

2024 CORN canada product use guide

Introduction

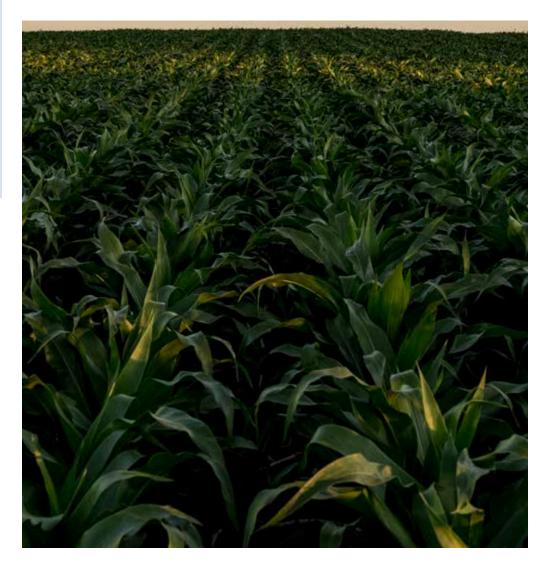
This 2024 Product Use Guide provides technical information about Corteva Agriscience[™] corn products and sets forth requirements and guidelines for the use of these products. Please read all of the information pertaining to the technology you will be using, including stewardship and related information.

This technical guide is not a pesticide product label. It is intended to provide additional information and to highlight approved uses from certain product labels. Read and follow all precautions and label instructions on any agricultural or pesticide products that you are using.

Not all products described in this Product Use Guide are available in all brands.

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Stewardship Overview

A Message About Stewardship

Corteva Agriscience is committed to the responsible management of all its seed products.

By accepting delivery of any Corteva Agriscience product, growers are contractually obligated to comply with all laws, regulations, and Corteva Agriscience stewardship requirements described in Product Use Guide(s) and any product-specific stewardship requirements, as each may be amended from time to time by Corteva Agriscience.

Proper stewardship of Corteva Agriscience products is beneficial to growers and other stakeholders, including enabling continued grower access to Corteva leading germplasm and biotechnology traits in seed products and helping to enhance grower productivity and profitability. Proper stewardship also promotes responsible use of these products, such as mitigating potential resistance development to enhance long-term durability of Corteva Agriscience technologies. When combined with best management practices, Corteva Agriscience products provide options for growers and their customers. To help enable grower success and protect Corteva technologies, growers must agree and understand the stewardship requirements, such as potential grain use restrictions, including but not limited to:

- Sign and comply with the Corteva Agriscience Technology Use Agreement (TUA), which may be amended from time to time. Signing the TUA permits access to the Corteva Agriscience germplasm and the biotech trait technologies in Corteva Agriscience seed products.
- Follow Stewardship requirements detailed in Product Use Guide(s), (www.corteva.ca/en/trait-stewardship.html) and on product-specific labels.
- Read and follow all seed, pesticide, or other product labels and information.
- Implement appropriate product-specific Insect Resistance Management (IRM) and/or Herbicide Resistance Management (HRM) practices, as required by Corteva Agriscience and the Canadian Food Inspection Agency (CFIA). Following IRM and HRM requirements helps limit development of insect and herbicide resistance and helps to maintain the long-term durability of these technologies.
- Use of Corteva Agriscience seed products solely for producing a single commercial crop encourages the development of better, high yield potential germplasm and additional technologies and innovations, further improving agricultural productivity.
- Growers are required to discuss trait acceptance and grain purchasing policy with the grain purchaser or grain handler prior to the delivery and sale of crop products (e.g., grain or other plant material containing biotech traits) and only deliver grain to a purchaser or grain handler that agrees grain and by-products will be marketed in markets where such products are authorized for the specific use. For more detailed information on the status of a trait or stack, please visit <u>www.biotradestatus.com</u>.
- Follow any additional stewardship requirements that Corteva Agriscience deems necessary for a particular product (e.g., grain or feed use or geographical planting restrictions, or use of an authorized herbicide).

- Any forward-looking statements made by Corteva Agriscience related to regulatory approval timelines by their nature address matters that are, to different degrees, uncertain. Any forward-looking statements of anticipated regulatory authorization timelines are not guarantees of government agency action and are based on certain assumptions and expectations of future events that may not be realized.
- Contact your local sales professional for more information.

By using Corteva Agriscience products, growers further understand and agree that (1) all crops and materials containing biotech traits (e.g., grain, and/or byproducts) may only be (a) exported, transferred or moved to or (b) used, processed, or transferred in jurisdictions where all necessary regulatory authorizations have been granted for those crops and materials for such activities, (2) it may be unlawful to export, transfer, or move materials containing biotech traits across borders into jurisdictions where their import and use is not authorized, including through a third party, and (3) products authorized in Canada may or may not be authorized in all global markets; therefore, the combination of these traits and the grain and certain byproducts (including oil, dried distillers grains, cobs, and husks) from these products may not be authorized in some markets.



Our Commitment to Excellence Through Stewardship®

www.excellencethroughstewardship.org

Corteva Agriscience is a member of Excellence Through Stewardship[®] (ETS). Corteva Agriscience products are commercialized in accordance with ETS Product Launch Stewardship Guidance and in compliance with the Corteva Agriscience policies regarding stewardship of those products. In line with these guidelines, our product launch process for responsible launches of new products includes a longstanding process to evaluate export market information, value chain consultations, and regulatory functionality. Growers and end-users must take all steps within their control to follow appropriate stewardship requirements and confirm their buyer's acceptance of the grain or other material being purchased.

Excellence Through Stewardship® is a registered trademark of Global Stewardship Group.

Stewardship Through Insect Resistance Management

Insect Resistance Management (IRM) for Bt Corn

Following an insect resistance management (IRM) program is an essential part of good stewardship. The aim of an IRM program is to reduce the probability of target insects developing increased tolerance to the insecticidal Bt proteins, thus maximizing the longevity and effectiveness of these valuable traits in an environmentally-conscious way. Sustainable preservation of this technology places individual responsibility on everyone in the seed distribution system, from the seed supplier to the grower planting the seed. Additionally, IRM is a legal obligation as requirements have been incorporated into the registrations granted by the Canadian Food Inspection Agency (CFIA) for all Bt corn products.

This Product Use Guide (PUG) contains important information on how to implement a proper IRM plan. If you have questions after reviewing this document, or if you wish to register a tip or complaint about a grower who may not be following the IRM refuge requirements, please contact your sales professional.

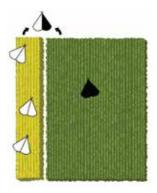
Various factors, including pest pressure, reduced susceptibility, and insect resistance in some pest populations may affect efficacy of certain corn technology products in some regions. To help extend durability of these technologies, Corteva Agriscience recommends you implement Integrated Pest Management (IPM) 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 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.

IRM Requirements

IRM programs address: (1) the amount of refuge, (2) the required proximity of hybrids with the Bt traits to the refuge, (3) the use of insecticides in the refuge, and (4) the design and management of the refuge.

What is a Refuge?

A refuge is a block or strip of corn that does not contain a Bt trait for controlling corn pests. The purpose of this refuge is to maintain a population of corn pests that is susceptible to Bt proteins. Potentiallyresistant insects emerging from Bt fields can mate with susceptible insects from the refuge resulting in Bt-susceptible offspring.





Corteva Agriscience offers several refuge options including Enlist^ $\mbox{ Corn, Roundup Ready}^{\otimes}$ Corn 2, and Liberty Link $\mbox{ Corn. }$

There are two types of refuge for Corteva Agriscience products with the Bt trait: integrated and structured. Some Bt products have an integrated refuge with refuge seed blended in the bag, while other Bt products require a structured refuge. Where available, an integrated refuge product allows a grower to conveniently deploy the refuge for a field with a single planting of one product, ensuring compliance on those acres. A structured refuge requires a grower to plant a portion of a field with another product that does not contain the insect-control traits of the Bt product. Grower-blended seed mixtures are not approved for use with any Bt hybrids to satisfy grower refuge requirements.

IRM Implementation Assurance Program (IIAP)

Corteva Agriscience requires all growers purchasing hybrids with a Bt trait to sign a Corteva Agriscience Technology Use Agreement. By signing, the grower agrees to implement an IRM program—including planting a corn refuge and following CFIA-mandated use requirements—as outlined in the PUG. Failure to follow these IRM requirements can result in the grower losing access to structured refuge products.

IRM stewardship plans have been essential to ensuring the durability of insect resistant traits in biotech corn varieties in Canada. To ensure that insect resistance management plans continue to be effective, CropLife Canada developed an IRM Implementation Assurance Program (IIAP) which includes an on-farm assessment program.

The objective of the IIAP is to increase grower understanding of and compliance with refuge requirements for Bt corn through a multifaceted approach that is intended to:

- Drive towards significant increases in adherence to refuge requirements.
- Focus on areas and farms where refuge non-implementation creates the greatest risk.
- Provide a credible, fair, and effective deterrence to refuge nonimplementation.
- Facilitate responsible use of the technology.

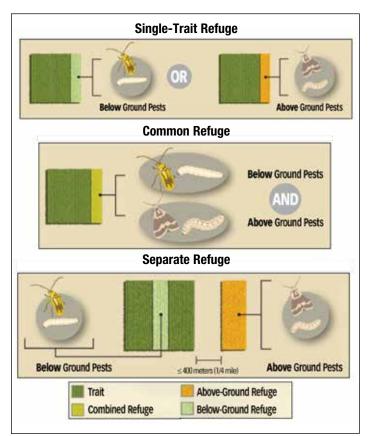
The on-farm assessment process is used to identify growers not implementing refuge requirements, and bring them back into observance of requirements through a phased approach by providing an effective deterrence to non-implementation without creating unreasonable barriers to responsible use of Bt technology. In order to efficiently increase grower compliance with appropriate refuge requirements, on-farm assessments are targeted to growers who purchased greater than 80% Bt corn for the current planting year as determined from individual company invoice reviews.

Structured Refuge Requirements

The structured refuge requirements are 5% or 20% of corn acres planted for corn borer-protected products and 20% for corn rootworm-protected products.

Structured Refuge Planting Options for Above-Ground, Below-Ground, and Above+Below-Ground Products

A **single-trait refuge** is one that can be used for corn rootworms or corn borers, but not both. A **common refuge** is a single field that serves as a refuge for both corn borers and corn rootworms simultaneously. A **separate refuge** is a refuge designed exclusively for corn borers or exclusively for corn rootworms—e.g., a stacked Bt product can require two separate refuges.



Select Similar Hybrid for Structured Refuge

One key to establishing an effective refuge is selecting an appropriate hybrid—one that is agronomically similar to the Bt hybrid. This helps ensure that the refuge hybrid has the same likelihood of attracting adult insects as the Bt field. The refuge hybrid should match the Bt hybrid in maturity, early vigor and plant height.

Refuge Management

Management practices in the refuge acres and Bt corn acres must be as similar as possible to promote parallel hybrid development.

- To be effective, the refuge must be the correct size and distance from the Bt field, and be planted with a similar hybrid under similar management practices.
- Plant the refuge at the same time as the Bt hybrid.
- Fertility programs, including starter and sidedress, should be similar.
- Use the same tillage system in the Bt field and the refuge. Different tillage operations may result in dissimilar residue levels on the soil surface. Soil temperature differences could then lead to dramatic early development differences between the Bt field and the refuge.
- Reducing inputs on the refuge or planting it on marginal land also decreases the effectiveness of the refuge.
- If the refuge is planted on rotated ground, the trait corn must also be planted on rotated ground. If the refuge is planted on continuous corn ground, the trait corn may be planted on either continuous corn ground or rotated ground. It is also recommended that growers planting continuous corn plant the refuge in the same location each year.
- Practice Integrated Pest Management (IPM) to preserve the natural enemies of corn borer, corn rootworm and other insect pests. Natural predators such as ground beetles and ants can help reduce corn rootworm larvae populations. Bt corn insect protection aids IPM because it affects only target insects and allows beneficial insects to thrive.
- Popcorn can be used as a refuge option, but sweet corn and/or silage corn cannot.

