYSTEM THAT MAKES THE DIFFERENCE

ROUNDUP READY 2 XTEND® SOYBEANS

Roundup Ready 2 Xtend® soybeans combine the proven yield potential of the Roundup Ready 2 Yield® soybean trait, along with tolerance to both dicamba and glyphosate.

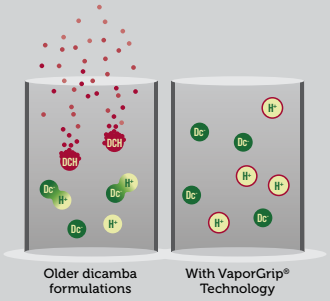
TWO CHEMISTRY OPTIONS

The Roundup Ready® Xtend Crop System gives you the choice of two enhanced chemistry options:

Roundup Xtend® herbicide with VaporGrip® Technology (Group 4 and 9): a pre-mix of our low-volatility dicamba formulation and glyphosate.

XtendiMax® herbicide with VaporGrip® Technology (Group 4): a low-volatility dicamba formulation.

These herbicides also give you up to 14 days of residual activity on certain small-seeded broadleaf weeds to keep fields clean longer.



VAPORGRIP® TECHNOLOGY

Our liquid dicamba formulation features VaporGrip® Technology. In older dicamba formulations, dicamba ions combine with free hydrogen ions to form volatile dicamba acid. VaporGrip® Technology prevents dicamba ions from combining with hydrogen ions, significantly reducing volatility.

Application Requirements

NOZZLES
Use nozzles and operating pressures that produce extremely coarse to ultra-coarse droplets to minimize drift

WIND SPEED
Optimal wind speeds for application typically occur between 5 and 15 km/h

WATER VOLUME
Minimum carrier volume is 10 GPA (15 GPA is recommended when using a DRA)

BOOM HEIGHT
Maintain boom height 50 cm above crop canopy to reduce the risk of drift

LABEL BUFFER
Maintain the required label buffer to protect sensitive areas

AMMONIUM SULFATE
Ammonium sulfate and ammonium-based additives are restricted in applications

WEED HEIGHT
Spray weeds less than 10 cm tall

GROUND SPEEDS
Make sure ground speed is less than 25 km/h

TRIPLE RINSE
Use triple rinse tank clean-out procedure

Proper herbicide application is crucial. Further information on application requirements to help increase spray accuracy can be found at: **traits.bayer.ca**

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

Enlist™ weed control system

Enlist E3™ SOYBEANS

The Enlist™ weed control system will change how you think about weed management in soybeans.

Farmers will be able to purchase Enlist E3™ varieties for Western Canada in the future and will be able to take control of resistant and hard-to-control weeds.

Introducing the Enlist weed control system

The Enlist weed control system will help growers meet the challenge of farming today and in the future.

Why use the Enlist weed control system?

- A new system built for Canadian farmers starting with new traits providing herbicide tolerance in soybeans and corn
- Herbicide solutions built on 2,4-D Choline, an improved form of 2,4-D with new Colex-D™ technology
- Includes a stewardship initiative that supports the use of multiple modes of action to address resistant weeds, provides training, and promotes responsible and sustainable use

Enlist E3™ Soybeans

Enlist E3 soybeans provide elite, soybean genetics with high yield potential and industry leading multi-mode of action herbicide tolerance.

Why use Enlist E3 soybeans?

- Enlist E3 soybeans are tolerant to 2,4-D, glyphosate and glufosinate herbicides
- Crop tolerance to Enlist herbicides with Colex-D technology is robust, enabling applications up to the R2 growth stage
- With tolerance to 3 different herbicide modes of action, Enlist E3 soybeans are part of a strong resistance management strategy
- A program approach including other herbicide modes of action and residual herbicides provides an even more sustainable approach to weed management

Enlist Duo™ herbicides with Colex-D technology

The Enlist weed control system gives you the choice of Enlist herbicides with Colex-D technology.

Enlist Duo™

Enlist Duo™ with COLEX•D™ technology
HERBICIDE

Convenient proprietary blend of 2, 4-D choline and glyphosate.

Convenience of both 2,4-D choline and glyphosate in one formulation – controls more than 90 weeds including grasses and many hard-to-control and resistant weeds.

New Enlist™ 1

Enlist™ 1 with COLEX•D™ technology
HERBICIDE

Stand-alone 2,4-D choline with tank-mix flexibility.

New Enlist 1 is a stand-alone Colex-D formulation that controls over 40 broadleaf weeds. It gives you the flexibility to tank-mix with and adjust rates of glyphosate or glufosinate to control a wide range of hard to control and resistant weeds.

COLEX•D technology		
WHAT GOES INTO IT		
2,4-D choline with Colex-D Technology	Latest formulation science	Proprietary manufacturing process

WHAT IT DELIVERS			
Near zero volatility	Minimized potential for physical drift	Low odour	Improved handling characteristics

Visit us at enlistcanada.ca

Mustard

Varieties for a wide range of conditions

Mustard growers need varieties that succeed in specific growing conditions, while meeting buyer demand and delivery contract requirements. Nutrien Ag Solutions improves your opportunity to succeed with our Proven Seed portfolio: great genetics in yellow, brown and oriental mustard varieties.

