

2020

SUNFLOWER
UNITED STATES
PRODUCT USE GUIDE



Introduction

This 2020 Product Use Guide provides technical information about Corteva Agriscience™ sunflower 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.

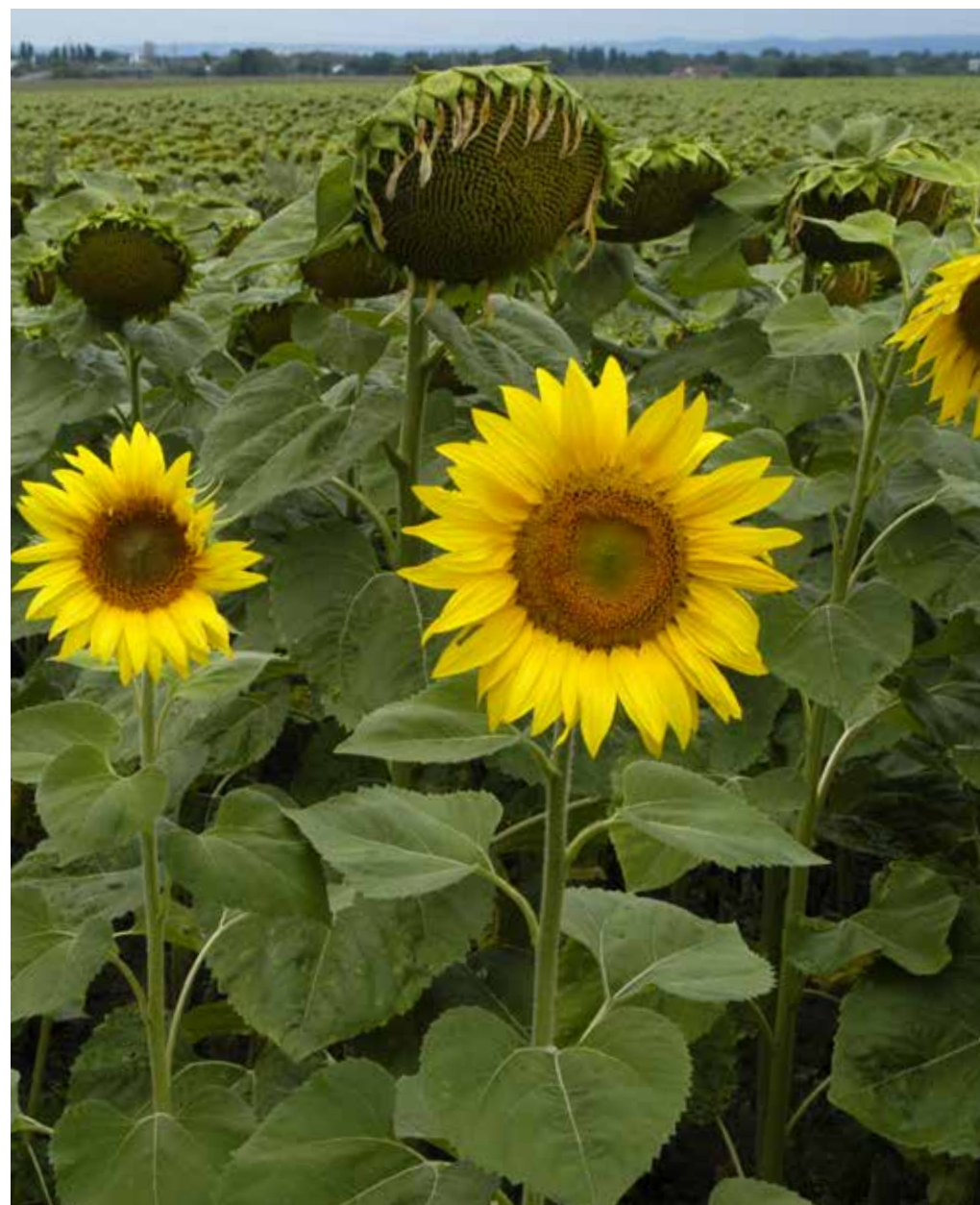
This technical guide is not a pesticide product label. It is intended to provide additional information and to highlight approved uses from certain product labels. Read and follow all precautions and label instructions on any agricultural or pesticide products that you are using.