Field Monitoring

Monitoring Bt fields for insect resistance development is an integral part of an IRM plan. If resistant populations are detected early, alternative control measures can be quickly implemented to reduce the population and halt the spread of resistance. Because of its importance in maintaining the effectiveness of Bt technology, the CFIA mandates active monitoring as a condition of registration of Bt products. Corteva Agriscience requires customers to monitor Bt fields for unexpected levels of insect damage and report any high level of suspected insect damage to a sales professional for further investigation. Acres planted with Bt hybrids should be <u>correctly marked</u> at planting to prevent confusion when monitoring.

Structured Refuge Configuration

Because Bt corn growers use different management practices, considerable flexibility is allowed in laying out the refuge. Several of these refuge patterns are described on the following page.

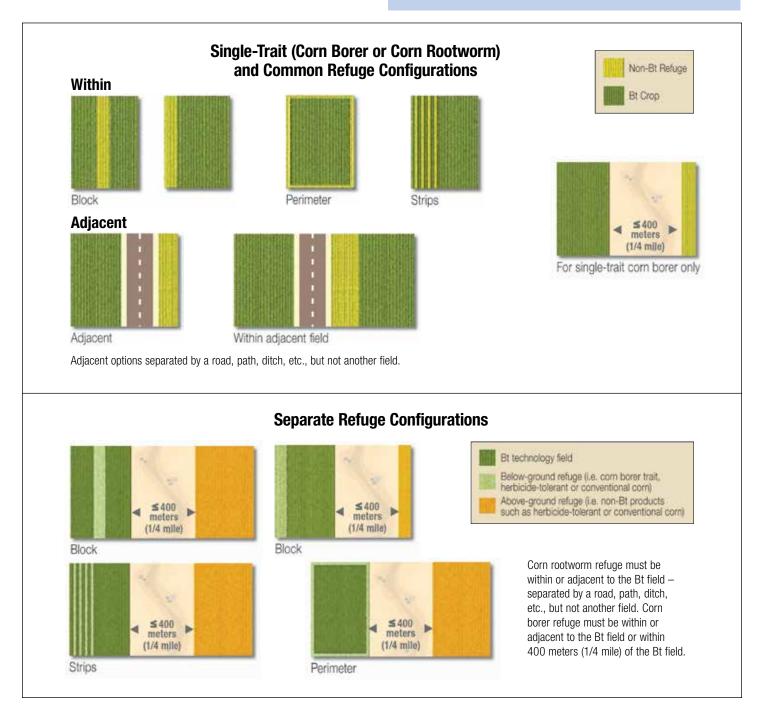
Surveys indicate that most farmers plant the refuge within the Bt field. This closer proximity increases refuge effectiveness and maximizes Bt acreage in the field.

Refuge Within the Bt Field:

- Block
- Perimeter or Border
- 4-row Strips Required

Separate-Field Refuge Distance Requirements:

- Appropriate refuges must be planted on every farm with a field that contains Bt corn—i.e., you cannot use a neighbor's field to satisfy the refuge requirements.
- For corn borer-Bt products, refuge must be planted within 400 meters (1/4 mile) of each Bt corn field.
- For corn rootworm-Bt products, refuge must be planted adjacent to Bt hybrids; it can be separated by a ditch or a road but not by another field.



Integrated Pest Management

As a grower, integrated pest management (IPM), provides you the opportunity to tailor how you manage weeds, insects, and diseases in your fields. IPM integrates responsible use of traits, crop protection products, and cultural management practices to:

- Prevent the buildup of pests through starting with a clean field and rotating crops and traits.
- Use seed products, planting technology, and seedling rates that are appropriate for a given crop in a particular geographic area.
- Scout: Monitor for pest populations throughout the growing season to determine if treatment is necessary.
- Intervene when required, using combination of approaches to manage the pest population.
- Use appropriate maturity products and harvest schedules, destroying crop residue promptly.
- Minimize over-wintering of pests through soil management practices.
- Use crop rotation, including products with different traits, to delay onset of resistance.
- Use multiple modes of action in crop protection products to reduce likelihood of resistance development.

Weed Management

Herbicide tolerance technology provides convenient, effective, and economical weed control in crops. However, intensive long term use of any single herbicide mode of action can lead to the development of weeds resistant to that mode of action. Planting crops that enable use of multiple herbicide modes of actions as part of an IPM program can provide consistent, effective weed control while reducing the potential for resistance development. Talk to your local sales professional about the herbicide tolerance in your crops.

Following burndown, Enlist Duo[®] and Enlist[®] 1 herbicides with Colex-D[®] technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on 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 <u>www.Enlist.com</u>. Always read and follow label directions.

Herbicide Groups

The Weed Science Society of America categorizes herbicides into different groups based on their mode of action. If a given weed population has plants resistant to a herbicide in one group, that weed population may not be able to be effectively managed using only other herbicides in that group. However, that weed population may be able to be managed with a different herbicide from a different herbicide group, whether alone or in combination with a herbicide from that same group, or by using other weed management practices, such as mechanical practices. Note that herbicide classification may not, in all circumstances, address weeds resistant to particular herbicides. Consult your local sales professional, state cooperative extension service, professional consultants, or other qualified individuals to discuss appropriate actions to address specific weeds that appear to show resistance to a particular herbicide.

Integrated Weed Management (IWM)

There is no "one size fits all" to any weed management program. We recommend inquiring the advice of your local agronomist or technical advisor to develop a local integrated weed management solution that utilizes widely accepted best management practice (BMPs) concepts.

Maintain clean fields by using the following best practices:

1) START CLEAN

- a. Scout fields before and after use of any management tactic
- Keep accurate records of your management tactics used and their results, including any indications of changes in response with difficult to control weeds
- c. Control weeds early, generally before exceeding 15 cm in height

2) KEEP CLEAN

- a. Use correct herbicide(s) for the weed spectrum, with proper rates and timing
- b. Rotate modes of action ensuring herbicides used provide effective control of the target weed species present in your field.
- c. Incorporate sound agronomic practices that improve your crop's ability to compete effectively with weeds

3) LEAVE CLEAN

- a. Control weed escapes that can occur before or after harvest
- b. Thoroughly clean equipment to avoid field to field weed spread



Herbicide Resistant Weeds

Weed resistance is a serious problem that all of us need to consider when planning our integrated weed management program. Herbicide resistance is the ability of a weed biotype to survive a herbicide application, where under normal circumstances that herbicide applied at the recommended rate would kill the weed. The Herbicide Resistance Action Committee (HRAC) offers additional assistance in confirming herbicide resistance on their website hracglobal.com. Understanding risk for herbicide resistance is important. Table 1 below will help assess the risk of resistance developing in each field.

Grower awareness and proactive management of herbicide resistant weeds are part of a successful weed control program. Suspected herbicide resistance is defined as the situation where the following three indicators occur at a site or location:

Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds. A spreading patch of non-controlled plants of a particular weed species; and

Surviving plants mixed with controlled individuals of the same species. With confirmed herbicide resistance, other weed management practices should be employed to control and prevent the spread of a population of herbicide resistant weeds. Your Corteva Agriscience sales professional can provide recommendations for a particular herbicide resistant weed. Report any incident of non-performance against a specific weed of the herbicide used to your Corteva sales professional, local retailer, or county extension agent. Corteva herbicide product labels include weed resistance management language and approved labels, including supplemental labeling, must be in possession of the user at the time of pesticide agency or the website www.cdms.net.

Table 1. Assessment of the Risk of Resistance Development per Target Species(The major risk factors within a cropping system)

Management Option	Low	Moderate	High		
Herbicide mix or MOA rotation in cropping system	≥3 MOAs	2 MOAs	1 MOA		
Integrated Weed Control	Cultural, Mechanical, & Chemical	Cultural & Chemical	Chemical only		
Use of same MOA per season	Once	More than once	Many times		
Cropping system	Full Rotation	Limited rotation	No rotation		
Resistance status to MOA	Unknown	Limited	Common		
Weed infestation	Low	Moderate	High		
Control in last 3 years	Good	Declining	Poor		



CORTEVA AGRISCIENCE DOES NOT MAKE ANY REPRESENTATIONS, WARRANTIES OR RECOMMENDATIONS CONCERNING THE USE OF PRODUCTS MANUFACTURED OR MARKETED BY OTHER COMPANIES INCLUDING BUT NOT LIMITED TO THOSE THAT ARE LABELED FOR USE IN CROP(S) CONTAINING CORTEVA TECHNOLOGY. CORTEVA AGRISCIENCE AND ITS AFFILATED COMPANIES SPECIFICALLY DISCLAIMS ALL RESPONSIBILITY FOR THE USE OF THESE PRODUCTS IN CROPS CONTAINING CORTEVA TECHNOLOGY. ALL QUESTIONS AND COMPLAINTS ARISING FROM THE USE OF PRODUCTS MANUFACTURED OR MARKETED BY OTHER COMPANIES, OR THE IMPACT TO CORTEVA TECHNOLOGY FROM THE USE OF SUCH PRODUCTS, SHOULD BE DIRECTED TO THOSE COMPANIES. IT IS THE GROWER'S OBLIGATION TO READ AND FOLLOW PRODUCT LABEL REQUIREMENTS. CORTEVA AND ITS AFFILATED COMPANIES ARE NOT RESPONSIBLE FOR ANY MISUSE OR MISAPPLICATION OF PRODUCTS, INCLUDING PESTICIDES, BY A GROWER.

Additional stewardship information may be found at <u>www.corteva.ca/en/trait-stewardship.html</u> or consult your local sales professional. You may also contact Corteva Agriscience at: 1-800-258-3033.

Monitoring Insect Pests

It is important to carefully monitor fields for all pests to determine whether treatment with a pest control method is needed. Scouting techniques and remedial pest control treatments should address the fact that larvae must hatch and feed before incorporated plant protection technologies have an effect on the pests. Scouting should be performed regularly, particularly after periods of heavy or sustained egg laying (especially during bloom), to determine whether larval survival is significant in a particular field.

Corn Rootworm Management

Corn rootworms have been a primary pest for corn growers for decades, causing an estimated 1 billion dollars in yield and control costs annually¹. Heavy reliance on individual control tactics, such as insecticides (soil-applied and adult sprays) have led to the development of resistant populations². Rootworms also have adapted to cultural practices. Crop rotation, even though it is the primary management option to help manage rootworm populations, has even been rendered occasionally ineffective in some areas due to behavioral changes like egg-laying in soybean (western corn rootworm) and delayed egg hatch in corn (extended diapause in northern corn rootworm)³. Rootworms have repeatedly demonstrated a remarkable ability to adapt to management tactics. The development of Bt corn for corn rootworm added another valuable tool for controlling these pests⁴, but like any control tactic, repeated use of the same technology over time may lead to resistance⁵.

Identifying Rootworm Resistance in Bt Corn

Rootworm resistance to some Bt corn products has been documented^{6,7}. Unfortunately, it can be difficult to recognize resistance in the early stages of development. High levels of root injury or lodging on Bt-protected products is often only the first clue; plant injury alone is not definitive proof of resistance. Research data suggests that under very large rootworm populations, Bt-protected plants can sustain significant root feeding in the absence of resistance⁸ due to the non-high dose nature and expression patterns of the Bt proteins in the root. Research data also suggests that over the course of repeated exposure to Bt corn (continued product use for several years), increased rootworm survivorship can occur resulting in root injury at smaller rootworm populations, even in the absence of complete resistance⁹. For this reason, it is imperative to use a multi-faceted rootworm population against the same tactic year over year, and ultimately slows down the rate at which resistance can evolve. The use of scouting, best management practices, and reporting any unexpected injury to your sales professional for follow-up are the keys to understanding if resistance is evolving in your fields.

Develop a Rootworm Management Program for your Operation

Corteva Agriscience and university research suggests that continuous, uninterrupted use of the same corn rootworm Bt technology can lead to decreased corn rootworm susceptibility to that technology, and may result in reduced product efficacy against these insects. To help maintain the efficacy of Bt corn rootworm products, it is essential to develop a multi-faceted rootworm control management plan. Your sales professional or your local Extension professionals can assist you in developing best management practices for your farming operation. Please contact your sales professional 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 insect resistance documented in your area. Please refer to the next page for corn rootworm best management practices.

The use of soil-applied insecticides (SAIs) with corn rootworm protected Bt corn is not recommended for control of corn rootworm except under limited circumstances and consultation with extension, crop consultant or other local experts. SAIs should not be necessary for corn rootworm control with pyramided corn rootworm trait Bt corn product(s).

