

2024 ALFALFA

UNITED STATES PRODUCT USE GUIDE



Introduction

This 2024 Product Use Guide provides technical information about Corteva Agriscience™ alfalfa 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., hay) 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 hay) 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 long-standing 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.

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.

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.

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.





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 www.iwilltakeaction.com, 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 www.corteva.us or consult your local sales professional. You may also contact Corteva Agriscience at: 1-800-258-3033.

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

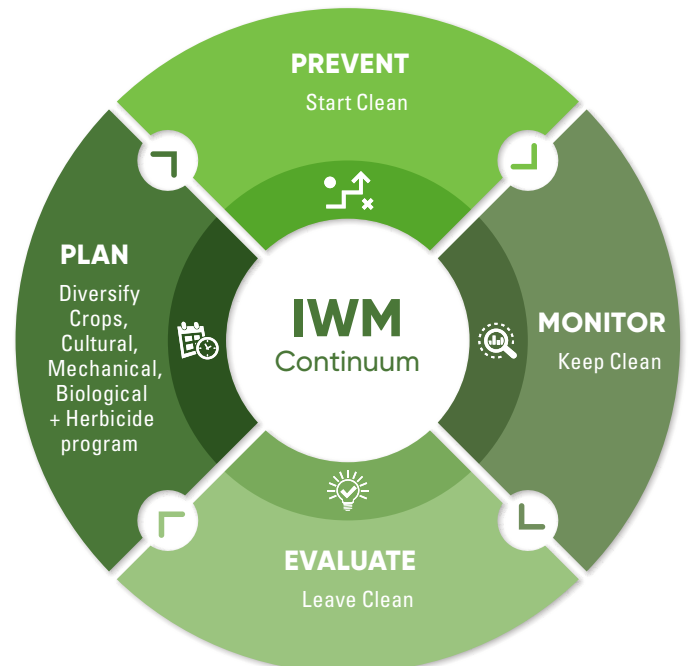
- Scout fields before and after use of any management tactic
- Keep accurate records of your management tactics used and their results, including any indications of changes in response with difficult to control weeds
- Control weeds early, generally before exceeding 15 cm in height

2) KEEP CLEAN

- 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.
- Incorporate sound agronomic practices that improve your crop's ability to compete effectively with weeds

3) LEAVE CLEAN

- Control weed escapes that can occur before or after harvest
- 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 www.cdms.net.

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

Management Option	Risk of Resistance		
	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





Alfalfa with Roundup Ready® Technology and/or Alfalfa with HarvXtra® Technology



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

Corteva Agriscience offers several alfalfa varieties with Roundup Ready® technology (RR) and/or HarvXtra® technology (HVX). HVX products contain the biotechnology-derived trait developed to maximize alfalfa quality compared to commercially available alfalfa harvested at the same growth stage, by reducing the amount of lignin in the plant. This technology is designed to ease the yield versus quality trade-off currently faced by alfalfa producers by enabling them to maintain high-quality alfalfa longer. These products also have the same in-plant tolerance to glyphosate as RR alfalfa, which enables growers to apply glyphosate agricultural herbicides up to 5 days before cutting for unsurpassed weed control with excellent crop safety. HVX gives growers the options for managing for high quality hay/forage production, including timely cutting to promote high forage quality (i.e., generally before 10% bloom) or slightly delay harvest for higher tonnage without sacrificing acceptable forage quality, while still preventing seed.

Weed Resistance Management Guidelines

Weed control is critical in alfalfa production for top yields and forage quality. Glyphosate offers unsurpassed broad-spectrum weed control and a wide application window for both crop and weeds. The following guidelines can maximize weed control in alfalfa varieties with RR and HVX technology and minimize the risk of developing resistant weeds.

