



# 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.

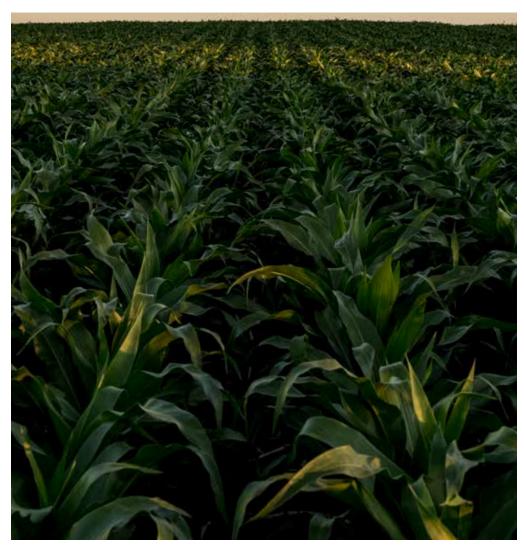
This technical guide is not a pesticide product label. It is intended to provide additional information and to highlight approved uses from certain product labels. Read and follow all precautions and label instructions on any agricultural or pesticide products that you are using.

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

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If you have any questions, contact your sales professional.



# 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.us/Resources/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 U.S. Environmental Protection Agency (EPA). 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 www.biotradestatus.com.
- 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 the United States 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.
For more detailed information on the status of a trait or stack,
please visit www.biotradestatus.com.

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 EPA 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.

A decrease in susceptibility or field-evolved resistance of some insect populations to certain technology traits in corn has been observed in different geographies which may result in lower than expected efficacy. To help extend durability of this technology, 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 this technology. 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 documented in your area.

### **IRM Requirements**

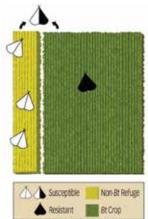
IRM programs address: (1) the amount of refuge, (2) the required proximity of hybrids with the Bt traits to the refuge, (3) the use of insecticides in the refuge, and (4) the design and management of the refuge.

### 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. Potentially-resistant 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® Corn, Roundup Ready® Corn 2, and Liberty Link® 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. Growerblended seed mixtures are not approved for use with any Bt hybrids to satisfy grower refuge requirements. Refuge requirements vary by



product type and EPA-designated non-cotton and southern corn/cotton growing regions, as detailed on the following page.

# IRM Compliance Assurance Program (CAP)

Corteva Agriscience requires all growers purchasing hybrids with a Bt trait sign a Corteva Agriscience Technology Use Agreement. By signing, the grower agrees to implement an IRM program—including planting a corn refuge and following EPA-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.

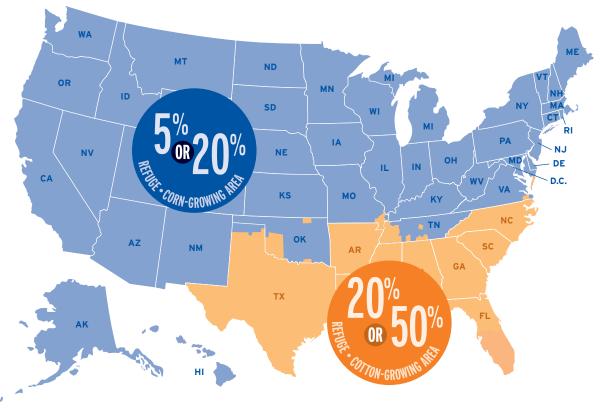
The EPA requires Bt corn seed providers to conduct on-farm visits as part of a comprehensive Compliance Assurance Program (CAP) to assess whether growers are following the IRM requirements. These on-farm assessments are conducted by an independent third party and directed toward areas at high risk of insect resistance based on pest pressure, Bt corn market penetration, or insufficient refuge seed purchase.

The CAP also outlines consistent standards developed by the EPA and Bt corn registrants for responding to growers who have not followed the IRM requirements to bring them into full compliance. These responses include:

- Notifying the grower by letter of IRM compliance deviations.
- Conducting a <u>compliance assistance</u> visit with the grower prior to planting to assist the grower in planning and implementing a proper IRM program.
- Conducting a <u>compliance assessment</u> visit with the grower the following growing season to assess IRM compliance.
- Providing the grower additional IRM educational materials.
- A grower found with a second incident of non compliance with refuge requirements within a five-year period will be denied access the next year to the registrant's structured refuge Bt corn products.



United States Refuge Size Requirements



### **Southern Corn/Cotton Growing Regions**

ALABAMA
All Counties
ARKANSAS
All Counties
FLORIDA
All Counties
GEORGIA

All Counties

**LOUISIANA** 

All Counties

All Counties

MISSOURI
Counties of:
Dunklin
New Madrid
Pemiscot
Scott
Stoddard

NORTH CAROLINA
All Counties

MISSISSIPPI

OKLAHOMA
Counties of:
Beckham
Caddo
Comanche
Custer
Greer
Harmon
Jackson
Kay
Kiowa

Tillman
Washita
SOUTH CAROLINA
All Counties
TENNESSEE
Counties of:
Carroll
Chester
Crockett
Dyer
Fayette

Franklin

Gibson
Hardeman
Hardin
Haywood
Lake
Lauderdale
Lincoln
Madison
Obion
Rutherford
Shelby
Tipton

TEXAS
All Counties
Except:
Carson
Dallam
Hansford
Hartley
Hutchinson
Lipscomb
Moore
Ochiltree
Roberts

Sherman

VIRGINIA

Counties of:

Dinwiddie

Franklin City

Greensville

Isle of Wight

Northampton

Southampton

Suffolk City

Surry

Sussex

### **Structured Refuge Requirements**

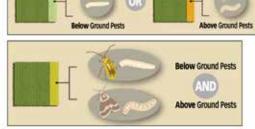
In **non-cotton** growing areas, the structured refuge requirements are 5% or 20% of corn acres planted for corn borer-protected products and 20% for corn root-worm-protected products. In **cotton** growing areas, the structured refuge requirements are 20% or 50% of corn acres planted for corn borer-protected products and 20% for corn rootworm-protected products.

The refuge size for borer-protected products is determined by the number of modes of action the corn-borer protected products contains. If a **single mode** of action corn-borer protected product is being planted in the non-cotton growing areas, a 20% refuge is required, and if planted in the cotton growing area, a 50% refuge is required. If a **multiple mode** of action corn-borer protected product is being planted in the non-cotton growing areas, a 5% refuge is required, and if planted in the cotton growing area, a 20% refuge is required.

# 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—i.e., a stacked Bt product can require two separate refuges.

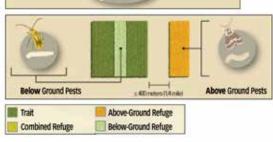
### Single-Trait Refuge



### Separate Refuge

Common

Refuge



# **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 EPA 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 representative 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 below.

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 1/2 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.

### **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.

### Roundup Ready Technology Endangered Species Initiative Requirement

Before making an application of any glyphosate-based herbicide product, licensed growers of crops containing Roundup Ready® technology must access the website **pre-serve.org** to determine whether any mitigation requirements apply to the planned application to those crops, and must follow all applicable requirements. The mitigation measures described on the website are appropriate for all applications of any glyphosate-based

herbicide to all crop lands. Growers making ground or air applications to crop land with a use rate of less than 3.5 lbs or 0.7 lbs of glyphosate a.e./A, respectively, or glyphosate applied in Alaska, Oklahoma, Pennsylvania or South Dakota are not required to access the website. If a grower does not have web access, the seed dealer can access the website on behalf of the grower to determine the applicable requirements, or the grower can call **1-800-332-3111** for assistance.