- ¹ Tinsley, N. A., R. E. Estes, P. M. Schrader and M. E. Gray. 2014. Evaluating multiple approaches for managing western corn rootworm larvae with seed blends. J. Applied Entomol., doi: 10.1111/jen.12134.
- ² Meinke, L. J., B. D. Siegfried, R. J. Wright, and L. D. Chandler. 1998. Adult susceptibility of Nebraska western com rootworm (Coleoptera: Chrysomelidae) populations to selected insecticides. J. Econ. Entomol. 91:594-600.
- ³ Krysan J., D. Foster, T. Branson, K. Ostlie, and W. Cranshaw. 1986. Two years before the hatch: rootworms adapt to crop rotation. Bull. Entomol. Soc. Am. 32: 250–253.
- ⁴ James C. 2012. Global status of commercialized biotech/GM crops: 2012. International Service for the Acquisition of Agri-biotech Applications Brief No. 44. ISAAA, Ithaca, NY.
- ⁵ Tabashnik, B. E., D. Mota-Sanchez, M. E. Whalon, R. M. Hollingworth, and Y. Carrière. 2014. Defining terms for proactive management of resistance to Bt crops and pesticides. J Econ Entomol. 107: 496–507.
- ⁶ Gassmann, A. J., J. L. Petzold-Maxwell, R. S. Keweshan, M. W. Dunbar. 2011. Field-evolved resistance to Bt maize by western corn rootworm. PLoS ONE 8, e22629.
- ⁷ Gassmann A. J., J. L. Petzold-Maxwell, E. H. Clifton, M. W. Dunbar, A. M. Hoffmann, et al. 2014. Field-evolved resistance by western corn rootworm to multiple Bacillus thuringiensis toxins in transgenic maize. Proc. Natl. Acad. Sci. USA 111: 5141–5146.

⁸ Gray, M. E., K. L. Steffey, R. E. Estes, and J. B. Schroeder. 2007. Responses of transgenic maize hybrids to variant western corn rootworm larval injury. J. Applied Entomol. 131: 386-390.
⁹ Nowatzki, T. M, S. A. Lefko, R. R. Binning, S. D. Thompson, T. A. Spencer and B. D. Siegfried. 2008. Validation of a novel resistance monitoring technique for corn rootworm (Coleoptera: Chrysomelidae) and event DAS-59122-7 maize. J. Applied Entomology, doi: 10.1111/j.1439-0418.2008.01270.x.



To effectively manage corn rootworm (CRW), implement a multi-year plan that includes a variety of tactics.

CROP ROTATION

PRODUCTS WITH MULTIPLE CRW B.T. TRAITS

SEED, SOIL OR FOLIAR-APPLIED INSECTICIDES







- ASSESS RISK
- Did you plant the same CRW traits for consecutive years in the same fields?
- Did you notice large populations of CRW beetles?
- Did you observe root injury from CRW larvae?
- Are your fields planted to continuous corn?



CORN ROOTWORM BEST MANAGEMENT PRACTICES

Plant the Required Refuge



Rotate Crops

Rotate at least every 3rd year if any of the following:

- In long-term continuous corn system
- CRW populations are high
- Experiencing problems with CRW trait performance

In areas where rotational-resistant CRW variants exist, such as extended diapause eggs or soybean, CRW management options may be needed the following year



- Use *B.t.* hybrids with multiple modes of action for CRW control whenever possible
- If using a hybrid with multiple modes of action for CRW control is not an option, rotate to a different *B.t.*-traited hybrid that controls CRW
- · Use a non-B.t.-traited hybrid with insecticide

Manage CRW with Insecticides

ADULT CRW MANAGEMENT CONSIDERATIONS

- Scout fields for CRW adults during silking stage (typically July and August) as adult CRW beetles feed on corn silks and may reduce yield
- Foliar sprays may be an option if CRW beetle populations reach an economic threshold for damage (≈1 beetle per plant)¹
- Follow university extension service or local crop consultant recommendations for products, rates, and proper timing of adult spray applications for reducing CRW beetle populations
- Multiple sprays may be necessary

LARVAL CRW MANAGEMENT CONSIDERATIONS

- The application of an insecticide to the soil surface, in furrows, and/or incorporated into the soil (referred to as "soil applied insecticide," "soil insecticide" or "SAI") is not recommended for control of CRW in *B.t.*-traited corn hybrids(s) except under limited circumstances.
- Consult with extension, crop consultants or other local experts for recommendations when considering a combination of CRW traits and soil applied insecticides.
- SAIs should not be necessary for CRW control with pyramided CRW traited *B.t.* corn hybrid(s).

All corn rootworm photos by Marlin E. Rice

¹Culy, Edwards & Cornelius. 1992. Journal of Economic Entomology 85: 2440-2446. ©2016 Agricultural Biotechnology Stewardship Technical Committee

Corn Technology Refuge Requirements

Not all products described in this Product Use Guide are available in all brands. Refer to the Corn Insect Efficacy Ratings table on page 14 for additional information.

INTEGRATED REFUGE PRODUCTS									
	Blend Ratio	Insect Protection	Herbicide Traits	Additional Refuge	Refuge Desigr				
AcreMax [®]	95/5	Above	LL/RR2	0%	None				
AcreMax Leptra	95/5	Above	LL/RR2	0%	None				
POLUERCÚRE [®] Refuge advanged [®]	95/5	Above	LL/RR2	0%	None				
POLUERCORE Enlist	95/5	Above	LL/RR2/ENL	0%	None				
	95/5	Above	LL/RR2/ENL	0%	None				
AcreMax Xireme	95/5	Above	LL/RR2	0%	None				
QROME	95/5	ADDR	LL/RR2	0%	None				
VORCEED [°] Enlist	95/5	Above	LL/RR2/ENL	0%	None				
SMARTSTAX Refuge advanced	95/5	Above	LL/RR2	0%	None				
SMARTSTAX REFUGE ADVANCED	95/5	Above	LL/RR2/ENL	0%	None				
CB: Corn borer CRW: Corn rootworm	LL: LibertyLink [®] RR2	2: Roundup Ready® Corn 2	ENL: Enlist®	, I					
Above Ground Insect Protectio	n Below Groun	d Insect Protection	Above and Below Grou	und Insect Protection					

^ These products are approved for cultivation in Canada and grain from these products has received approval in several importing countries. Single events from Optimum® AcreMax® XTreme products are approved for import into the European Union (EU), however the stacked events are not currently approved. Always follow and adhere to the Corteva Agriscience Product Use Guide ("PUG"), which requires that you take all affirmative steps within your control to appropriately manage and confirm your grain buyer's acceptance of the grain being sold and only deliver grain to a purchaser or grain handler that agrees grain and by-products will be marketed in domestic food and feed and export markets where such products are authorized for the specific use. For additional information about the status of regulatory authorizations for these products, including the individual components as well as the trait stacks, please visit biotradestatus.com or visit seedinnovation.ca/hybrid to review the EU approval status for specific hybrids marketed in Canada.

Corn Technology Refuge Requirements

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STRUCTURED REFUGE PRODUCTS									
	Insect Protection	Herbicide Traits	Additional Refuge	Refuge Design					
POWER <mark>CORE</mark>	Above	LL/RR2	5%	Within, adjacent, or up to 400 meters (1/4 mile)					
POWERCORE Enlist	Above	LL/RR2/ENL	5%	Within, adjacent, or up to 400 meters (1/4 mile)					
POWERCIPE Enlist	Above	LL/RR2/ENL	5%	Within, adjacent, or up to 400 meters (1/4 mile)					
SmartStax	Above	LL/RR2	5%	Separate-CB: Within, adjacent, or up to 400 meters (1/4 mile) CRW: Within or adjacent					
	Above	LL/RR2/ENL	5%	Separate–CB: Within, adjacent, or up to 400 meter (1/4 mile) CRW: Within or adjacent					
CB: Corn borer CRW: Corn rootworm		2: Roundup Ready® Corr	Above						

Above Ground Insect Protection

Below Ground Insect Protection

tion Abov

Above and Below Ground Insect Protection

Corn Insect Efficacy Ratings (as of August 2023)

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

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, Corteva Agriscience recommends you implement Integrated Pest Management (IPM) 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 sales professional 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.

* Corn earworm and western bean cutworm have been removed from the Corteva Agriscience product use statement for several corn products that contain Cry1 proteins and lack another effective mode of action, such as Vip3Aa, due to a wide-spread decrease in susceptibility indicating the possibility of field-evolved resistance to Cry1 proteins in most geographies.

	Insect Efficacy Levels												
Corn Technology Traits	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
INTEGRATED REFUGE PRODUCTS Optimum® AcreMax® (Corn Borer)	С			С	С	С	С	С	С	S			
Optimum [®] AcreMax [®] Leptra [®] (Corn Borer/Corn Earworm)	С	С	С	С	С	С	С	С	С	С			
PowerCore [®] Refuge Advanced [®] (Corn Borer)	С	S		С	С	С	С	С	С	S			
PowerCore [®] Enlist [®] Refuge Advanced [®] (Corn Borer)	С	S		С	С	С	С	С	С	S			
PowerCore [®] Ultra Enlist [®] Refuge Advanced [®] (Corn Borer/Corn Earworm)	С	С	С	С	С	С	С	С	С	С			
Optimum [®] AcreMax [®] XTreme (Corn Borer/Rootworm)	С			С	С	С	С	С	С	S	С	С	С
Qrome® products (Corn Borer/Rootworm)	С			С	С	С	С	С	С	S	С	С	С
Vorceed [™] Enlist [®] (Corn Borer/Rootworm)	С	S		С	С	С	С	С	С	S	С	С	С
SmartStax [®] Refuge Advanced [®] (Corn Borer/Rootworm)	С	S		С	С	С	С	С	С	S	С	С	С
SmartStax [®] Enlist [®] Refuge Advanced [®] (Corn Borer/Rootworm)	С	S		С	С	С	С	С	С	S	С	С	С
STRUCTURED REFUGE PRODUCTS													
PowerCore® (Corn Borer)	С	S		С	С	С	С	С	С	S			
PowerCore [®] Enlist [®] (Corn Borer)	С	S		С	С	С	С	С	С	S			
PowerCore® Ultra Enlist® (Corn Borer/Corn Earworm)	С	С	С	С	С	С	С	С	С	С			
SmartStax® (Corn Borer/Rootworm)	С	S		С	С	С	С	С	С	S	С	С	С
SmartStax [®] Enlist [®] (Corn Borer/Rootworm)	С	S		С	С	С	С	С	С	S	С	С	С

C = Controlled: Pest populations are effectively controlled by the product and supplemental management is unlikely to be necessary

S = Suppressed: Pest populations are suppressed by the product and supplemental management may sometimes be economically warranted

Blank = Pest population is not controlled or suppressed by the productAll scores of integrated refuge products are based upon the major component.

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

Calculating Structured Refuge



Refer to this diagram for the examples below.

- A Total Corn Acres[†]
- **B** Refuge Acres
- C Bt Acres
 - Percent of Required Refuge 5 20 or 50

Based on total corn acres

[†]Includes all corn acres that are infield or adjacent to each other and will be allocated to the Bt product and its associated refuge.

THE CORRECT WAY TO CALCULATE Example shown is for a 20% refuge product.							
	TOTAL number of nt to plant in an are	a.	-	y by the PERCENT of required for the Bt trait		This is your minimum REFUGE	
Example	200	х	%	20%	=	₿ 40 ✓	
Your Field		X			_ =		
Next, subtract you	r refuge acres from	your to	otal corn	acres.		This is your maximum Bt ACRES.	
Example	200	-	B	(40)	=	C 160	
Your Field		_			=		

Intellectual Property Protection

Corteva Agriscience has a long history of investing in intellectual property to provide growers with high performing varieties and industry leading services. Our continued commitment to product research results in Corteva Agriscience products that consistently deliver high yield potential to help make you more profitable. Corteva Agriscience uses patents and Variety Registration laws to protect our investment in patented germplasm, native and transgenic traits, and breeding technologies. Variety Registration laws give breeders exclusive control over plant varieties for up to 20 years, enabling Corteva Agriscience to bring new products to the marketplace supported by improved technology.

It is important to note that Corteva Agriscience product offerings, even if not biotech, can carry multiple types of intellectual property protection, such as patented genetics, patented breeding technologies, Plant Breeder's Rights, patented transgenic traits, and patented native traits, including through the terms and conditions of use found in the Corteva Agriscience TUA.