- Spray labeled glyphosate agricultural herbicides soon after emergence through the 4th trifoliolate alfalfa growth stage, and before weed height exceeds 4 inches to remove competing weeds and plants.
- To control flushes of weeds in established alfalfa, make applications of labeled glyphosate herbicides at the appropriate use rate before weeds exceed 4 inches in height, up to 5 days before cutting.
- Use other approved herbicide products tank-mixed or in sequence with glyphosate agricultural herbicide as part of a weed control program if appropriate for the weed spectrum present.
- Corteva Agriscience encourages producers to practice good stewardship at all times when using herbicides, and especially when using glyphosate herbicides with glyphosate tolerant crops, including RR and HVX technology. This can help to prevent unwanted weed shifts and even development of resistant weed species. Use other herbicides, where appropriate, to control tough weeds.

Various weed biotypes are known to be resistant to glyphosate. For the current weed control recommendations for glyphosate-resistant weed biotypes, contact your local sales representative. Approved labels, including supplemental labeling must be in the possession of the user at the time of pesticide application and can be obtained by contacting the State Pesticide Lead Agency for more information. Various weed biotypes are known to be resistant to other herbicides as well. Use herbicides and combinations of herbicides that will control the weed biotypes and species that are present on your farm.

If freezing or near-freezing temperatures are forecast within five to seven days after a planned glyphosate application to a HarvXtra® alfalfa with Roundup Ready® technology crop, the application should be delayed until those conditions are no longer forecast.

Null Plant Removal

The industry standard is 90% for the lower limit of plants expressing resistance in varieties with the RR technology. Plants without the RR technology, known as “null” plants, will be removed with the first glyphosate application. Ideally, this application should occur after the stand is fully established but before it begins its natural thinning process as plants mature. As alfalfa plants approach full stature, the number of plants per square foot begins to decline as plants compete with each other for light, soil moisture and nutrients. For this reason, the first application of a glyphosate herbicide should be made soon after stand establishment, to take out the null plants before they begin this competitive phase. With this strategy, glyphosate herbicides can be applied in later years without fear of null plant loss.

Stand Take-out Guidelines

In conventional or alfalfa varieties with the RR technology, proper stand take-out at the end of a stand's useful life is important to prevent competition with the subsequent crop.

Stand take-out for varieties with RR is similar to that of conventional alfalfa except that glyphosate is ineffective for this purpose. An over-the-top application of a translocated growth regulator herbicide like 2,4-D and/or dicamba is usually effective, especially when followed by some kind of tillage operation that breaks up roots and/or covers crowns and top growth.

Control of alfalfa during the stand takeout operation is much better than trying to control volunteers in the rotational crop. Use recommended and commercially available mechanical and/or herbicidal methods for managing volunteer alfalfa with RR in rotational crop fields. Rotation with certain broadleaf crops is not advisable if the grower is not willing to implement recommended stand termination practices.

Management of RR and HVX Volunteers in Rotational Crop Fields

In a timely manner, use recommended and commercially available mechanical and/or herbicidal methods for managing RR and HVX technology volunteers in rotational crop fields.

- Implement treatments before volunteers become too large to control or begin to compete with the rotational crop.
- Herbicide alternatives are available for management of volunteer alfalfa in grass crops.
- Rotation with certain broadleaf crops is not advisable if the grower is not willing to implement recommended stand termination practices.
- In the event that no known mechanical or herbicidal options are available to manage RR or HVX technology volunteers in the desired rotational crop, you should change to a crop with established volunteer management practices for that rotation.

Note: Glyphosate agricultural herbicides are **not** effective for terminating RR or HVX technology volunteers.

Stewardship Requirements

Planting Limitation: Alfalfa varieties with Roundup Ready® technology (RR) and/or HarvXtra® technology (HVX) planting is not permitted for wildlife feed plots and not for the production of sprouts. Growers who plant alfalfa with RR and HVX technology by flying on seed must be responsible to prevent and control any resulting feral alfalfa plants.

Hay and Forage Production: Alfalfa with RR and HVX technology should be managed for high quality hay/forage production, including timely cutting to promote high forage quality (i.e. before 10% bloom) to prevent seed development. Additionally, HVX gives growers the option to slightly delay harvest for higher tonnage without sacrificing acceptable forage quality, while still preventing seed.

