2023

PIONEER® BRAND PRODUCTS & SERVICES.

PIONEER®

MADE TO GROW™

Commitment to Farm

Your farm is your business, your livelihood, your history and your legacy. You're committed to farm… and so are we. At Corteva Agriscience, everything we do is guided by a simple principle - we put farmers first. When we take care of you, our mutual success ensures progress for generations to come. Our commitment to farm is a promise to be by your side in good times and bad, through bumper yields and wild weather. We understand what a commitment to farm takes and we rise to meet that challenge.

In everything we do.
In every moment we're here.
In every choice we make.

Commitment to Innovation

The farm is at the heart of everything we do, so when you choose a Corteva product, it's an investment for your farm today and tomorrow. Every bag of seed and acre of crop protection we sell is a commitment we make to develop agriculture technology.

You grow. We invest.

It's part of our commitment to farm, and it's because we understand that we only grow when you grow.

Our Local Canadian Presence

Headquartered in Calgary, Alberta, we have over 10 local advanced technology centres, with 95 years of research expertise, that work closely with farmers across the country. Because we know the needs of every customer on every day is unique. Our Commitment to Farm is to provide you with the very best in seed, seed applied technologies, crop protection and digital solutions so you get the most out of every acre, both today and in the future.

LumiGEN Seed Treatments | PIONEER. MADE TO GROW™ | Granular

biologicals | HERBICIDE | FUNGICIDE | INSECTICIDE

CORTEVA™ agriscience

Learn more at corteva.ca

2021 Pioneer Yield Hero Winners

WESTERN CANADA

CANOLA

NAME/FARM	TOWN	PROV	HYBRID	YIELD BU/AC
Little Rainbow Ranch Ltd.	Moosomin	MB	P506ML	77.5
Rick & Val Katerenchuk	Sturgeon County	AB	P506ML	73.4
Trenchuk & Sons Ltd..	Smoky Lake	AB	P506ML	73.2
KT Leischner Farms	Innisfail	AB	P501L	72.5
Zealand Farm Ltd.	Panoka	AB	45CM39	72.1
JDJ Farms	Roblin	MB	45CM39	70.2
Cadrain Farms Inc.	Leask	SK	45CM39	66.5
Tea Creek Farms Ltd.	Charlie Lake	BC	P506ML	66.1
Ed Schafer	Makwa	SK	45CM39	63.2
Tetrj Farms	Leoville	SK	P501L	61.5
Mitchell Hudy	Melville	SK	46H75	58.2
JOJ Cattle Co Ltd.	Marwayne	AB	P506ML	56.8
Todd Arsenie	Melfort	SK	45CM39	56.4
Mike's Welding & Ag Ltd..	Carlyle	SK	45CM39	53.3
Dyce Cattle Company Inc.	Willow Creek	AB	45M35	52.8
Woidyla Farms	Indian Head	SK	P506ML	51.0
SS Landco Ltd.	Stump Lake	SK	P501L	50.6
Aaron Krauss	Mazenod	SK	P509L	26.0

GRAIN CORN

NAME/FARM	TOWN	PROV	HYBRID	YIELD BU/AC
Oakland Colony Farms Ltd..	Carroll	MB	P7417AM	190.8
Toews Valley Farm Ltd.	Winkler	MB	P8588AM	205.8
Hidden Valley Colony	Austin	MB	P7417AM	217.3
Woodgrain Enterprises Inc.	Ridgeville	MB	P8588AM	234.2

SILAGE CORN

NAME/FARM	TOWN	PROV	HYBRID	YIELD TONS/AC
Vince Tetreault	Spiritwood	SK	P7005AM	14.75
Terry Hines	Marwayne	AB	P7202AM	21.3
Sheldon Klassen	Steinbach	MB	P8736AM	23.65

SOYBEANS

NAME/FARM	TOWN	PROV	VARIETY	YIELD BU/AC
Solonenko Farms	Yorkton	SK	P001A48X	58
Sunnyside Colony Farms	Newton Siding	MB	P006A37X	72.8

SEED AND CORTEVA AGRISCIENCE™ CROP PROTECTION CATEGORY WINNERS

NAME/FARM	TOWN	PROV	HYBRID	YIELD BU/AC
Kurt Brown	Rossburn	MB	P508MCL	56
Graem Minke	Yorkton	SK	P506ML	50.5
Ob Holdings Ltd.	Marwayne	AB	P506ML	45.3

2021 Twitter winners

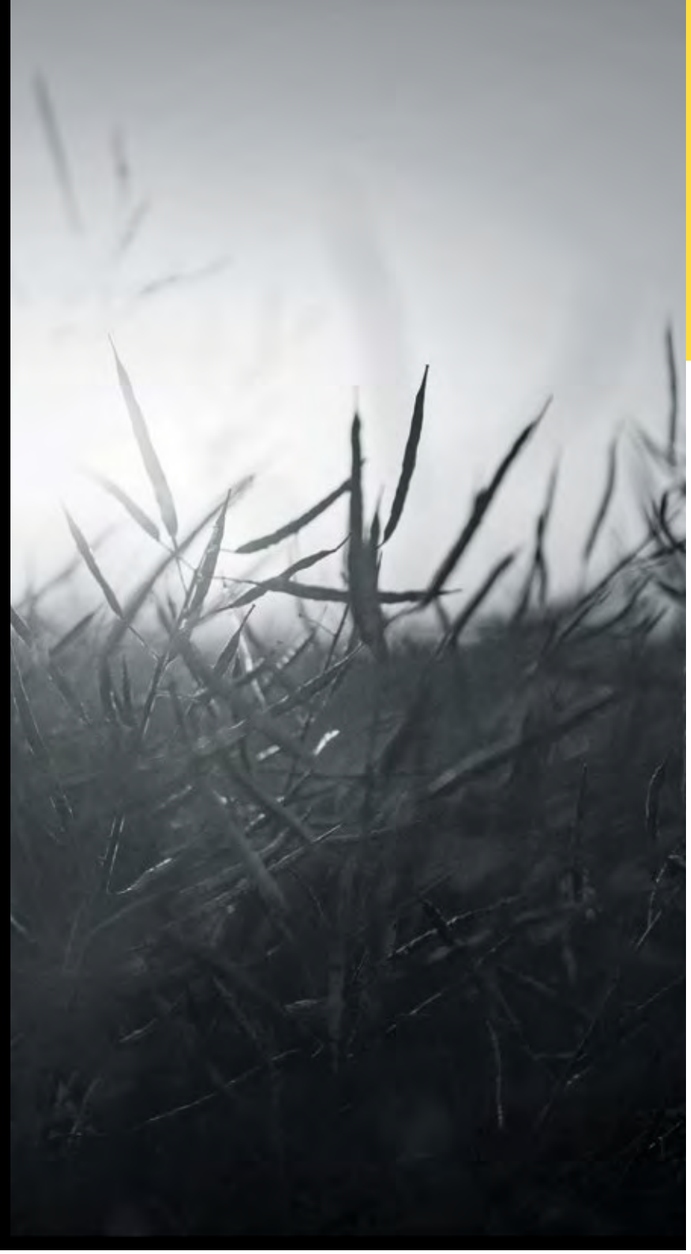
Contest Rules and Regulations:

Subject in all respects to Official Rules at: www.yieldhero.pioneer.com. Contest begins 12:00 a.m. MT 8/15/22 and ends 11:59 p.m. MT 11/14/22. Open to legal residents of SK, AB, MB or BC who are age of majority+ and own or work on a farm. Void outside of the foregoing provinces. Winners who enter via Twitter must correctly answer a time-limited mathematical skill-testing question to be eligible to win a prize. There are 30 grand prizes available to be won. Grand prize winners will be awarded a trip for two (2) to the Commodity Classic in Orlando, FL March 9-11, 2023. The approximate retail value ("ARV") is $5000.00 (CAD) per grand prize winner.

Yield HERO

OUT-YIELD THE DOUBTERS.

GET THE #YIELDHERO DATA AT YIELDHERO.PIONEER.COM



BLAZE A NEW PATH FORWARD WITH THE ONLY CANOLA THAT COMES WITH THE PERFORMANCE OF THE PIONEER PROTECTOR® TRAITS, INCLUDING INDUSTRY-LEADING CLUBROOT AND SCLEROTINIA PROTECTION, AND HARVESTING OPTIONS. YOUR INVESTMENT IS PROTECTED WITH OUR UNSURPASSED LUMIGEN™ INSECTICIDE AND FUNGICIDE SEED TREATMENTS. LET'S BUST THROUGH.

PIONEER PROTECTOR®

Pioneer Protector® Brand Canola

YIELD, PERFORMANCE AND THE PROTECTION OF THE PIONEER PROTECTOR® TRAITS – BUST THROUGH WITH YIELD!

- Pioneer Protector® brand canola offers high-yielding, consistently-performing canola hybrids with the added benefit of the Pioneer Protector® traits that:
  - Provide solutions to various agronomic and harvest management challenges on farmer's fields
  - Manage weed resistance with the strength of the Pioneer® canola portfolio - high yields, consistent performance and Pioneer Protector® traits available in all herbicide tolerant systems

PIONEER PROTECTOR® CLUBROOT HYBRIDS

Pioneer Protector® clubroot hybrids provide high yields and protection against multiple races of clubroot across Western Canada. They are for canola growers who want:

PIONEER PROTECTOR CLUBROOT

- High yields and leading-edge protection against clubroot
- To prevent disease establishment and minimize clubroot spore levels by using clubroot resistant hybrids
- Multiple sources of clubroot resistance available in Pioneer Protector® Clubroot hybrids allows for a proactive approach to clubroot management

All Pioneer Protector® brand canola hybrids will include the Pioneer Protector® clubroot trait, a critical tool against a growing disease threat to Western Canadian farmers.

PIONEER PROTECTOR® SCLEROTINIA HYBRIDS

High yields and the consistent performance of Pioneer Protector® canola hybrids with built-in resistance to the yield-robbing disease sclerotinia.

PIONEER PROTECTOR SCLEROTINIA

- Canola hybrids with the Pioneer Protector® Sclerotinia resistance trait are for growers looking to manage the risk of sclerotinia infection and achieve high yields by:
  - **Reducing sclerotinia incidence** by over 65%, as well as reducing overall severity
  - **Season-long control** – providing protection from sclerotinia throughout the entire growing season
  - **Convenience** – protection is planted with the seed
  - **Peace of mind** – providing increased flexibility and insurance when timing fungicide applications for additional control
  - **Maximizing yield** - canola seed with Pioneer Protector® Sclerotinia + a fungicide maximizes protection and reduces yield loss under severe disease pressure

Pioneer® brand canola is protected by the industry-leading LumiGEN seed treatment package, including Lumiderm insecticide seed treatment and NEW Lumiscend fungicide seed treatment.

NEW LumiGEN® Fungicide & Insecticide Seed Treatments for Canola

Lumiderm™

INSECTICIDE SEED TREATMENT

Excellent protection against both flea beetles and cutworms

- 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
- Group 28 chemistry provides an additional mode of effective action for flea beetle and cutworm control

Standard Treatment | Lumiderm

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

LUMIDERM RESULTS

+1.4 BU/AC
Shown in 137 grower demo trials

-35% FLEA BEETLE DAMAGE
Shown in 192 R&D and grower demo trials

NEW

Lumiscend™

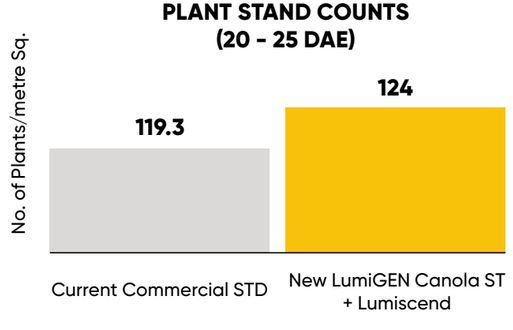
FUNGICIDE SEED TREATMENT

A component of the NEW LumiGEN canola disease package is Lumiscend™ fungicide seed treatment, a unique new active ingredient for powerful airborne blackleg protection

The **NEW** LumiGEN canola fungicide seed treatment contains four effective active ingredients for industry leading, broad spectrum disease protection against seedling disease complex including pre and post emergence damping off, seedling blight, and root rot.

Lumiscend | Competitor treatment

PLANT STAND COUNTS (20 - 25 DAE)



Corteva Seed Applied Technologies Research Trials Data 2021 (n = 2)

The LumiGEN Canola Package provides proven, industry-leading protection from critical diseases & insects in canola.

Clearfield®
Production System for Canola

Clearfield® canola hybrids provide you with access to premium marketing opportunities and more.

Have you heard about Clearfield canola?

Clearfield canola offers producers differentiated marketing and resistance management opportunities. It provides producers an alternative mode of action option and flushing weed control in one pass.

Why choose the Clearfield canola production system?

- Access to premium Identity Preserved marketing program options
- An alternative mode of action to manage previous crop volunteers, including volunteer canola
- Includes Ares™ SN herbicide for one-pass, flushing weed control that delivers reliable post emergent control of grass and broadleaf weeds.

Choose hybrids that work best for your operation

The Clearfield canola production system gives you the flexibility to select hybrids that fit your farm. Pioneer® brand seeds offers high-yielding canola hybrids in a variety of maturities, resistance to disease and with superior agronomic traits.

Clearfield canola hybrids offer the potential to access premium Identity Preserved marketing opportunities.

Visit Pioneer.com/Canada for a full list of available hybrids.

Add an alternative mode of action to your herbicide rotation

The Clearfield canola production system provides increased crop rotation and herbicide options for maximum rotational flexibility. You have the option to utilize group 2 chemistry, such as Ares SN or Amity™ WDG herbicides, to balance herbicide rotations and introduce an alternative mode of action to manage previous crop volunteers, including volunteer canola, in tight canola rotations.

Ares™ SN
HERBICIDE

The weed control standard for Clearfield canola.

Ares SN herbicide[1] is the performance standard for weed control in Clearfield canola. It delivers reliable control of key broadleaf and grass weeds, including flushing weeds, in one pass.

Key weeds controlled	
✓	**Wild Oats**
✓	**Volunteer Cereals (Barley, Canary Seed, Spring and Durum Wheat, Oats)**
✓	**Wild Buckwheat (cotyledon to 6 leaf)**
✓	**Volunteer Non-Clearfield Canola[2]**
✓	**Chickweed[2]**
✓	**Cleavers[2] (1-4 whorls)**
✓	**Lamb's quarters[2]**
✓	**Redroot Pigweed[2]**

For full list of weeds controlled, please refer to the Ares SN or Amity WDG product labels or visit ClearfieldCanola.ca

[1] In the Prairie Provinces except for the Peace Country of Alberta and British Columbia. In the Peace Country, the recommended herbicide option for Clearfield canola is Amity WDG.

[2] Flushing weed control.