The purchase of any Corteva Agriscience variety or trait is done so under license with certain limitations. By using the seed supplied in connection with a Corteva Agriscience Technology Use Agreement, you agree to the fact that the seed – and technology within that seed – includes subject matter owned by Corteva Agriscience, or licensed from a third party, that is protected under Canadian intellectual property laws. **Under this contract, you agree to a single-commercial planting of the seed and agree to not bin run or save your seed.**

Why is a TUA required?

- A TUA is required for the purchase of any Corteva Agriscience seed and technologies - all crops, biotech and non-biotech. The TUA serves as an agreement between the customer and Corteva Agriscience and confirms that the customer understands and agrees to follow all license terms, stewardship and applicable legal responsibilities related to their seed products.
- Even though some products do not contain biotech traits, the TUA protects the intellectual property associated with non-biotech products such as germplasm and other intellectual know-how and patents.
- The TUA grants a limited license for the grower to use/plant Corteva Agriscience seed containing Corteva Agriscience sourced technologies (including germplasm, non-biotech traits, and biotech traits) and produce a single commercial grain crop.
- The TUA requires growers to use and follow the applicable product use guide and labels (seed and herbicide). The TUA prohibits certain activities such as saving seed or use of unauthorized herbicides, including on Enlist[®] or glyphosate tolerant crops (where applicable).

By abiding by your Corteva Agriscience Technology Use Agreement, you are helping Corteva Agriscience continue to invest in advances in genetics and technology that bring forward new research discoveries and agreeing to follow appropriate product stewardship. These discoveries ultimately help growers increase production and meet new pest and production challenges now and in the future.

Coexistence

For decades, multiple agricultural systems have successfully coexisted in Canada and around the world, from initial production through supply chains to the ultimate end users. Over time, management practices to facilitate these different agricultural systems have developed and have been continuously improved so that high purity and high quality seed and grain is available to help growers, handlers, and end-users maximize opportunities and take full advantage of the wide variety of technologies available to each. One example of successful coexistence is the production of similar commodities in close proximity, such as field corn, sweet corn, white corn, and popcorn. Coexistence strategies should be designed to meet market requirements using science-based industry standards and management practices, and should be flexible to facilitate diverse options and choice for growers and the food and feed supply chain. This flexibility also should include the ability of coexistence strategies to be modified as changes in products, markets, or practices take place. The on-going success of coexistence has depended upon cooperation, communication, flexibility, and mutual respect for each cropping system among the entire value chain. Over the years, growers have adapted to changes and innovation in agriculture by using new farm management practices, new technologies, and other appropriate practices and can continue to do so into the future.

It is therefore incumbent on all growers to consider and implement management practices to satisfy the relevant marketing and stewardship practices required by the desired end market. By choosing to grow any crop, growers are inherently agreeing to use practices appropriate to ensure the integrity and marketability of those crops for the intended market and that suitable management and stewardship practices are being implemented, considering each neighbors' farm management. This is true regardless of the particular market being served, whether it is specialty crops, identity-preserved crops, organically-produced crops, conventionally produced crops or crops with biotech traits.

For products receiving premiums, the grower is producing a crop supported by a special market price, and therefore assumes responsibility for meeting any applicable market specifications to receive the applicable premium price from that market. Likewise, for products containing biotech traits that may not yet be approved in certain export markets or have special considerations related to production practices (e.g., herbicide application, specialty characteristics), the grower assumes responsibility for the stewardship conditions and implementation related to use of such technologies. Even though the ultimate responsibility is on the grower producing a crop for a particular market to implement appropriate stewardship practices and requirements, including those communicated by a seed provider, it is also each grower's responsibility to communicate with and be aware of the planting intentions of his or her neighbors to gauge the need for any appropriate management and coexistence practices. By communicating what is being grown on neighboring fields and the potential implications of those crops on each growers' management decisions, growers can utilize some of the following coexistence considerations to limit potential conflicts, while acknowledging the generally recognized and accepted occurrence of the movement of incidental amounts of pollen:

- What is the crop biology and what are the product characteristics, specifically considering whether or not the crop is self-pollinating or cross-pollinating;
- What options exist to arrange or select planting locations and fields to help minimize the potential for outcrossing to or from a particular crop, by considering, for example, appropriateness of buffer rows, environmental windbreaks, or land devoted to conservation;

- What options exist related to staggering planting times to help temporally isolate a given crop from the potential of unintended outcrossing;
- What are cleaning and handling options for a particular crop that could help to minimize the potential for inadvertent comingling during planting, harvesting or cleaning activities, considering the use of planters, combines, seed storage bins, seed hopper/boxes, transportation vehicles, and other equipment pre- and post-harvest; and
- Understanding characteristics of applied technologies or pest management tools and the potential impact to different types of crops planted in the vicinity.

In today's agricultural marketplace, growers share common goals of increasing productivity and profitability, and through planning and proactive management measures, coexistence can help all growers meet their productivity goals and stewardship responsibilities while respecting their neighboring farming operations.

Seed Treatment Stewardship

Seed treatments, including fungicides, insecticides, nematicides, and amendments, play a critical role in agriculture and the production of a healthy crop. In addition to helping manage against early season pests and diseases, they serve as a viable alternative to foliar and soil applications.

Seed treatment management and responsible stewardship play a vital role in sustaining our environment while maximizing crop health. Responsible stewardship practices help maintain seed and seed treatment integrity, which keeps the active ingredient on the seed to achieve the maximum crop health benefit for the investment. In addition, these practices help minimize the potential for adverse effects on producers and the environment, including pollinators, which may be present at the time of planting.

Handling

- Always read and follow the label directions and recommendations for proper handling and use of treated seed and seed treatments.
- Use personal protection equipment as recommended on the product label or seed tag.
- Follow all safety precautions as indicated on the label/seed tag.
- Transport and transfer treated seeds safely and in a manner that eliminates the risk of spill and dust.

For more information on pollinator health visit: <u>http://honeybeehealthcoalition.org</u>

Planting

- Always follow planter manufacturer recommendations and avoid excess use of talc and graphite.
- Be aware of the environment in and around your field, taking note of nearby bee hives and flowering plants and weeds, which could be attractive to pollinators.
- Limit dust movement from seed packages containing seed treatment. For example, consider factors such as wind speed and direction, and avoid shaking the bottom of the treated seed bag when filling planting equipment.
- Do not transfer treated seed next to active bee hives, at field margins, and adjacent to flowering plants and vegetation.
- For pneumatic planters, direct the exhaust toward the soil surface.
- Ensure all seeds are planted/incorporated into the soil at proper planting depth.
- Follow labeling requirements for disposal/use of unused seed.

Disposal and Cleanup

For a short video on treated seed disposal and cleanup, click here or type into your web browser the following:

https://www.youtube.com/watch?v=2XNG_SYXJbA

- Properly dispose of seed packaging/containers in accordance with country and local regulations and container return policy.
- Clean planting equipment in a manner that minimizes dust.
- Avoid cleaning planting equipment next to active bee hives, at field margins and adjacent to flowering plants and vegetation.

Corteva Agriscience is an active participant in industry stewardship best management practices through collaboration with Crop Life Canada, the Canadian Corn Pest Coalition, the Canadian Seed Trade Association and CleanFarms.

Pest Management Regulatory Agency (PMRA) Stewardship Requirements for Neonicitinoids

Neonicotinoid insecticides are toxic to bees. Dust generated during the planting of treated seed may be harmful to bees and other pollinators. To help minimize the dust generated during planting, refer to the complete guidance "Pollinator Protection and Responsible Use of Treated Seed – Best Management Practises" on the Health Canada webpage on pollinator protection at <u>www.healthcanada.gc.ca/pollinators</u>.

When using a seed flow lubricant with this treated seed, only Fluency Agent by Bayer CropScience is permitted. Carefully follow use directions for this seed flow lubricant.

Do not load or clean planting equipment near bee colonies, and avoid places where bees may be for foraging, such as flowering crops or weeds. When turning on the planter, avoid engaging the system where emitted dust may contact honey bee colonies.

Spilled or exposed seeds and dust must be incorporated into the soil or cleaned up from the soil surface.

For more information on Corteva Agriscience patents, refer to www.traitstewardship.com.

Product Use Statement Product **INTEGRATED REFUGE PRODUCTS** This seed is a blend of 5% refuge seed and 95% seed containing the Herculex® I Insect Protection gene that produces a Bacillus thuringiensis (Bt) Crv1F protein, and also containing a gene that produces a Bt Crv1Ab protein that provide protection or suppression against susceptible European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, sugarcane borer, and stalk borer. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These proteins and the genetic material necessary for their production in corn has been authorized for food use by Health Canada, as well as feed use and unconfined environmental release by the Canadian Food Inspection Agency. This seed contains the LibertyLink® gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). WARNING: The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. WARNING: The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against 🕹 ptimum[.] applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. AcreMax Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions. For volunteer management: A refuge component code ending in "LRE" is an Enlist® Corn - REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, gluizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D® technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink® Roundup Ready® 2 Technology product which provides crop safety for over-the-top-applications of olyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management. YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING. PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited. Liberty®, LibertyLink® and the Water Droplet Design are registered trademarks of BASF. [®]Roundup and Roundup Ready are registered trademarks of Baver Group. This seed is a blend of 5% refuge seed and 95% seed containing the Herculex® I Insect Protection gene that produces a Bacillus thuringiensis (Bt) Cry1F protein, a gene that produces a Bt Cry1Ab protein, and the Agrisure Viptera® gene that produces a Vip3Aa20 protein that provide protection or suppression against susceptible corn earworm, European corn borer, southwestern corn borer, black cutworm, fall armyworm, western bean cutworm, lesser corn stalk borer, southern corn stalk borer, stalk borer, and sugarcane borer. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These proteins and the genetic material necessary for their production in corn has been authorized for food use by Health Canada, as well as feed use and unconfined environmental release by the Canadian Food Inspection Agency. This seed contains the LibertyLink® gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty® Herbicide (glufosinate), WARNING: The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. WARNING: The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. ptimum[.] Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency crel to determine if a product is registered for sale or use in your area. Always read and follow label directions. For volunteer management: A refuge component code ending in "LRE" is an Enlist® Corn - REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D® technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink® Roundup Ready® 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management. YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING. PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited. Liberty®, LibertyLink® and the Water Droplet Design are registered trademarks of BASF. [®]Roundup and Roundup Ready are registered trademarks of Bayer Group. Agrisure Viptera® is a registered trademark of, and used under license from, a Syngenta Group Company. Agrisure® technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG.

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	INTEGRATED REFUGE PRODUCTS
POWERCORE Refuge advanced	This seed is a blend of 5% refuge seed and 95% seed containing the PowerCore® insect protection traits. This product contains the active ingredients Cry1A.105, Cry2Ab2, and Cry1F, proteins from <i>Bacillus thuringiensis (B.t.)</i> that together control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer and black cutworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency. This seed contains the LibertyLink@ gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty® Herbicide (glufosinate). WARNING: The LibertyLink@ gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink@ gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. This seed contains Roundup Ready® 2 Technology that provides crop safety for over-the-top applications of labeled Roundup® brand agricultural herbicides when applied to label directions. WARNING: The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. Not all herbicides are registered for sale or use in your area. Always read and follow herbicide label directions. For volunteer management: A refuge component code ending in "LRF" is an Enlist® Corn _REFUGE product which provides crop safety for over-the-top-applications of glyphosa
	[®] Roundup and Roundup Ready are registered trademarks of Bayer Group. POWERCORE [®] is a registered trademark of Monsanto Technology LLC. POWERCORE [®] multi-event technology developed by Corteva Agriscience and
	Monsanto.
FOURE CORE CELESC REFUGE ADVANCED	This seed is a blend of 5% refuge seed and 95% seed containing the PowerCore [®] insect protection traits. This product contains the active ingredients Coy1A 105, Cry2Ab2, and Cry1F, proteins from <i>Bacillus thuringiansis</i> (<i>B</i> ,1) that together control or suppress European corn borer, southwestern corn borer, southere cornstalk borer, ourstalk borer, best population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food inspection Agency. PowerCore [®] Enlist [®] Retuge Advanced [®] corn provides crop safely for over-the-top applications of glyphosate, glutosinate, quizalotp (FOP) and 2.4-D choline herbicides featuring Colex-D [®] technology when applied according to label directions. 2.4-D products that do not contain Colex-D [®] technology are the only herbicides containing 2.4-D that are authorized for preemergence and postemergence use on Enlist [®] crops. See the Enlist Product USe Guide and consult www. Enlist.com for more information. WARNING: NeuroProduct Se Guide and consult www. Enlist.com for more information. WARNING: NeuroProduct Se Guide and consult www. Enlist.com for more information. WARNING: The LibertyLink [®] gene. These seeds and the loating grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty [®] Herbicide glutosinate, WARNING: The LibertyLink [®] gene WILL NOT safeguard this hybrid against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of Liberty applications of glyphosate, glutosinate, he achive ingredient in labeled Roundup branked herbicides, when applied alcoled interctions. WARNING: The Roundup Ready gene will safeguard this hybrid against applications of Juphosphinothricin acetylt against applications of Juphosate, glutosinate, when applied to babel directions. WARNING: The Roundup Ready

INTEGRATED REFUGE PRODUCTS

This seed is a blend of 5% refuge seed and 95% seed containing the PowerCore[®] Ultra insect protection traits. These seeds contain the active ingredients Cry1A.105, Cry2Ab2, and Cry1F, proteins from *Bacillus thuringiensis (B.t.)*, and the Agrisure Viptera[®] gene that produces a Vip3Aa20 protein that together control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer and black cutworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency.