### **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
- 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 Agriscience 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 application and can be obtained by contacting your state's pesticide lead agency or the website <a href="https://www.cdms.net">www.cdms.net</a>.

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

	Risk of Resistance							
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 supports the Take Action effort. Take Action is an industry-wide partnership between university scientists, major crop protection providers and organizations representing corn, cotton, sorghum, soybean and wheat growers to help them manage pests such as herbicide-resistant weeds. The Take Action effort encourages you to develop a proactive strategy to manage herbicide-resistant weeds that incorporates a diverse set of controls. To find out more about how you can take action, visit <a href="https://www.iwilltakeaction.com">www.iwilltakeaction.com</a>, or contact your local extension office.

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 AFFILIATED 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 AFFILIATED COMPANIES ARE NOT RESPONSIBLE FOR ANY MISUSE OR MISAPPLICATION OF PRODUCTS, INCLUDING PESTICIDES, BY A GROWER.

Additional stewardship information may be found at <a href="www.corteva.us">www.corteva.us</a> 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<sup>6,7</sup>. 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 resistance<sup>8</sup> 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 resistance. For this reason, it is imperative to use a multi-faceted rootworm management plan that interrupts continuous exposure of the 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.

<sup>&</sup>lt;sup>2</sup> 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.

<sup>3</sup> 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.

<sup>&</sup>lt;sup>4</sup> 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.

<sup>&</sup>lt;sup>5</sup>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.

<sup>&</sup>lt;sup>6</sup> 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.

<sup>&</sup>lt;sup>7</sup> 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.

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.

<sup>&</sup>lt;sup>9</sup>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 com 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

### Rotate Traits



- 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

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

# The Enlist® weed control system

The Enlist® weed control system is here for the long haul, and here's why: It's based in science and backed by stewardship. This unrivaled system starts with Enlist® herbicide-tolerant traits that enable the use of our powerful Enlist® herbicides. The Enlist® Ahead management resource provides tools and training to make sure you get the most from the system.

This reference guide is not intended as a substitute for the product label for product(s) referenced herein. Always read and follow all label directions and precautions for use when using any pesticide alone or in tank-mix combination. Failure to follow the label, including any supplemental label precautions, is considered a misuse under federal law.





# HERBICIDE TOLERANCES Bt CORN PRODUCTS WITH ENLIST® TRAIT 2,4-D choline Glufosinate¹ FOP herbicides² Glyphosate

- <sup>1</sup> Non-Bt corn products with the Enlist® trait may not contain glufosinate tolerance. See bag tag to verify
- Not all FOP herbicides are labeled for use in Bt corn products with the Enlist® trait. Before use, review the product label to ensure the product is labeled for use on Bt corn with the Enlist trait.

To find product labels and additional resources about the Enlist® weed control system, visit Enlist.com or scan the QR code:







# Straight-goods 2,4-D choline with additional tank-mix flexibility

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

Enlist One® herbicide is a straight-goods 2,4-D choline product with Colex-D® technology that provides additional tank-mix flexibility with products listed on EnlistTankMix.com, such as Liberty® herbicide, glyphosate herbicides, residual herbicides, fungicides and insecticides. Enlist Duo® herbicide with Colex-D technology combines the proven performance of 2,4-D choline and glyphosate in a convenient, proprietary blend.

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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo herbicide. To obtain "Bulletins," consult <a href="www.epa.gov/espp/">www.epa.gov/espp/</a>, call 844-447-3813, or email espp@ epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo herbicide are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at <a href="mailtotewardship.com">TraitStewardship.com</a>. Always read and follow label directions.



# Get the best results with the Enlist® Ahead management resource

**Enlist®** Ahead is a management resource that helps you get the best results from the Enlist® weed control system while protecting the herbicide-tolerant technology for the future, helping you:

- Make on-target applications on your crops.
- Select and use different sites of action in the same growing season.
- Mitigate herbicide resistance and prevent new resistance development in your fields.

### As part of Enlist Ahead, you can:

- Download the Enlist® Ahead app for readily accessible information on your iOS device.
- Visit <u>Enlist.com</u> for an overview of the Enlist weed control system, an online training module and other technical information.
- Visit EnlistTankMix.com for qualified tank-mix partner listings.
- Get support from your local Corteva Agriscience crop protection territory manager and Enlist<sup>®</sup> field specialist.

Following the best practices presented in Enlist Ahead will help you achieve optimum results and sustain the long-term performance of the Enlist® weed control system. Growers of Enlist® crops must read and follow the refuge and Insect Resistance Management (IRM) requirements in Product Use Guides found at TraitStewardship.com.



# Take control of tough weeds with Enlist Duo® and Enlist One® herbicides

Use Enlist® herbicides as the cornerstone of a season-long program approach for weed management on crops with Enlist® traits.

### Enlist® herbicides control tough and herbicide-resistant weeds, including, but not limited to:

Occupied Common ragweed

Marestail<sup>3</sup>

Giant ragweed

Morningglory

Lambsquarters

• Worminggion

Velvetleaf

Pigweed³

(including Palmer amaranth<sup>3</sup>)

For a full listing of 90+ weeds controlled, reference the labels for Enlist Duo® and Enlist One® herbicides.

### On-target characteristics of 2,4-D choline with Colex-D® technology

How Enlist herbicides differ from 2,4-D ester, amine and other traditional formulations:

- Near-zero volatility
  - 2,4-D choline is 96% less volatile than 2,4-D ester.
  - 2,4-D choline is 88% less volatile than 2,4-D amine.
- Reduced physical drift potential
- Better handling characteristics



Apply 4.75 pints of Enlist Duo® herbicide or 2 pints of Enlist One® herbicide per acre to young, actively growing weeds, according to the product label directions. It's essential to spray when weeds are 6 inches tall or less and to use the full herbicide rates. These practices help ensure best weed management and help prevent and mitigate the development of herbicide resistance.

- <sup>3</sup> May require a broader management plan including timely application and use of a soil residual herbicide.
- <sup>4</sup> Always read and follow the product label as well as state and local requirements.

### Key practices to remember:

- Use full labeled rates for best weed management.
- Spray when weeds are young, 6 inches tall or less.
- Spray when weeds are actively growing.

The product labels for Enlist Duo® and Enlist One® herbicides also contain important information about application equipment requirements, restrictions and precautions, and weed management.

POSTEMERGENCE APPLICATION RATE							
Enlist Duo® herbicide	4.75 pt./A						
Enlist One® herbicide	2 pt./A						

### Postemergence passes on Enlist® acres

Enlist® traits enable multiple options for postemergence herbicide sprays, allowing design of a program approach to fit each acre. Consider your weed pressure and agronomic situation when assessing which Enlist® herbicide and tank-mix partners work best.

ENLIST DUO® HERBICIDE	ENLIST ONE® HERBICIDE + LIBERTY® HERBICIDE	ENLIST ONE® HERBICIDE + GLYPHOSATE				
Enlist Duo herbicide @ 4.75 pt./A	Enlist One herbicide @ 2 pt./A	Enlist One herbicide @ 2 pt./A				
Ammonium sulfate (AMS) as needed	Liberty herbicide @ 2 pt./A Liberty herbicide is the preferred glufosinate of the Enlist® weed control system.  1.5 to 3 lb./A of AMS	• Glyphosate @ high rate • AMS as needed				
Check EnlistTankMix.com for all qualified AMS and qualified glyphosate products. <sup>5</sup>						

<sup>&</sup>lt;sup>5</sup> Products listed on <u>EnlistTankMix.com</u> have not been tested for crop response or physical tank-mix compatibility. Listing on website does not imply agronomic recommendation or endorsement of use.