In geographies where conventional alfalfa seed production is intermingled with forage production, alfalfa with RR and HVX technology must be harvested at or before 10% bloom to minimize potential pollen flow to conventional alfalfa. Alfalfa growers in such areas must also control any feral alfalfa resulting from the use of alfalfa containing RR and HVX technology. Growers in other areas should harvest before 50% bloom. Growers who are unwilling or who cannot make this commitment to stewardship should not plant or continue to grow alfalfa with RR and HVX technology.

Compliance Requirements

Alfalfa containing RR and/or HVX technology is for sale and planting in the United States, and not for the production of sprouts or seed. Any product produced from an alfalfa crop or seed containing RR and/or HVX technology, including hay and hay products, may only be used, exported to, processed or sold in countries where regulatory approvals have been granted. Always read and follow pesticide label directions. Crops and materials containing biotech traits may only be exported to or used, processed, or sold in jurisdictions where all

necessary regulatory approvals have been granted for those crops and materials. It is a violation of national and international laws to move materials containing biotech traits across borders into jurisdictions where their import is not permitted. Growers may be required to provide copies of records, receipts, and other sales-related documents to Corteva Agriscience, including during an audit or inspection consistent with the Corteva Agriscience Product Use Guide, including the portions relating to alfalfa with HVX and/or RR technology.

Producing a seed crop or a seed catch crop is prohibited except under an authorized seed production contract. Also, alfalfa with RR and/or HVX technology is not permitted to be planted in any wildlife feed plots.

Technology Use Agreement: The Corteva Agriscience Seed and Technology Use Agreement provides growers the opportunity to purchase, plant and benefit from alfalfa varieties with RR and HVX technology. Monsanto Company's Roundup Ready gene technology is protected under U.S. patent law. Signing and acceptance of the Corteva Agriscience Seed and Technology Use Agreement is necessary before the seed can be delivered to the grower.

Seed & Feed Use Agreement: Additionally, all plantings of HVX shall include execution by the grower of a Seed and Feed Use Agreement noting that HVX can only be used on farm or otherwise used in the United States.

California Restriction: Due to special circumstances, alfalfa growers in the Imperial County, California must comply with additional stewardship requirements. No Corteva Agriscience sales professional is authorized to sell alfalfa seed with the RR technology to growers intending to plant in the Imperial County, California.

China Export Restriction: Prior to planting HVX technology, please be aware that while many import market approvals have been granted, alfalfa seed of varieties with HVX technology, and hay and hay products grown from seed of varieties with HVX technology, are restricted from export to China.

PRODUCT USE STATEMENT: FOR SALE AND PLANTING IN THE U.S. ONLY. Roundup Ready alfalfa provides crop safety for over-the-top applications of labeled glyphosate herbicides when applied according to label directions. Any crop or material produced from this product can only be used, processed, or sold in the United States. In addition, due to the unique cropping practices, do not plant this product in Imperial County, California. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted.

Growers should talk to their grain handler or product purchaser to confirm their buying position for this product.

This product may not be approved for planting in all states, counties or territories. Please call 1-833-267-8382 for additional information.

Always Read and Follow Pesticide Label Directions. Roundup Ready® Technology contains genes that confer tolerance to glyphosate. 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.

ACCIDENTAL APPLICATION OF INCOMPATIBLE HERBICIDES TO THIS VARIETY COULD RESULT IN TOTAL CROP LOSS.

YOU MUST SIGN A TECHNOLOGY AGREEMENT, READ THE PRODUCT USE GUIDE PRIOR TO PLANTING AND FOLLOW HERBICIDE RESISTANCE MANAGEMENT (HRM) REQUIREMENTS.

THIS SEED IS ACQUIRED UNDER AN AGREEMENT THAT INCLUDES THE FOLLOWING

TERMS: The licensed U.S. Patents for the Roundup Ready® technology can be found at the following web page www.monsantotechnology.com. IF YOU HAVE NOT SIGNED A TECHNOLOGY USE AGREEMENT, THEN THIS DOCUMENT IS NOT AN OFFER OR ACCEPTANCE OF AN OFFER FOR SALE OF THE PRODUCTS LISTED AND ANY PURPORTED SALE OF SUCH PRODUCTS IS VOID. IF YOU HAVE RECEIVED PRODUCTS WITHOUT SIGNING A TECHNOLOGY USE AGREEMENT, YOUR USE OF THOSE PRODUCTS IS UNAUTHORIZED AND UNLICENSED AND YOU MUST, EITHER (i) RETURN SUCH PRODUCTS, OR (ii) SIGN A TECHNOLOGY USE AGREEMENT FOR SUCH PRODUCTS.