Even more reasons to switch to the Clearfield canola production system

- Control of glyphosate-resistant weeds
- Change resistance genetics for better management of blackleg and clubroot
- Ideal crop rotation choice when growing glyphosate-tolerant and Roundup Ready® soybeans

To learn more about Clearfield canola, visit: ClearfieldCanola.ca

Be the first stop on every crop tour.

Optimum® GLY
HERBICIDE TOLERANCE

THERE IS SOMETHING BIG COMING IN CANOLA.

Coming soon – Optimum® GLY* from Corteva Agriscience is a advanced herbicide-tolerant trait technology designed to optimize growth. It gives you excellent yield potential, improved crop safety, enhanced weed control and a wider window of application – everyone will want a look.

Optimum® GLY from Corteva Agriscience.
Learn more at **OptimumGLY.corteva.ca**

Optimum® GLY
HERBICIDE TOLERANCE

Optimum® GLY is an advanced herbicide-tolerant trait technology.

There is something big coming in canola!

Unlock the genetic potential of your canola with Optimum® GLY*—a herbicide-tolerant trait technology designed to deliver top yield potential and agronomic trait performance.

What does Optimum GLY canola deliver?

Improved crop safety.

Optimum GLY enables farmers to make herbicide applications at the optimal time and rate without impacting the yield potential of the hybrid.

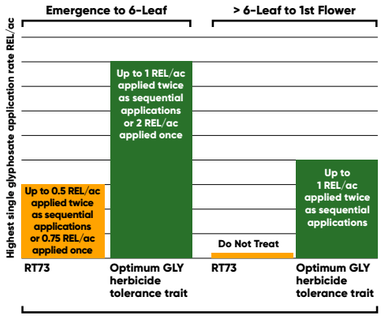
Enhanced, broad-spectrum annual and perennial weed control with effective rates of glyphosate.

Optimum GLY offers canola producers an excellent weed control system to deliver improved annual and perennial weed control over competitive herbicide systems.

Greater convenience and flexibility when spraying.

Optimum GLY expands the window of application, allowing farmers the flexibility to time their herbicide application to maximize weed removal options. This gives producers time to cover large acres or clean up late flushes of weeds without the risk of yield impact from late-season applications.

Flexible rates and application timing up to first flower



1 REL = 360g a.e. per L. Always read and follow herbicide label directions.
RT73 = Roundup Ready® Canola.

Total maximum application of 2 REL/ac per season

- Apply as 1 application from **emergence to 6-leaf stage** Or –
- Apply as 2 sequential applications of up to 1 REL/ac from **emergence to 1st flower**
- Sequential applications must be at least **14 days apart**
- Allows management of hard-to-control weeds and enhanced crop safety

RT73 - 0.5 REL/ac applied sequentially at 4 leaf and 1st flower (not a labeled application timing)

Optimum GLY herbicide tolerance trait 0.5 REL/ac sequentially applied at 4 leaf and 1st flower

Weed Control Timing

Plant Optimum GLY canola. → **Apply glyphosate herbicides. No later than 1st flower.**

CORTEVA™ agriscience

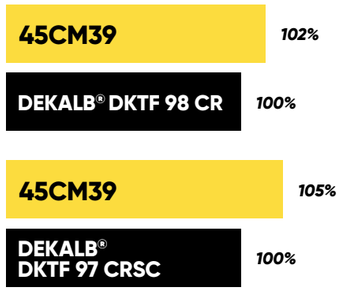
** The Optimum® GLY herbicide tolerance trait will not be offered for sale or distribution until completion of field testing and applicable regulatory reviews.*

Featured Canola Hybrids

45CM39[1]

An exceptionally high-yielding Pioneer Protector® hybrid with the clubroot trait (new source), blackleg resistance and options for harvest timing.

- Superior yield potential
- Excellent early growth and field emergence
- Very good lodging score.
- "R" for Clubroot New source (CR2) 2F, 3H, 5I, 6M, 8N and 3A, 3D, 2B and 5X
- "R" for Blackleg
- Suitable for all growing regions with options for harvest timing



P506ML[1]

A high-yielding Pioneer Protector® hybrid with clubroot, blackleg, harvesting options, and the LibertyLink® herbicide trait.

- Superior yield potential
- Excellent early growth and field emergence
- Stands well (very good lodging score)
- "R" for Clubroot vs 2F, 3H, 5I, 6M and 8N (CR1)
- "R" for Blackleg
- Suitable for all growing regions with options for harvest timing

P505MSL[1]

A next generation, top-performing Pioneer Protector® hybrid with high yield potential, clubroot, blackleg and sclerotinia resistance, combined with options for harvest.

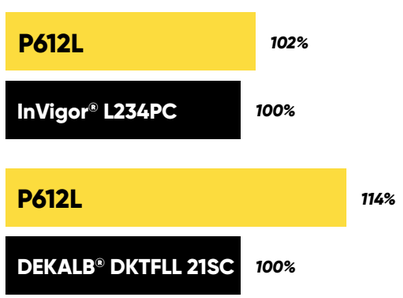
- Superior yield potential
- Excellent early growth and field emergence
- Very good lodging score
- Superior sclerotinia protection
- "R" for Clubroot vs 2F, 3H, 5I, 6M and 8N (CR1)
- "R" for Blackleg
- Suitable for all growing regions

NEW

P612L[1]

A new canola hybrid with superior yield and a new source of Pioneer Protector® clubroot resistance with the LibertyLink® herbicide trait.

- Outstanding yield potential
- Very good lodging reduction score
- "R" for blackleg
- "R" for Clubroot New source (CR4) (2F, 3H, 5I, 6M, 8N, 2B, 3A, 3D)
- Suitable for all growing regions with options for harvest timing



Featured Canola Hybrids

45M35[1]

Yield, standability, Pioneer Protector® clubroot resistance and harvest options - all in one package.

- Superior yield potential
- Excellent early growth and field emergence
- Very good lodging score
- "R" for Blackleg
- Mid-late maturity product with options for harvest timing

45H42[1]

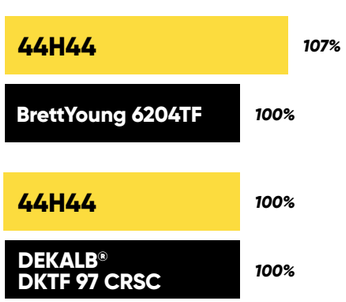
A high-yielding, mid-maturity Pioneer Protector® clubroot hybrid.

- Superior yield potential
- Excellent field emergence
- "R" for Clubroot vs 2F, 3H, 5I, 6M and 8N (CR1)
- "R" for Blackleg
- Suitable for all growing regions

44H44[1]

Excellent yield, and the Pioneer Protector® clubroot trait in an early-maturity hybrid with strong adult blackleg resistance in one package.

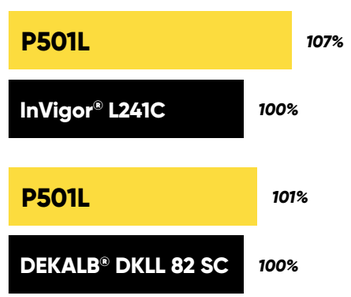
- Excellent yield potential – early-maturity with the yield potential of a mid-maturity
- Excellent early growth and field emergence
- Very good for lodging
- "R" for Clubroot vs 2F, 3H, 5I, 6M and 8N (CR1)
- "R" for Blackleg
- Early-maturity



P501L[1]

Superior yield and Pioneer Protector® clubroot protection in the LibertyLink® herbicide trait.

- Superior yield potential
- Excellent early growth and field emergence
- Very good lodging score
- "R" for Clubroot vs 2F, 3H, 5I, 6M and 8N (CR1)
- "R" for Blackleg
- Suitable for all growing regions



[1] *Source: 2020-2021 Corteva Agriscience field and IMPACT trials as of Feb 10, 2022*

Featured Canola Hybrids

P508MCL[1]

Clearfield® Production System for Canola

A high-yielding Pioneer Protector® canola with the Clearfield® herbicide tolerant trait that provides resistance to blackleg and options for harvest timing.

- Excellent yield potential
- Excellent early growth and field emergence
- Very good lodging score
- "R" for Blackleg
- Suitable for all growing regions with options for harvest timing

P509L[1]

Pioneer Protector® Clubroot; LIBERTY LINK®

An early-maturing Pioneer Protector® clubroot hybrid with shorter stature and blackleg resistance, now with the LibertyLink® herbicide trait.

- Great yield to maturity
- Excellent field emergence
- Very good for lodging
- "R" for Clubroot vs 2F, 3H, 5I, 6M and 8N (CR1)
- "R" for Blackleg
- Early - mid-maturity

NEW

P514CL[1]

Pioneer Protector® Clubroot; Clearfield® Production System for Canola

A new Pioneer Protector® clubroot hybrid with both adult and seedling blackleg resistance in one package with the Clearfield® herbicide trait.

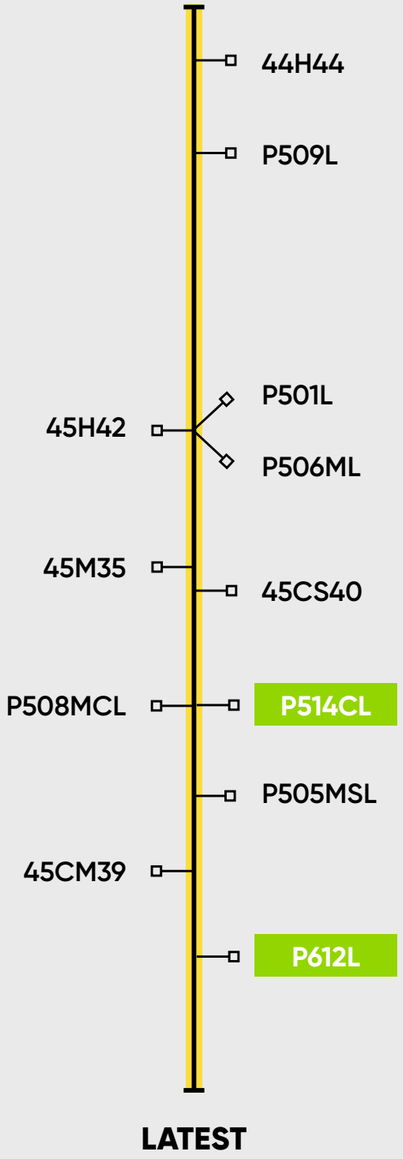
- Excellent yield potential
- Very good lodging score
- "R" for Blackleg – Contains seedling resistant gene
- "R" for Clubroot New Source (CR5) (2F, 3H, 5I, 6M, 8N, 2B, 3A, 3D, 5X)

LumiGEN® Seed Treatments

LumiGEN® seed treatments are designed, verified and proven to work with Pioneer seed genetics, helping farmers establish healthy, uniform crops and maximize productivity.

[1] *Source: 2020-2021 Corteva Agriscience field and IMPACT trials as of Feb 10, 2022*

Pioneer Protector® Canola Hybrids - Days to Maturity



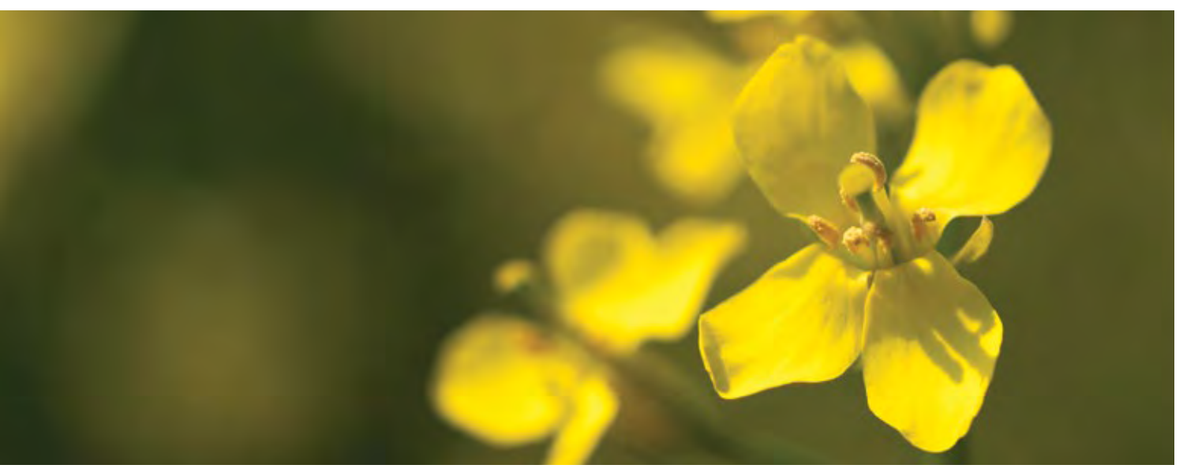
PRODUCT	MATURITY	HERBICIDE TOLERANT TRAIT	POD SHATTER REDUCTION SCORE	SOURCE OF CLUBROOT RESISTANCE	CLUBROOT	BLACKLEG	BLACKLEG SCORE	SCLEROTINIA	FUSARIUM WILT	VERTICILLIUM STRIPE	EARLY GROWTH	GREEN SEED CONTENT	STANDABILITY	PLANT HEIGHT
CHARACTERISTIC RATINGS*														
45M35	5	RR	7			MR	7		R		8	8	8	8
45CM39	5	RR	7	CR2	R	R	7		R	5	8	8	7	7
44H44	4	RR	6	CR1	R	R	7		R	7	8	8	7	7
45H42	5	RR	5	CR1	R	R	8		R	3	9	8	8	7
45CS40	5	RR	3	CR1	R	R	7	6	R	4	8	7	7	8
P612L	6	LL	7	CR4	R	R	7		R	4	7	8	7	8
P505MSL	5	LL	7	CR1	R	R	7	6	R	5	8	8	7	8
P506ML	5	LL	6	CR1	R	R	7		R	4	8	8	7	8
P509L	5	LL	5	CR1	R	R	7		R	3	8	8	7	7
P501L	5	LL	4	CR1	R	R	7		R	5	8	8	7	7
P508MCL	5	CL	7			R	7		R	5	8	8	7	8
P514CL	5	CL	6	CR5	R	R	8		R	4	7	8	7	8

NOTES

For complete definitions and disclaimers related to product descriptions, characteristic ratings and disease ratings, and all other information contained herein, see page 46.