PowerCore[®] Ultra Enlist[®] Refuge Advanced[®] corn provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. 2,4-D products that do not contain Colex-D[®] technology are not authorized for use in conjunction with PowerCore Ultra Enlist Refuge Advanced corn. Following burndown, Enlist Duo[®] and Enlist One[®] herbicides with Colex-D[®] technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist[®] crops. See the Enlist Product Use Guide and consult www.Enlist.com for more information. **WARNING:** PowerCore Ultra Enlist Refuge Advanced corn is tolerant of applications of glyphosate, glufosinate, FOP, and 2,4-D choline herbicides. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with PowerCore Ultra Enlist Refuge Advanced corn. Always read and follow herbicide label directions prior to use.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.

For volunteer management: A refuge component code ending in "LRE" is an Enlist[®] Corn – REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink[®] Roundup Ready[®] 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management.

YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING.

PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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

[®]Roundup and Roundup Ready are registered trademarks of Bayer Group.

POWERCORE® is a registered trademark of Monsanto Technology LLC. POWERCORE® multi-event technology developed by Corteva Agriscience and Monsanto.

Agrisure Viptera® is a registered trademark of, and used under license from, a Syngenta Group Company. Agrisure® technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG.



INTEGRATED REFUGE PRODUCTS

This seed is a blend of 5% refuge seed and 95% seed containing the Herculex[®] XTRA Insect Protection genes that produce a *Bacillus thuringiensis* (*Bt*) Cry1F protein and the Bt Cry34Ab1 and Cry35Ab1 proteins; the Agrisure[®] RW trait that includes a gene that produces a *Bt* mCry3A protein, and a gene that produces a Bt Cry1Ab protein that provide protection or suppression against susceptible European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, stalk borer, and sugarcane borer; and also provide protection from larval injury caused by susceptible western corn rootworm, northern corn rootworm, and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These proteins and the genetic material necessary for their production in corn has been authorized for food use by Health Canada, as well as feed use and unconfined environmental release by the Canadian Food Inspection Agency.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide gene. Always read and follow herbicide label directions prior to use.

Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.

For volunteer management: A refuge component code ending in "LRE" is an Enlist[®] Corn – REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink[®] Roundup Ready[®] 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management.

YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING.

PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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

®Roundup and Roundup Ready are registered trademarks of Bayer Group.

Agrisure[®] is a registered trademark of, and used under license from, a Syngenta Group Company. Agrisure[®] technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG.

This seed is a blend of 5% refuge seed and 95% seed containing the Herculex[®] XTRA Insect Protection genes that produce a *Bacillus thuringiensis* (*Bt*) Cry1F protein and the Bt Cry34Ab1 and Cry35Ab1 proteins; the Agrisure[®] RW trait that includes a gene that produces a *Bt* mCry3A protein, and a gene that produces a *Bt* Cry1Ab protein that provide protection or suppression against susceptible European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, stalk borer, and sugarcane borer; and also provide protection from larval injury caused by susceptible western corn rootworm, northern corn rootworm, and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These proteins and the genetic material necessary for their production in corn has been authorized for food use by Health Canada, as well as feed use and unconfined environmental release by the Canadian Food Inspection Agency.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

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For volunteer management: A refuge component code ending in "LRE" is an Enlist[®] Corn – REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink[®] Roundup Ready[®] 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management.

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VORCEED

🖹 Enlist

INTEGRATED REFUGE PRODUCTS

This seed is a blend of 5% refuge seed and 95% seed containing the genes that produce the *Bacillus thuringiensis* (*Bt*) Cry34/35Ab1 and Cry3Bb1 proteins; the DvSnf7 double-stranded RNA (dsRNA) that provide below-ground protection from larval injury caused by susceptible western corn rootworm, northern corn rootworm and Mexican corn rootworm; and the Bt Cry1A.105, Cry2Ab2, and Cry1F proteins that provide above-ground protection to control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer and black cutworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency.

Vorceed[™] Enlist[®] corn provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. 2,4-D products that do not contain Colex-D[®] technology are not authorized for use in conjunction with Vorceed Enlist corn. Following burndown, Enlist Duo[®] and Enlist One[®] herbicides with Colex-D[®] technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist[®] crops. See the Enlist Product Use Guide and consult www.Enlist.com for more information. **WARNING:** Vorceed Enlist corn is tolerant of applications of glyphosate, glufosinate, FOP, and 2,4-D choline herbicides. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with Vorceed Enlist corn. Always read and follow herbicide label directions prior to use.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.

For volunteer management: A refuge component code ending in "LRE" is an Enlist[®] Corn – REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink[®] Roundup Ready[®] 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management.

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PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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

[®]Roundup and Roundup Ready are registered trademarks of Bayer Group.

This seed is a blend of 5% refuge seed and 95% seed containing the SmartStax[®] insect protection traits. This product contains the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry3Ab1 Cry35Ab1 proteins from *Bacillus thuringiensis (B.t.)* that together control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer, black cutworm, western corn rootworm, northern corn rootworm and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:**The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.



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For volunteer management: A refuge component code ending in "LRE" is an Enlist[®] Corn – REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink[®] Roundup Ready[®] 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management.

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PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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SmartStax® multi-event technology developed by Corteva Agriscience and Monsanto. ®SmartStax and the SmartStax Logo are registered trademarks of Bayer Group.

INTEGRATED REFUGE PRODUCTS

This seed is a blend of 5% refuge seed and 95% seed containing the SmartStax® insect protection traits. This product contains the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry3Ab1 Cry35Ab1 proteins from *Bacillus thuringiensis* (*B.t.*) that together control or suppress European com borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer, black cutworm, western corn rootworm, northern corn rootworm and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency. SmartStax® Enlist® Refuge Advanced® corn provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D® technology when applied according to label directions. 2,4-D products that do not contain Colex-D® technology are not authorized for use in conjunction with SmartStax Enlist Refuge Advanced corn. Following burndown, Enlist Duo® and Enlist One® herbicides with Colex-D® technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist® crops. See the Enlist Product Use Guide and consult www.Enlist.com for more information. **WARNING:** SmartStax Enlist Refuge Advanced corn is tolerant of applications of glyphosate, glufosinate, FOP, and 2,4-D choline herbicides. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D choline herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with SmartStax Enlist. The product become and postemergence use on Enlist® crops.





POWERCORE

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

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For volunteer management: A refuge component code ending in "LRE" is an Enlist[®] Corn – REFUGE product which provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. A refuge component code ending in "LR" or "23" is a LibertyLink[®] Roundup Ready[®] 2 Technology product which provides crop safety for over-the-top-applications of glyphosate and glufosinate herbicides. Refer to the Corteva Corn Seed Product Use Guide at www.traitstewardship.com for more information on volunteer management.

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[®]Roundup and Roundup Ready are registered trademarks of Bayer Group.

SmartStax® multi-event technology developed by Corteva Agriscience and Monsanto. ®SmartStax and the SmartStax Logo are registered trademarks of Bayer Group.

STRUCTURED REFUGE PRODUCTS

This product contains the active ingredients Cry1A.105, Cry2Ab2, and Cry1F, proteins from *Bacillus thuringiensis* (*B.t.*) that together control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer and black cutworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

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POWERCORE® is a registered trademark of Monsanto Technology LLC. POWERCORE® multi-event technology developed by Corteva Agriscience and Monsanto.



STRUCTURED REFUGE PRODUCTS

This product contains the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry3Ab1 Cry35Ab1 proteins from *Bacillus thuringiensis* (*B.t.*) that together control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer, black cutworm, western corn rootworm, northern corn rootworm and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use. Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.

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This product contains the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 Cry35Ab1 proteins from *Bacillus thuringiensis* (*B.t.*) that together control or suppress European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer, black cutworm, western corn rootworm, northern corn rootworm and Mexican corn rootworm. Product responses may vary bylocation, pest population, environmental conditions, and agricultural practices. These traits have been approved for use by Health Canada and the Canadian Food Inspection Agency.

SmartStax[®] Enlist[®] corn provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. 2,4-D products that do not contain Colex-D[®] technology are not authorized for use in conjunction with SmartStax Enlist corn. Following burndown, Enlist Duo[®] and Enlist One[®] herbicides with Colex-D[®] technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist[®] crops. See the Enlist Product Use Guide and consult www.Enlist.com for more information. **WARNING:** SmartStax Enlist corn is tolerant of applications of glyphosate, glufosinate, FOP, and 2,4-D choline herbicides. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with SmartStax Enlist corn. Always read and follow herbicide label directions prior to use.





This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

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SmartStax® multi-event technology developed by Corteva Agriscience and Monsanto. ®SmartStax and the SmartStax Logo are registered trademarks of Bayer Group.

STRUCTURED REFUGE PRODUCTS

	Enlist [®] Corn provides crop safety for over-the-top applications of glyphosate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D [®] technology when applied according to label directions. 2,4-D products that do not contain Colex-D [®] technology are not authorized for use in conjunction with Enlist Corn. Following burndown, Enlist Duo [®] and Enlist One [®] herbicides with Colex-D [®] technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist [®] crops. See the Enlist Product Use Guide and consult www.Enlist.com for more information. WARNING: Enlist Corn is tolerant of applications of glyphosate, FOP, and 2,4-D choline herbicides. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with Enlist Corn. Always read and follow herbicide label directions prior to use.
	This seed contains Roundup Ready [®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup [®] brand agricultural herbicides when applied to label directions. WARNING: The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.
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	regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.
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	PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.
	[®] Roundup and Roundup Ready are registered trademarks of Bayer Group.
Roundup	This seed contains Roundup Ready [®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup [®] brand agricultural herbicides when applied to label directions. WARNING: The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.
	Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.
Ready.	YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING.
Keday. CORN 2	PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited. *Roundup and Roundup Ready are registered trademarks of Bayer Group.
LIBERTY	This seed contains the LibertyLink [®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty [®] Herbicide (glufosinate). WARNING: The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.
	Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.
	YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING.
	PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or
	development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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

LIBERTY

LINK° 💓

Product Use Statement

STRUCTURED REFUGE PRODUCTS

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:** The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.

YOU MUST SIGN A TECHNOLOGY USE AGREEMENT ANDREAD THE PRODUCT USE GUIDE PRIOR TO PLANTING.

PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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

[®]Roundup and Roundup Ready are registered trademarks of Bayer Group.

Enlist[®] Corn - REFUGE provides crop safety for over-the-top applications of glyphosate, glufosinate, quizalofop (FOP) and 2,4-D choline herbicides featuring Colex-D[®] technology when applied according to label directions. 2,4-D products that do not contain Colex-D[®] technology are not authorized for use in conjunction with Enlist Corn - REFUGE. Following burndown, Enlist Duo[®] and Enlist One[®] herbicides with Colex-D[®] technology are the only herbicides containing 2,4-D that are authorized for preemergence and postemergence use on Enlist[®] crops. See the Enlist Product Use Guide and consult www.Enlist.com for more information. **WARNING:** Enlist Corn - REFUGE is tolerant of applications of glyphosate, glufosinate, FOP, and 2,4-D choline herbicides. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with Enlist Corn - REFUGE. Always read and follow herbicide label directions prior to use.