Expect good yields, a choice of crop heights and heat and drought tolerance. Talk to your local Nutrien Ag Solutions retail to see if mustard fits into your plans.

VARIETY	YIELD	MATURITY (DAYS)	HEIGHT (CM)	DISEASE PACKAGE		FEATURES
				BLACKLEG	WHITE RUST	
YELLOW (SINAPSIS ALBA)						
Andante	101% of AC Pennant	90	95	R	S	High contract demand Improved seed weight Can be straight combined
AC Pennant	100% (check)	92	101	R	S	Can be straight combined
BROWN (BRASSICA JUNCEA)						
Centennial Brown	103% of Duchess	92	133	R	S	Lower green seed counts Improved seed weight
AAC Brown 18 *NEW*	120% of Centennial Brown	93	138	R	R - 2a S - 2v	Hybrid mustard
ORIENTAL (CONDIMENT)						
Cutlass	100% (check)	90	113	R	R – 2a S – 2v	Improved seed weight
Forge	97% of Cutlass	92	124	R	R	Low green seed counts

Source: 2006 Co-operative Mustard Report

R=Resistant, S=Susceptible

Available untreated or with seed treatment.

CORN

*Choose the right **grain** corn for your farm*

CORN

	SEASON SUITABILITY					ALTERNATE USE	
	CHU	RELATIVE MATURITY	TRAIT SEGMENT	EARLY SEASON	FULL SEASON	HIGH MOISTURE GRAIN	GRAIN OR SILAGE
PROVEN SEED							
PV 60172RR	2050	72	RR2	●●●			●
PV 60075RR	2125	74	RR2	●●●			●●
PV 60075RIB	2150	75	VT2P	●●●	●		●●
PV 61276RIB *NEW*	2175	76	VT2P	●●	●●	●●	●●●
PV 61180RIB	2300	80	VT2P	●●	●●●	●●	●●●
PV 62282RIB	2400	82	VT2P		●●●	●●●	●●
PV 62384RIB *NEW*	2500	84	VT2P		●●●	●●●	●●
PV 62485RIB *NEW*	2550	85	VT2P		●●●	●●●	●
DEKALB							
DKC21-36RIB *NEW*	2025	71	VT2P	●●●			
DKC23-17RIB	2075	73	VT2P	●●●		●	●●●
DKC24-05 *NEW*	2100	74	RR2	●●			●
DKC24-06RIB *NEW*	2100	74	VT2P	●●			●
DKC26-40RIB	2150	76	VT2P	●●	●	●	●●
DKC29-89RIB	2275	79	RR2	●	●●●	●●	●●
DKC31-85RIB *NEW*	2425	81	VT2P	●	●●●	●●●	●●●
DKC32-12RIB	2450	82	VT2P		●●●	●●●	●●●
DKC33-78RIB	2400	83	VT2P		●●●	●●●	
DKC33-37RIB *NEW*	2500	83	VT2P		●●●	●●	●●
DKC34-57RIB	2575	84	VT2P		●●●	●●●	●●●
DKC35-88RIB	2550	85	VT2P		●●●	●●●	●●●
DKC35-37RIB *NEW*	2575	85	VT2P		●●●	●●●	●●●

●●● BEST OPTION ●● BETTER OPTION ● GOOD OPTION ▭ NONE

VT2P= VT DoublePRO RIB COMPLETE®; RR2= Roundup Ready 2 CORN

	AGRONOMICS						
	EMERGENCE	TEST WEIGHT	STALK STRENGTH	ROOT STRENGTH	DROUGHT TOLERANCE	PLANT HEIGHT	GOSS'S WILT
	2	2	2	3	2	2	2
	2	3	3	3	2	2	2
	2	3	3	3	2	2	2
	3	3	3	3	1	2	3
	3	2	2	3	2	2	3
	2	2	3	2	3	3	3
	1	2	2	2	2	3	2
	2	2	3	3	2	3	2
	3	2	2	3	2	2	1
	2	3	3	2	2	2	1
	2	3	3	2	2	3	2
	2	3	3	2	2	3	2
	3	3	2	2	3	3	2
	2	2	2	3	3	3	3
	2	1	2	2	2	2	2
	3	3	3	3	3	3	3
	3	3	3	3	2	2	3
	2	2	2	2	3	2	2
	3	2	2	2	3	3	2
	3	3	2	3	3	2	2
	3	2	2	2	1	3	1

*Choose the right **silage** corn for your farm*

CORN

	SEASON SUITABILITY					ALT USE
	CHU	RELATIVE MATURITY	TRAIT SEGMENT	EARLY SEASON	FULL SEASON	GRAZING
PROVEN SEED						
PV 60172RR	2050	72	RR2	●●●		●●
PV 60075RR	2125	74	RR2	●●●		●●
PV 60075RIB	2150	75	VT2P	●●●		●●
PV 61276RIB *NEW*	2175	76	VT2P	●●●	●●	●●
PV 61177SRR *NEW*	2200	77	RR2	●●●	●●	●●●
PV 61180RIB	2300	80	VT2P	●	●●●	●●●
PV 62282RIB	2400	82	VT2P		●●●	●●●
PV 62384RIB *NEW*	2500	84	VT2P		●●●	●●
PV 62485RIB *NEW*	2550	85	VT2P		●●●	●●●
DEKALB						
DKC23-17RIB	2075	73	VT2P	●●●		●●
DKC26-40RIB	2150	76	VT2P	●●	●	●●
DKC30-07RIB	2350	80	VT2P	●	●●	●●●
DKC32-12RIB	2450	82	VT2P		●●●	●●●
DKC34-57RIB	2550	84	VT2P		●●●	●
DKC38-55RIB	2650	88	VT2P		●●●	●