9 OUTSTANDING 1 POOR INSUFFICIENT DATA

G GOOD VG VERY GOOD NEW

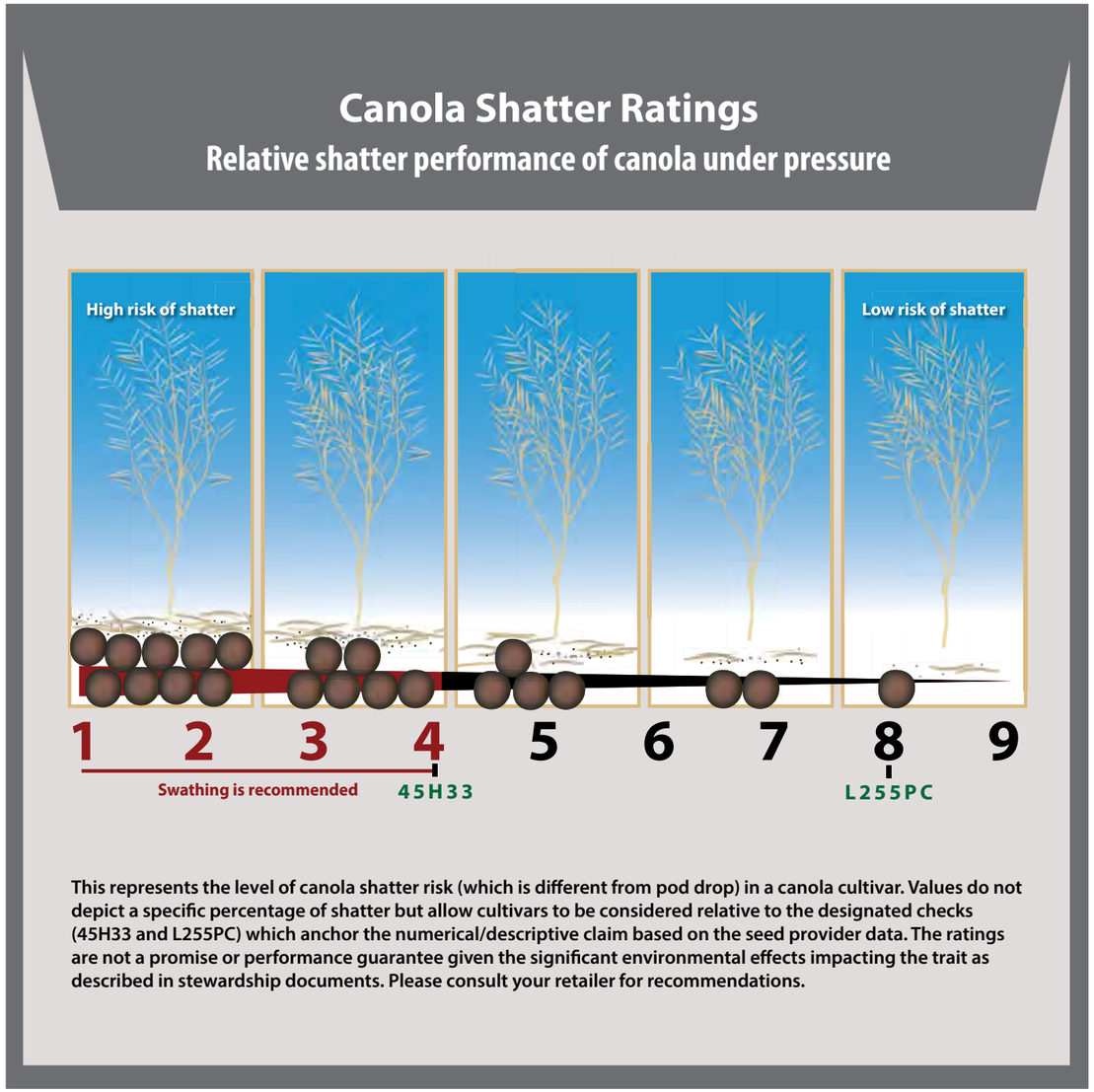


Pod Shatter Reduction Scores

PIONEER PROTECTOR® CANOLA POD SHATTER REDUCTION SCORES ALIGN TO THE CANOLA COUNCIL OF CANADA'S SCALE TO HELP GROWERS UNDERSTAND THE SHATTER TOLERANCE OF SPECIFIC CANOLA HYBRIDS.

The Pod Shatter Reduction score for a hybrid (1-9) creates a guide for a grower to understand the pod shatter risk for each canola hybrid as an option for straight cutting.

- Hybrid performance, with respect to pod shatter, can vary across Western Canada. Talking to your local Pioneer Sales Representative or Area Agronomist can help with understanding pod shatter reduction risk level of a hybrid in your area.
- Tolerance to pod shatter will not prevent pod drop.



This represents the level of canola shatter risk (which is different from pod drop) in a canola cultivar. Values do not depict a specific percentage of shatter but allow cultivars to be considered relative to the designated checks (45H33 and L255PC) which anchor the numerical/descriptive claim based on the seed provider data. The ratings are not a promise or performance guarantee given the significant environmental effects impacting the trait as described in stewardship documents. Please consult your retailer for recommendations.

Image source: Canola Council of Canada

Choose From a Full Line-Up of Crop Protection Products to Help Secure Your Investment in Pioneer Protector® Canola

Prospect™

Arylex™ active

HERBICIDE

Give your canola the best start possible with the true pre-seed weed control power of Prospect™ herbicide.

- Controls a wide range of broadleaf weeds, including cleavers (overwintered and Group 2 resistant biotypes), hemp-nettle, flixweed, narrow-leaved hawk's beard and many more
- More consistent and complete control than glyphosate alone
- Flexibility to spray at 5 gal/ac: low spray water volume without giving up weed control performance
- When tank mixed with glyphosate, Prospect provides three modes of action for multi-effective mode of action (MEMOA) control of key broadleaf weeds

Prospect + Glyphosate on cleavers

Glyphosate alone

Eclipse™ XC

HERBICIDE

Superior, season-long control of tough-to-kill weeds like wild buckwheat and Canada thistle.

- Broad-spectrum weed control in both glyphosate-tolerant canola and corn for superior control of wild buckwheat and Canada thistle
- Convenient all-in-one control with 2 modes of action
- Protects canola without negatively impacting yield or maturity, unlike elevated rates of glyphosate

Lontrel™ XC

HERBICIDE

The most effective in-season thistle control available - right down to the roots.

- For use on a number of crops including both corn and canola
- The most effective in-season thistle control available
- Flexibility to choose your rate for optimal thistle control

INTERLINE® HERBICIDE

A new option for glufosinate-tolerant canola.

New INTERLINE® Herbicide features a unique, high-quality formulation of glufosinate for outstanding crop safety, excellent flowability and minimal foaming.

Ares™ SN

HERBICIDE

The performance standard in weed control for Pioneer® brand canola with the Clearfield® trait.

- Consistent and reliable post-emergent weed control, including subsequent flushes
- Wide window of application on both crop and weeds
- Superior control of lamb's quarters, wild buckwheat, cleavers and volunteer canola

Amity™ WDG

HERBICIDE

The herbicide option for Pioneer® brand canola with the Clearfield® trait in the Peace Country.

- Rotational flexibility for farmers in the Peace Country region of Alberta
- Broad-spectrum control for Clearfield canola
- Reliable control of tough grasses and targeted broadleaf weeds

Surjet™

ADJUVANT

Surjet™ Adjuvant is a blend of surfactant and petroleum hydrocarbons designed for use with Ares™ SN or Amity™ WDG herbicides.

- Rate: 0.5% v/v
- Water volume: 100L/ha or (10 US gal/ac)

Need to purchase Surjet Adjuvant when applying Amity WDG

Yield HERO

OUT-YIELD THE DOUBTERS.

GET THE #YIELDHERO DATA AT YIELDHERO.PIONEER.COM

BLAZE YOUR NEW PATH IN CORN, WITH GENETICS BRED FOR THE WEST. CHOOSE FROM A DIVERSE LINEUP OF HYBRIDS THAT FINISH STRONG AND DRY DOWN FAST FOR EARLIER HARVESTS AND MAXIMUM PROFIT. YOUR INVESTMENT IS PROTECTED WITH OUR BEST-IN-CLASS LUMIGEN™ INSECTICIDE, FUNGICIDE AND NEMATICIDE SEED TREATMENTS. BECAUSE IT'S ALL ABOUT YIELD. LET'S BUST THROUGH.

Pioneer® brand Optimum® AcreMax®, Optimum® AcreMax® XTreme and Qrome® Products

Maximized Yields And Simplified Refuge Compliance

Pioneer is committed to delivering integrated refuge products that provide growers with increased flexibility and convenience for insect resistance management (IRM). The Pioneer® brand integrated refuge product lineup brings multiple modes of action for insect protection, to help increase overall farm yields by reducing refuge and extending the durability of important traits.

	Optimum® AcreMax®	Optimum® AcreMax® XTreme	QROME®
PESTS CONTROLLED OR SUPPRESSED	European Corn Borer Corn Earworm Fall Armyworm Black Cutworm	European Corn Borer Corn Earworm Fall Armyworm Black Cutworm Western Corn Rootworm Northern Corn Rootworm	European Corn Borer Corn Earworm Fall Armyworm Black Cutworm Western Corn Rootworm Northern Corn Rootworm
DESCRIPTION	Single-bag product with integrated corn borer refuge	Single-bag product with integrated corn borer and corn rootworm refuge	Single-bag product with integrated corn borer and corn rootworm refuge
BENEFITS	Ultimate simplicity Maximized farm yields Technology preservation	Maximum yields Technology preservation Proven performance Multiple modes of insect protection	Maximum yields Technology preservation Proven performance Multiple modes of insect protection
REFUGE	Integrated refuge; no separate refuge required	Integrated refuge; no separate refuge required	Integrated refuge; no separate refuge required
REFUGE EXAMPLES			

Corn Traits and Technologies

Efficacy levels based on Pioneer university entomologist results against susceptible insect populations. Product responses can vary by location, pest population, environmental conditions and agricultural practices.

TECHNOLOGY SEGMENT IDENTIFIERS	CORN TECHNOLOGY TRAITS	INSECT EFFICACY LEVELS												
		European Corn Borer #	Corn Earworm #	Western Bean Cutworm *	Fall Armyworm #	Black Cutworm	Southwestern Corn Borer #	Lesser Cornstalk Borer	Sugarcane Borer	Southern Cornstalk Borer	Stalk Borer (Common)	Western Corn Rootworm #	Northern Corn Rootworm	Mexican Corn Rootworm
RR2	Roundup Ready® Corn 2													
LL	LibertyLink®													
AM, LL, RR2	Optimum® AcreMax®, LibertyLink®, Roundup Ready® Corn 2 (Corn Borer)	C	S		C	C	C	C	C	C	S			
AMXT, LL, RR2	Optimum® AcreMax® XTreme, LibertyLink®, Roundup Ready® Corn 2 (Corn Borer/Rootworm)	C	S		C	C	C	C	C	C	S	C	C	C
Q	Qrome®, LibertyLink®, Roundup Ready® Corn 2 (Corn Borer / Rootworm)	C	S		C	C	C	C	C	C	S	C	C	C

C = Controlled S = Supressed Blank = Not Labeled
All scores of integrated refuge products are based upon the major component.

 # Various factors, including pest pressure, reduced susceptibility, and insect resistance in some pest populations may affect efficacy of certain corn technology products in some regions. To help extend durability of these technologies, Pioneer recommends you implement Integrated Pest Management practices such as crop rotation, cultural and biological control tactics (including rotating sources of Bt-protected corn traits), pest scouting, and appropriate use of pest thresholds when employing management practices such as insecticide application. You must also plant the required refuge when using these technologies. Please contact your authorized Pioneer sales representative or consult with your local university extension for more information regarding insect resistance management guidelines, best management practices and to understand whether there has been a shift in susceptibility or insect resistance with certain pests documented in your area.

** Western bean cutworm has been removed from the Pioneer product use statement for several corn products that contain Herculex® I (Cry1F), but lack another mode of action for western bean cutworm due to a wide-spread decrease in susceptibility, indicating the possibility of field-evolved resistance to Cry1F in most geographies.*

LumiGEN Seed Treatments

Pioneer® brand corn is protected by the industry-leading LumiGEN® seed treatment package

NEW Corteva Corn Fungicide, Insecticide & Nematicide Seed Treatment Offering

NEW

Lumialza™

NEMATICIDE SEED TREATMENT

Lumialza™ nematicide seed treatment is a biological nematicide that shields corn roots from harmful nematodes for over 80 days while cooperating with beneficial organisms to enhance crop vigour and yield potential.

Untreated

Lumialza[1]

LUMIALZA PROVIDES MORE THAN 80 DAYS OF PROTECTION

Untreated

Lumialza[2]

NEW

Lumiscend™ Pro

FUNGICIDE SEED TREATMENT

The **NEW** LumiGEN corn fungicide seed treatment is a unique combination of 4 active ingredients to deliver MMOA protection from early season seed and soil-borne diseases, adding a new level of protection against rhizoctonia and pythium species.

Lumivia™

INSECTICIDE SEED TREATMENT

Lumivia™ insecticide seed treatment delivers excellent broad-spectrum protection on key early season corn insect pests.

Uniform, healthy stands & improved yield potential over fungicide only treated seed

Fungicide only

Lumivia[3]

LUMIVIA YIELD ADVANTAGE +3.2 BU/AC

In demo trials compared to FST only treatment[4]

Lumivia completes the LumiGEN corn package. Add Lumivia to maximize your corn protection.

1 *Roots from corn plants infested with root lesion nematode (Pratylenchus brachyurus) 42 days after emergence.*
2 *Above ground photos of plants from untreated corn seed infested with Pratylenchus spp. 42 DAE (left) and corn plants from seed treated with Lumialza at 10 ml/ha (right).*
3 *Field trial, Shetland, ON 2016*
4 *Source: Small Plot and Large Demo Trials from 2015 – 2016 (n=9)*

Featured Grain Corn Hybrids

P7211AM[2]

2050 HEAT UNITS

- Industry leader in early grain corn performance
- Fantastic yield for early maturity
- Very good test weight and grain quality
- Excellent drought tolerance scores
- Above-average stalk strength

P7211AM	135.8 bu/ac
DEKALB® DKC26-40RIB	125.0 bu/ac

Source: 61 locations

10.8 BU/AC INCREASE | 1.8% MOISTURE ADVANTAGE

P7455R[2]

2100 HEAT UNITS

- Excellent agronomic package from planting to harvest
- Great early season vigour and emergence
- Solid mid-late stalk and root strength
- Strong grain performance across various growing conditions/soil types
- Very good test weight
- Short plant height for improved residue management

P7455R	138.5 bu/ac
DEKALB® DKC26-40RIB	125.5 bu/ac

Source: 63 locations

13 BU/AC INCREASE | 2.9% MOISTURE ADVANTAGE

NEW

P7389AM[2]

2075 HEAT UNITS

- Above average Goss Wilt score
- Above average stalks and root strength
- Good Test Weight score

P7389AM	131.3 bu/ac
DEKALB® DKC26-06RIB	127.2 bu/ac

Source: 11 locations

4.1 BU/AC INCREASE | 5.1% MOISTURE ADVANTAGE

P7574AM[2]

2150 HEAT UNITS

- Consistent yield performance across various conditions or soil types where tested
- Well suited grain performance and maturity for Red River Valley and Southern AB
- Above average test weight
- Excellent early season vigour and emergence
- Average root and stalk strength
- Great silage characteristics with strong performance

P7574AM	137.5 bu/ac
DEKALB® DKC26-40RIB	126 bu/ac

Source: 55 locations

11.5 BU/AC INCREASE | 2.1% MOISTURE ADVANTAGE

Featured Grain Corn Hybrids

P7844AM[2]

2225 HEAT UNITS

- Very good yield potential; suited in southern Manitoba
- Above average stalk and root strength
- Good Goss's Wilt resistance

P7844AM	155.3 bu/ac
DEKALB® DKC33-78RIB	146.2 bu/ac

Source: 14 locations

9.1 BU/AC INCREASE | 0.8% MOISTURE ADVANTAGE

NEW

P7822AM[2]

2250 HEAT UNITS

- Above Average Stress emergence
- Good stalk strength
- Very good test weight
- Above average Plant height

P7822AM	144.2 bu/ac
DEKALB® DKC29-89RIB	139.8 bu/ac

Source: 42 locations

4.4 BU/AC INCREASE | 0.8% MOISTURE ADVANTAGE

P7861AM[2]

2250 HEAT UNITS

- Excellent yield performance with solid agronomic package
- Strongest Goss's Wilt rating in line-up
- Very good drought tolerance and stalk strength scores
- Excellent dual-purpose corn product with strong silage traits

P7961AM	154.2 bu/ac
DEKALB® DKC33-78RIB	145.6 bu/ac

Source: 23 locations

8.6 BU/AC INCREASE | 1.8% MOISTURE ADVANTAGE

P8588AM[2]

2550 HEAT UNITS

- High yielding Grain Corn hybrid
- Good Stalk strength and Goss's Wilt resistance.