Not all products described in this Product Use Guide are available in all Corteva Agriscience™ 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.

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.

By accepting delivery of any Corteva Agriscience brand 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. 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) at www.agcelerate.com, 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, higher-yielding 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) 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) 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 Excellence Through Stewardship.

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 brand products that consistently deliver high yields to help make you more profitable. Corteva Agriscience uses patents and Variety Registration laws to protect our investment in patented germplasm, native and transgenic traits, and breeding technologies. Variety Registration laws give breeders exclusive control over plant varieties for up to 20 years, enabling Corteva Agriscience to bring new products to the marketplace supported by improved technology.

It is important to note that Corteva Agriscience product offerings, even if not biotech, can carry multiple types of intellectual property protection, such as patented genetics, patented breeding technologies, plant 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,

Why is a TUA required?

- A TUA is required for the purchase of any Corteva Agriscience seed - all crops, biotech and non-biotech. The TUA serves as an agreement between the customer and Corteva Agriscience demonstrating 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 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 on Enlist™ 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. These discoveries ultimately help you increase production and meet new pest and production challenges.

identity-preserved crops, organically-produced crops, conventionally produced crops or crops with biotech traits.

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

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

- What options exist related to staggering planting times to help temporally isolate a given crop from the potential of unintended outcrossing;
- What are cleaning and handling options for a particular crop that could help to minimize the potential for inadvertent comingling during planting, harvesting or cleaning activities, considering the use of planters, combines, seed storage bins, seed hopper/boxes, transportation vehicles, and other equipment pre- and post-harvest; and

- Understanding characteristics of applied technologies or pest management tools and the potential impact to different types of crops planted in the vicinity.

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

Seed Treatment Stewardship

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

Seed treatment management and responsible stewardship play a vital role in sustaining our environment while maximizing crop health. Responsible stewardship practices help maintain seed and seed treatment integrity, which keeps the active ingredient on the seed to achieve the maximum crop health benefit for the investment. In addition, these practices help minimize the

potential for adverse effects on producers and the environment, including pollinators, which may be present at the time of planting.

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



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.



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 GROWERS 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: 877-4-TRAITS (877-487-2487).

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.

Weed Management Techniques and Guidelines

Using varied weed control methods is recommended to help slow the development of resistant weed populations. Such varied weed control methods may include using multiple herbicides that act on weeds through different modes of action with similar spectrum, use of tillage or other mechanical methods, and other practices. Use of tillage must be balanced against possible soil and water conservation issues that aggressive tillage may cause. When using herbicides, studies have shown that using the herbicide in compliance with label directions and at labeled rates is important to slow the development of resistant weeds. Also, scouting for surviving weeds after herbicide application can help identify resistant weeds and provide valuable information on how to manage resistance by using different weed management methods. If resistant weeds are identified, one of the most

effective ways to inhibit the development of resistant populations or spread of resistance is to use methods that prevent weeds from reproducing by seed or through vegetative propagation. It is also important to clean equipment between sites, as this slows the spread of weed seed between fields.

When using herbicide tolerant crops it is important to start with a clean field, either by using tillage or a burndown herbicide application. In general:

- Begin the season with a clean, weed-free field.
- Use multiple weed control techniques, such as multiple herbicides with different modes of action, tillage, or other mechanical weed control techniques, considering soil and water conservation issues.
- Use herbicides at their proper rates at the appropriate times and following all label directions.
- If surviving weeds are found, control those weeds before they can set seed or otherwise reproduce.

Herbicide Resistant Weeds

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

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

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

Sunflower Hybrids with the Dupont™ ExpressSun® Trait

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

ExpressSun® trait

Why should I grow sunflower hybrids with DuPont™ ExpressSun® tribenuron methyl herbicide tolerant technology?