●●● BEST OPTION ●● BETTER OPTION ● GOOD OPTION ▭ NONE VT2P= VT DoublePRO RIB COMPLETE; RR2= Roundup Ready 2 CORN

Factors to consider when growing corn

Hybrid selection, seeding depth, proper equipment and plant populations are a few things to think about when planning your corn crop.

With the variability in any crop season, growing multiple hybrids can offset risk during the season. Additionally, planting hybrids with different relative maturity rates helps provide greater flexibility when harvesting. For optimal performance, growers should consider the required corn heat units (CHU) for their area and select hybrids according to usage and local performance.

Seeding depth is often overlooked but it's critical to any hybrid's success. Recommended seeding depth is 2 to 2.5 inches. If planting conditions are wet and cool,

	AGRONOMICS						
	EMERGENCE	PLANT HEIGHT	STALK STRENGTH	ROOT STRENGTH	DROUGHT TOLERANCE	STAY GREEN	GOSS'S WILT

decrease your depth to 1.5 inches, but no shallower. Seeding corn too shallow can lead to emergence, standability and root development issues. Maintaining adequate soil moisture and following a recommended seeding depth will help minimize these problems.

Corn planters provide ideal precision in seed depth and placement. Using a corn planter ensures that the seed will be sown at a uniform rate and depth preventing any inconsistency in delivery issues. Air seeders do not provide the precision required to establish corn uniformly. Planting speed needs to be maintained below 5 mph as well.

Target corn plant populations can vary across growing environments. Several factors go into determining plant population, such as the corn hybrid maturity, soil type, soil moisture and fertility. Modern hybrids allow for increased plant populations while increasing yield. Average target plant populations are increasing over time, along with average yields. For optimal results, inquire with your local agronomist to determine which plant population is right for you.

HYBRID	HEAT UNITS	RELATIVE MATURITY	TRAIT SEGMENT	USAGE	
PV 60172RR	2050	72	RR2	Silage, Grain, Grazing	
PV 60075RR	2125	74	RR2	Silage, Grain, Grazing	
PV 60075RIB	2150	75	VT2P	Silage, Grain, Grazing	
PV 61276RIB *NEW*	2175	76	VT2P	Silage, Grain, Grazing	
PV 61177SRR *NEW*	2200	77	RR2	Silage, Grazing	
PV 61180RIB	2300	80	VT2P	Silage, Grain, Grazing	
PV 62282RIB	2400	82	VT2P	Silage, Grain, Grazing	
PV 62384RIB *NEW*	2500	84	VT2P	Silage, Grain	
PV 62485RIB *NEW*	2550	85	VT2P	Silage, Grain	

Rating scale: E=Excellent; VG=Very Good; G=Good; P=Poor

VT2P= VT DoublePRO RIB COMPLETE; RR2= Roundup Ready 2 CORN

Proven Seed represents high quality seed that performs in Western Canada. We are excited to extend our leading corn seed expertise and high quality standards across the western Canadian corn market. Proven Seed offers elite corn hybrids for all uses across the expanding corn acres, backed by best in class technology and genetics.

	SEEDLING VIGOUR	ROOT STRENGTH	STALK STRENGTH	DROUGHT TOLERANCE	PLANT HEIGHT	TEST WEIGHT	DESCRIPTION
	G	VG	G	VG	Med	VG	• Ultra early hybrid reduces maturity risk • Very good seedling vigour allows for planting into tough soils • Strong stalks and roots, with very good test weight
	G	E	E	VG	Med	E	• Consistent performance across Western Canada • Great early grain or northern silage option • Excellent spring vigour, strong roots and stalks with very good disease protection
	G	E	E	VG	Med	E	
	VG	E	E	VG	Med	VG	• Strong yield for maturity • Great test weight, early flowering, excellent Goss's Wilt tolerance, with very strong agronomics • Performs best at higher plant populations
	VG	E	E	E	Med	E	• Strong silage yield potential across mid-maturities • Excellent staygreen and plant health with slow drydown to extend optimal silage harvest window • Strong root and stalk ratings
	G	E	G	E	Med	G	• Elite hybrid with top end yield • Great stress tolerance for tough growing conditions • Good disease package and fast drydown
	VG	VG	E	VG	Med/Tall	VG	• Strong yield potential across wide range of growing conditions • Excellent staygreen and plant health • Strong early vigour allows for strong multi use hybrid performance
	G	VG	VG	G	Med/Tall	VG	• Sharp looking dual purpose hybrid with racehorse yield potential • Excellent plant health and staygreen with high tonnage potential • Well suited to populations of 30-32,000 ppa in high yield environments
	VG	VG	VG		Med	G	• Strong yield performance overall • Good Goss's Wilt tolerance • Good ear flex allows for planting at lower densities • Strong agronomics include very good stalks, roots with decent staygreen and harvest appearance