P8588AM	180.8 bu/ac
DEKALB® DKC35-88RIB	178.5 bu/ac

Source: 6 locations

2.3 BU/AC INCREASE | 2.2% MOISTURE ADVANTAGE

[2] Grain corn yield data: Two year (2020 - 2021) yield data summarized from large scale grower managed and IMPACT trials across Western Canada as of Feb 11, 2022.

Featured Silage Corn Hybrids

P6909R[3]

1950 HEAT UNITS

- Ultra early silage corn hybrid
- Very good drought tolerance and stalk strength
- Good root strength

P6909R	***14.03 tons/ac***
PRIDE Seeds A3993G2RIB	***13.96 tons/ac***

Source: 2 locations

2.6% STARCH ADVANTAGE

P7213R[3]

2050 HEAT UNITS

- Consistent performing hybrid with balanced agronomic package
- Very good test weight
- Very good root strength
- Average stress emergence and drought tolerance.
- Fast dry down

P7213R	***15.84 tons/ac***
Thunder Seeds TH4076HDRR	***13.01 tons/ac***

Source: 2 locations

15.3% STARCH ADVANTAGE

NEW

P6910AM[3]

1950 HEAT UNITS

- Very good yield for maturity
- Very good test weight
- Average Root and Stalk strength

P6910AM	***19.40 tons/ac***
P6909R	***19.20 tons/ac***

Source: 4 locations

P7861R[3]

2200 HEAT UNITS

- Excellent performing silage hybrid
- Very good stalk strength and drought tolerance
- Good Root Strength and Goss's Wilt Resistance

P7861R	***15.62 tons/ac***
NorthStar Genetics 913S	***14.49 tons/ac***

Source: 2 locations

4.0% STARCH ADVANTAGE

Featured Silage Corn Hybrids

P7958AM[3]

2275 HEAT UNITS

- Optimum® AcreMax® product delivering integrated refuge for above-ground insect control
- Very good drought tolerance and root strength
- Moderate Goss's Wilt resistance
- Excellent silage characteristics and performance

P7958AM	***16.57 tons/ac***
NorthStar Genetics NS913S	***14.49 tons/ac***

Source: 2 locations

7.8% STARCH ADVANTAGE

P8294AM[3]

2400 HEAT UNITS

- Excellent silage characteristics and performance
- Tall plant stature
- Great late-season plant health
- Excellent early-season vigour and emergence
- Good Goss's Wilt resistance

P8294AM	***26.21 tons/ac***
PRIDE Seeds AS1047RR EDF	***25.81 tons/ac***

Source: 9 locations

4.8% STARCH ADVANTAGE

P8407AM[3]

2450 HEAT UNITS

- Dual-purpose corn product with excellent drought tolerance
- Very good stalks and root scores
- Average Goss's Wilt resistance

P8407AM	***23.16 tons/ac***
PRIDE Seeds A4939G2RIB	***20.91 tons/ac***

Source: 4 locations

-0.9% STARCH ADVANTAGE

P8581R[3]

2575 HEAT UNITS

- Excellent stalk strength
- Very good root strength
- Above average drought tolerance
- Very good Goss's Wilt resistance

P8581R	***20.57 tons/ac***
NorthStar Genetics NS932S	***17.93 tons/ac***

Source: 2 locations

11.7% STARCH ADVANTAGE

[3] Silage corn data: Three year (2019-2021) silage yield data summarized from large-scale, grower managed trials across Western Canada as of March 3, 2022.

HYBRID/BRAND**	TECHNOLOGY SEGMENT	CHU	MARKET SEGMENT	CRM	SILK CRM	PHY. CRM	GDUS TO SILK	GDUS TO PHY. MATURITY	STALK STRENGTH	MID-SEASON BRITTLE STALK	ROOT STRENGTH	STRESS EMERGENCE	DROUGHT TOLERANCE	STAYGREEN	HIGH RESIDUE SUITABILITY	GRAIN DRYDOWN	EAR FLEX(10)	TEST WEIGHT	PLANT HEIGHT	EAR HEIGHT	HUSK COVER	GOSS'S WILT	SILAGE CRM	SILAGE YIELD	STARCH AND SUGAR, %	FIBRE DIGESTIBILITY	SILAGE CRUDE PROTEIN	MILK PER ACRE	MILK PER TON	BEEF PER ACRE	BEEF PER TON
CHARACTERISTIC RATINGS*																															
P6909R	RR2	1950	HAE	69	70	77	890	1810	7	6	6	4	6	3	S	5	3	9	3	4	3	4	69	6	9	5	6	7	7	7	7
39F44	RR2	2000	HTF	73	70	72	890	1680	4	6	4	7	5	3	HS	6	2	7	3	4	3	3	80	5	8	9	8	7	8	5	8
P6910AM™*	AM,LL,RR2	1950	HTF	69					5	7	5	4	6		S	3	4	7	3	4	4	3	71	6	8	7	6	6	7	6	7
P6910R*	RR2	1950	HTF	69					5	7	5	4	6		S	3	4	7	3	4	4	3	71	6	8	7	6	6	7	6	7
P7005AM™	AM,LL,RR2	2000	HAE	70	74	77	940	1810	3	4	7	5	6	4	S	7	3	9	3	4	6	3	68	6	8	6	9	7	7	7	7
P7202AM™	AM,LL,RR2	2050	HAE	72	69	76	880	1790	5	7	6	4	6		S	8	2	8	3	4	5	3	71	5	9	9	8	7	8	7	8
P7211AM™	AM,LL,RR2	2050	HAE	72	70	74	890	1730	6	5	5	4	7	3	S	6	2	7	3	4	4	3	71	8	9	9	7	9	9	9	9
P7213R	RR2	2050	HAE	72	75	74	950	1730	4	6	7	6	5	3	S	3	6	7	3	4	3	3	71	6	8	8	9	6	9	6	9
P7389AM™*	AM,LL,RR2	2075	HAE	73					6	5	6	4	7	6	S	5	4	6	4	5	6	6	76	8	8	6	8	7	6	7	6
P7417AM™	AM,LL,RR2	2125	HAE	74	76	77	960	1810	5	5	5	4	6	5	S	4	6	5	3	5	5	5	74	8	7	9	9	7	7	7	7
P7455R	RR2	2100	HAE,HTF	74	74	75	940	1760	8	7	8	5	6	4	HS	5	5	7	3	4	4	5	74	8	9	8	8	7	8	7	8
P7527AM™	AM,LL,RR2	2150	HAE,HTF	75	78	77	980	1810	5	6	5	5	7	3	S	7	5	5	3	4	4	5	75	9	8	9	8	9	9	9	9
P7527AMXT™	AMXT,LL,RR2	2150	HAE,HTF	75	78	77	980	1810	5	6	5	5	7	3	S	7	5	5	3	4	4	5	75	9	8	9	8	9	9	9	9
P7574AM™†	AM,LL,RR2	2150	HTF	75	77	76	970	1790	6	5	4	6	5	6	HS	5	3	6	6	6	5	4	79	9	7	6	8	9	6	9	6
P7822AM™*	AM,LL,RR2	2250		78					6	6	4	6	6	5	HS	3	4	7	5	5	5	4	76	7	8	6	7	7	6	7	6
P7822R*	RR2	2250		78					6	6	4	6	6	5	HS	3	4	7	5	5	5	4	76	7	8	6	7	7	6	7	6
P7844AM™†	AM,LL,RR2	2225		78	78	82	980	1940	6	5	6	4	6	6	S	7	4	5	5	6	6	4	80	7	8	7	8	6	7	6	7
P7861AM™	AM,LL,RR2	2250		78	78	78	980	1840	7	5	6	4	7	5	S	3	5	5	6	5	6	6	80	7	9	8	9	7	8	7	8
P7861R	RR2	2200		78	78	78	980	1840	7	5	6	4	7	5	S	3	5	5	6	5	6	6	80	7	9	8	9	7	8	7	8
P7958AM™	AM,LL,RR2	2275		79	84	83	1060	1960	6	4	7	5	6	6	S	4	4	6	5	5	3	5	75	7	5	7	7	7	6	7	6
P8048AM™*	AM,LL,RR2	2350		80					6	5	6	4	6	5	S	6	5	6	5	6	6	5	76	7	8	7	7	8	7	8	7
P8294AM™†	AM,LL,RR2	2400		82	85	82			5	6	4	5	6	6	S	5	4	5	7	7	4	5	83	8	7	5	7	8	6	8	6
P8294Q™*	Q,LL,RR2	2400		82	85	82			5	6	4	5	6	6	S	5	4	5	7	7	4	5	83	8	7	5	7	8	6	8	6
P8407*		2425		84					7	4	5	4	7	5	S	4	6	5	5	5	6	5	86	8	8	8	8	8	8	8	8
P8407AM™	AM,LL,RR2	2450		84	85	85	1100	2020	7	4	5	4	7	5	S	4	6	5	5	5	6	5	86	8	8	8	8	8	8	8	8
P8407Q™	Q,LL,RR2	2450		84	85	85	1100	2020	7	4	5	4	7	5	S	4	6	5	5	5	6	5	86	8	8	8	8	8	8	8	8
P8537AM™	AM,LL,RR2	2550	HTF	85	83	85	1040	2020	7	4	6	4	6	7	S	3	5	6	5	7	5	6	86	8	9	7	7	7	7	7	6
P8537Q™	Q,LL,RR2	2550	HTF	85	83	85	1040	2020	7	4	6	4	6	7	S	3	5	6	5	7	5	6	86	8	9	7	7	7	7	7	6
P8581R	RR2	2575		85	94	89	1180	2120	8	5	7	5	7	5	S	7	7	5	7	7	4	5	89	8	6	5	8	7	7	7	7
P8588AM™	AM,LL,RR2	2550	HTF	85	83	87	1040	2070	5	6	5	4	7	6	S	3	7	6	4	6	5	6	7	8	7	9	7	6	7	6	5
P8602AM™*	AM,LL,RR2	2600	HTF	86					5	7	6	5	7	5	S	4	7	5	6	6	6	5	81	6	8	6	6	6	7	6	7
P8736AM™	AM,LL,RR2	2550	HTF	87	88	86	1100	2040	4	5	4	4	7	5	X	5	5	4	7	7	5	6	87	8	9	7	7	7	8	8	8
P8859AM™†	AM,LL,RR2	2600	HTF,HES	88	84	86			6	6	6	6	7	5	HS	7	4	5	5	7	6	5	82	7	8	7	7	7	7	7	7
P8859Q™*	Q,LL,RR2	2600	HTF,HES	88					6	6	6	6	7	5	HS	7	4	5	5	7	6	5	82	7	8	7	7	7	7	7	7
P9188AM™	AM,LL,RR2	2600	HTF	91	89	91	1120	2170	6	5	8	4	7	5	S	4	5	6	4	4	6	5	85	6	8	7	6	7	7	7	7
P9233Q™	Q,LL,RR2	2650	HTF,HES	92	89	93	1120	2220	5	3	7	4	6	6	S	5	6	6	6	7	5	6	90	8	8	7	6	8	8	8	8
P9301AM™	AM,LL,RR2	2750	HTF,HES	93	91	91	1140	2170	6	6	5	6	6	6	HS	6	4	7	6	6	6	7	93	7	8	5	7	7	6	7	6
P9301Q™	Q,LL,RR2	2750	HTF,HES	93	91	91	1140	2170	6	6	5	6	6	6	HS	6	4	7	6	6	6	7	93	7	8	5	7	7	6	7	6
P9316Q™*	Q,LL,RR2	2750	HTF	93					5	5	6	4	7	7	S	5	4	7	5	6	6	6	89	7	8	6	7	7	7	7	7

NOTES: For complete definitions and disclaimers related to product descriptions, characteristic ratings and disease ratings, and all other information contained herein, see page 46.

9 OUTSTANDING 1 POOR ☐ INSUFFICIENT DATA NEW

** All scores of integrated refuge products are based upon the major component.*
All Pioneer products are hybrids unless designated with AM1, AM, AML, AMT, AMX, AMXT and Q, in which case they are brands.
† Introductory product. Quantities may be limited.

Crop Protection Products for Corn

Lontrel™ XC

HERBICIDE

The most effective in-season thistle control available - right down to the roots.

- For use on a number of crops including corn and canola
- The most effective in-season thistle control available
- Flexibility to choose your rate for optimal thistle control

Eclipse™ XC

HERBICIDE

Broad-spectrum weed control for superior control of wild buckwheat and Canada thistle.

- Now registered for application in glyphosate-tolerant corn from the VE to V6 stage (8 leaf*)
- Convenient all-in-one herbicide solution offering superior control of a broad spectrum of weeds

Sortan™ IS

HERBICIDE

Cleaner field, higher yield potential.

- Provides moisture-activated extended control throughout the critical weed free period (VE to V4)
- Removes early season weed competition with excellent control of volunteer glyphosate-tolerant canola and wild buckwheat
- Tank mix with glyphosate for an additional mode of action, providing a great tool for resistance management

CornHerbicides.corteva.ca

Corteva Agriscience 2022 Field Guide App

Scan the code with your mobile device to learn more.

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POWER OF PIONEER

The determination and expertise of our people push us to be better for Canadian farmers. Together, we're shaping the future of farming.

THE POWER OF AGRONOMY

259
Reps in the field supporting farmers.

6,000,000
Pioneer acres in Canada in 2021.