<sup>&</sup>lt;sup>6</sup> Talk with your retailer for recommendations on preemergence and residual herbicides for your farm.



### Use Enlist® herbicides as the cornerstone of your program approach

You'll have the greatest success in weed management if you use an Enlist® herbicide as part of a program approach for weed control in Enlist® crops. This improves weed control, reduces weed competition during key stages of crop growth and helps manage herbicide resistance.

### Key practices to remember:

- Enlist® herbicides can be used in burndown, preemergence and postemergence passes on crops with the Enlist® trait.
- Enlist herbicides are rainfast within four hours.
- Up to three applications may be made per season (2 pt./A per application for Enlist One® herbicide or 4.75 pt./A per application for Enlist Duo® herbicide, where consistent with runoff management practices.
- One application at burndown or preemergence
- Up to two applications postemergence, at least 12 days apart
- Always include a true broad-spectrum soil residual herbicide<sup>6</sup> in your weed management plan.
- Consider using a layered residual, such as a Group 15 herbicide (e.g., S-metolachlor, pyraxasulfone, acetochlor), in your post passes for longer-lasting weed control.

### Corn program approach

Start clean with tillage or burndown

**Plant** Enlist® corn¹

**Enlist** 

Apply a PRE soil residual herbicide

Tank-mix a POST soil residual herbicide with Enlist® herbicide\*

**Apply Enlist® herbicides** 

No larger than V8 growth stage or 30" Can be applied with drop nozzles from 30"-48" high

**HERBICIDE** 

**Basis®** Blend

Enlist Duo® COLEX•D\* technology

Enlist One®

COLEX•D® technology

No plant-back restrictions for Enlist® corn for Enlist One® or Enlist Duo® herbicide.

HERBICIDE

FulTime® NXT7

**Keystone**® NXT<sup>7</sup>

Resicore® Resicore® xL

SureStart® III

**HERBICIDE** 

FulTime® NXT7

**Keystone®** NXT<sup>7</sup>

**Kyro**<sup>™</sup>

Realm<sup>®</sup> Q

Atrazine

HERBICIDE

Enlist Duo **Enlist One**®

COLEX•D\* technology COLEX•D" technology

Apply with approved glyphosate herbicide No larger than V8 growth stage or 30"

Apply Liberty® herbicide No larger than V6 growth stage or 24"

**Liberty**<sup>®</sup> Herbicide

**Apply Assure II herbicide** From V2-V6 growth stage







### Surpass® NXT

Use multiple modes of action

\*Visit EnlistTankMix.com for a full list of qualified tank-mix partners with Enlist One® or Enlist Duo® herbicide. Always reference product labels for application cutoff timing

Tillage or burndown Planting Preemergence Postemergence/tank-mix

Non-Bt corn products with the Enlist® trait may not contain glufosinate tolerance. See bag tag to verify herbicide tolerance.

2 Not all FOP herbicides are labeled for use in Bt corn products with the Enlist® trait. Before use, review the product label to ensure the product is labeled for use on Bt corn with the Enlist® trait.

<sup>5</sup> Products listed on EnlistTankMix.com have not been tested for crop response or physical tank-mix compatibility. Listing on website does not imply agronomic recommendation or endorsement of use.

<sup>6</sup> Talk with your retailer for recommendations on preemergence and residual herbicides for your farm.

FulTime® NXT and Keystone® NXT are Restricted Use Pesticides.

### What to know about Enlist® corn

When you plant any corn hybrid with the Enlist® corn trait, you get ultimate weed management flexibility with robust herbicide trait tolerances — including 2,4-D choline, glyphosate and aryloxyphenoxypropionate (FOP) herbicides.² Additionally, SmartStax® Enlist®, PowerCore® Enlist®, PowerCore® Ultra Enlist®, and Vorceed® Enlist® hybrids include glufosinate tolerance. Non-*Bt* Enlist® hybrids do NOT contain glufosinate tolerance. Enlist® corn provides crop tolerance that enables you to use Enlist Duo® or Enlist One® herbicide as part of a program approach for weed control.

	HERBICIDE TOLERANCE OF ENLIST® CORN HYBRIDS®								
	SMARTSTAX® POWERCORE® POWERCORE® ULTRA VORCE ENLIST® ENLIST® ENLIST® ENLIST								
2,4-D CHOLINE	Tolerant	Tolerant	Tolerant	Tolerant					
GLUFOSINATE	Tolerant	Tolerant	Tolerant	Tolerant					
GLYPHOSATE	Tolerant	Tolerant	Tolerant	Tolerant					
FOP HERBICIDES <sup>2</sup>	Tolerant	Tolerant	Tolerant	Tolerant					
CYCLOHEXANEDIONE (DIM) HERBICIDES	Not tolerant	Not tolerant	Not tolerant	Not tolerant					

Not all FOP herbicides are labeled for use in Bt corn products with the Enlist\* trait. Before use, review the product label to ensure the product is labeled for use on Bt corn with the Enlist trait.

\*HERBICIDE TOLERANCE: Some Bt corn hybrids are available with Roundup Ready\* and LibertyLink\* herbicide tolerance traits, making them tolerant to over-the-top applications of glyphosate and glufosinate-ammonium herbicides. However, non-Bt Enlist\* hybrids do not contain glufosinate tolerance. Verify the weed control system before making over-the-top depolerations. Always read and follow label directions. Use of a herbicide over the top of a corn hybrid that does not contain the tolerance trait for the herbicide will cause crop damage.

### **Controlling volunteer corn**

Because Enlist® corn is tolerant to 2,4-D choline, glufosinate¹ and FOP herbicides, use a cyclohexanedione (DIM) herbicide, such as Select Max or Poast Plus herbicides, to control volunteer Enlist corn in the following years.

For volunteer management of integrated refuge corn products purchased from a Corteva Agriscience seed brand: 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 TraitStewardship.com for more information on volunteer management.

# When growing Enlist® corn near conventional corn and/or corn without the Enlist® trait (coexistence)

Corn is a naturally cross-pollinated crop, and a small amount of corn pollen movement to nearby fields is not uncommon. You can reduce undesired pollen movement with a few simple steps:

- Maintain a noncorn buffer between fields containing crops with biotechnology traits and conventional crop fields.
- Consider field location relative to the field containing biotech traits: Cornfields oriented upwind will have less cross-pollination compared with fields located downwind.
- Discuss your crop-planting plans with relevant neighbors in advance.
- <sup>8</sup> Enlist Duo® and Enlist One® herbicides have additional county restrictions in AL, GA, TN and TX. Contact your state pesticide regulatory agency to determine if a product is registered for sale or use in your area. Additional product-specific stewardship requirements for Enlist® crops can be found at Enlist.com. Always read and follow label directions.