Roundup Ready® is a registered trademark of Bayer Group, used under license.

PRODUCT USE STATEMENT: FOR SALE AND PLANTING IN THE U.S. ONLY. HarvXtra® alfalfa with Roundup Ready® technology contains the events KK179 and J101. Roundup Ready technology provides crop safety for over-the-top applications of labeled glyphosate herbicides when applied according to label directions.

Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. Do not export seed with HarvXtra® alfalfa with Roundup Ready® technology, including hay or hay products, to China pending import approval status. In addition, due to the unique cropping practices, do not plant this product in Imperial County, California. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product.

IN THE FOLLOWING STATES, PURCHASE AND USE OF HARVXTRA® ALFALFA WITH ROUNDUP READY® TECHNOLOGY IS SUBJECT TO A SEED AND FEED USE AGREEMENT, REQUIRING THAT PRODUCTS OF THIS TECHNOLOGY CAN ONLY BE USED ON FARM OR OTHERWISE BE USED IN THE UNITED STATES: ARIZONA, CALIFORNIA, COLORADO, IDAHO, MONTANA, NEVADA, NEW MEXICO, OREGON, UTAH, WASHINGTON AND WYOMING (THE "WESTERN STATES"). **ROWERS IN THE WESTERN STATES MUST DIRECT ANY PRODUCT PRODUCED FROM HARVXTRA® ALFALFA WITH ROUNDUP READY® TECHNOLOGY SEED OR CROPS (INCLUDING HAY AND HAY PRODUCTS) ONLY TO UNITED STATES DOMESTIC USE.**

This product may not be approved for planting in all states, counties or territories. Please call 1-833-267-8382 for additional information.

Always Read and Follow Pesticide Label Directions. Roundup Ready® Technology contains genes that confer tolerance to glyphosate. 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.

ACCIDENTAL APPLICATION OF INCOMPATIBLE HERBICIDES TO THIS VARIETY COULD RESULT IN TOTAL CROP LOSS.

YOU MUST SIGN A TECHNOLOGY AGREEMENT, READ THE PRODUCT USE GUIDE PRIOR TO PLANTING AND FOLLOW HERBICIDE RESISTANCE MANAGEMENT (HRM) REQUIREMENTS.

THIS SEED IS ACQUIRED UNDER AN AGREEMENT THAT INCLUDES THE FOLLOWING

TERMS: The licensed U.S. Patents for the Roundup Ready® technology can be found at the following web page www.monsantotechnology.com. IF YOU HAVE NOT SIGNED THE TECHNOLOGY USE AND SEED AND FEED USE AGREEMENTS FOR HARVXTRA® ALFALFA WITH ROUNDUP READY® TECHNOLOGY, THEN THIS DOCUMENT IS NOT AN OFFER OR ACCEPTANCE OF AN OFFER FOR SALE OF THE PRODUCTS LISTED AND ANY PURPORTED SALE OF SUCH PRODUCTS IS VOID. IF YOU HAVE RECEIVED PRODUCTS WITHOUT SIGNING A TECHNOLOGY USE AGREEMENT, YOUR USE OF THOSE PRODUCTS IS UNAUTHORIZED AND UNLICENSED AND YOU MUST, EITHER (i) RETURN SUCH PRODUCTS, OR (ii) SIGN A TECHNOLOGY USE AGREEMENT FOR SUCH PRODUCTS.

Roundup Ready® is a registered trademark of the Bayer Group, used under license. HarvXtra® is a registered trademark of Forage Genetics International, LLC. HarvXtra® alfalfa with Roundup Ready® technology is enabled with Technology from Noble Research Foundation Institute, LLC.

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.**

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

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.

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 temporarily 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: <http://seed-treatment-guide.com/>

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

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-guide.com





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, Grome® 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.