75
Years growing with Canadian farmers.

THE POWER OF SUPPORT

21,000
Corteva employees globally.

806
Corteva Canada employees.

20,000+
Yearly customers served.

THE POWER OF INNOVATION

180+
Research staff in Canada.
Plus dozens of seasonal employees.

10
Research centres across the country.

157
Canola, corn and soybean products offered in 2022.

*Pioneer internal data, 2021.

Yield HERO

OUT-YIELD THE DOUBTERS.

GET THE #YIELDHERO DATA AT YIELDHERO.PIONEER.COM

BLAZE A NEW PATH FORWARD WITH PIONEER® BRAND SOYBEANS. GET HIGH-PERFORMING, EARLY-MATURITY VARIETIES, WITH THE BEST SUPPORT AT YOUR SIDE. THEY ARE PROTECTED WITH OUR PREMIUM LUMIGEN™ SEED TREATMENT. ADD LUMIDERM™ INSECTICIDE SEED TREATMENT TO MAXIMIZE YOUR INVESTMENT. BECAUSE IT'S ALL ABOUT YIELD. LET'S BUST THROUGH.

Developed and Tested To Deliver Performance

A SERIES SOYBEANS

Pioneer® brand A-Series soybeans are products of research innovations powered by AYT 4.0, our proprietary tool for more rapidly developing products with the highest yield potential. Our extensive localized breeding and testing program helps ensure your A-Series soybeans deliver superior yield potential in your fields.

Highest Soybean Yield Potential

With soybean products that are developed across many Western Canada growing areas, Pioneer® brand A-Series soybean have outperformed other soybean varieties across multiple years and locations.

Backed by Unparalelled Research and Development

Pioneer has the industry's most extensive localized soybean breeding and product testing program to deliver leading yield-potential soybeans customized for your acres.

Leading Defensive Traits to Beat Local Challenges

Our molecular breeding hones the native defensive traits you need to fight SCN, SDS, white mould, Phytophthora and many other yield-robbing diseases. Pioneer rigorously tests its products for disease resistance under the toughest conditions to help ensure peak performance in your local growing conditions.

Key Benefits of Pioneer® brand A-Series Soybeans:

Multiple product choices with Roundup Ready® 2 Xtend and Enlist E3™ soybeans in all maturity groups

- Maximize yield and profitability on your soybean acres
- Provide varieties suited to all environments in Western Canada

Enlist E3™ SOYBEANS

ROUNDUP READY 2 XTEND® SOYBEANS

Enlist™ weed control system

Enlist E3™ SOYBEANS

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

Enlist E3™ soybean varieties are now available. Using the Enlist weed control system, farmers can take control of resistant and hard-to-control weeds.

WHY USE THE ENLIST WEED CONTROL SYSTEM?

- A system with new traits providing herbicide tolerance in soybeans and corn
- Herbicide solutions built on an improved form of 2,4-D that lands and stays on target, enables management of hard-to-control and resistant weeds with Group 4 herbicides
- Enlist Stewardship resources that support the use of multiple modes of action to manage resistant weeds, provide training, and promote responsible and sustainable use

Enlist E3™ Soybeans

Enlist E3 soybeans provide high-yielding soybean genetics and industry leading triple-mode of action herbicide tolerance.

WHY USE ENLIST E3 SOYBEANS?

- Enlist E3 soybeans are tolerant to 2,4-D, glyphosate and glufosinate herbicides, which are part of a strong resistance management strategy
- Excellent crop tolerance enabling applications up to the R2 growth stage

LIBERTY is a registered trade-mark of BASF, used under license by BASF Canada Inc. © 2022 BASF Canada Inc. The transgenic soybean event in Enlist E3™ soybeans is jointly developed and owned by Corteva Agriscience and M.S. Technologies L.L.C. Enlist Duo® and Enlist™ 1 are the only 2,4-D products authorized for use with Enlist™ crops. Consult Enlist herbicide labels for weed species controlled. Always read and follow label directions

Enlist™ herbicides that land and stay on target

Enlist Duo™ with COLEX•D™ technology
HERBICIDE

COMPLETE CONVENIENCE.

Enlist Duo provides the convenience of both 2,4-D choline and glyphosate in one formulation for control of grasses and broadleaf weeds including hard-to-control and resistant weeds.

Enlist™ 1 with COLEX•D™ technology
HERBICIDE

FLEXIBILITY AND CHOICE.

Enlist 1, a stand-alone 2,4-D choline formulation, provides the flexibility to tank-mix and adjust the rates of glyphosate or Liberty® 200 SN (glufosinate) for 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

Learn more at EnlistCanada.ca

LumiGEN Seed Treatments

Pioneer® brand soybeans are protected by the industry-leading LumiGEN seed treatment package

Lumisena™

FUNGICIDE SEED TREATMENT

- Most advanced seed-applied technology to protect against phytophthora
- Improves soybean emergence, vigour and root growth to maximize stand and yield potential
- The only seed-applied technology that delivers residual protection across multiple stages of the phytophthora pathogen's life cycle
- Lumisena is a group 49, a new class of chemistry for superior disease protection

Lumiderm™

INSECTICIDE SEED TREATMENT

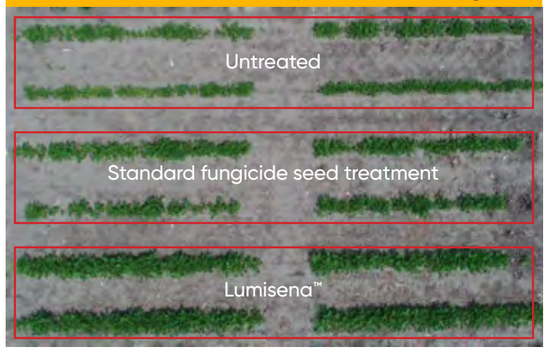
- Broad spectrum protection from early season insect pests including bean leaf beetle, soybean aphid and **now** registered for cutworms
- Excellent seedling protection delivers a more uniform, healthy stand to maximize yield potential

Lumiderm insecticide seed treatment + Lumisena fungicide seed treatment results in healthier, more abundant soybean stands.

LUMISENA YIELD ADVANTAGE **+3.0 BU/AC**
In demo trials compared to competitor FST treatment*

LUMIDERM & LUMISENA YIELD ADVANTAGE **+1.5 BU/AC**
In demo trials compared to standard IST + FST treatment*

Lumisena Trial 47 Days after Planting



**Source: 2017 Eastern Canada internal trials (n = 16)*

Lumiderm™ Soybean Seed Treatment Replicated Trial

Fungicide Only | **Lumiderm + FST**

Ridgetown, Ontario

Lumiderm complements Lumisena fungicide seed treatment and completes the LumiGEN soybean package. Add Lumiderm to maximize your soybean protection.

Featured Soybean Varieties

P001A48X[4]

ROUNDUP READY 2 XTEND SOYBEANS

2300 HEAT UNITS

- Excellent field emergence and early growth scores
- Excellent harvest standability
- Very good anti-shatter score
- Good plant height

P001A48X	32.5 bu/ac
P002A63R	32.0 bu/ac

Source: 7 locations

0.5 BU/AC INCREASE

P001A48X	33.7 bu/ac
DEKALB® DKB003-29	33.7 bu/ac

Source: 11 locations

EQUAL YIELD

P003A97X[4]

ROUNDUP READY 2 XTEND SOYBEANS

2350 HEAT UNITS

- Early maturity soybean with high yield potential
- Very good field emergence and harvest standability
- Cyst Nematode resistance (PI88788)
- Above average iron chlorosis rating

P003A97X	35.3 bu/ac
DEKALB® DKB005-52	35.0 bu/ac

Source: 9 locations

0.3 BU/AC INCREASE

P003A97X	35.3 bu/ac
DEKALB® DKB003-29	33.7 bu/ac

Source: 11 locations

1.5 BU/AC INCREASE

P005A27X[4]

ROUNDUP READY 2 XTEND SOYBEANS

2400 HEAT UNITS

- Great yield for maturity
- Taller plant with average canopy width
- Excellent field emergence and anti-shattering scores
- Average white mold tolerance

P005A27X	35.0 bu/ac
DEKALB® DKB003-29	34.3 bu/ac

Source: 7 locations

0.7 BU/AC INCREASE

P005A27X	36.1 bu/ac
Thunder Seed TH 87003 R2X	35.1 bu/ac

Source: 20 locations

1.0 BU/AC INCREASE

NEW

P005A59E[4]

Enlist E3 SOYBEANS

2400 HEAT UNITS

- Very good early growth
- 1C gene for phytophthora field tolerance
- Very good harvest standability
- Above average iron chlorosis
- Average canopy width

P005A59E	33.7 bu/ac
DEKALB® DKB005-52	33.7 bu/ac

Source: 10 locations

EQUAL YIELD

P005A59E	33.7 bu/ac
Thunder Seed TH 87003 R2X	33.3 bu/ac

Source: 10 locations

0.4 BU/AC INCREASE

Featured Soybean Varieties

P005A83X[4]

ROUNDUP READY 2 XTEND SOYBEANS

2375 HEAT UNITS

- Good canopy width soybean with very good yield potential
- Excellent field emergence and anti-shatter score
- Good iron chlorosis rating
- Cyst Nematode resistance (Peking source)
- Very good harvest standability
- Performs well on heavy soils

P005A83X	35.3 bu/ac
DEKALB® DKB003-29	34.3 bu/ac

Source: 7 locations

1.0 BU/AC INCREASE

P006A37X[4]

ROUNDUP READY 2 XTEND SOYBEANS

2425 HEAT UNITS

- High-yielding mid-maturity variety
- Excellent harvest standability
- Very good field emergence and anti-shatter score
- Average plant height for maturity
- Performs well on heavy soils

P006A37X	35.8 bu/ac
DEKALB® DKB005-52	35.7 bu/ac

Source: 23 locations

0.1 BU/AC INCREASE

P006A37X	32.8 bu/ac
Syngenta® S003-Z4X	32.4 bu/ac

Source: 11 locations

0.5 BU/AC INCREASE

P00A49X[4]

ROUNDUP READY 2 XTEND SOYBEANS

2525 HEAT UNITS

- Very good field emergence and iron chlorosis rating
- Good harvest Standability
- Average field phytophthora tolerance (1C gene)
- Cyst Nematode resistance (source PI88788)

P00A49X	39.8 bu/ac
DEKALB® DKB005-52	39.7 bu/ac

Source: 13 locations

0.1 BU/AC INCREASE

P00A49X	35.3 bu/ac
Syngenta® S006-M4X	35.3 bu/ac

Source: 5 locations

EQUAL YIELD

[4] *Soybean yield data: Two year (2020-2021) yield data summarized from large-scale, grower managed and IMPACT trials across Western Canada as of Nov 8, 2021.*

SOYBEANS

VARIETY/BRAND**	RELATIVE MATURITY	TECHNOLOGY SEGMENT	HARVEST STANDABILITY	FIELD EMERGENCE	PHYTOPHTHORA GENE	PHYTOPHTHORA FIELD TOLERANCE	IRON CHLOROSIS	DOWNY MILDEW	WHITE MOLD	SUDDEN DEATH SYNDROME	SCN SOURCE	CYST NEMATODE RACE 1	CYST NEMATODE RACE 2	CYST NEMATODE RACE 3	CYST NEMATODE RACE 5	CYST NEMATODE RACE 14	CANOPY WIDTH	PLANT HEIGHT FOR MATURITY	% PROTEIN @ 13% MOISTURE	% OIL @ 13% MOISTURE	SEED SIZE RANGE	PUBESCENCE COLOR	HILA COLOR	POD COLOR
CHARACTERISTIC RATINGS*																								
P000A24E™†	00.0	E3	6˙	8	–		6˙				–						6˙	4	34.50	19.80	2950–3550	G	BF	TN
P001A48X™	00.1	RR2X	7	8	1c	5	5	6˙	4˙		–			3		2	6	5	34.36	20.68	2650–3250	T	TN	TN
P003A97X™	00.3	RR2X	6	7	1k	4	6		4˙		PI88788			8		6	5	4	34.47	21.04	2650–3250	L	G	BR
P005A59E™†	00.5	E3	7˙	7	1c	3˙	6	4˙	5˙		–			4˙			5˙	4	34.37	19.97	2100–2700	L	BR	BR
P005A83X™	00.5	RR2X	7	8	1c	5	6	5˙	5˙		Peking	3		9	4	2	5	6	34.11	20.90	2500–3100	T	BL	BR
P006A37X™	00.6	RR2X	7	7	1c	5	6	7˙	4˙	3˙	–			1		1	5	5	34.06	20.86	2400–3000	T	BR	BR
P00A49X™	0.0	RR2X	6	7	1c	5	7		5		PI88788			8		8	4	6	34.22	20.70	2500–3100	L	BR	BR
P00A75X™	0.0	RR2X	6	7	1k	5	6		4˙		–			2		3	6	5	33.51	21.62	2300–2900	G	IB	BR

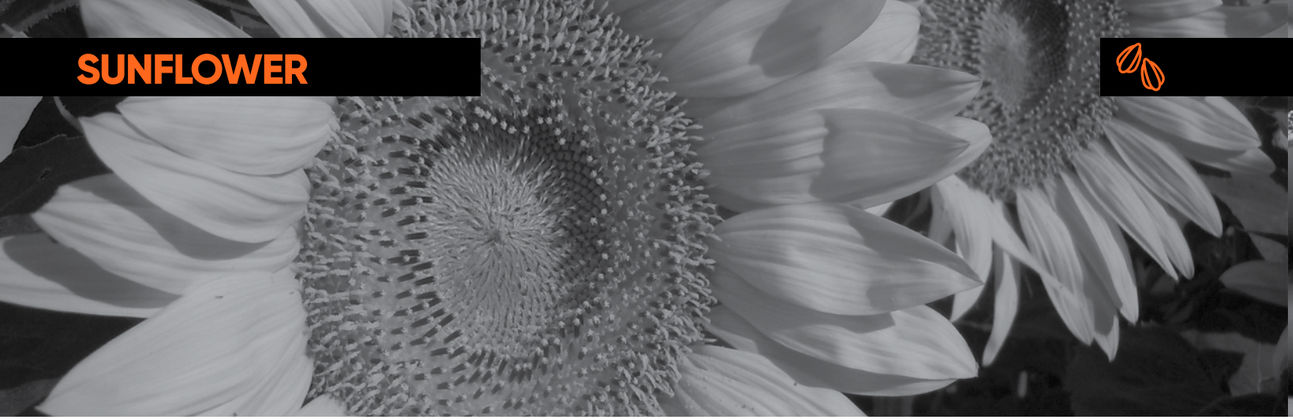
NOTES

For complete definitions and disclaimers related to product descriptions, characteristic ratings and disease ratings, and all other information contained herein, see page 47.