This seed contains the LibertyLink[®] gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acetyltransferase) protein that provides resistance to the Liberty[®] Herbicide (glufosinate). **WARNING:** The LibertyLink gene will safeguard this hybrid ONLY against applications of Liberty. The LibertyLink gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

This seed contains Roundup Ready[®] 2 Technology that provides crop safety for over-the-top applications of labeled Roundup[®] brand agricultural herbicides when applied to label directions. **WARNING:**The Roundup Ready gene will safeguard this hybrid ONLY against applications of glyphosate, the active ingredient in labeled Roundup branded herbicides, when applied at labeled rates. The Roundup Ready gene WILL NOT safeguard this hybrid against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label directions prior to use.

Not all herbicides are registered for sale or use in all states or counties in the United States or all provinces in Canada. Contact your local regulatory agency to determine if a product is registered for sale or use in your area. Always read and follow label directions.

YOU MUST SIGN A TECHNOLOGY USE AGREEMENT AND READ THE PRODUCT USE GUIDE PRIOR TO PLANTING.

PATENT STATEMENT: The technology incorporated into this seed is protected under one or more Canadian patents which can be found at: www.traitstewardship.com. The purchase of these seeds includes a limited license to produce a single corn crop in Canada (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Resale or tr ansfer of the seed is strictly prohibited.

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

[®]Roundup and Roundup Ready are registered trademarks of Bayer Group.





2024 Growing Season / Canada TUA valid through December 2024

This Technology Use Agreement ("TUA") is entered into by Grower and Corteva Agriscience to set forth the terms and conditions upon which Grower shall use Seed containing Corteva Sourced Technology (including, but not limited to, germplasm and (conventional seed products, and products such as Optimum® GLY herbicide tolerance, Enlist E3® soybeans, Qrome® com, etc.). All capitalized terms in this TUA shall have the meanings given to them in Section 1 below or as otherwise defined in the Agreement.

By signing below, the undersigned represents and agrees that: (1) he/she is eighteen (18) years of age or older; (2) he/she has read and understands the terms and conditions of the Agreement, including, without limitation, the terms and conditions set forth in the documents linked to this TUA via the hyperlinks provided below; (3) he/she is fully authorized to legally bind and to enter into the Agreement on behalf of the Grower identified in the Grower Information box below; and (4) the terms and conditions of the Agreement are legally binding on the Grower and all individuals and entities that will plant and grow crops from Seed on behalf of the undersigned and the Grower

REQUIRED: By checking this box the undersigned represents and agrees that he/she has read and understands (1) the Corteva Privacy Statement (www.corteva.ca/en/privacy-policy.html) and (2) the privacy terms and choices in section 5 of this Agreement. This Agreement is not valid until this box is checked. Privacy choices may be made as explained in the Privacy Statement. OPTIONAL: Opt In: Please check box to receive electronic communications from Corteva Agriscience. Yes, I would like to receive agronomy advice, special offers, product information, news and updates through electronic communications from Corteva Agriscience. I understand that by selecting "yes" that SMS fees may apply. By: Authorized Grower Signature Title of Person Signing Date Corteva Customer or Business Partner ID (optional) Printed Full Legal Name of Person Signing GROWER INFORMATION – Complete Section A OR Section B – PLEASE PRINT CLEARLY [

Section A – For an Individual (Sole Prop	rietorship) Grower		Section B – For a Business Entity Grower				
Grower Legal Name – First MI	Last		Business Name Business Type (Check One): Corporation Partnership Limited Liability Company (LLC) Other				
Farming or "Doing Business As" (d/b/a) Name, if a	applicable	2X					
Shipping/Mailing Address (do not use Legal Land Description	ions)		Authorized Representative (Legal Name)				
Town P	Province F	Postal Code	Shipping/Mailing Address (do not use Legal Land Descriptions)				
Phone (Mobile)			Town Province Postal Code				
E-mail Address			Phone (Mobile)				
Section C - Seed Supplier			E-mail Address				
Business Name			"Loss(es)" means all damages, losses, awards, judgments, settlements, assessments, liabilities, taxes, levies, penalties, fines, charges, costs and expenses (including any court costs and reasonable legal and professional fees and expenses, including in investigating and preparing for litigation of proceeding) and any other payments.				
Town P	Province F	Postal Code	"Patents" means Corteva patents, registered and unregistered, held in the United States and/or Canada. "Personnel Information" means any information that identifies, is related to, describes, is reasonably capable of being				
Section D - Corteva			associated with, or could reasonably be linked, directly or indirectly, with a particular individual or where applicable, relates to an identifiable juristic person or legal entity.				
Send completed paper agreements using one of	f the following options		"Pioneer" means Pioneer Hi-Bred Canada Company and Pioneer Hi-Bred Production Company.				
1. E-mail: agreements@agcelerate.com	the felletting optione		"Production Crop" means a crop the Grower produces for Corteva or a Corteva Licensee, utilizing Seed, pursuant to a valid Seed Production Agreement or similar agreement, which crop is controlled by Corteva or a Corteva Licensee.				
2. Mail: AgCelerate			"Purchased Seed" means Seed that is purchased by Grower from a Seed Seller under a fully executed TUA to which Grower and Corteva are parties, as amended pursuant to Update Notification(s), or otherwise.				
PO Box 221679 Charlotte, NC 28222-1679			"Representatives" means Corteva or Corteva Licensee, representatives, agents, contractors and designees of any owner of				
,			Corteva Sourced Technology. "Seed" means agricultural planting seed for all crops containing Corteva Sourced Technology, Enlist herbicides and/or intellectual				
1. DEFINITIONS: Each of the following terms shall have the meaning specified below:			property sold by Seed Sellers. Seed may contain Third-Party Trait Technology that is subject to such third-party's separate licensing arrangements.				
"Agreement" means, as of any date of determination, (i) this TUA Update Notification(s); and (iii) the terms of the Delivery Ticket, all of	which are incorporated herein	e(s); (ii) the then-current n and deemed a material					
part of the Agreement. "Claim(s)" means any completed, actual, pending or threatened claim,	action, suit, demand, or proc	eeding, whether in law or	"Seed Stock" means seed that is owned by Corteva or a Corteva Licensee that is made available to a Grower to produce a single Production Crop.				
equity and whether civil, criminal, administrative or investigative (includin "Corteva" and "Corteva Agriscience" means, collectively, Corteva Agri	ng any action by governmental	authorities).	"Third-Party Trait Technology" means proprietary trait technology from a technology provider other than Corteva:				
Company and their affiliated companies.	iscience Canada Company, r	noneer hi-bred Carlada	"Update Notification" means a communication made to growers from time to time by Corteva with updated or new terms of the Agreement, which may include, without limitation, information regarding new and existing Corteva Sourced Technology, the				
"Corteva Sourced Technology" means proprietary germplasm and all applicable Update Notification(s). Corteva Sourced Technology currently is not limited to, the Patents listed in Update Notification(s) provided at th	y covered as Licensed Rights	by this TUA includes, but					
"Delivery Ticket" means the document signed by Grower upon each deliver	-		 LIMITED LICENSE: Upon acceptance by Corteva of this TUA and for the term of the TUA, unaltered and duly executed 				
"Enlist® herbicides" means agricultural products that contain 2,4-D cholin	•	Fechnology.	by Grower, Grower is granted and hereby accepts, subject to the terms and conditions of the Agreement, a limited, non- transferable, revocable, non-exclusive, and non-sublicensable license by Corteva under the Licensed Rights solely to (i)				
"Grain" means material utilized for food, feed, fuel and not planted/propagated in the future. "Grower" means all individuals and/or entities associated with the farming operation identified in the applicable Grower			purchase Seed from a Seed Seller or Corteva Licensee and/or (ii) to plant Purchased Seed to produce a single commercial crop (or in the case that Purchased Seed is alfalfa, multiple commercial forage crops within a season or seasons) in Canada in a single				
information box above.	ng operation identified in the t		growing season.				
"Guide" mean the Product Use Guide document(s) published and updated by Corteva from time to time that specify, among other things, stewardship management practices for Seed, Enlist herbicides and Corteva Sourced Technology.			2.2 If Grower has entered into a current and valid seed production Agreement or similar agreement (collectively, referred to as "Seed Production Agreement") with Corteva or a Corteva Licensee, Grower is granted and hereby accepts, subject to the terms and conditions of the Agreement") with Corteva or a Corteva Licensee, Grower is granted and hereby accepts, subject to the terms and conditions of the Agreement of the Agreemen				
"Licensed Rights" means all patent claims (registered and unregistere Variety Protection Act (or its foreign equivalents) and other intellectual pr or Enlist herbicide that are reasonably necessary for a Grower's exercise with respect to Purchased Seed or Seed Stock. The Licensed Rights as	roperty rights relating to Corte e of the limited license granted	va Sourced Technology I under Article 2 below	to produce a single Production Crop in the United States provided that all such Production Crop is delivered to, or its disposition is ontrolled by, Corteva or the Corteva Licensee.				
Update Notification.			Stock containing Enlist® technology, Grower receives a limited license to use Enlist herbicides in conjunction with Enlist® crops grown from such Purchased Seed or Seed Stock. This limited, non-transferable, revocable, non-exclusive, and non-sublicensable				
"Licensee" means an entity that has a valid, active agreement with Cort Corteva seed trait technology in its seed products.	teva granting such entity a lice	ense to produce and sell	sell license applies solely to Grower's activities in Canada and does not authorize Grower to plant Sed in Canada and authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and does not authorize Grower to plant Sed in Canada and authorize Grower to plant Sed				

Technology Use Agreement, Update Notification or a Product Use Guide, go to <u>www.traitstewardship.corteva.ca</u> or contact Corteva Agriscience at 1-800-667-3852 Revision date: June 2023 / Canada TUA

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2024 Growing Season / Canada TUA valid through December 2024

PROHIBITED ACTIVITIES:

With respect to Corteva Sourced Technology, Grower acknowledges and agrees that Grower is NOT permitted to do any ol the following and should Grower, or someone on Grower's behalf, perform any of the activities listed below, shall result in Grower being in breach of this TUA:

- irrower being in breach of this TUA: supply, sell, transfer, license, sublicense or otherwise distribute any Seed, Seed Stock, or Corteva Sourced Technology to any other person, entity or other third party for planting or any other purposes; accept any Seed or Seed Stock from any third party other than a Seed Seller, Corteva or a Corteva Licensee; save, clean or use any crop produced from Seed for planting and/or supply crop produced from Seed to anyone for planting. The planting of any crop produced from Seed is not licensed and shall constitute infringement of Corteva's Patents, unless specifically permitted by a written agreement with Corteva ar a Corteva Licensee; plant Seed for seed production unless and only if, Grower has entered into a valid, written Seed Production Agreement or similar agreement with Corteva or a Corteva Licensee, which requires Grower to physically deliver the resulting crop to either Corteva or a Corteva Licensee.
- either Corteva or a Corteva Licensee; sell for non-seed purposes or use for non-seed purposes all of the Seed produced; purchase or otherwise obtain from Corteva or the Corteva Licensee any of the Seed produced unless, after physical delivery by Grower to Corteva or the Corteva Licensee, the Seed has been conditioned, packaged and delivered by Corteva or the Corteva Licensee to Grower in the same manner as Seed sold by Corteva or the Corteva Licensee to growers who have not entered into a Seed Production Agreement; and/or use or allow others to use Seed, plant any Seed or use any crop or plant material produced from Seed, for crop breeding, research, or generation of herbicide or other regulatory registration data. Grower may not conduct research on Grower's crop produced from Seed.