HYBRID	HEAT UNITS	RELATIVE MATURITY	TRAIT SEGMENT	USAGE	
DKC21-36RIB NEW	2025	71	VT2P RIB Complete	Early Grain	
DKC23-17RIB	2075	73	VT2P RIB Complete	Early Grain, Early Silage	
DKC24-05 NEW	2100	74	RR2	Grain	
DKC24-06RIB NEW	2100	74	VT2P RIB Complete	Grain	
DKC26-40RIB	2150	76	VT2P RIB Complete	Grain, Silage	
DKC29-89RIB	2275	79	VT2P RIB Complete	Grain	
DKC30-07RIB	2350	80	VT2P RIB Complete	Grain	
DKC31-85RIB NEW	2425	81	VT2P RIB Complete	Grain, Silage	
DKC32-12RIB	2450	82	VT2P RIB Complete	Grain, Silage	
DKC33-37RIB NEW	2500	83	VT2P RIB Complete	Grain	
DKC33-78RIB	2400	83	VT2P RIB Complete	Grain	
DKC34-57RIB	2575	84	VT2P RIB Complete	Grain, Silage	
DKC35-37RIB NEW	2575	85	VT2P RIB Complete	Grain	
DKC35-88RIB	2550	85	VT2P RIB Complete	Grain	
DKC37-85RIB	2650	87	SSTX RIB Complete	Grain	
DKC38-55RIB	2650	88	VT2P RIB Complete	Grain, Silage	

Rating scale: 1-2=Excellent; 3-4=Very Good; 5-6=Good to Average; 7-8=Fair to Poor; 9=Poor

VT2P= VT DoublePRO RIB COMPLETE; RR2= Roundup Ready 2 CORN; SSTX= SmartStax RIB COMPLETE

DEKALB offers a superior line up of grain and silage corn hybrids that are bred and widely tested under local growing conditions to meet the needs of western Canadian farmers. Based on data generated from annual planting of thousands of Western Canada pre-commercial breeder test plots, DEKALB corn hybrids are selected with a focus on maturity, yield, test weight and a broad range of quality characteristics.

	SEEDLING VIGOUR	ROOT STRENGTH	STALK STRENGTH	DROUGHT TOLERANCE	PLANT HEIGHT	TEST WEIGHT	DESCRIPTION
	3	2	3	3	Med	4	Take advantage of this new hybrid's early maturity by planting in short season areas. With strong yield potential and excellent grain drydown, this 71 RM hybrid offers a solid agronomic package including great plant health and strong stalks. Good Goss' Wilt resistance rating.
	4	3	2	3	Med	1	Early flowering, early maturing. Very good harvest appearance and agronomics; fast drydown. Brings improved yield potential to its maturity zone. Excellent stalk strength.
	3	3	2	3	Med/Tall	2	This RR2 hybrid responds well to higher populations and fertility. While it does tend to be a late flowering hybrid, it has very fast drydown and excellent test weight. Very good Goss' Wilt resistance rating.
	3	3	2	3	Med/Tall	2	With the same genetic package as DKC24-05, this VT2PRO hybrid version offers protection from above-ground insect pests. Very good Goss' Wilt resistance rating.
	2	3	2	2	Med/Tall	1	Excellent emergence, strong disease package and excellent test weight. Excellent late season appearance with fast drydown helps put this hybrid on the early side of its relative maturity.
	3	2	2	2	Med/Tall	4	Excellent drydown and harvest appearance. Excellent root and stalk strength. Late flowering timing for maturity but dries down very quickly.
	2	2	2	3	Med/Tall	3	Excellent late season health. Medium-to-tall Silage Ready™ hybrid. Excellent harvest appearance and top end yield potential. Excellent plant heath for quality silage and grain. Excellent root and stalk strength. Stable hybrid in all soil types. Performs well in clay soils at high populations.
	3	3	3	3	Med	5	A great dual-purpose hybrid featuring big yield and incredible silage potential. Very good Goss' Wilt resistance rating.
	2	2	2	2	Med/Tall	2	Excellent stalk strength from a medium-to-tall statured plant. Great performance under drought stress. Excellent test weight and grain quality. Well suited for all soil types and yield environments.
	4	3	3	2	Med	4	This new hybrid performs well when pushed early, offers very good silage quality and solid agronomics. Very good Goss' Wilt resistance rating.
	3	2	2	4	Med	2	Solid agronomics with excellent stalks, standability, test weight and drydown. Top end yield potential. Very good staygreen and late season plant health. Very good drought tolerance. Performs well across all soil types and yield environments.
	2	3	4	2	Tall	3	High yield potential in all yield environments. Flowering and drydown on target for maturity. Performs best on loamy soils. Tall plant type with Silage Ready™ designation; great dual-purpose hybrid.
	2	3	3	5	Med/Tall	4	This new hybrid has shown strong performance against competitors. With good seedling vigor and emergence to start and as the season progresses, strong roots and stalks, the result is above average silage potential. Good Goss' Wilt resistance rating.
	2	2	4	2	Med	2	Excellent yield potential in all soil types and yield environments. Flowers and dries down true to relative maturity. Excellent roots and very good stalks. Excellent drought tolerance.
	2	3	4	3	Med	3	Very stress tolerant, stable hybrid across yield environments. Excellent emergence and early season growth for early planting. Girthy ears with open husks for fast drydown.
	3	2	4	2	Med/Tall	3	Medium-to-tall statured hybrid that flowers early for its relative maturity. Performs well on all soil types. Plant at medium to high populations for best results.