9 Outstanding 1 Poor Insufficient data **NEW**

† Introductory product. Quantities may be limited.
** Reflects preliminary data. Subject to change when additional data becomes available*

All Pioneer products denoted with ™ are brand names.



SUNFLOWER

PRODUCT	HERBICIDE SYSTEM	RELATIVE MATURITY	YIELD	EMERGENCE	DRYDOWN	PERCENT OIL	MID-OLEIC SCORE	HIGH-OLEIC SCORE	SELF FERTILITY	PLANT HEIGHT	STEM CURVATURE	NECK STRENGTH	STALK STRENGTH	ROOT STRENGTH	RUST FIELD TOLERANCE	ROOT SCLEROTINIA	HEAD SCLEROTINIA	VERTICILLIUM	PHOMOPSIS	MIDGE SCORE	DOWNY MILDEW RACE RESISTANCE	TEST WEIGHT	HULL SCORE	PCT013
RATINGS																								
MID-OLEIC (NUSUN® OIL)																								
P63ME70	ExpressSun	37	7	6	6	7	8		9	6	8	8	7	7		7	6		6		1-4	5	5	5
P63ME80	ExpressSun	38	7	6	6	7	8		8	8	7	6	7	7		5	6		6	6	1-4	7	4	5
LINOLEIC (CONVENTIONAL OIL)																								
63A21		29	7	8	7	4			8	9	7	8	9	7	1	4	4		3	3	1	6	6	4
HIGH-OLEIC																								
P63HE501	ExpressSun	35	8	6	7	6		8	7	6	7	6	7	7		5	6		7		1-4	8		
P63HE60	ExpressSun	37	7	6	6	7		8	8	6	7	6	7	7		5	6		6	6	1-4	8	4	5

NOTES

For complete definitions and disclaimers related to product descriptions, characteristics ratings and disease ratings, and all other information contained herein, see page 48.

9 Outstanding 1 Poor ☐ Insufficient data

ALFALFA

VARIETY OR BRAND**	HERBICIDE RESISTANCE	FORAGE YIELD	FALL DORMANCY	WINTERHARDINESS	STAND PERSISTENCE	STANDABILITY OR LODGING RESISTANCE	RELATIVE FORAGE QUALITY (RFQ)	MILK/BEEF YIELD PER ACRE	DISEASE RESISTANCE INDEX	SEEDLING ROOT ROTS	APHANOMYCES ROOT ROT MULTI-RACE	ROOT AND CROWN DISEASES	STEM AND CROWN DISEASES	VASCULAR WILT DISEASES	APHID RESISTANCE	ANTHRACNOSE (RACE 1)	APHANOMYCES ROOT ROT (RACE 1)	APHANOMYCES ROOT ROT (RACE 2)	BACTERIAL WILT	FUSARIUM WILT	PHYTOPHTHORA ROOT ROT	VERTICILLIUM WILT	STEM NEMATODE	NORTHERN ROOT-KNOT NEMATODE	SOUTHERN ROOT-KNOT NEMATODE	PEA APHID	SPOTTED APHID	POTATO LEAFHOPPER
RATINGS																											
CONVENTIONAL MUSCLE/HIGH YIELD VARIETIES																											
54VQ52	9	4	8	9	7	8	9	9	8	8	8	8	8	7	8	8	8	8	7	9	8	8			8	7	1	1
54Q29	9	4	8	9	7	8	9	9	8	8	8	8	8	8	8	9	7	9	8	9	8	8			8	7	1	
55Q27	8	5	8	8	6	8	8	9	8	7	9	9	9	7	9	8	6	9	8	9	8	8			7	7	1	
55V50	8	5	8	8	6	7	8	9	9	9	9	8	8	7	8	9	9	8	7	9	8	7	8		7	7	1	1
FORAGE QUALITY VARIETIES																											
54Q16†	8	4	8	8	8	9	8	9	9	9	9	9	9	7	9	9	8	9	9	9	9	8			7		1	1
PREMIUM DORMANT BLEND																											
54B66™		7	4	8	7	7	7	7	7	7	6	8	8	7	7	8	7	5	8	7	8	7				7	7	1

NOTES

For complete definitions and disclaimers related to product descriptions, characteristics ratings and disease ratings, and all other information contained herein, see page 49.

9 Outstanding 1 Poor ☐ Insufficient data NEW

All Pioneer products denoted with ™ are brand names, in which case it is comprised of more than one Pioneer brand variety
^ Forage yield scores based on trials experiencing moderate to heavy leafhopper infestation, with no insecticide applied.
+ Varieties with HarvXtra® technology will have significantly higher RFQ values than any other variety due to the reduced lignin content.
† Forage yield scores reflect the yield increase compared to conventional alfalfa types under one or more lodging events at harvest.

Sila-Bac® brand Forage Additives

Crop-Specific Options Using Patented and/or Proprietary Bacterial Strains

	SILA-BAC® BRAND INOCULANTS					SILA-BAC BRAND NUTRIVAIL® FEED TECHNOLOGY		
	1174	11H50	11C33	11B91	11G22	11CFT**	11AFT**	11GFT**
	MULTI-CROP	**ALFALFA**	**CORN SILAGE**	**HMC**	**ALFALFA/ GRASS/ CEREALS**	**CORN SILAGE**	**ALFALFA**	**GRASS/ CEREALS**
	Unique blend of patented and/or proprietary strains of *Lactobacillus plantarum* and *Enterococcus faecium*	Unique blend of patented and/or proprietary strains of *Lactobacillus plantarum* and *Enterococcus faecium*	Contains fast-acting* *L. buchneri*†	Contains fast-acting* *L. buchneri*†	Contains fast-acting* *L. buchneri*†	Contains *L. buchneri*†	Contains *L. buchneri*†	Contains *L. buchneri*†
IMPROVES FERMENTATION AND REDUCES DRY MATTER LOSS	X	X	X	X	X	X	X	X
IMPROVES NUTRIENT CONSERVATION	X	X	X	X	X	X	X	X
SIGNIFICANTLY REDUCES HEATING ON BUNKER/PILE			X	X	X	X	X	X
HELPS REDUCE HEATING IN ENTIRE TMR			X	X	X	X	X	X
IMPROVES FIBRE DIGESTIBILITY						X	X	X

NOTES

For complete definitions and disclaimers related to product descriptions, characteristics ratings and disease ratings, and all other information contained herein, see page 49.

** Rapid React® aerobic stability† technology*

*** Patented, proprietary and unique L. buchneri strain found only in Nutrivail® Feed Technology products proven to improve rate of fiber digestibility.*

† Improved aerobic stability and reduced heating is relative to untreated silage. Actual results may vary. The effect of any silage inoculant is dependent upon management at harvest, storage and feedout. Factors such as moisture, maturity, chop length and compaction will determine inoculant efficacy.

Rapid React aerobic stability technology contains a proprietary bacterial strain that quickly goes into action, making feed ready in just 7 days.

RAPID REACT AEROBIC STABILITY

Benefits include:

- Faster access to your most valuable input
- A consistently cool bunker face
- Extended bunklife

Featured Sila-Bac brand Inoculants

11CFT — NUTRIVAIL FEED TECHNOLOGY

CORN FIBRE TECHNOLOGY

- Multi-strain with L. buchneri
- Improves fibre digestibility
- Enables higher corn silage inclusion rates
- Reduces shrink and improves bunklife of the silage face during feedout

11AFT — NUTRIVAIL FEED TECHNOLOGY

ALFALFA FIBRE TECHNOLOGY

- Multi-strain with L. buchneri
- Improves alfalfa fermentation
- Improves fibre digestibility
- Improves forage energy density to help reduce supplemental feeding cost

11GFT — NUTRIVAIL FEED TECHNOLOGY

GRASS FIBRE TECHNOLOGY

- Multi-strain with L. buchneri
- Improves fibre digestibility
- Improves forage energy density to help reduce supplemental feeding cost
- Improves grass/cereal fermentation

11C33 — RAPID REACT AEROBIC STABILITY

CORN SILAGE

- Multi-strain with fast-acting* L. buchneri
- Reduces heating, increases bunklife
- Minimizes dry matter loss
- Provides improved bunklife and stable feed in 7 days

11B91 — RAPID REACT AEROBIC STABILITY

HIGH-MOISTURE CORN

- Multi-strain with L. buchneri
- Improves fermentation
- Retains nutrient content and enhances digestibility of ensiled high-moisture corn
- Provides improved bunklife and stable feed in 7 days

1174

MULTI-CROP

- Reduces dry matter loss
- Promotes faster silage fermentation, retaining more energy
- Improves forage quality for silage with higher energy

1189

HIGH-MOISTURE CORN

- Helps corn ferment faster to retain more energy
- Retains nutrient content and enhances digestibility of ensiled, high-moisture corn

11G22 — RAPID REACT AEROBIC STABILITY

GRASS/CEREAL

- Multi-strain with fast-acting* L. buchneri
- Enhances fermentation in grass/cereal silage
- Minimizes aerobic dry matter loss
- Provides improved bunklife and stable feed in 7 days

11H50

ALFALFA SILAGE

- Improves dry matter digestibility
- Reduces dry matter loss
- Promotes faster, more efficient fermentation
- Helps improve alfalfa silage nutritional quality

Sila-Bac® brand inoculants **11C33**, **11G22** and **11B91** – now with Rapid React aerobic stability technology – provide you with earlier aerobic stability for silage consistency and faster access to new crop feed, allowing maximum flexibility when managing feed inventory.

2022
FLEX REWARDS
CORTEVA AGRISCIENCE™

Grow with Corteva Agriscience.

Choose from a portfolio of high-performing, world-class products, and earn rewards without compromising agronomics.

3% **SEED BOOSTER (Min. 300 acres)**
When you purchase Pioneer® brand seed, you save on your Corteva Agriscience™ crop protection purchases and will receive an additional eligible category.

3% **EARLY BOOK**
Book by **March 15, 2022** *(Early book starting Sept 1, 2021)*

PROGRAM TIERS

	2 CATEGORIES	3 CATEGORIES	4 OR MORE CATEGORIES
CORE $5,000 - $24,999 MSRP	3%	6%	10%
CORE PLUS $25,000 - $99,999 MSRP or 300 acres of seed	4%	7%	11%
PLUS MAX > $100,000 MSRP or 800 acres of seed	5%	8%	12%

LUMIVIA™ CPL INSECTICIDE SEED TREATMENT BONUS
SAVE 30% on Lumivia™ CPL matching acres with 2 of the following product categories: pre-seed, grass, broadleaf and/or cross spectrum.
See reverse for eligible brands (min. 300 acres).

Program Savings

3% + 3% + 12% =

Max Savings

18%

ELIGIBLE CATEGORIES
Up to 18% savings paid on these products. (Minimum 300 acres per category)

PRE-SEED HERBICIDES	GRASS HERBICIDES	BROADLEAF HERBICIDES	FUNGICIDES	CANOLA & CORN HERBICIDES	BONUS SEED CATEGORY**
Korrex™ II	Liquid Achieve™ SC	Attain™ XC	Acapela™	Accent™	Pioneer® brand seed
Paradigm™ PRE	Simplicity™	Cirpreme™ XC	Cerefit™	Amity™ WDG	
PrePass™ FLEX	Simplicity™ GoDRI™	Exhilarate™		Ares™ SN	
PrePass™ XC		OcTTain™ XL		Eclipse™ XC	
Prospect™		Pixxaro™		Lontrel™ XC	
		Prestige™ XL		Sortan™ IS	
		Prominex™		Steadfast™ IS	
		Stellar™ XL			
CROSS SPECTRUM* HERBICIDES (Counts as 2 categories)					
Avenza™					
Rexade™					
Rezuvant™/Rezuvant™ XL					
Tandem™					
Tridem™					

*Cross Spectrum counts as 2 categories, but maximum 3 categories when purchasing cross spectrum, grass and broadleaf.

**Bonus Seed Category is a category and tier builder, but is not eligible for savings in this program.

Foundation does not count as a category.

Products in Foundation and the Bonus Seed category do not qualify for the Early Book bonus.

FOUNDATION (TIER BUILDER)

Delegate™ insecticide	Prism™ SG herbicide
eNtrench™ NXTGEN nitrogen stabilizer	N-Serve™ nitrogen stabilizer
Enlist™ 1 herbicide	Reclaim™ II herbicide
Enlist Duo™ herbicide	Restore™ II herbicide
Grazon™ XC herbicide	Utrisha™ N nutrient efficiency
Lumisena™ fungicide seed treatment	biostimulant
Lumivia™ CPL insecticide seed treatment	VP480

CANOLA FOOTNOTES

* Introductory product. Quantities may be limited.

** Pending registration

Trait ratings provide key information useful in selection and management of Pioneer® brand products in your area. Scores are based on period-of-years testing through 2021 harvest and were the latest available at time of printing. Some scores may change after 2022 harvest. Contact your Pioneer sales professional before planting for the latest trait rating information.

IMPORTANT: Information and ratings are based on comparisons with other Pioneer® brand products, not competitive products. Information and ratings are assigned by Pioneer Agronomists and Research Managers, based on average performance across area of adaptation under normal conditions, over a wide range of both climate and soil types, and may not predict future results. Product responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as only part of your product positioning decision. Refer to www.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product and for product placement and management suggestions specific to your operation and local conditions.

RATINGS: 9 = Excellent; **1** = Poor; Blank = Insufficient Data.

MATURITY: 9 = Late; **6** = Medium;
5 = Medium-Early; **3** = Early;
1 = Very Early.

HERBICIDE TOLERANT TRAIT:
Hybrids and varieties with the **Roundup Ready® gene (RR)** are tolerant to labeled rates of Roundup® branded herbicides. This technology allows for post-emergent applications of Roundup without crop injury or stress (see herbicide label). Labeled Roundup herbicide should only be used over the top of those hybrids and varieties that carry the Roundup Ready designation. Roundup Ready® and Roundup® are registered trademarks of Bayer Group.

Hybrids and varieties with the **CLEARFIELD® trait (CL)** are tolerant to labeled rates of Beyond®, Odyssey® or Absolute® herbicides. This technology allows for post-emergent applications of these herbicides without crop injury or stress (see herbicide label). Labeled herbicides should only be used over the top of those hybrids and varieties that contain the CLEARFIELD trait. The unique Clearfield symbol and Clearfield® are registered trademarks of BASF.

Hybrids and varieties with the **LibertyLink® gene (LL)** are resistant to Liberty® herbicide. Liberty®, LibertyLink® and the Water Droplet Design are registered trademarks of BASF.

POD SHATTER REDUCTION SCORE: 9 = Low risk of Shatter,
1 = High Risk of Shatter.

SOURCE OF CLUBROOT RESISTANCE: Shows different source of Clubroot resistance. CR1 is different from CR2; CR2 is different from CR3, etc.

CLUBROOT: R =Resistant, **S** = Susceptible.

BLACKLEG: R = Resistant;
MR = Moderately Resistant;
MS = Moderately Susceptible;
S = Susceptible.