- crop produced from Seed. In addition to the above Prohibited Activities, and with respect to Enlist[®] crops and herbicide use on those crops, Grower acknowledges and agrees: the Grower is NOT permitted to use any pyridyloxy-carboxylate herbicides (e.g., triclopyr, fluroxypyr) on Enlist E3[®] soybean crops for spring burn-down, (nc)erbant, pre-plant, pre-emergence or post emergent application, unless the product is expressly labeled for use on Enlist E3 soybean; following burn-down (nc)uding gre-emergence use), Grower is NOT permitted to use any phenoxy-carboxylate herbicide-containing product (e.g., containing 2,4-D, 2,4-DB, MCPA, dichlorprop, LV6, MCPB, mecoprop), which is NOT expressly labeled for use in conjunction with Enlist crops and does not contain 2,4-D cholme with Colex.D[®] technology; and/or following burndown, Grower is NOT permitted to use any aryloxyphenoxy-propionates (AOPP) herbicides (e.g., quizalofon, diclofop, fenoxaprog, fluazifor) on emerged Enlist[®] corn, unless the product is expressly labeled for use in conjunction with Enlist corn;
- Should Grower, or someone on Grower's behalf, perform any of the activities listed above, they shall be in breach of this TUA. Grower further acknowledges and agrees that the limited license(s) granted herein do not convey or otherwise transfer any ownership rights of Corteva Sourced Technology or Enlist herbicides to Grower.

3. UPDATES AND DOCUMENTS THAT ARE PART OF THIS AGREEMENT:

3.1 Each Update Notification is hereby incorporated into this TUA and deemed a material part of the Agreement once posted on www.traitstewardship.conteva.ca. For so long as Grower has a valid TUA in effect with Conteva, Conteva will provide notice of Update Notifications to Grower to the email address or physical address provided by Grower in the Grower Information box above.

3.2 Current Guides are available from Seed Sellers, from Corteva directly and on www.traitstewardship.corteva.ca.

3.3 Until this TUA is terminated or superseded as set out in Article 6, the terms and conditions of use set forth on the packaging, container or label (including bag/tags) (collectively, "Label Terms") of Purchased Seed and terms and conditions of the Delivery Ticket are hereby incorporated herein and deemed a material part of the Agreement.

3.4 Grower acknowledges and agrees that updates of the Agreement, any Update Notification and any Guide published from time to time by Corteva are incorporated herein and deemed a material part of the Agreement once posted on

3.5 Grower's use of Seed after Corteva posts an update on <u>www.traitstewardship.corteva.ca</u> which updates of this TUA, the Agreement, an Update Notification or a Guide, or a new Update Notification or a new Guide, constitutes Grower's acceptant agreement to be bound by the provisions of such updated or new documents.

agreement to be bound by the provisions or such updated on new updatements. 3.6 Inconsistencies among (i) the Update Notification, (iii) the TUA, (iii) relevant Guide(s), each as posted on <u>www.traitstewardship.conteva.ca</u> at the time Grower opens a bag or container of Seed for planting and (iv) Label. Terms, shall be resolved in the following order: first, in favor of the Update Notification, second, the TUA, third, the Guide(s) and fourth, the Label Terms.

4. STEWARDSHIP AND COMPLIANCE:

4.1 Grower agrees to read and follow all applicable laws and regulations, all applicable Guides, the terms of the Delivery Ticket at the Label Terms associated with Corteva Sourced Technology and Enlist herbicides. Grower agrees to follow the best management practices, recommendations and guidelines provided in all applicable Guides.

The management practices, recommendations and guidelines provided in all applicable Guides. 4.2 Grover agrees to read and follow all Insect Resistance Management ("IRM") requirements set forth in the Guide, including any requirements to establish and maintain a refuge. Failure to follow IRM requirements may result in loss of access to insect protected hybrids for at least one year. 4.3 Grover acknowledges that modification, revocation or cancellation of regulatory authorizations and/or registrations including, but not limited to, biotech or other trait(s), enabling technologies and/or enabled pesticide, herbicide or fungicide product(s) by local, provincial, federal, or foreign regulatory agencies may occur and are outside the control of Corteva. Grover agrees to always read and follow directions for use on pesticide, insecticide, fungicide or herbicide labeling as set forth in the Product Use Guide. Grover acknowledges and agrees to Grover's obligation to follow and ahere to any such modifications, revocations or cancellations. Grover further understands that regulatory agrees solar advariable supplies of a blocter trait(s) and/or pesticide product may limit its availability for use in a particular growing season and/or the marketability of the resulting Grain crop.

4.4 Grower acknowledges and agrees that, following burndown, the only 2,4-D-containing herbicide products that can be used with Enlist crops are products containing Colex-D Technology and are expressly labeled for use on Enlist crops.

4.5 Grower agrees to follow herbicide resistance management ("HRM") practices, such as pre-and post-application field scouting and reporting. Lack of herbicide efficacy must immediately be reported to Corteva.

4.6 Grower agrees to provide Grower's reasonable cooperation to Corteva and the Representatives in connection with their efforts to verify Grower's compliance with stewardship, IRM, HRM and other requirements of the Agreement, including, but not limited to, completing written and oral questionnaires and cooperating with Corteva and third party on-farm IRM compliance assessments.

compieing written and oral questionnaires and cooperating with Corteva and third party on-tarm IHM compliance assessments. 4.7 Corteva is a member of Excellence Through Stewardship® (ETS). Corteva Seed products are commercialized in accordance with ETS Product Launch Stewardship Guidance and in compliance with Corteva's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Any core or material covered by this Agreement including, but not limited to, proprietary plant varieties and/or hybrid products can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing blotch traits across boundaries into nations where import is not permitted. Growers must talk to their Grain handler or product purchaser to confirm their buying position for these products and Grower shall direct crops, Grain, or material produced from Seed only to appropriate markets. Any crops, Grain, or material produced from Seed can only be exported to, or used, processed, or sold in countries where Through Stewardship.

4.8 Grower will provide information, as reasonably requested by Corteva, Seed Sellers or Representatives, including, without limitation, crop reporting information and corresponding aerial photographs, for the sole purpose to verify compliance with the Agreement (including, without limitation, the license grant, stewardship, IRM, HRM and other requirements).

4.9 In addition, Grower authorizes Corteva Seed Sellers or Representatives, to enter upon land, for three (3) years following where 4.9 In addition, Grower authorizes Corteva seed sell as any referesentatives, to enter upon land, tort mree (3) years indowing Werel Grower has planted or is growing Seed as well as any refuge area and access to bins, wagons or seed storage containers for purposes of examining the land and Grower's crop and laking samples of crops, crop residue or seeds located thereof. Upon request, Grower shall supply Corteva with a list of all locations planted by or on behalf of Grower. Such inspection, examination or sampling shall be available to Corteva and the Representatives only after Corteva or the Representatives deliver or mail to the Grower written untification at least three (3) days in advance and Corteva or the Representatives also have reasonably attempted to discuss the visits with the Grower in advance of the visit.

4.10 Corteva indemnification of Grower shall be limited to damage to seed crop fields, commercial crop fields or personal property caused by Corteva employees or Representatives. For clarity, Corteva shall not indemnify Grower for Grower's (or any other person(s) acting on behalf of forwer) gross negligence, violation of this TUA, violation of any law or regulation or any other damages, fines, penalties, enforcement, law suits or any other outcomes resulting from Grower's decisions, actions or failure to act.

All Upon the request of the Corteva Seed Sellers or Representatives, forwer shall furnish copies of invoices and other relevant documents related to Grower's purchases of seed and chemical transactions and Grower sial funds, to confirm compliance with this Agreement following Corteva's seed using contraction, including the locations of all fields, to confirm compliance with this Agreement following Corteva's actual (or attempted) oral communication with Grower and not later than seven (7) days after the date of a written request from Corteva, Sueed in the date of a written herbicide as applied, the identities of all herbicides applied to these fields and other data as specified in the Guide(s).

A12 As Grower is claiming a tax exemption for the Purchased Seed, Grower hereby represents and warrants that: (i) Grower is in the business of agricultural production. (iii) the Purchased Seed will be used solely for agricultural production and, (iii) due to the foregoing. Grower qualifies for a tax exemption, under applicable provincial tax laws, for the Purchased Seed. Grower agrees to provide tax exemption certificates as reasonably requested by Corteva or Seed Sellers.

5. PRIVACY

5. PRVACY
5.1 Grower hereby consents to the collection, use and disclosure of Grower's personal and purchase information by and between: (i) Corteva and its affiliated companies, including parents, subsidiaries and affiliates ("Corteva"); (ii) retailers including, but not limited to, Seed Seliers and Processors, from which Grower purchases Corteva products and services; (iii) Corteva partners and service providers (e.g., AgData, Adobe, Global Ag Risk Solutions, Salesforce, SeedWare, Tangara), for the purpose of administering Corteva offers, including validation of product purchases and calculation/issuance of rebates and rewards, in addition to using this information for marketing, surveys, direct mail, digital and social media communication and to improve and modify our products and to personalize services; (iv) Corteva partners and service providers (or purposes of conducting on-farm IRM and/or other compliance or regulatory assessments; and (v) commodity associations, promotional boards and trade councils for the purposes of collecting and/or refunding approved commodity check-offs, levies and/or fees and maintaining accurate grower lists. Grower understands that by completing and signing this acceptance form, that helshe is eligible to participate in offers but is under no obligation to participate in any offer now or in the future. Grower may withdraw his/her consent to the collection, use and disclosure of his/her personal information at any time by submitting a request here: www.corteva.ca/enforms/privacy-request.html, although in some cases

consent may prevent Corteva from continuing this Agreement. Corteva Agriscience is concerned about privacy issues and wants the Grower to be familiar with how Corteva collects, uses and discloses information. Any information collected from this form, through the Grower to be familiar with now Corteva collects, uses and discloses information. Any information collected from this form, through the provision of services or products, or through website or mobile applications somed and controlled by Corteva will be handled in accordance with the Corteva Privacy Statement. We encourage you to review our Privacy Statement, which describes Corteva's privacy practices in greater detail. The Privacy Statement may be accessed here: www.corteva.ca/en/privacy-policy.thmil. By providing personal information to Corteva, the Grower agrees to the terms and conditions of the Privacy Statement. Different Corteva websites or mobile applications may have different purposes and features and in those instances, a specific privacy disclosure or statement may apply. Each such disclosure or statement supplements and amends the Corteva Privacy Statement.

6. TERM AND TERMINATION:

6. TERM AND TERMINATION:
6.1 Excluding those provisions that by their nature need to survive termination of this TUA in order to effectuate their purpose, this TUA, once signed by Grower and accepted by Corteva, will remain in effect until terminated or superseded. Grower or Corteva may terminate this TUA at any time and for any reason by at least thirty (30) days written notice of termination to the other party at the address specified in section A, B or D above. In addition to the foregoing, Corteva reserves the right to revoke Grower's right to use any Corteva Sourced Technologies and Enlist herbicides upon at least thirty (30) days written notice of termination to the other party at the address specified TUA shall automatically terminate upon the termination of this TUA, which uthe need for further notice or action. In the case of termination or a license granted preunder with respect to any Corteva Sourced Technology and Enlist herbicides. Use any, (i) Grower shall terminate the use of all Seeds containing the particular Corteva Sourced Technology to Corteva at Grower's cost, and (ii) Grower will hold containing such Corteva Sourced Technology to Corteva at Grower's cost, and (ii) Grower will no inger have a right to purchase or use Seed containing such Corteva Sourced Technology to Corteva at Grower's cost, and (ii) Grower will no inger have a right to purchase or use Seed containing such Corteva Sourced Technology or Enlist herbicides. Whithstanding the foregoing, Grower's sight arose under this at arose under this Agreement prior to termination time.

7. CORTEVA SOURCED TECHNOLOGYFEES:

7.1 Grower agrees to pay a designated Corteva entity or Corteva Licensee all applicable fees that are a part of, associated with or collected with the purchase and use of any Seed and/or Corteva Sourced Technology or Enlist herbicide upon Corteva's payment terms then in effect. Corteva reserves the right to change from time to time the amount of and how it charges Corteva Sourced Technology or Enlist herbicide fees. Grower shall pay interest to Corteva on any past-due fees at the rate of 1.5% per month (18% per annum) or the maximum amount permitted by law, whichever is less, from the applicable due date for such fees until paid. Any payments received by Corteva may be applied to unpaid fees, interest or other charges in Corteva's discretion.