By: _____ Date _____ Title of Person Signing _____
Authorized Grower Signature
Printed Full Legal Name of Person Signing _____ Corteva Customer or Business Partner ID (optional) _____

GROWER INFORMATION – Complete Section A OR Section B – PLEASE PRINT CLEARLY

Section A – For an Individual (Sole Proprietorship) Grower

Grower Legal Name – First MI Last

Farming or "Doing Business As" (d/b/a) Name, if applicable

Shipping/Mailing Address (do not use Legal Land Descriptions)

City State Zip Code

County Phone (Mobile)

E-mail Address

Section B – For a Business Entity Grower

Business Name

Business Type (Check One): Corporation Partnership Limited Liability Company (LLC) Other

Authorized Representative (Legal Name)

Shipping/Mailing Address (do not use Legal Land Descriptions)

City State Zip Code

County Phone (Mobile)

E-mail Address

Section C - Seed Supplier

Business Name

City State Zip Code

Section D - Corteva

Send completed paper agreements using one of the following options:

- E-mail: agreements@agcelerate.com
- Mail: AgCelerate
PO Box 221679
Charlotte, NC 28222-1679

Opt In. Please check box to receive electronic communications from Corteva Agriscience.
Yes, I would like to receive agronomy advice, special offers, product information, news and updates through electronic communications from Corteva. By checking this box, I agree to receive automated marketing texts from Corteva at the phone number provided above. I understand consent is not a condition of purchase.

"Personal Information" means any information that identifies, is related to, describes, is reasonably capable of being associated with, or could reasonably be linked, directly or indirectly, with a particular individual or where applicable, relates to an identifiable juristic person or legal entity.

"Pioneer" means Pioneer Hi-Bred International, Inc.

"Production Crop" means a crop the Grower produces for Corteva or a Corteva Licensee, utilizing Seed, pursuant to a valid Seed Production Agreement or similar agreement, which is controlled by Corteva or a Corteva Licensee.

"Purchased Seed" means Seed that is purchased by Grower from a Seed Seller under a fully executed TUA to which Grower and Corteva are parties, as amended pursuant to Update Notification(s), or otherwise.

"Representatives" means Corteva or Corteva Licensee representatives, agents, contractors and designees of any owner of Corteva Sourced Technology.

"Seed" means agricultural planting seed for all crops containing Corteva Sourced Technology, Enlist herbicides and/or intellectual property sold by Seed Sellers. Seed may contain Third-Party Trait Technology that is subject to such third-party's separate licensing arrangements.

"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 in 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 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 (www.seedipalliance.com) 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:

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

"Agreement" means, as of any date of determination, (i) this TUA; (ii) the then-current Guide(s); (iii) the then-current Update Notification(s); and (iv) the terms of the Delivery Ticket, all of which are incorporated herein and deemed a material part of the Agreement.

"Claim(s)" means any completed, actual, pending or threatened claim, action, suit, demand, or proceeding, whether in law 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 thereafter.

"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 Information box above.

"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 Enlist herbicide that are reasonably necessary for a Grower's exercise 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.

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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Notes



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Do not export seed with HarvXtra[®] alfalfa with Roundup Ready[®] technology, including hay or hay products, to China pending import approval status. In addition, due to the unique cropping practices, do not plant this product in Imperial County, California. Purchase and use of HarvXtra[®] alfalfa with Roundup Ready[®] technology is subject to a Seed and Feed Use Agreement.

Always read and follow pesticide label directions. Alfalfa with Roundup Ready[®] technology provides crop safety for over-the-top applications of labeled glyphosate herbicides when applied according to label directions. Glyphosate agricultural herbicides will kill crops that are not tolerant to glyphosate. ACCIDENTAL APPLICATION OF INCOMPATIBLE HERBICIDES TO THIS VARIETY COULD RESULT IN TOTAL CROP LOSS.

HarvXtra[®] is a registered trademark of Forage Genetics International, LLC. HarvXtra[®] alfalfa with Roundup Ready[®] technology is enabled with Technology from Nobel Research Foundation Institute, LLC. Roundup Ready[®] is a registered trademark of the Bayer Group, used under license.

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.

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 alfalfa 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 waived 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: CTV) 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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