The technology combines high-yielding sunflower hybrids tailored to your regional conditions with a full package of agronomic traits and tolerance to broad-spectrum herbicides, delivering efficient and effective weed control, crop quality, and global market acceptance.

Sunflower hybrids with the DuPont™ ExpressSun® herbicide tolerant trait are tolerant to EXPRESS® herbicide. The hybrids have been bred using traditional breeding techniques to provide tolerance to specific herbicides.

- The DuPont™ ExpressSun® herbicide tolerant trait system provides improved weed control over non-herbicide tolerant sunflower hybrids with traditional herbicides, and gives farmers the flexibility to spray herbicides after crop emergence.
- Express herbicide contains the active ingredient tribenuron methyl. This is a Group 2 herbicide. The ExpressSun trait only provides tolerance to tribenuron methyl and not other Group 2 herbicides.
- EXPRESS herbicide will damage any non-herbicide tolerant sunflower hybrid.

It is imperative that good agricultural practices, the herbicide label instructions, local laws and the guidelines below are followed to preserve the efficacy of the technology and comply with all stewardship recommendations.

Management of Volunteer Sunflowers with Herbicide Tolerant Technology

As with all sunflower crops, good volunteer management is essential to avoid competitive weeds in the following crops and the build-up and spread of major diseases.

Volunteers with the herbicide tolerance traits can be controlled in crops other than sunflowers by tillage and/or any non-Group 2 herbicide currently registered for sunflowers. Please contact your local herbicide retailer / distributor to determine the best herbicide options available.

- Plan at least a year ahead when planting sunflower hybrids with herbicide tolerant technology to include a diverse weed management plan and crop rotation that optimizes volunteer control in the next crop.
- Always employ good field hygiene in and around fields of sunflower hybrids with herbicide tolerant technology. Control volunteers in neighboring areas and avoid field-to-field movement of seed with planting, cultivation, and harvesting equipment.
- Prior to planting sunflower hybrids with herbicide tolerant technology, scout for volunteers and wild sunflowers in neighbouring areas. Control these by using tillage, mowing and/or non-Group 2 herbicides alone or in a tank mix, prior to seed set.

Management of herbicide resistance in weeds

The potential for weeds to develop herbicide resistance to herbicides must be considered when planning herbicide use. Herbicide resistance in weeds can develop and spread when a resistant plant reproduces and multiplies with repeated use of the same herbicide mode of action.

- Always grow sunflower hybrids with herbicide tolerant technology in rotation with other non-herbicide tolerant crops. Use at least a 3-year crop rotation, this allows the use of alternate weed control methods, prevents build up of volunteers and also reduces pressure from common sunflower insect pests, diseases and Orobanche. As an additional good practice, avoid planting sunflower hybrids with herbicide tolerant technology in areas with a history of heavy infestations by wild sunflower.
- Do not rely on Group 2 herbicides for weed control across the crop rotation, but alternate modes of action at least 2 out of every 4 years on your fields. Using more than one mode of action herbicide in a mixture is a proven practice to delay the development of resistant weeds. To be effective in preventing the build up of resistance, an herbicide mixture must contain active ingredients which give high levels of control of the target weed and are from different mode of action groups. Please refer to the EXPRESS herbicide information label for more details.
- Maintain detailed field records so that cropping and herbicide history is known.
- Scout fields after herbicide application to detect weed escapes or shifts. If a potentially resistant weed or weed population has been detected, use available control methods to avoid seed dispersion in the field.
- Clean equipment before moving between fields and after harvest to minimize the dispersion of weed and volunteer sunflower seed.

If you suspect a weed control failure is caused by weed resistance to an herbicide you should first contact your local sales professional.