# 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 20 for additional information.

INTEGRATED		Insect	Herbicide	Corn	Region	Cotton Region				
REFUGE PRODUCTS	Blend Ratio	Protection	Traits	Add'l Refuge	Refuge Design	Add'l Refuge	Refuge Design			
AcreMax ABOVE	95/5	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
AcreMax Leptra	95/5	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
POWERCORE® REFUGE ADVANCED®	95/5	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
POWERCORE  Enlist  REFUGE ADVANCED	95/5	Above	LL/RR2/ENL	0%	None	20%	Within, adjacent or up to a half mile			
POWERCORE  WETHER  BEFUGE ADVANCED	95/5	Above	LL/RR2/ENL	0%	None	20%	Within, adjacent or up to a half mile			
AcreMax  ABOVE BELOW Xtra	90/10	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
AcreMax ABOVE BELOW XTreme	95/5	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
QROME	95/5	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
VORCEED®	95/5	Above	LL/RR2/ENL	0%	None	20%	Within, adjacent or up to a half mile			
SMARTSTAX  REFUGE ADVANCED*	95/5	Above	LL/RR2	0%	None	20%	Within, adjacent or up to a half mile			
SMARTSTAX  REFUGE ADVANCED  REFUGE ADVANCED	95/5	Above	LL/RR2/ENL	0%	None	20%	Within, adjacent or up to a half mile			

CB: Corn borer CRW: Corn rootworm LL: LibertyLink®

ENL: Enlist®

LL: LibertyLink®

RR2: Roundup Ready® Corn 2

Above Ground Insect Protection





# Corn Technology Refuge Requirements

STRUCTURED	Insect	Herbicide		Corn Region	(	Cotton Region
REFUGE PRODUCTS	Protection	Traits	Add'l Refuge	Refuge Design	Add'l Refuge	Refuge Design
HERCULEY I	Above	LL/RR2	20%	Within, adjacent, or up to a half mile	50%	Within, adjacent, or up to a half mile
POWERCÓRE <sup>®</sup>	Above	LL/RR2	5%	Within, adjacent, or up to a half mile	20%	Within, adjacent, or up to a half mile
POWERCORE	Above	LL/RR2/ENL	5%	Within, adjacent, or up to a half mile	20%	Within, adjacent, or up to a half mile
POWERCÍRE CONTRAD	LL/nn2/LIN		5%	Within, adjacent, or up to a half mile	20%	Within, adjacent, or up to a half mile
Intrasect	Above	LL/RR2	5%	Within, adjacent, or up to a half mile		
Leptra ABOVE	Above	LL/RR2	5%	Within, adjacent, or up to a half mile	20%	Within, adjacent, or up to a half mile
HERCULEX XTRA	Above	LL/RR2	20%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile	50%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile
	Below			CRW: Within or adjacent	20%	Separate – CRW: Within or adjacent
CYFR	Above	LL/RR2	5%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile CRW: Within or adjacent	20%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile CRW: Within or adjacent
SmartStax	Above	LL/RR2	5%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile CRW: Within or adjacent	20%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile CRW: Within or adjacent
SmartStax Enlist	Above	LL/RR2/ENL	5%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile CRW: Within or adjacent	20%	Common – Within or adjacent Separate – CB: Within, adjacent or up to a half mile CRW: Within or adjacent

**CB:** Corn borer **CRW:** Corn rootworm **LL:** LibertyLink® **RR2:** Roundup Ready® Corn 2 **ENL:** Enlist®

: LibertyLink®

Above Ground Insect Protec





# 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® Xtra (Corn Borer/Rootworm)	С			С	С	С	С	С	С	S	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													
Herculex® I (Corn Borer)	С			С	С	С	С	С	С				
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			
Optimum® Intrasect® (Corn Borer)	С			С	С	С	С	С	С	S			
Optimum® Leptra® (Corn Borer/Corn Earworm)	С	С	С	С	С	С	С	С	С	С			
Herculex® XTRA (Corn Borer/Rootworm)	С			С	С	С	С	С	С		С	С	С
CYFR (Corn Borer/Rootworm)	С			С	С	С	С	С	С	S	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

Blank = Pest population is not controlled or suppressed by the product

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

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

# Calculating Structured Refuge



Refer to this diagram for the examples below.

- A Total Corn Acres<sup>†</sup>
- **B** Refuge Acres
- **C** Bt Acres
- Percent of Required Refuge 5° 20° or 50° Based on total corn acres

<sup>†</sup>Includes all corn acres that are infield or adjacent to each other and will be allocated to the Bt product and its associated refuge

to each other and will be anocated to the bt product and its associated refuge.							
THE <b>CORRECT WAY</b> T	00	CALC	ULATE Exampl	e show	n is for a 20% refuge product.		
<b>START</b> with the <b>TOTAL</b> number of corn acres you want to plant in an area.			y by the <b>PERCENT</b> of equired for the Bt trait	•	This is your minimum <b>REFUGE ACRES.</b>		
Example A 200	X	%	20%	=	B (40) V		
Your Field	X			=			
Next, subtract your refuge acres from y	our to	tal corn	acres.		This is your maximum <b>Bt ACRES.</b>		
Example A 200	-	B	(40)	=	C 160		
Your Field	_			=			



"Adhering to stewardship practices has ensured that my farm continues to be profitable and productive. Planting refuge allows for maximum product value, benefits and longevity." Chris Edgington, St. Ansgar, Iowa

# 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 Plant Variety Protection (PVP) laws to protect our investment in patented germplasm, native and transgenic traits, and breeding technologies. PVP 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 variety protection, 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 U.S. 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 the United States 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 commingling 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.

Additional best management practices can be found: <a href="http://seed-treatment-guide.com/">http://seed-treatment-guide.com/</a>

For a short video on treated seed stewardship, click here or type into your web browser the following: <a href="https://www.youtube.com/watch?v=pGGviLUNagw">https://www.youtube.com/watch?v=pGGviLUNagw</a>

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

### **Steps for Stewardship of Treated Seed**

### Follow Directions -

Follow directions on treated seed container labeling for handling, storage, planting and disposal practices.



### Minimize Dust -

Use advanced seed flow lubricants that minimize dust.





### Eliminate Weeds –

Eliminate flowering plants and weeds in and around the field prior to planting.



### BeeAware -

At planting, be aware of honey bees and hives located near the field, and communicate with beekeepers when possible.



### Clean and Remove -

Completely remove all treated seed left in containers and equipment used to handle harvested grain, and dispose of it properly. Keep all treated seed out of the commodity grain channels.

For detailed information about stewardship of treated seed, check out www.seed-treatment-quide.com











# Product Use Statements

For more information on Corteva Agriscience patents, refer to <a href="www.traitstewardship.com">www.traitstewardship.com</a>.

Product	Product Use Statement							
	INTEGRATED REFUGE PRODUCTS							
ptimum· AcreMax· ABOVE	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, and also containing 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, suthern 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 are registered under EPA Reg. No. 29964-12.  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	CALIFORNIA RESTRICTION: The planting of Optimum AcreMax Insect Protection hybrids is prohibited in certain California counties. Contact your sales professional for details.  PUERTO RICO RESTRICTION: The sales, distribution, and planting of Optimum AcreMax Insect Protection products are prohibited in Puerto Rico.						

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<sup>®</sup> 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 U.S. 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 the United States (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. prohibited in certain California counties. Contact your sales professional for details.



EPA Reg. No. 29964-26.



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

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 *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. EPA Reg. No. 68467-21.

PowerCore® Enlist® Refuged Advanced® corn 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 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 with Enlist® crops, Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. WARNING: PowerCore 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 Enlist Refuge Advanced corn. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http:// www.traitstewardship.com. Always read and follow label directions.



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 U.S. 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 the United States (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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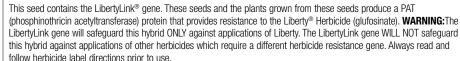
POWERCORE® is a registered trademark of Monsanto Technology LLC. POWERCORE® multi-event technology developed by Corteva Agriscience and Monsanto.

#### **CALIFORNIA RESTRICTION:**

The planting of PowerCore Enlist Refuge Advanced products is prohibited in certain California counties. Contact your sales professional for details.

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. EPA Reg. No. 62719-716.

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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION. 2.4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. 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. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http://www.traitstewardship.com. Always read and follow label directions.



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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<sup>®</sup>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.



**Enlist** 

#### **CALIFORNIA RESTRICTION:**

The planting of PowerCore Ultra Enlist Refuge Advanced products is prohibited in certain California counties. Contact your sales professional for details.



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 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 which 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, 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 are registered under EPA Reg. No. 29964-16.

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.