Flax

Proven® SEED

Good to grow

The Proven Seed flax lineup is evidence of the Nutrien Ag Solutions investment in research and development to improve opportunity for our customers. With its high omega-3 fatty acid and fibre content, flax has great human health benefits — and real potential for growers.

Proven Seed flax varieties feature better yields, improved standability and shorter plant height to help with straw management. Ask your Nutrien Ag Solutions retail for more information.

WestLin 72 | The performance leader

WestLin 72 continues to be a leader in flax yield performance. A traditional brown seeded flax variety, WestLin 72 offers good disease resistance, a strong oil profile and exceptional yield performance and yield stability. WestLin 72 is available in both bulk and 700 kg totes.

WestLin 60 | Early maturing

WestLin 60 with its early maturity rating, offers the ability to grow flax in shorter growing season areas that are further north.

NuLin 50 | A healthier profile

A yellow seeded flax variety offering a yield advantage over the check, enhanced omega-3 levels and high levels of oil and protein content. NuLin 50 is a NuLin® flax agronomically similar to traditional flax varieties, but due to its healthier profile, it gives growers access to premium end-use markets.

VARIETY	YIELD (% OF CDC BETHUNE)	MATURITY (+/- CDC BETHUNE)	HEIGHT (CM)	
WestLin 72	103	+2.5	55.0	91
WestLin 60 *NEW*	98	-1.0	53.0	91
NuLin 50	103	+2.0	54.4	PBR

Source: 2011-2019 Nutrien Ag Solutions Local Performance Checks


CEREALS

Choose the right wheat for your farm

WHEAT

	SOIL ZONE SUITABILITY				GRADING POTENTIAL		AGRONOMICS		
	BROWN	DARK BROWN	BLACK	GREY	PROTEIN	TEST WEIGHT	EARLY MATURITY	AWN TYPE	LODGING
CWRS									
CDC Ortona *NEW*	●●●	●●●	●●●	●●●	●●	●●●	●●●	Awnless	●●●
SY Cast *NEW*	●●●	●●●	●●●	●●●	●●	●●●	●●		●●
CDC Stanley	●●●	●●●	●●●	●●●	●●	●●	●●	Awnless	●●●
CDC Hughes VB	●●●	●●●	●●●	●●●	●●	●●●	●●		●●●
CDC Titanium VB	●●●	●●●	●●●	●●●	●●●	●●	●●●		●●
CDC Abound CL	●●●	●●●	●●●	●●	●●	●●	●●		●●●
CPSR									
5700PR	●●	●●●	●●●	●●	●●	●●●	●●		●●●
AAC Entice	●●	●●●	●●●	●●	●●●	●●	●●●		●●
CWAD									
CDC Brigade	●●●	●●			●●	●●●	●		●●●
CDC Fortitude	●●●	●●			●●●	●●	●●●		●●●
CDC Carbide VB	●●●	●●			●●●	●●●	●●●		●●●
CDC Dynamic	●●●	●●			●●●	●●●	●●●		●●●
AC Navigator	●●●	●●			●●	●●	●●		●●

●●● BEST OPTION ●● BETTER OPTION ● GOOD OPTION ▭ NONE

	DISEASE PACKAGE				TRAITS		END USE
	LEAF SPOT	STEM RUST	LEAF RUST	FHB	INSECT RESISTANCE	HERBICIDE TRAITS	
							Milling
							Milling
							Milling
					MIDGE TOLERANT WHEAT		Milling
					MIDGE TOLERANT WHEAT		Milling
						Clearfield	Milling
							Milling Ethanol
							Milling Ethanol
							Milling
					Sawfly		Milling
					MIDGE TOLERANT WHEAT		Milling
							Milling
							Milling