BLACKLEG SCORE: 9 = Resistant;
1 = Susceptible.

SCLEROTINIA: 9 = Highly Tolerant;
5 = Moderately Tolerant; **1** = Susceptible.

FUSARIUM WILT: R = Resistant;
S = Susceptible. Current Fusarium rating is provisional and based on limited data.

VERTICILLIUM STRIPE:
9 = Resistant, **1** = Susceptible.

EARLY GROWTH: 9 = Excellent,
1 = Poor. Early growth is recorded when plants are at 4-6 leaf stage. It is a subjective evaluation of healthiness of plants and the soil area covered by their leaves.

GREEN SEED CONTENT: 9 = Very low count (desired); **1** = Very high count.

STANDABILITY: 9 = upright (desired) while **1** = Severely lodged

PLANT HEIGHT: 9 = Tall;
1 = Short (desired).

Pioneer® brand canola products are treated with Helix® Vibrance® seed treatment. Helix® and Vibrance® are registered trademarks of a Syngenta Group Company.

CORN FOOTNOTES

* Introductory product. Quantities may be limited.

** All scores of integrated refuge products are based upon the major component

*** All Pioneer products are hybrids unless designated with AM1, AM, AML, AMT, AMX, AMXT and Q, in which case they are brands.

Product performance in water-limited environments is variable and depends on many factors such as the severity and timing of moisture deficiency, heat stress, soil type, management practices and environmental stress as well as disease and pest pressures. All products may exhibit reduced yield under water and heat stress. Individual results may vary.

IMPORTANT: Trait rating scores provide key information useful in selection and management of Pioneer® brand products in your area. Information and ratings are based on comparisons with other Pioneer brand products, not competitive products. Information and scores are assigned by Pioneer Research Managers. Scores are based on period-of-years testing through 2021 harvest and were the latest available at time of printing. Some scores may change after 2022 harvest. Scores represent an average of performance data across areas of adaptation, multiple growing conditions, and a wide range of both climate and soil types, and may not predict future results. All products within a hybrid family receive the same score unless observations indicate a significant difference. Individual product responses are variable and subject to a variety of environmental, disease and pest pressures. Please use this information as only one component of your product positioning decision. Refer to www.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product and for product placement and management suggestions specific to your operation and local conditions.

RATINGS: 9 = Outstanding; **1** = Poor; Blank = Insufficient Data.

WHITE AND WAXY CORN RATINGS: Based on comparisons with other Pioneer brand products, not competitive products. Trait ratings for white and waxy products reflect comparison with non-modified yellow products of a similar maturity.

HYBRID FAMILY: Hybrid family identifies products that have the same base genetics. Manage products within the same family similarly.

TECHNOLOGY SEGMENT:
AM1 - Optimum® AcreMax® 1 insect protection system with an integrated corn rootworm refuge solution includes HXX, LL, RR2.
Optimum AcreMax 1 products contain the LibertyLink® gene and can be sprayed with Liberty® herbicide. The required corn borer refuge can be planted up to half a mile away.

AM - Optimum® AcreMax® insect protection system with YGCB, HX1, LL, RR2. Contains a single-bag integrated refuge solution for above-ground insects. In EPA-designated cotton-growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax products.
AMT - Optimum® AcreMax® TRIsect® insect protection system with RW,YGCB,HX1,LL,RR2. Contains a single-bag refuge solution for above- and below-ground insects. The major component contains the Agrisure® RW trait, the Bt trait, and the Herculex® I gene. In EPA-designated cotton-growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax TRIsect products.
AMX - Optimum® AcreMax® Xtra insect protection system with YGCB, HXX, LL, RR2. Contains a single-bag integrated refuge solution for above- and below-ground insects. In EPA-designated cotton-growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax Xtra products.
AMXT (Optimum® AcreMax® XTreme) - Contains a single-bag integrated refuge solution for above- and below-ground insects. The major component contains the Agrisure® RW trait, the Bt trait and the Herculex® XTRA gene. In EPA-designated cotton-growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax XTreme products.
Q (Qrome®) - Contains a single-bag integrated refuge solution for above- and below-ground insects. The major component contains the Agrisure® RW trait, the Bt trait, and the Herculex® XTRA gene. Qrome products are approved for cultivation in the U.S. and Canada. They have also received approval in a number of importing countries, most recently China. For additional information about the status of regulatory authorizations, visit http://www.biotradestatus.com/.
YGCB,HX1,LL,RR2 (Optimum® Intrasect®) - Contains the Bt trait and Herculex® I gene for resistance to corn borer.
YGCB,HXX,LL,RR2 (Optimum® Intrasect® Xtra) - Contains the Bt trait and the Herculex® XTRA gene for resistance to corn borer and corn rootworm.
RW,HX1,LL,RR2 (Optimum® TRIsect®) - Contains the Herculex® I gene for above-ground pests and the Agrisure® RW trait for resistance to corn rootworm.
AML - Optimum® AcreMax® Leptra® products with AVBL, YGCB, HX1, LL, RR2. Contains a single-bag integrated refuge solution for above-ground insects. In EPA-designated cotton-growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax Leptra products.
AVBL,YGCB,HX1,LL,RR2 (Optimum® Leptra®) - Contains the Agrisure Viptera® trait, the Bt trait, the Herculex® I gene, the LibertyLink® gene and the Roundup Ready® Corn 2 trait.
HX1 - Contains the Herculex® I insect protection gene which provides protection against European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, and sugarcane borer; and suppresses corn earworm.
HXX - Herculex® XTRA contains the Herculex® I and Herculex® RW gene.
YGCB - The Bt trait offers a high level of resistance to European corn borer, southwestern corn borer and southern cornstalk borer; moderate resistance to corn earworm and common stalk borer; and above average resistance to fall armyworm.
LL - Contains the LibertyLink® gene for resistance to Liberty® herbicide.
RR2 - Contains the Roundup Ready® Corn 2 trait that provides crop safety for over-the-top applications of labeled glyphosate herbicides when applied according to label directions.

Roundup Ready® is a registered trademark used under license from Monsanto Company.

Liberty®, LibertyLink® and the Water Droplet Design are registered trademarks of BASF.

MARKET SEGMENT: Designations indicate product is also suitable for the following market:
HAE – High Available Energy (Pork & Poultry Feed); **HTF** – High Total Fermentables (Dry-Grind Ethanol); **HES** – High Extractable Starch (Wet Milling); **WX** – Waxy; **WH** – White food corn; **YFC** – Yellow food corn;
AQ – Optimum® AQUAmax® product;
BMR – Brown MidRib Corn.

CRM (Comparative Relative Maturity): There is not an industry standard for maturity ratings so comparing product maturity and harvest moisture ratings between companies is usually difficult. Use the CRM rating to compare Pioneer® brand products with competitive products of a similar maturity and harvest moisture. CRM ratings, and harvest moistures, for products within a family may vary slightly, depending upon the level of insect (ECB and CRW) infestation. Conventional and straight products with the RR2 gene within a family will usually be 1-2 CRMs earlier than indicated, when insect infestations are moderate to heavy. One CRM difference is about ½ point of moisture difference at harvest.

PHYSIOLOGICAL CRM: Measures differences in maturity to zero milkline stage. To help decide if a new product fits your area's growing season, compare its physiological CRM to a product that you plant or one that is successfully used in your area.

GDUs TO PHYSIOLOGICAL MATURITY:
Measures differences in growing degree units (GDUs) required to zero milkline stage. To help decide if a new product fits your area's growing season, compare its GDUs to physiological maturity to a product that you plant or one that is successfully used in your area.

MID-SEASON BRITTLE STALK: Ratings determined by frequency and severity of stalk snappage at lower to middle stalk internodes from conditions usually favored by rapid or optimum growth. Relative response of products can be affected by planting date, stage of growth, rate of growth, wind severity and other variables. Scores derived from both natural observations and artificial evaluation immediately prior to tasseling. **NOTE:** Scores do not reflect snappage enhanced by or due to herbicide interaction. The use of growth regulator herbicides such as 2,4-D and dicamba can increase the brittle snap potential of corn products. Products with lower brittle stalk ratings will require more caution and have a higher risk associated with the use of growth regulator herbicides. Early application, proper rates and application methods, along with both product and herbicide selection can help reduce this risk.

STRESS EMERGENCE: All products are expected to establish normal stands under average soil conditions. Stress emergence is a measure of the genetic ability or potential to emerge in the stressful environmental conditions of cold, wet soils or short periods of severe low temperatures, relative to other Pioneer brand products. Ratings of 7-9 indicate very good potential to establish normal stands under such conditions; a rating of 5-6 indicates average potential to establish normal stands under moderate stress conditions; and ratings of 1-4 indicate the product has below average potential to establish normal stands under stress and should not be used if severe cold conditions are expected immediately after planting. Stress emergence is not a rating for seedling disease susceptibility, early growth or speed of emergence.

DROUGHT TOLERANCE: Drought tolerance is a complex trait, determined by a platform's ability to maintain yield in limited-moisture environments. A higher score indicates the potential for higher yields vs. other platforms of similar maturity in limited-moisture environments.

HIGH RESIDUE SUITABILITY:
HS - Highly Suitable; **S** – Suitable;
MA – Manage Appropriately;
X - Poorly Suited; **NS** – Not Scored.
Suitability rating based on field observations and a weighted calculation of gray leaf spot, stress emergence, anthracnose stalk rot or stalk strength, northern corn leaf blight, and Diplodia ear rot scores. High Residue Suitability ratings may vary by environment and geography.

GRAIN DRYDOWN: Compares products of similar maturity for rate of moisture loss during grain drydown. A higher score indicates faster drydown. A lower score indicates slower drydown, or a wider opportunity for silage and high-moisture corn harvest.

EAR FLEX: Score reflects the ability of a product to flex ear size as plant density is reduced, or as growing conditions improve.

TEST WEIGHT: Higher score indicates heavier test weight.

PLANT HEIGHT: 9 = Very Tall;
1 = Short.

EAR HEIGHT: 9 = High; **1** = Low.

GOSS WILT RESISTANCE:
8-9 = Highly Resistant; **6-7** = Resistant;
4-5 = Moderately Resistant; **1-3** = Susceptible

SILAGE CRM (Silage Comparative Relative Maturity): With no industry standard for silage maturity, comparing maturity and harvest moisture across various companies' corn-for-silage hybrids can be difficult. Pioneer silage CRM ratings provide a relative comparison among Pioneer® brand products of rates at which products reach harvestable whole plant moistures. It is on the same scale as the CRM rating provided for grain corn products and does not represent actual days from planting or emergence to harvest moisture or half milkline.

SILAGE YIELD: Based on whole-plant yield per acre (adjusted to 35% dry matter) from multi-year comparison with other products within a maturity range not exceeding 5 silage CRM units.

STARCH AND SUGAR, %: Percent starch and soluble sugars (DM basis) in the whole-plant sample predicted by NIRS.

FIBER DIGESTIBILITY: Based on 30-hour rumen-fluid based estimate of the percent of ruminally degradable neutral detergent fiber (NDF) as a percent of total NDF in whole-plant samples, predicted by NIRS. Brown MidRib Corn hybrids are designated with "B" since NDFD30 averages 6-8 percentage points higher than non-BMR silage hybrids. To optimize fiber digestibility, growers should consider use of BMR Corn hybrids.

SILAGE CRUDE PROTEIN: Based on the amount of crude protein in the whole plant, predicted by NIRS.

MILK PER ACRE: 9 = Outstanding; **1** = Poor, based on University of Wisconsin MILK2006 utilizing silage yield, nutrient content and digestibility.

MILK PER TON: 9 = Outstanding; **1** = Poor, based on University of Wisconsin MILK2006 utilizing silage nutrient content and digestibility.

BEEF PER ACRE: 9 = Outstanding; **1** = Poor, based on University of Wisconsin MILK2006 utilizing silage yield, nutrient content and digestibility.

BEEF PER TON: 9 = Outstanding; **1** = Poor, based on University of Wisconsin MILK2006 utilizing silage nutrient content and digestibility.

SOYBEAN FOOTNOTES

* Introductory product. Quantities may be limited.

** All Pioneer products denoted with ™ are brand names.

** Ratings denoted with a double asterisk (**) reflect preliminary data subject to change when additional data becomes available.

Components of LumiGEN® seed treatments for soybeans are applied at a Corteva Agriscience production facility or by an independent sales representative of Corteva Agriscience or its affiliates. Not all sales representatives offer treatment services, and costs and other charges may vary. See your sales representative for details. Seed applied technologies exclusive to Corteva Agriscience and its affiliates.

IMPORTANT: Product responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as only part of your product positioning decision. Individual results may vary.

Trait ratings provide key information useful in selection and management of Pioneer® brand products in your area. Scores are based on testing through 2021 harvest and were the latest available at time of printing. Some scores may change after 2022 harvest. Information and ratings are based on average performance across area of adaptation under normal conditions, over a wide range of both climate and soil types and may not predict future results. Refer to www.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product and for product placement and management suggestions specific to your operation and local conditions.

NUMERIC RATINGS: 9 = Excellent; 1 = Poor; Blank = Insufficient Data or variety not tested for that particular trait.

RELATIVE MATURITY: Shows the relative maturity group rating, with the digits preceding the decimal representing the general maturity group, and the digit following the decimal showing relative maturity within the group on a scale of 0 to 9, with 0 early and 9 late. For example, a soybean product with a relative maturity rating of 1.8 would be a late product in Group 1 maturity.

TECHNOLOGY SEGMENT:

Always follow stewardship practices in accordance with the Product Use Guide (PUG) or other product-specific stewardship requirements including grain marketing and pesticide label directions.

Always follow grain marketing, stewardship practices and pesticide label directions. Varieties with the Glyphosate Tolerant trait (including those designated by the letter "R" in the product number) contain genes that confer tolerance to glyphosate herbicides. Glyphosate herbicides will kill crops that are not tolerant to glyphosate.

Varieties with the **Roundup Ready 2 Yield® (RR2Y)** trait: **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** 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. Roundup Ready 2 Yield® is a trademark of Bayer Group.

Varieties with the **LibertyLink® (LL)** gene are resistant to Liberty® herbicide.

Liberty®, LibertyLink® and the Water Droplet Design are registered trademarks of BASF.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Soybeans with Roundup Ready 2 Xtend® technology contain genes that confer tolerance to glyphosate and dicamba. Glyphosate herbicides will kill crops that are not tolerant to glyphosate. Dicamba will kill crops that are not tolerant to dicamba. Roundup Ready 2 Xtend® is a registered trademark of Monsanto Technology LLC used under license.

SOYBEAN FOOTNOTES CONTINUED...

Enlist E3™ soybeans contain the Enlist E3 trait that provides crop safety for use of labelled over-the-top applications of glyphosate, glufosinate and 2,4-D herbicides featuring Colex-D® technology when applied according to label directions. Following burndown, the only 2,4-D containing herbicide products that may be used with Enlist™ crops are products that feature Colex-D technology and are expressly labelled for use on Enlist crops. 2,4-D products that do not contain Colex-D technology are not authorized for use in conjunction with Enlist E3 soybeans.