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#### **CALIFORNIA RESTRICTION:**

The planting of Optimum AcreMax XTreme Insect Protection products is prohibited in certain California counties. Contact your sales professional for details.

#### **PUERTO RICO RESTRICTION:**

The sales, distribution, and planting of Optimum AcreMax XTreme Insect Protection products are prohibited in Puerto Rico.



follow label directions.

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 which 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, 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 are registered under EPA Reg. No. 29964-21.

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 U.S. 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 the United States (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.

 $\label{likelihood} \mbox{Liberty$^{@}, 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.

### **CALIFORNIA RESTRICTION:**

The planting of Qrome products is prohibited in certain California counties. Contact your sales professional for details.

#### **PUERTO RICO RESTRICTION:**

The sales, distribution, and planting of Qrome products are prohibited in Puerto Rico.



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 proteins and dsRNA and the genetic material necessary for their production in corn are registered under EPA Reg. No. 29964-29.

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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have guestions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS. INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com, 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. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http:// www.traitstewardship.com. Always read and follow label directions.



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 U.S. 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 the United States (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. SmartStax® products contain the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 and Cry35Ab1 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. EPA Reg. No. 68467-16.

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 U.S. 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 the United States (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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®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.

The planting of SmartStax Refuge Advanced products is prohibited in certain California counties. Contact your sales professional for details.



This seed is a blend of 5% refuge seed and 95% seed containing the SmartStax® insect protection traits. SmartStax® products contain the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 and Cry35Ab1 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. EPA Reg. No. 68467-16.

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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL, All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2.4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. 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 herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with SmartStax Enlist Refuge Advanced corn. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http://www.traitstewardship.com. Always read and follow label directions.

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 U.S. 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 the United States (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.

 $\label{likelihood} \mbox{Liberty$^{\scriptsize @}$, LibertyLink$^{\scriptsize @}$ and the Water Droplet Design are registered trademarks of BASF.}$ 

®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.





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#### **CALIFORNIA RESTRICTION:**

The planting of SmartStax Enlist Refuge Advanced products is prohibited in certain California counties. Contact your sales professional for details.

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 U.S. 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 the United States (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

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

prohibited. Resale or transfer of the seed is strictly prohibited.

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

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These seeds contain 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. EPA Reg. No. 68467-12.

PowerCore® 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 PowerCore 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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. WARNING: PowerCore 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 PowerCore Enlist corn. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http:// www.traitstewardship.com. Always read and follow label directions.



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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®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.

#### **CALIFORNIA RESTRICTION:**

The planting of PowerCore Enlist products is prohibited in certain California counties. Contact your sales professional for details

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. EPA Reg. No. 62719-704.

PowerCore® Ultra 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 PowerCore 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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have guestions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com, WARNING: PowerCore 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 PowerCore Enlist corn. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http:// www.traitstewardship.com. Always read and follow label directions.



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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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.

#### **CALIFORNIA RESTRICTION:**

The planting of PowerCore Ultra Enlist products is prohibited in certain California counties. Contact your sales professional for details.

prohibited. Resale or transfer of the seed is strictly prohibited.

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

This seed contains 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 which produces a Bt Cry1Ab protein that provide protection or suppression against susceptible European com 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 are registered under EPA Reg. No. 29964-22.

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.

**CYFR** 

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 U.S. 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 the United States (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.

®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.

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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.

This seed contains the SmartStax® insect protection traits. SmartStax® hybrids contain the active ingredients Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 and Cry35Ab1 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. EPA Reg. No. 68467-7.

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<sup>®</sup> 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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.qov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES, Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. 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 herbicides. grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with SmartStax Enlist Refuge Advanced corn. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http://www.traitstewardship.com. Always read and follow label directions.

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

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 U.S. 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 the United States (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.

follow label directions.

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

#### **CALIFORNIA RESTRICTION:**

The planting of SmartStax Enlist products is prohibited in certain California counties. Contact your sales professional for details.







Product Use Guide, can be found at http://www.traitstewardship.com. Always read and follow label directions. 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.

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Product	Product Use Statement	Planting Restrictions
	STRUCTURED REFUGE PRODUCTS	
LIBERTY LINK° 💇	This seed contains the LibertyLink® gene. These seeds and the plants grown from these seeds produce a PAT (phosphinothricin acety/transferase) protein that provides resistance to the Liberty.® Herbicide (glufosinate). <b>WARNING:</b> The LibertyLink gene will safeguard this hybrid <b>ONLY</b> against applications of Liberty. The LibertyLink gene <b>WILL NOT</b> 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 U.S. patents which can be found at: www.traitstewardship.com. Thepurchase of these seeds includes a limited license to produce a single crop in the United States (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.	
	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). <b>WARNING:</b> 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.	
LIBERTY LINK® ©°	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. <b>WARNING:</b> 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 U.S. 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 the United States (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.	

 ${}^{\tiny{\textcircled{\tiny{\textbf{0}}}}} \mbox{Roundup}$  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 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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have guestions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING, ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/OR SUSCEPTIBLE PLANTS, IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com. 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 herbicides, grower agrees to use 2,4-D products that contain Colex-D technology authorized for use in conjunction with SmartStax Enlist Refuge Advanced corn. Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at http://www.traitstewardship.com. Always read and follow label directions.



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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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PATENT STATEMENT: The technology incorporated into this seed is protected under one or more U.S.

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 the United States (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or s eed 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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<sup>®</sup>Roundup and Roundup Ready are registered trademarks of Bayer Group.



# Corteva Agriscience TECHNOLOGY USE AGREEMENT

2024 Growing Season / U.S. 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® corn, etc.). All capitalized terms in this TUA shall have the meanings given to them in Article 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.

Authorized Grower Signature	Date	Date Title of Person Signing	
Printed Full Legal Name of Person Signing GROWER INFO	DRMATION – Complete Sect	Corteva Customer ion A OR Section B – PLEASE	or Business Partner ID (optional) PRINT CLEARLY
Section A – For an Individual (Sole Propried  Grower Legal Name – First MI	torship) <b>Grower</b>	Section B — For a Busine  Business Name Business Type (Check One):	Corporation Partners
Farming or "Doing Business As" (d/b/a) Name, if app		Authorized Representative (Leg	
	State Zip Code	City	State
E-mail Address	G (Mobile)	County  E-mail Address	Phone (Mobile)
Section C - Seed Supplier  Business Name	· · ·	Yes, I would like to receive agronomy advice	eceive electronic communications from , special offers, product information, news and u g this box, I agree to receive automated market
	State Zip Code	"Personal Information" means any informat	ion that identifies, is related to, describes, is re d, directly or indirectly, with a particular individu
Section D - Corteva Send completed paper agreements using one of th  1. E-mail: agreements@agcelerate.com  2. Mail: AgCelerate PO Box 221679	e following options:	"Production Crop" means a crop the Grove Seed Production Agreement or similar agreef "Purchased Seed" means Seed that is purchand Corteva are parties, as amended pursua	r produces for Corteva or a Corteva Licensee, nent, which is controlled by Corteva or a Corte nased by Grower from a Seed Seller under a fu

1. **DEFINITIONS**: Each of the following terms shall have the meaning specified below:

Charlotte, NC 28222-1679

- "Agreement" means, as of any date of determination, (i) this TUA; (ii) the then-current Guide(s); (ii) the then-current Update Notification(s); and (iii) the terms of the Delivery Ticket, all of which are incorporated herein and deemed a material
- "Claim(s)" means any completed, actual, pending or threatened claim, action, suit, demand, or proceeding, whether in lar or equity and whether civil, criminal, administrative or investigative (including any action by governmental authorities). "Colex-D® Technology" means a Corteva-proprietary herbicide technology package comprised of 2,4-D choline, advanced formulation science and innovative manufacturing processes, which is specifically designed to provide ultra-low volatility, minimized potential for physical drift, decreased odor and improved handling characteristics.
- "Corteva" and "Corteva Agriscience" means, collectively, Corteva Agriscience LLC, Pioneer Hi-Bred International, Inc. Corteva Agriscience MCS, LLC, PhytoGen Seed Company, LLC and their parents, affiliates and subsidiaries.
- "Corteva Sourced Technology" means proprietary germplasm and all current and future seed trait technology as set forth in applicable Update Notification(s). Corteva Sourced Technology currently covered as Licensed Rights by this TUA includes, but is not limited to, the patents listed in Update Notification(s) provided at the time of execution of this TUA or
- "Delivery Ticket" means the document signed by Grower upon each delivery of Purchased Seed
- "Enlist® herbicides" means agricultural products that contain 2,4-D choline herbicide featuring Colex-D Technology "Grain" means material utilized for food, feed, and/or 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
- "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
- "Licensed Rights" means all patent claims (registered and unregistered), trade secrets, rights existing under the US Plant Variety Protection Act (or its foreign equivalents) and other intellectual property rights relating to Corteva Sourced Technology or Enlish terbicide that are reasonably necessary for a Grower's sexercise of the limited license granted under Article 2 below with respect to Purchased Seed or Seed Stock. The Licensed Rights as of any date of determination are set forth in the current Update Notification.
- "Licensee" means an entity that has a valid, active agreement with Corteva granting such entity a license to produce and sell Corteva seed trait technology in its seed products.
- "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 or proceeding) and any other payments.
- "Patents" means Corteva patents, registered and unregistered, held in the United States and/or Canada

ications from Corteva Agriscience.

Partnership

Other

Zip Code

on, news and updates through electronic omated marketing texts from Corteva at

describes, is reasonably capable of being ticular individual or where applicable, relates to

teva Licensee, utilizing Seed, pursuant to a valid teva or a Corteva Licensee.

eller under a fully executed TUA to which Grower

ents, 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 property sold by Seed Sellers. Seed may contain Third-Party Trait Technology that is subject to such third-party's separate licensing

"Seed Seller" means Corteva and those individual and entities authorized by Corteva to sell Seed.

"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.

"Third-Party Trait Technology" means proprietary trait technology from a technology provider other than Corteva

"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 patents licensed under the Agreement and any new or modified Agreement terms. Update Notifications will be distributed routinely and at Corteva's discretion.

#### 2. LIMITED LICENSE:

- 2.1 Upon acceptance by Corteva of this TUA and for the term of the TUA, unaltered and duly executed 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) purchase Seed from a Seed Seller or Corteva Licensee; and/or (ii) to plant Purchased Seed to produce a single commercial crop (or the case that Purchased Seed is alfalfa, multiple commercial forage crops within a season or seasons) in the United States in a single growing season.
- 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, a limited, non-transferable, revocable, non-exclusive, non-transferable, non-sublicensable license to plant Seed Stock to produce a single Production Crop in the United States provided that all such Production Crop is delivered to, or its disposition is controlled by, Corteva or the Corteva Licensee.
- 2.3 In addition to the foregoing, when Grower purchases or receives Seed or Seed Stock and/or plants Purchased Seed or Seed 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 license applies solely to Grower's activities in the United States and does not authorize Grower to plant Seed in the United States that has been purchased in or acquired from another country or to plant Seed in another country that has been purchased/acquired in the United States
- 2.4 Corteva is a member of SIPA, and reports made on the SIPA tip line or via the website regarding Corteva products will be directed to our Commercial Compliance Team. If you suspect illegal use of Corteva traits or germplasm, reports can be made anonymously using the Industry Tip Line (1-844-SEED-TIP) or website (<a href="www.seedipalliance.com">www.seedipalliance.com</a>) which are hosted by an independent organization, the Seed Innovations Protection Alliance (SIPA).

### PROHIBITED ACTIVITIES:

With respect to Corteva Sourced Technology, Grower acknowledges and agrees that Grower is NOT permitted to do any of 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:

For further information or to view the current Technology Use Agreement, Update Notification or a Product Use Guide, go to www.traitstewardship.com or contact Corteva Agriscience at 1-800-258-3033 Revision date: June 2023 / U.S. TUA

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#### PROHIBITED ACTIVITIES continued

- 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 for planting and/or supply crop produced from Seed for planting and 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 or a Corteva Licensee;
- specifically permitted by a written agreement with context or a context or careful characteristics. 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 either to Corteva or the Corteva Licensee
- Corteva or the Corteva Licensee; sell 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 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 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.

- 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®sybean or Enlist Cotton crops for spring burn-down, pre-plant, pre-emergence or post emergence application, unless the product is expressly labeled for use on Enlist E3 soybean or Enlist cotton;

   following burn-down (including pre-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, LVS, MCPB, mecoprop), which is NOT expressly labeled for use in conjunction with Enlist crops and does not contain 2,4-D choline with Colex-D technology; and/or

   following burndown, Grower is NOT permitted to use any aryloxyphenoxy-propionates (AOPP) herbicides (e.g., quizalforp, cyhalforpo, diclofop, diclofop, fenoxaprop, fluazifop) 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.com. For so long as Grower has a valid TUA in effect with Corteva, Corteva will provide notice of Update 
  Notifications to Grower to the email address or physical address provided by Grower in the Grower Inform box above.

  3.2 Current Guides are available from Seed Sellers, from Corteva directly and on 
  www.traitstewardship.com.
- 3.3 Until this TUA is terminated or superseded as set out in Article 5, the terms and conditions of use set forth on the packag container or label (including bag/lags) (collectively, "Label Terms") of Purchased Seed and terms and conditions of the Deli Ticket are hereby incorporated herein and deemed a material part of the Agreement.
- incet are nereby incorporated nerein 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 <a href="www.trailstewardship.com">www.trailstewardship.com</a> which updates of this TUA, the Agreement, an Update Notification or a new Guide, constitutes Grower's accord and agreement to be bound by the provisions of such updated or new documents.
- 3.6 Inconsistencies among (i) the Update Notification, (ii) the TUA; (iii) relevant Guide(s), each as posted on <a href="https://www.traitstewardship.com">www.traitstewardship.com</a> 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 Company of the Update of the Updat 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 and 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.
- 4.2 Grower 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.
- insect protected hybrids for at teast one year.

  4.3 Grower 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, state, federal, or foreign regulatory agencies may occur and are outside the control of Corteva. Grower agrees to always read and follow directions for use on pesticide, insecticide, fungicide or herbicide labeling as set forth in the Guide. Grower acknowledges and agrees to Grower's obligation to follow and adhere to any such modifications, revocations or cancellations. Grower further understands that regulatory status and available supplies of a biotech 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 Mcompliance 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 crop or material covered by the 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 Imited 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 biotech 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 build idrect 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 all necessary regulatory approvals have been granted. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship® is a
- 4.8 Grower will provide information, as reasonably requested by Corteva, Seed Sellers or Representatives, including, without limitation, USDA Farm Service Agency crop reporting information, Form 578 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, upon request by Corteva, Seed Sellers or Representatives, Grower shall furnish copies of invoices and other relevant documents related to Grower's purchases of Seed and chemical transactions and Grower also agrees to disclose to Corteva, Seed Sellers and/or Representatives certain information, including the locations of all fields, to confirm compiliance with the Agreement following Corteva's actual (or attempted) or all communication with Grower and not later than seven (7) day after the date of a written request from Corteva, including the locations of all fields planted with crops containing Corteva Sourced Technology or where Enlist herbicide as applied, the identities of all herbicides applied to these fields and other data as specified in the Guide(s).
- 4.10 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; (ii) the Purchased Seed will be used solely for agricultural production; and, (iii) due to the foregoing, Grower qualifies for a tax exemption, under applicable state tax laws, for the Purchased Seed. Grower agrees to provide tax exemption certificates as reasonably requested by Corteva or Seed Sellers.