Proven® SEED

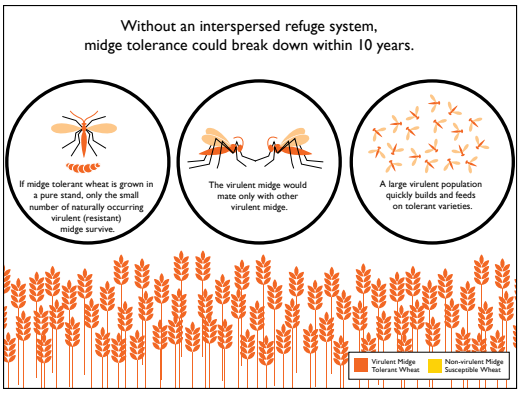
CANADIAN WESTERN RED SPRING (CWRS) WHEAT							
VARIETY	**YIELD (% CARBERRY)**	**MATURITY**	**LODGING**	**HEIGHT (CHECK +/-)**	**TEST WEIGHT (LB/BU)**	**PROTEIN (%)**	**DESCRIPTION**
Carberry (chk)	100	M/L	VG	88	65.3	14.2	–
CDC Ortona *NEW* 91	103	E/M	VG	+3	64	13.8	New awnless high yielding variety with early/mid maturity and all around great agronomics. *Disease package: Best in class resistance to leaf spot (I); R to stem, leaf and stripe rust; I to FHB*
SY Cast *NEW* 91	105*	M	G	-2	64.1	13.1	New high yielding variety with mid maturity and outstanding disease package. *Disease package: Best in class resistance to leaf spot (I); R to stem and leaf rust; MR to stripe rust; MR to FHB*
CDC Stanley	101	M	G	+5	63.6	14.2	A dependable performer that yields big, stands up strong and has great protein potential. *Disease package: Best in class resistance to leaf spot (I); MR to stem and leaf rust; I to FHB*
CDC Hughes VB 91	101	M	G	0	65.2	14.1	This high yielding variety combines heavy bushel weight with strong standability and resistance to sprouting, making it a dependable, easy to thresh option and has midge tolerant resistance in areas where orange blossom wheat midge is a threat. *Disease package: MR to leaf and stem rust; I to FHB*
CDC Titanium VB 91	100	M	F	+5	64.3	15	The highest fusarium resistant rating of all available midge tolerant varieties. Provides growers in midge risk areas an excellent and flexible choice without sacrificing yield. *Disease package: Excellent resistance to stripe and leaf rust (R); MR to FHB*
CDC Abound CL	105	M	VG	-3	63	14.6	A top performing Clearfield wheat with high yields, heavy bushel weights and excellent standability. An ideal variety where complex field conditions and crop rotation challenges exist. *Disease package: Resistant to leaf rusts (R); S to FHB*

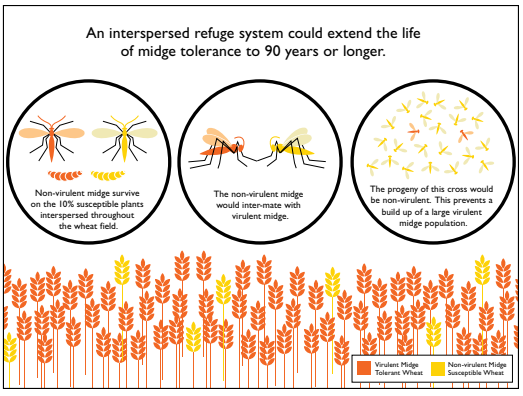
Source: 2017-2019 Nutrien Ag Solutions Local Performance Checks – 15 locations, 135 replicates
*2019 data only

Maturity: E=Early, M=Mid, L=Late | Lodging: P=Poor, F=Fair, G=Good, VG=Very Good

PBR Progress through Research

Interspersed refuge extends midge tolerance





CANADIAN PRAIRIE SPRING RED (CPSR) WHEAT

VARIETY	YIELD (% CARBERRY)	MATURITY	LODGING	HEIGHT (CHECK +/-)	TEST WEIGHT (LB/BU)	PROTEIN (%)	DESCRIPTION
Carberry (chk)	100	M/L	VG	84	65.3	14.3	–
5700PR	104	L	VG	-1.0	64.4	12.5	High yield potential with excellent lodging tolerance and a superior disease resistance package. The standard for CPSR growers with the best overall balance of features. *Disease package: Resistant to common bunt and leaf rust (R)*
AAC Entice 91	105	L	G	0.0	63.3	12.8	The best rust resistance of any CPSR, this variety brings high yields and a strong disease package to high moisture regions of the prairies. *Disease package: Resistant to all rusts (R); I to FHB*

Source: 2017-2019 Nutrien Ag Solutions Local Performance Checks – 15 locations, 135 replicates

Maturity: E=Early, M=Mid, L=Late | Lodging: P=Poor, F=Fair, G=Good, VG=Very Good

CANADIAN WESTERN AMBER DURUM (CWAD) WHEAT

VARIETY	YIELD (% STRONGFIELD)	MATURITY	LODGING	HEIGHT (CHECK +/-)	TEST WEIGHT (LB/BU)	PROTEIN (%)	DESCRIPTION
Strongfield (chk)	100	E/M	F	87	62.4	14.3	–
AC Brigade	111	M/L	G	+7.0	62.7	13.9	The best rated durum for FHB, along with a high yield and test weight. *Disease package: Resistant to stem and leaf rust (R); MR to stripe rust*
CDC Fortitude	102	M	G	-1.0	62.8	14.0	The first solid stem variety. Provides sawfly resistance for successful harvest results. Excellent option for high fertility or irrigation acres. *Disease package: Resistant to stem and leaf rust (R); MS to FHB*
CDC Carbide VB 91	104	M	F	+2.0	61.8	14.1	The first and only midge tolerant durum wheat in the Proven Seed portfolio. Yields are comparable to the class leaders. *Disease package: Resistant to stem, leaf and stripe rust (R); and MS to FHB*
CDC Dynamic 91	102	M	G	+1.0	62.8	14.6	High yield and test weight, strong straw, and excellent protein, while easy to thresh. This variety checks all the boxes for yield, test weight, protein and a solid disease package. *Disease package: Resistant to leaf rust (R); MS to FHB*
AC Navigator	94	M	G	-7.0	62.2	13.8	A great variety for growers in southwest Saskatchewan and southeast Alberta. Available with a grain production premium contract on limited acres.