8. PRODUCT DESCRIPTION EXPRESS WARRANTY:

8.1 Corteva warrants that the Purchased Seed conforms to the written description(s) on the label, package, bag, tag or cont tolerances, if any, established by law, when used in accordance with the applicable directions and in compliance with the Applicable directions and in complicable directions and in compliance with the Applicable directions and in compliance with the Applicable directions and in complicable directions and in complicable directions and in complicable directions and in complex and in complex

S. DISCLAIMER OF WARRANTY:
 S. DISCLAIMER OF WARRANTY REDAID OF WARRANTY RESTRICED FOR THE SALE OF SUCH CORTEVA PESTICIDE
 PRODUCT.
 S. DISCLAIMER OF WARRANTES WARRANTY REALATED TO ANY CORTEVA PESTICIDE

10. LIMITATION OF LIABILITY AND PROMPT NOTICE OF CLAIM:

10. LIMITATION OF LIABILITY AND PROMPT NOTICE OF CLAIM: 10.1 GROWER'S EXCLUSIVE REMEDY FOR ANY CLAIM OR LOSS (INCLUDING, WITHOUT LIMITATION, CLAIMS ALLEGING BREACH OF WARRANTY, CONTRACT, TORT, STRICT LIABILITY, INFRINGEMENT OR NEGLIGENCE), SHALL BE LIMITED SOLELY AND EXCLUSIVELY TO (I) REPAYMENT OF THE AMOUNT OF THE PURCHASE PRICE OF THE APPLICABLE SEED, OR (II) REPLACEMENT OF THE AFFECTED SEED. AT THE ELECTION OF CORTEVA AND ITS APPLICABLE SEED, OR (III) SHALL BEAR NO LIABILITY FOR LOSS OF OR DAMAGE TO SEED AFTER SEED HAS BEEN DELIVERED TO THE PARTY PURCHASING THE SEED. For clarity, Corteva shall not indemnify Grower's (or any other person(s) not acting on behalf of Corteva) negligence, violation of the Agreement, violation of any law or regulation or any other Losses or any other protocomes resulting from Grower's or Grower's employees, contractor's, or agent's decisions, actions or failure to act.

10.3 Because Corteva must have sufficient time to investigate any Claim regarding the performance or non- performance the Seed, Claim can be asserted against Corteva unless Grower gives notice to Corteva wilhin fifteen (15) days after Grower first observes or t knowledge of indications that the performance of the Seed may be subject to a valid warranty Claim, is not as warranted.

11. RIGHT OF ENTRY:

11. RIGHT OF ENTRY: 11.1 For the term of this TUA and for one year following its termination, Grower hereby grants Corteva, the Representatives and their respective employees. Contractors, subcontractors, agents and designees (collectively, "Personnel"), the complete and unencumbered right, at all times, to (i) observe and/or take video and/or pictures of the crop or Seed, farming activities, spray or other applications, and hancesting activities, and/or (ii) enter upon and have reasonable ingress to and egress from, through, over, under, across and across the property where Grower has planted or is storing or growing Seed as well as having similar access to any refuge area and bins, wagons, tradery trailers or ered storage containers for purposes of data collection, field and crop inspection, testing and examiniation, testing and Grower's arpp and taking samples of soil, crops, crop residue or seeds located thereon. Such collection, inspection, examination, testing of sampling shall be performed by Personnel only after Corteva or the Representatives deliver or mail to Grower written notification of the Personnel's valit at least three (3) days in advance and Corteva or the Representatives deliver or mail to Grower written notification of the Personnel's valit at least three (3) days in advance and Corteva or the Representatives deliver some the made by means of roadways and driverarys, to be used informmon with others having right of passage thereon. If Grower is not the womer of premises where such access is in meeded, Grower shall be elevely responsible for obtaining consent from the applicable landowner for the visit. To the extent of Personnel's negligent acts or omissions arising out of or in connection with this Article 11, Corteva indemnification of Grower shall be limited to Losses to the applicable. Seed crop fields, commercial crop fields or personal properly.

12. ADDITIONAL PROVISIONS:

12. Grower agrees to communicate all applicable terms, conditions and restrictions on Seed whether under this Agreement, a Guide, an Update Notification or otherwise to all persons and entities possessing or taking an interest in Grower's Seed and Grain therefrom. Except as provided herein, notices to Grower or to Corteva shall be sent to the addresses specified in sections A, B or D above. Grower agrees that should any information provided to Corteva herein change, Grower will promptly notify Corteva via section D above.
12.2 Nothing in this Agreement shall be construed as a grant or license from Corteva to the Grower for the use of any Corteva trademark (iscness from Corteva to use any Corteva trademarks) including, but the difference of the section of the section

12.3 Grower's rights under this Agreement may not be transferred or assigned to any other person, entity or third party without the prior written consent of Corteva.

pror written consent of Corteva. 12.4 This Agreement (including documents and updates incorporated herein pursuant to Article 3 hereof) constitutes the entire agreement between Grower and Corteva regarding the use of Purchased Seed and Corteva Sourced Technology. All prior agreements and understandings between Grower and Corteva with respect to Purchased Seed and Corteva Sourced Technology are hereby superseded. 12.5 If any provision in this Agreement is determined to be void or unenforceable, the remaining provisions shall remain in full force and effect.

12.6 The failure of Corteva or any Third-Party Technology providers to exercise one or more of its rights under this Agreement on one or more occasions shall not be deemed a waiver to exercise such right(s) on one or more subsequent occasions.

12.7 No class actions: Any dispute arising out of or relating to this Agreement may only be brought on an individual basis and may not be resolved on behalf of a class, as a private attorney-general, or in any other representative capacity. Grower shall not participate in or collect payment as a result of any class, collective, or other representative action of any kind against Corteva.

collect payment as a result of any class, collective, or other representative action of any kind against Corteva. 12.8 Jurisdiction and Governing Law: The interpretation and enforcement of this Agreement shall be governed by the laws of the Province of Ontario and the federal laws of Canada without regard to its choice of law provisions. THE PARTIES AGREE TO CONSENT TO THE JURISDICTION OF THE APPROPRIATE ONTARIO COURT OR FEDERAL COURT OF CANADA FOR ALL DISPUTES ARRING UNDER THIS AGREEMENT, GROWER ACKNOWLEDGES THAT CORTEVA RESERVES ALL RIGHTS TO INITIATE AND PURSUE CLAIMS FOR VIOLATION OF INTELECTUAL PROPERTY RIGHTS IN THE FEDERAL COURT OF CANADA AND ANY PLACE THAT COURT SITS.

12.9 Grower and Corteva unconditionally waive any right to trial by jury in any action, proceeding or counterclaim in any way arising out of, or relating to, this Agreement.

12.10 Enforcement Costs: Grower agrees that Corteva and any owners of the patents covered by this Agreement shall be entitled to recover any costs or expenses, including, but not limited to, court costs or reasonable attorneys' fees, it incurs in enforcing its rights under this Agreement if the Grower is determined to be at fault.

12.11 This TUA may be executed and delivered by electronic signature (including portable document format) by Grower and Corteva may rely on the receipt of such document so executed and delivered electronically as if the original had been received.

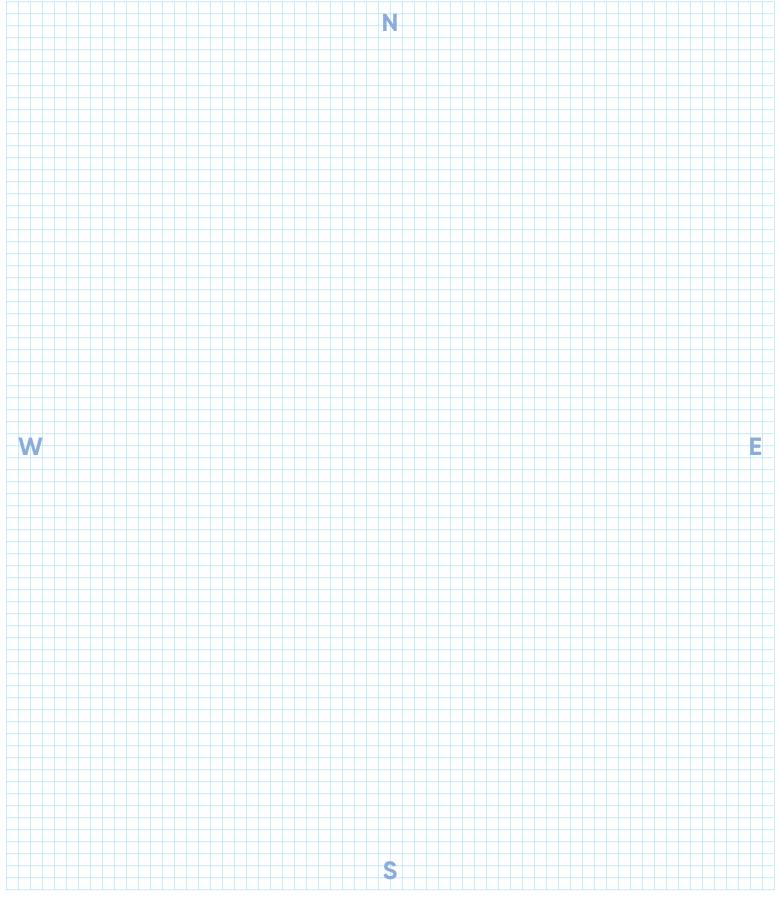
12.12 Any action against Corteva and its Seed Sellers for the breach of the terms of the Agreement, including any warranties arising from it, must be commenced within one year after the cause of action accrues or be barred after such time. Where applicable, all required prerequisites to maintaining a legal action must be complied with prior to initiating the legal action.

12.13 Any dispute arising out of or relating to the Agreement may only be brought on an individual basis and may not be resolved on behalf of a class, as a private attorney-general, or in any other representative capacity. Grower shall participate in or collect payment as a result of any class, collective, or other representative action of any kind against Corteva.

Technology Use Agreement, Update Notification or a Product Use Guide, go to <u>www.traitstewardship.c</u> Revision date: June 2023 / Canada TUA corteva.ca or contact Corteva Agriscience at 1-800-667-3852

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Notes





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

Roundup® and Roundup Ready® are registered trademarks of Monsanto Technology LLC used under license. Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

PowerCore® multi-event technology developed by Corteva Agriscience and Monsanto. PowerCore® is a registered trademark of Monsanto Technology LLC. Always follow IRM, grain marketing and all other stewardship practices and pesticide label directions. B.t. products may not yet be registered in all states. Check with your seed representative for the registration status in your state.

SmartStax® multi-event technology developed by Corteva Agriscience and Monsanto. SmartStax® and the SmartStax Logo are registered trademarks of Bayer Group.

Enlist Duo® and Enlist One® herbicides are not registered for sale or use in all states or counties. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your area. Enlist Duo and Enlist One 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. Corteva Agriscience is a member of Excellence Through Stewardship® (ETS). Corteva Agriscience products are commercialized in accordance with ETS Product Launch Stewardship Guidance and in compliance with the Corteva Agriscience policies regarding stewardship of those products. In line with these guidelines, our product launch process for responsible launches of new products includes a longstanding process to evaluate export market information, value chain consultations, and regulatory functionality. Growers and end-users must take all steps within their control to follow appropriate stewardship requirements and confirm their buyer's acceptance of the grain or other material being purchased. For more detailed information on the status of a trait or stack, please visit <u>www.biotradestatus.com</u>.

Excellence Through Stewardship® is a registered trademark of Global Stewardship Group.

Corteva Agriscience (or its chemical company partners) shall have no liability whatsoever for any losses or damages resulting from, or related to, or in connection with, (a) the use of incorrect herbicides applied to corn products that contain the herbicide tolerant traits or (b) non-compliance with any of the other instructions set forth above, and all such liability is hereby expressly disclaimed by Corteva Agriscience and waved by you. If you have any questions on anything outlined in this document or would like additional information please contact your local sales professional.

Corteva, Inc. (NYSE: CTVA) is a publicly traded, global pure-play agriculture company that combines industry-leading innovations, high-touch customer engagement and operational execution to profitably deliver solutions for the world's most pressing agriculture challenges. Corteva generates advantaged market preference through its unique distribution strategy, together with its balanced and globally diverse mix of seed, crop protection, and digital products and services. With some of the most recognized brands in agriculture and a technology pipeline well positioned to drive growth, the company is committed to maximizing productivity for farmers, while working with stakeholders throughout the food system as it fulfills its promise to enrich the lives of those who produce and those who consume, ensuring progress for generations to come. More information can be found at www.corteva.com.