#### 5. PRIVACY

5.1 Grower hereby consents to the collection, use and disclosure of Grower's Personal Information by and between: (i) Corteva: (iii) retailers, including but not limited to Seed Sellers, from which Grower purchases Corteva products; (iii) Corteva partners and service providers for the purpose of administering Corteva offers, including validation of product purchases and calculation/ issuance of rebates and rewards, marketing, surveys, direct mail, digital and social media communication and to improve and modify our products and to personalize services; and (iv) Corteva partners and service providers for purposes of conducting or farm IRM or other compliance assessments. Corteva wants the Grower to be familiar with how Corteva collects, uses and larm into or other compliance assessments. Cortieva wains the Grower to be rainliair with now conteva context, suces and discloses information. Any information collected from this TUA, the Agreement, through the provision of services or products, or through Corteva websites or mobile applications generally will be handled in accordance with the Corteva Privacy Statement accessible at https://www.corteva.com/us-privacy-rights.html. In addition, the California Notice at Collection is accessible at <a href="https://www.corteva.com/us-privacy-rights.html.">https://www.corteva.com/us-privacy-rights.html.</a> In addition, the California Notice at Collection is accessible at <a href="https://www.corteva.com/us-privacy-rights.html/holicaticollection.25">https://www.corteva.com/us-privacy-rights.html/holicaticollection.25</a>. By providing Personal Information to Corteva, drower agrees to the terms and conditions of the Privacy Statement. Different Corteva websites and mobile applications have different purposes, uses and features, consequently, a specific privacy disclosure or statement may apply and each such privacy disclosure or statement may apply and each such privacy disclosure or statement supplements and amends the Corteva Privacy Statement.

#### 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 For further information or to view the current Technology Use Agreement, Update Notification or a Product Use Guide, go to <a href="www.ti-tup">www.ti-tup</a>.

Corteva may terminate this TUA at any time and for any reason by at least thirty (30) days (or one hundred eighty (180) days in Minnesota or ninety (90) days in Wisconsin) written notice of termination to the other party at the address specified in section A, B

or D above.

6.2 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 (or one hundred eighty (180) days in Minnesota or ninety (90) days in Wisconsin) written notice to the Grower. All license grants granted pursuant to this TUA shall automatically terminate upon the termination of this TUA, without the need for further notice or action. In the case of termination by Grower, such notice of termination must include Grower's full legal name, address and license number. Upon termination of this TUA or al license granted hereunder with respect to any Corteva Sourced Technology and Enlist herbicides for any reason, (i) Grower shall terminate the use of all Seeds containing the particular Corteva Sourced Technology or Enlist herbicides, which may require destruction; (ii) Grower shall return unused Seeds containing such Corteva Sourced Technology or Corteva at Grower's cost; and (iii) Grower will no longer have a right to purchase or use Seed containing such Corteva Sourced Technology or Enlist herbicide. Notwithstanding the foregoing, Grower's obligations and Corteva's rights that arose under this Agreement prior to termination will continue in effect.

#### 7. CORTEVA SOURCED TECHNOLOGY FEES:

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. An 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 container within tolerances, if any, established by law, when used in accordance with the applicable directions and in compliance with the

#### 9 DISCI AIMER OF WARRANTY

9.1 TO THE EXTENT ALLOWABLE BY LAW, THE EXPRESS WARRANTY ABOVE EXCLUDES, AND IS IN LIEU OF, ALL OTHER WARRANTIES, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HERBY EXPRESSLY DISCLAIMED. All applicable AND OF FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED. All applicable warranties are contingent upon the proper use in the application for which the Seed was intended and does not cover Seed which has been modified in any manner (including, but not limited to, insecticide or fungicide seed treatment, in-furrow fertilizers, biologicals or micronutrient products of any kind not provided directly by or otherwise approved by Corteva) or which have been subjected to improper storage, abuse, misuse, alteration or neglect. CORTEVA DOES NOT MAKE ANY REPRESENTATIONS, WARRANTIES OR RECOMMENDATIONS CONCERNING ANY SEED OR PRODUCT NOT COVERED BY THIS TUA ("THIRD-PARTY PRODUCT"), INCLUDING, BUT NOT LIMITED 10, THIRD-PARTY PRODUCT THAT IS LABELED FOR USE ON PIONEER BRAND SEED OR OTHER CORTEVA AGRISCIENCE PRODUCTS. CORTEVA SPECIFICALLY DISCLAIMS ALL RESPONSIBILITY FOR THE USE OF THIRD-PARTY PRODUCT WITH PIONEER BRAND SEED OR OTHER CORTEVA AGRISCIENCE PRODUCTS. ALL QUESTIONS AND COMPLAINTS ARISING FROM THE USE OF THIRD-PARTY PRODUCT SHOULD BE DIRECTED TO THE COMPANIES PROVIDING OR PRODUCING SUCH THIRD-PARTY PRODUCT. ANY REPRESENTATION OR WARRANTY RELATED TO ANY CORTEVA PESTICIDE PRODUCT IS LIMITED SOLELY TO ANY REPRESENTATIONS OR WARRANTYS MADE AS PART OF THE SALE OF SUCH CORTEVA PESTICIDE PRODUCT.

#### 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 SELLER. CORTEVA 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 for 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 outcomes resulting from Grower's or Grower's employees, contractor's, or agent's decisions, actions or failure to act.

10.2 IN NO EVENT SHALL CORTEVA, ITS SEED SELLERS OR LICESEES BE LIABLE FOR ANY INDIRECT, INCIDENTAL SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE SEED OR OTHER CORTEVA PRODUCT. CORTEVA DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED AND MAKES NO STATEMENT HIT RESPECT TO THE ONGOING OR FUTURE REGULATORY STATUS, ACCEPTABILITY, SUPPLY OR AVAILABILITY OF A BIOTECH TRAIT OR TRAIT STACK, INSECTICIDE, FUNGICIDE OR HERBICIDE PRODUCT COMPATIBLE WITH THE SEED, OR, IN EACH CASE, CONTAINED IN THE SEED. THESE TERMS ARE INDEPENDENT OF THE REGULATORY STATUS OF ANY TECHNOLOGY ONTAINED IN, OR SEED FOR USE WITH, THE SEED, INCLUDING PESTICIDE PRODUCTS.

10.3 Because Corteva must have sufficient time to investigate any Claim regarding the performance or non-performance the Seed, no Claim can be asserted against Corteva unless Grower gives notice to Corteva within fifteen (15) days after Grower first observes or has 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:

1.1. right of ENTRY:

1.1. 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 harvesting 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, tractor trailers or seed storage containers for purposes of data collection, field and crop inspection, testing and examining the land and Grower's crop and taking samples of soil, crops, crop residue or seeds located thereon. Such collection, inspection, examination, testing or sampling shall be performed by Personnel only after Corteva or the Representatives deliver or mail to Grower written notification of the Personnel's visit at least three (3) days in advance and Corteva or the Representative also have reasonably attempted to discuss the visits with Grower in advance of such visits. Grower agrees that such ingress and egrees may be made by means of roadways and driveways, to be used in common with others having right of passage thereon. If Grower is not the owner of premises where such access is needed, Grower shall be solely responsible for obtaining consent from the applicable landower for the visit.