Source: 2016-2019 Nutrien Ag Solutions Local Performance Checks – 9 locations, 99 replicates

Maturity: E=Early, M=Mid, L=Late | Lodging: P=Poor, F=Fair, G=Good, VG=Very Good

Choose the right barley for your farm

BARLEY

	SOIL ZONE SUITABILITY				GRADING POTENTIAL	
	BROWN	DARK BROWN	BLACK	GREY	PROTEIN	TEST WEIGHT
BARLEY						
Altorado *NEW*	●●●	●●●	●●●	●●	●●●	●●●
Oreana	●●●	●●●	●●●	●●	●●	●●●
Claymore	●●●	●●●	●●●	●●	●●●	●●
Brahma	●●●	●●●	●●●	●●	●●	●●●

●●● BEST OPTION ●● BETTER OPTION ● GOOD OPTION ▭ NONE

Grain, green feed or silage

When it comes to producing livestock, a large quantity of high quality feed can mean the difference between profit and loss. Whether you need feed to background calves, finish feeders or over-winter a breeding herd, count on Nutrien Ag Solutions to provide the right cereal variety to meet your needs – like these top-producing barley options.

Top silage varieties

VARIETY	YIELD (%)	YIELD (T/AC)	TOTAL DIGESTIBLE NUTRIENT (%)	YIELD DRY MATTER (MT/Ac)	CRUDE PROTEIN (%)
Check (Austenson)	100	10.6	71.6	2.6	7.3
Altorado	102	10.8	72.1	4.0	7.3
Claymore	100	10.6	71.4	4.1	7.6

Source: 2018 Regional Silage Variety Trial

	AGRONOMICS			DISEASE PACKAGE				END USE
	EARLY MATURITY	AWN TYPE	LODGING	ROOT ROT	NET/SPOT BLOTCH	STEM RUST	FHB	
	●●●	Rough awned	●●●	●●●	●●●	●●●	●●●	Feed Grain and Silage
	●●	Rough awned	●●●	●●	●●●	●●	●●	Feed Grain
	●●	Rough awned	●●●	●●	●●	●●●	●●●	Feed Grain and Silage
	●●●	Rough awned	●●	●●●	●●	●●	●●●	Feed Grain

Oats, wheat, peas and more

The bulk cereal seed division of Nutrien Ag Solutions produces, sources and directs thousands of tonnes of seed every year to farmers. Many of the varieties are dual purpose for livestock feed or food processing. The varieties come from a multitude of breeding programs and can be Proven Seed brand or other public varieties.

Contact your local Nutrien Ag Solutions retail for information on bulk seed lines and varieties available in your area.

ProVen® SEED

BARLEY							
VARIETY	YIELD (% AC METCALFE)	MATURITY	LODGING	HEIGHT (CHECK +/-)	TEST WEIGHT (LB/BU)	PLUMP (%)	DESCRIPTION
AC Metcalfe (chk)	100	M	F	81	54.2	87.9	–
Altorado *NEW* 91	114	M	VG	-3	54.5	87.0	New earlier maturing feed barley. Exceptional high quality grain or silage yields. *Disease package: Best in class to all leaf diseases; I to FHB*
Oreana 91	112	M/L	VG	-10	54.5	88.0	A short and heavy stature barley that is well suited for high input operations and manured soils. *Disease package: S to FHB*
Claymore 91	115	M/L	G	+1	53.7	87.0	The highest yielding feed barley in Co-op testing in 2016 and the 2017 to 2019 R&D trials. This feed barley has superior straw strength and high test weights. *Disease package: Improvement in all leaf diseases; I to FHB*
Brahma	111	M	G	-3	55.0	90.0	An excellent choice of feed barley that offers growers impressive yields with improved disease resistance and harvest efficiency. *Disease package: Improved resistance to leaf rusts; I to FHB*

Source: 2015-2019 Nutrien Ag Solutions Local Performance Checks – 13 locations, 201 replicates

Maturity: E=Early, M=Mid, L=Late | Lodging: P=Poor, F=Fair, G=Good, VG=Very Good

PBR Progress through Research

Reduce the impact of cereal root diseases

Diseases such as seedling blight and common or browning root rot can cause crop loss early in the growing season. During a typical year, yield losses due to these pathogens fall in a range of six to seven per cent across the Prairies. To proactively manage root diseases, use high-quality seed and appropriate seed treatments.