WARNING: Enlist E3 soybeans are tolerant of over-the top applications of glyphosate, glufosinate, and 2,4-D. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to only use 2,4-D products that contain Colex-D technology authorized for use in conjunction with Enlist E3 soybeans. Always read and follow herbicide label directions prior to use.

Enlist™ 1 and Enlist Duo™ are the only 2,4-D products authorized for use with Enlist crops. Consult Enlist herbicide labels for weed species controlled. Additional product-specific stewardship requirements for Enlist crops, including the Enlist™ Product Use Guide, can be found at www.EnlistCanada.ca Always read and follow label directions.

The transgenic soybean event in the Enlist E3™ soybean was jointly developed and owned by Corteva Agriscience and M.S. Technologies, L.L.C. ® ™ Enlist, Enlist E3, the Enlist E3 logo, and Colex-D are trademarks of Corteva Agriscience and its affiliated companies. Excellence Through Stewardship is a registered trademark of Excellence Through Stewardship.

(–) = Variety does not contain a herbicide resistant gene.

ROUNDUP READY 2 XTEND SOYBEANS | Enlist E3 SOYBEANS | Glyphosate

FIELD EMERGENCE: Rating based on speed and strength of emergence in sub-optimal temperatures. **1–3** = Below Average; **4–6** = Average; **7–9** = Excellent.

PHYTOPHTHORA RESISTANCE GENE:

(-) = No specific gene for resistance.

Rps1^^ = Contains Rps1c or Rps1k Phytophthora resistance.

Rps 1a = Provides resistance to races 1, 2, 10, 11, 13-18, 24, 26, 27, 31, 32 & 36.

Rps 1c = Provides resistance to races 1-3, 6-11, 13, 15, 17, 21, 23, 24, 26, 28-30, 32, 34, 36.

Rps 1k = Provides resistance to races 1-11, 13-15, 17, 18, 21-24, 26, 36, 37.

Rps 6 = Provides resistance to races 1-4, 10, 12, 14-16, 18-21, 25, 28, 33-35.

Rps 3a = Resistant to races 1-5, 8-9, 11, 13-14, 16, 18, 23, 25, 28-29, 31-35, 39-41, 43-45, 47-52, 54…

Rps 3c = Resistant to races 1-4, 10-16, 18-36, 38-54…

PHYTOPHTHORA FIELD TOLERANCE: Products with high tolerance scores have demonstrated an ability to thrive in the presence of Phytophthora races to which they lack specific resistance. In some products, tolerance is expressed only after the early seedling growth stage, making such products susceptible to damping off during emergence and early seed growth.

WHITE MOLD: Scores based on Pioneer research observations of comparative white mold tolerance among various soybean products across multiple locations and years. All products are capable of developing white mold symptoms under severe infestations. To our knowledge, there are no totally resistant products in the industry. However, differences exist in the ability of products to tolerate white mold (i.e., the rate at which the infection develops and the extent of damage it causes). These scores reflect those differences.

SCN RESISTANCE SOURCE: There are three sources of genetic resistance to SCN currently deployed in the marketplace: **PI88788**; **PI548402** (also known as Peking); **PI437654** (also known as Hartwig); **R** = Resistant to SCN but the source of that resistance is not yet identified.

SOYBEAN CYST NEMATODE [SCN]: Resistance to each of the major SCN races is scored on a **1-9** scale. **9** = Excellent resistance; **8-7** = Very good resistance; **6** = Good resistance; **5** = Average resistance; **4** = Below average resistance; **3-2** = Susceptible; **1** = Highly susceptible; to the specific race indicated.

CANOPY WIDTH: 9 = Extremely bushy; 1 = Very narrow.

PLANT HEIGHT FOR MATURITY: 9 = Tall; **1** = Short.

% PROTEIN AT 13% MOISTURE: Compare data within table only. Values can vary widely by growing season and region.

% OIL AT 13% MOISTURE: Compare data within table only. Values can vary widely by growing season and region.

SEED SIZE RANGE: Expressed in seeds per pound under normal growing conditions. Range is calculated over multiple years and locations. Since seed size may vary by growing season and region, check the "seeds/pound" information printed on the bag.

FLOWER COLOR: P = Purple; **W** = White.

PUBESCENCE COLOR: T = Tawny; **G** = Gray; **L** = Light tawny; **M** = Mixed.

HILA COLOR: BL = Black; **BR** = Brown; **TN** = Tan; **G** = Gray; **IB** = Imperfect black; **BF** = Buff; **Y** = Yellow (Clear); **M** = Mixed.

POD COLOR: BR = Brown; **TN** = Tan.

SUNFLOWER FOOTNOTES

IMPORTANT: Trait ratings provide key information useful in selection and management of Pioneer® brand products in your area. Scores are based on period-of-years testing through 2019 harvest and were the latest available at time of printing. Some scores may change after 2020 harvest. Contact your Pioneer sales professional before planting for the latest trait rating information. Information and ratings are based on comparisons with other Pioneer® brand products, not competitive products. Information and ratings are assigned by Pioneer Agronomists and Research Managers, based on average performance across area of adaptation under normal conditions, over a wide range of both climate and soil types, and may not predict future results. Product responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as only part of your product positioning decision. Refer to ca.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product and for product placement and management suggestions specific to your operation and local conditions.

RATINGS: 9 = Excellent; **1** = Poor; Blank = Insufficient Data**.**

DISEASE PRECAUTION: Grower should balance hybrid yield potential, hybrid maturity and cultural practice against anticipated risk of a specific disease and need for resistance. In high disease risk conditions, consider planting hybrids with at least a rating of 6 or higher to help reduce risk. When hybrids with disease ratings of 1 to 5 are planted in conditions of high disease pressure, the grower assumes a higher level of risk. If conditions are severe, even hybrids rated as resistant can be adversely affected. Independent of yield reduction, diseases can predispose plants to secondary diseases such as stalk rots. This requires individual field and hybrid monitoring for stalk stability and timely harvest when warranted.

DISEASE RATINGS: 9-8 = Highly Resistant; **7-6** = Resistant; **5-4** = Moderately Resistant; **3-1** = Susceptible; Blank = Insufficient Data.

HERBICIDE SYSTEM: Pioneer® brand sunflower hybrids with the ExpressSun® trait for resistance to tribenuron-methyl herbicides labeled for use with the ExpressSun trait. This unique sunflower system is designed to maximize weed control in sunflower crops, enhancing ease of production and yield. This system provides improved weed control over conventional hybrids with traditional herbicides.

RM (RELATIVE MATURITY): With no industry standard for maturity ratings, comparing hybrid maturity and harvest moisture ratings between companies is usually difficult. Use the RM rating to compare Pioneer® brand hybrids of a similar maturity and harvest moisture.

EMERGENCE: Ratings taken when first true leaf is visible.

MID-OLEIC SCORE: 9 = Consistently meets oleic level specifications for NuSun® oil.

HIGH-OLEIC SCORE: 9 = Consistently meets high-oleic specifications for high-oleic oil profile of 85%.

PLANT HEIGHT: Short stature is desirable. **9** = Short; **1** = Tall.

STEM CURVATURE: 9 = Erect; **8** = Semi-Erect (preferred); **7** = Semi-Pendulous (preferred); **6** = Pendulous; **5** = Fully Pendulous.

MIDGE SCORE: To our knowledge, there are no fully resistant hybrids in this industry. However, differences exist in the ability to tolerate insect pressure. These scores reflect those differences. Heavy midge pressure can cause extensive damage to any hybrid.

DOWNY MILDEW RACE RESISTANCE: Indicates downy mildew resistance to the races identified.

HULL SCORE: A relative expression of hullability and kernel chipping. 9 = completely hulled, high percentage of whole kernels; 1 = poor hulling, many broken kernels.

PCT OVER 13: Using a 13/64th screen, oilseed types are divided by kernel size. **9** = high percentage over 13/64; **1** = low percentage.

NuSun® is a registered certification mark of the National Sunflower Association.

ALFALFA FOOTNOTES

Trait Scores (9=Outstanding; 1=Poor; Blank = Insufficient Data, unless otherwise noted) are based upon period-of-years testing against other Pioneer® brand products through 2019. Pest resistance, dormancy and winterhardiness ratings based on standard test protocols prescribed by the North American Alfalfa Improvement Conference (NAAIC). Ratings may change over additional years of data collection, or if NAAIC protocols change. Scores are assigned by Pioneer Agronomists and Research Managers from research data across a range of climates and growing conditions and may not predict future results. Variety responses are variable and subject to any number of environmental, disease and pest pressures. Please use this information as only part of your product positioning decision. Refer to ca.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product.

Disease, Insect, and Nematode Pest Resistance Scores: NAAIC standardized test score: HR = Highly Resistant; **R** = Resistant; **MR** = Moderately Resistant; **LR** = Low Resistance; **S** = Susceptible; Blank = Insufficient Data. Pioneer **1–9** score: **9**=>70%, **8**=51-69%, **7**=41-50%, **6**=31-40%, **5**=23-30%, **4**=16-22%, **3**=11-15%, **2**=6-10%, and **1**=1-5% resistant plants in standardized tests.

HERBICIDE RESISTANCE: Always Read and Follow Pesticide Label Directions. Roundup Ready® Alfalfa (RRA) products and/or HarvXtra Alfalfa with Roundup Ready Technology (HVX) contain genes that confer tolerance to glyphosate. Glyphosate agricultural herbicides will kill crops that are not tolerant to glyphosate. Accidental application of incompatible herbicides to these alfalfa varieties could result in total crop loss. HVX alfalfa products contain the biotechnology-derived trait developed to maximize alfalfa quality compared to commercially available alfalfa products harvested at the same growth stage, by reducing the amount of lignin in the plant.
Do not export Pioneer® brand Alfalfa seed or crops containing Roundup Ready® and/or Pioneer® brand Alfalfa with HarvXtra® Technology, including hay or hay products, to China pending import approval. In addition, due to the unique cropping practices, do not plant this product in Imperial County, California. Crops and materials containing biotech traits may only be exported to, used, processed, or sold in jurisdictions where all necessary regulatory approvals have been granted for those crops and materials. It is a violation of national and international law to move materials containing biotech traits into jurisdictions where their import is not permitted. Growers should discuss these issues with their purchaser or grain handler to confirm the purchaser or handler's position on products purchased. For further information on the approval status of biotech traits, please visit www.biotradestatus.com.
Roundup Ready® and Roundup® are registered trademarks of Monsanto Technology LLC, used under license by Forage Genetics International, LLC. HarvXtra® is a trademark of Forage Genetics International, LLC. HarvXtra® Alfalfa with Roundup Ready® Technology is enabled with technology from The Samuel Roberts Noble Foundation, Inc.

FORAGE YIELD: Rating based on paired comparison data through 2018 for trials located in the U.S. Ratings for Pioneer® varieties 55H94 and 55H96 from trials with moderate to heavy potato leafhopper infestation, with no insecticide applied.

FALL DORMANCY: Fall dormancy ratings based on standard test protocols of the NAAIC. **1** = Very fall dormant, **11** = Non-dormant.

WINTERHARDINESS: EH = Extremely Hardy; **VH** = Very Hardy; **H** = Hardy; **MH** = Moderately Hardy; **NH** = Non-hardy; **VNH** = Very Non-hardy. Ratings based on research observations over life of stand.

STAND PERSISTENCE: Rating based on observations taken at end of stand life representing plant appearance and stand integrity after at least 3 harvest years.

STANDABILITY OR LODGING RESISTANCE: Score based on plant lodging observations (% of stems >45% angle) averaged across numerous areas of adaptation including Midwest and Western environments.

RELATIVE FORAGE QUALITY: Score based on forage analysis results and the Wisconsin Milk2006 formulas representing the impact of nutrient content and fiber digestibility.

MILK YIELD PER ACRE: Score based on forage analysis results and the Wisconsin Milk2006 formulas representing the impact of forage yield, nutrient content and fiber digestibility.

DISEASE RESISTANCE INDEX (DRI): Index based on the following pests: Bacterial wilt, Verticillium wilt, Fusarium wilt, Anthracnose, Phytophthora and Aphanomyces (Race 1) and Aphanomyces (Race 2). **HR** = 5 points; **R** = 4 points; **MR** = 3 points; **LR** = 2 points; **S** = 1 point. Highest possible **DRI** = 35 points.

INOCULANT FOOTNOTES

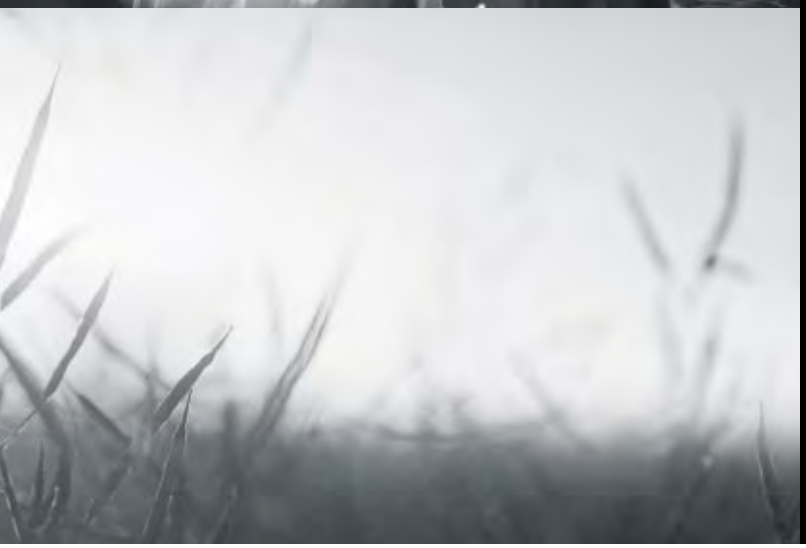
IMPORTANT: Information and ratings are based on relative comparisons with other Sila-Bac® brand forage additives within each specific crop, not competitive products. Information and ratings are assigned by Pioneer Forage Additive Research, based on average performance across area of use under normal conditions, over a wide range of both environment and management conditions, and may not predict future results. Product responses are variable and subject to any number of environmental and management conditions. Please use this information as only part of your product positioning decision. Refer to ca.pioneer.com or contact a Pioneer sales professional for the latest and most complete listing of traits and scores for each Pioneer brand product and for product placement and management suggestions specific to your operation and local conditions.

Fermentation – Rate and extent of pH decline and the composition of fermentation acids occurring in silage.

Nutrient Conservation – Retaining more sugar/starch and reducing protein degradation by rapidly reducing silage pH.

Fiber Digestibility – The digestibility of neutral detergent fiber (NDF) by the ruminant animal expressed as a percentage of the total NDF.

NOTES



PIONEER®

MADE TO GROW™

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