11.2 To the extent of Personnel's negligent acts or omissions arising out of or in connection with this Article 10, Corteva

11.2 To the extent of Personnel's negligent acts or omissions arising out of or in connection with this Article 10, Corteve indemnification of Grower shall be limited to Losses to the applicable Seed crop fields, commercial crop fields or person

#### 12 ADDITIONAL PROVISIONS:

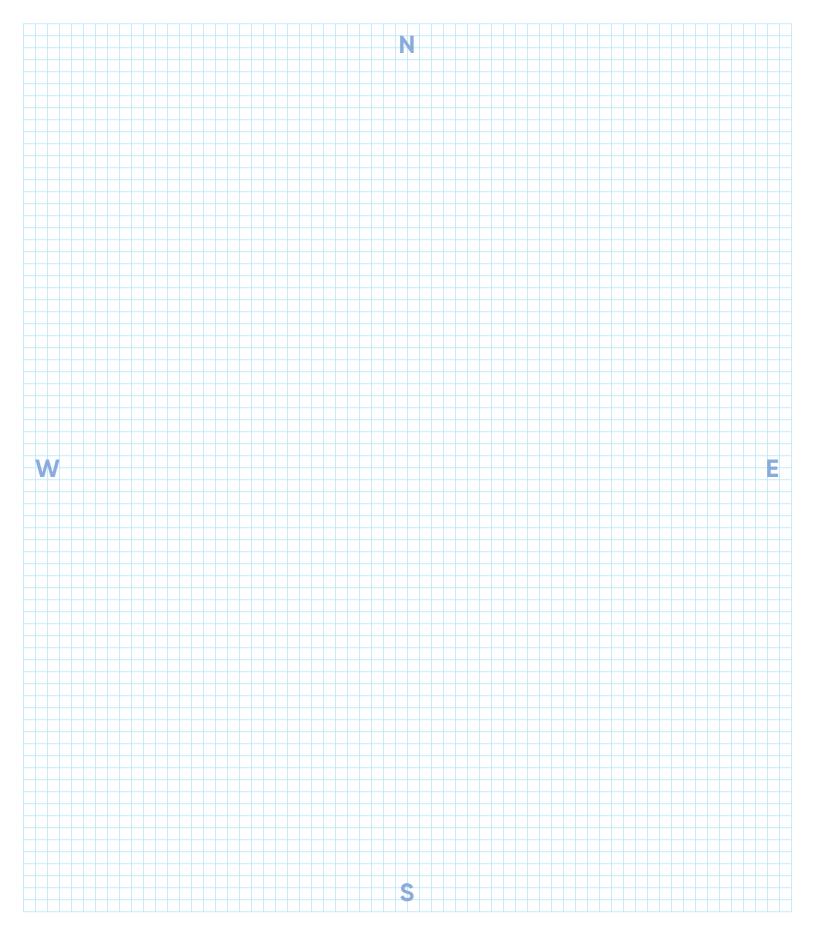
- 12.1 Grower agrees to communicate all applicable terms, conditions and restrictions on Seed whether under this Agreement, a Guide, an Update Notification or otherwise to all persons and entities possessing or taking an interest in Grower's Seed and Grain
- 12.2 Except as provided herein, notices to Grower or to Corteva shall be sent to the addresses specified in sections A, B or D above
- 12.3 Grower agrees that should any information provided to Corteva herein change, Grower will promptly notify Corteva via section D
- 12.4 Nothing in the Agreement shall be construed as a grant or license from Corteva to the Grower for the use of any Corteva trademark. Grower is required to enter a separate trademark license from Corteva to use any Corteva trademark(s) including, but not limitled to, those marks associated with trait, seed, technology or groducts.
- 12.5 Grower's rights under the Agreement may not be transferred or assigned to any other person, entity or third-party without the prior written consent of Corteva.
- . 12.6 The 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, Enlist herbicide and Corteva Sourced Technology. All prior agreements and understandings between Grower and Corteva with respect to Purchased, Seed, Enlist herbicide and Corteva Sourced Technology are hereby superseded.
- 12.7 If any provision in the Agreement is determined to be void or unenforceable, the remaining provisions shall remain in full force
- 12.8 The failure of Corteva or any Third-Party Technology providers to exercise one or more of its rights under the Agreement on one or more occasions shall not be deemed a waiver to exercise such right(s) on one or more subsequent occasions.
- 12.9 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.
- 12.10 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.
- 12.11 No class actions: 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 not participate in or collect payment as a result of any class, collective, or other representative action of any kind against Corteva.
- participate in or collect payment as a result of any class, collective, or other representative action of any kind against Corteva.

  12.12 Jurisdiction and Governing Law: The interpretation and enforcement of the Agreement shall be governed by the laws of the State of lowa without regard to its choice of law provisions. THE PARTIES CONSENT TO THE SOLE AND EXCLUSIVE JURISDICTION AND VENUE OF THE U.S. DISTRICT COURT FOR THE SOUTHERN DISTRICT OF IOWA, CENTRAL DIVISION AND THE DISTRICT OF OUNTY OF POLK, IOWA, FOR ALL CLAIMS AND DISPUTES ARISING OUT OF OR CONNECTED IN ANY WAY WITH THIS AGREEMENT AND/OR THE USE OF THE SEED OR THE TECHNOLOGY. THE PARTIES WAIVE ANY OBJECTION TO VENUE IN THE CENTRAL DIVISION OF THE U.S. DISTRICT COURT FOR THE SOUTHERN DISTRICT OF IOWA, INCLUDING THOSE BASED, IN WHOLE OR IN PART, ON THE DIVISIONAL VENUE LOCAL RULE(S) OF THE U.S. DISTRICT COURT FOR THE SOUTHERN DISTRICT OF THE SOUTHERN
- 12.13 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, the Agreement.
- 12.14 Enforcement Costs: Grower agrees that Corteva and any owners of the patents covered by the 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 the Agreement if the Grower is determined to be at fault.

ip.com or contact Corteva Agriscience at 1-800-258-3033.

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# Notes

















































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

Agrisure® and Agrisure Viptera® are registered trademarks 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.

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.

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.

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 with Enlist® crops. Consult Enlist® herbicide labels for weed species controlled. Enlist Duo and Enlist One herbicides are not registered for use or sale in all states and counties; are not registered in AK, CA, CT, HI, ID, MA, ME, MT, NH, NV, OR, RI, UT, VT, WA and WY; and have additional subcounty restrictions in AL, GA, TN and TX, while existing county restrictions still remain in FL. All users must check "Bulletins Live! Two" no earlier than six months before using Enlist One or Enlist Duo. To obtain "Bulletins," consult epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov. You must use the "Bulletin" valid for the month and state and county in which Enlist One or Enlist Duo are being applied. Contact your state pesticide regulatory agency if you have questions about the registration status of Enlist® herbicides in your area. ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. IT IS A VIOLATION OF FEDERAL AND STATE LAW TO USE ANY PESTICIDE PRODUCT OTHER THAN IN ACCORDANCE WITH ITS LABELING. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USE IN THE STATE OF APPLICATION. USE OF PESTICIDE PRODUCTS, INCLUDING, WITHOUT LIMITATION, 2,4-D-CONTAINING PRODUCTS NOT AUTHORIZED FOR USE WITH ENLIST CROPS, MAY RESULT IN OFF-TARGET DAMAGE TO SENSITIVE CROPS/AREAS AND/ OR SUSCEPTIBLE PLANTS. IN ADDITION TO CIVIL AND/OR CRIMINAL PENALTIES, Additional product-specific stewardship requirements for Enlist crops, including the Enlist Product Use Guide, can be found at www.traitstewardship.com.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.

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.

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 <a href="https://www.biotradestatus.com">www.biotradestatus.com</a>. 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.

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