Root rots occur in a complex containing a few main pathogens: Fusarium, Alternaria, Septoria, Pythium, Cochliobolus and Rhizoctonia. These pathogens can be present in the soil or brought in with the seed. Conditions that typically favour root rot development are akin to those that hinder early season crop growth. Cool, wet conditions and deep seeding in soils with poor structure or drainage can increase root rot symptoms. Managing root rot can be done effectively by implementing a combination of chemical and cultural control methods.

Seed treatments are an effective means to manage early season root rot issues. These products provide germinating seedlings with protection from both soil- and seed-borne pathogens. Seed coverage with the treatment is paramount. Poorly applied seed treatments can reduce control and product efficacy. Seed treatments do not provide season long control, though typically early season infections can be most yield limiting. Crop rotations that include non-host crops can also be an effective management strategy. Cereal root rots typically affect all cereals so a rotation including oilseeds and pulses can reduce infection levels.

Seeding cereals shallow can help seedlings move out of the soil more quickly, reducing the time of exposure and risk of root rot infection. Adding seed-row phosphorus can also promote healthy root development. Further, modifying the soil in some situations to increase aeration and decrease waterlogging can also reduce root damage.

Finally, using high quality seed from cultivars showing a level of resistance to root rot pathogens is ideal. Always use a seed treatment on low quality seed and ensure seeding rates are adjusted to compensate for lower germination levels.

Forages

Winning varieties proven over decades

Nutrien Ag Solutions is proud to offer the widest forage portfolio as well as ready access to the newest varieties. Balancing the feed requirements of your herd with cost and the agronomic requirements of your growing conditions, you need solutions that will help your operation thrive. Our recommendations and products are backed by the Proven Seed Performance Promise — your guarantee of forage stand establishment that yields top quality results.

Proven Seed Master Blends

Western Canadian growers looking for the highest levels of consistency, purity and quality in forages will want to consider a Proven Seed Master Blend from Nutrien Ag Solutions. Developed over decades, these blends have been custom designed for prairie conditions and refined to provide you with the best quality forages for a productive forage stand.

The quality you'll find in Proven Seed Master Blends is the product of our commitment to forage variety evaluation. Each of our seed varieties is bred, tested and managed under the strictest quality assurance program. The result is that you can count on Proven Seed Master Blends for pastures and hay fields that live up to the highest standards for stand establishment and top quality results.

Choose from two Proven Seed Master Blend categories:

- **Hay:** Designed to fit the most common forage requirements of most prairie growers and ranchers. Alfalfa blend range: 0-90%.
- **Pasture:** Selected for hardiness, yield, regrowth potential, forage quality and salt and traffic tolerance. Available for both high and low moisture zones.

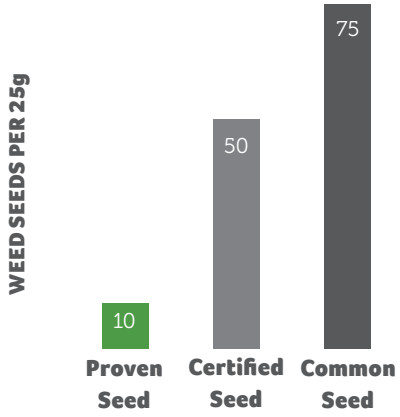
The HPS® brand

Developed for our forage seed products, the HPS brand is the common seed line from Nutrien Ag Solutions. It provides forage growers with coverage under the best warranty in the industry as well as the same high-quality standards as our certified seed.

Quality assurance

When selecting seed lots for our forages, careful consideration is taken to ensure you have the highest level of success possible. Proven Seed forages, including Master Blends and hps-branded varieties, conform to the rigid purity standards of less than 10 weed seeds per 25g.

The number of weed seeds per bag of seed can greatly impact the quality of a forage stand in the long term. Only top quality seed goes into our forage seed bags.



To talk to our Nutrien Ag Solutions forage experts, call 1-800-661-3334 or email forage.seed@nutrien.com. For more information or an electronic copy of the Proven Seed forage guide, visit ProvenSeed.ca/forages or ask your local Nutrien Ag Solutions retail.

Nutrien Ag Solutions™

NutrienAgSolutions.ca

Nutrien Ag Solutions is the leading provider of agricultural products and services for western Canadian growers. A subsidiary of Nutrien Ltd., Nutrien Ag Solutions is dedicated to helping growers achieve their maximum success by being a trusted partner and creating the next generation of agricultural solutions to help growers feed the world.

We do this by providing growers with the latest technologies, products and services and by leveraging our extensive global experience and unparalleled relationships with suppliers. With over 200 retail locations in communities across Western Canada, we are working to redefine agricultural retail.

To help preserve the benefits of our trait technology, an Insect Resistance Management (IRM) plan must be part of every farmer's production strategy.

Farmers who purchase corn products that are not designated as RIB Complete® required to plant a refuge that is appropriate for that product.

As part of the IRM plan for RIB Complete corn, experts recommend that growers incorporate crop rotations (out of corn), use of pyramided traits for below ground pests and, when appropriate, use of insecticides to minimize selection of resistant populations. **Farmers should monitor their RIB Complete corn fields for targeted insect pests** and contact their local Monsanto representative, retailer, or Monsanto's Technical Support line at 1-800- 667-4944 if they observe any unusual performance problems.

05/20-71253