¹ Group 2 herbicides, i.e., ALS inhibitors, are products based on the following chemical families: imidazolinones, pyrimidines, sulfonamides, sulfonyleureas, triazolopyrimidines. For more information on herbicide groups, please follow this link: <http://www.hracglobal.com/pages/classificationofherbicidesiteofaction.aspx>

PRODUCT USE STATEMENT: This seed contains the ExpressSun® trait provides resistance to tribenuron-methyl herbicides labeled for use with the ExpressSun trait. **WARNING:** The ExpressSun trait will safeguard **ONLY** against applications of tribenuron-methyl herbicides labeled for use with the ExpressSun trait, when applied at labeled rates. The ExpressSun trait **WILL NOT** safeguard against applications of other herbicides which require a different herbicide resistance gene. Always read and follow herbicide label instructions prior to use. **ACCIDENTAL APPLICATIONS OF INCOMPATIBLE HERBICIDES TO THIS HYBRID COULD RESULT IN TOTAL CROP LOSS.**

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

The technology incorporated into this seed is protected under one or more U.S. patents which can be found at: www.corteva.us/Resources/trait-stewardship.html.

Notes

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Corteva Agriscience™ - TECHNOLOGY USE AGREEMENT

This Technology Use Agreement is entered into by Grower and Corteva Agriscience™ (defined below) to set forth the terms and conditions upon which Grower shall use Seed containing Corteva Sourced Technology.

By signing below the undersigned represents and agrees that: (1) he/she has read and understands the terms and conditions of this Agreement, including the terms and conditions on the next page, (2) he/she is fully authorized to enter into this Agreement on behalf of the Grower identified in the Grower Information Box below, and (3) the terms and conditions of this 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: _____

 Grower's Authorized Signature Date Title of Person Signing

 Printed Name of Person Signing

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

Section A – For Individual (Sole Proprietorship) Grower

Grower Name – First MI Last

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

Full Address

City State Zip Code

County Phone

E-mail Address

Last 4 Digits of Social Security No.

Section B – For Business Entity Grower

Business Name

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

Authorized Representative

Full Address

City State Zip Code

County Phone

E-mail Address

Last 4 Digits of Tax ID No.

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](mailto:agreements@agcelerate.com)
- Mail:** AgCelerate, PO Box 221679, Charlotte, NC 28222-1679

"Agreement" means, as of any date of determination, this Technology Use Agreement, the then current (i) Product Use Guide(s) and (ii) Update Notification(s), all of which are incorporated herein and deemed a material part of this Agreement.

"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, DAS, Pioneer, DuPont, and their affiliated companies.

"Corteva Licensee" means an entity that has a valid, active agreement with DAS or Pioneer granting it a license to produce and sell Corteva seed trait technology in its seed products.

"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 Agreement includes, but is not limited to, the Patents listed in Update Notification(s) provided at the time of execution of this Agreement or thereafter.

"DAS" and **"Dow AgroSciences"** mean Dow AgroSciences LLC.

"DuPont" means E. I. du Pont de Nemours and Company.

"Enlist™ Herbicides" means agricultural products that contain 2,4-D choline herbicide featuring Colex-D Technology.

"Grower" means the individual farmer or farming entity identified in the applicable Grower Information Box.

"Licensed Rights" means all patent claims, 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 that are reasonably necessary for a Grower's exercise of the limited license granted under numbered Article 2 herein 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

"Patents" means Corteva patents held in the United States and/or Canada.

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

"Product Use Guide" and **"Guide"** mean the 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. The Guide(s) for Purchased Seed shall become a part of this Agreement, and Grower's use of Corteva Sourced Technology is subject to the terms of the Guide posted at www.traitstewardship.com as may be updated from time to time by Corteva.

"Production Crop" means seed that Grower produces for Corteva or a Corteva Licensee pursuant to a valid production agreement, which crop is controlled by Corteva or the Corteva Licensee.

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

"Representatives" means Corteva representatives and representatives of any owner of Corteva Sourced Technology.

"Seed" means agricultural planting seed containing Corteva Sourced Technology sold by Seed Sellers. "Seed" may contain Third-Party Trait Technology that is subject to the provider's separate licensing arrangements.

"Seed Seller" means Corteva Agriscience and those 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 Production Crop.

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

"Update Notification" means a communication to Growers with updated terms of this Agreement, which may include information regarding new and existing Corteva Sourced Technology, including (among other things) the Patents licensed under this Agreement and any new or modified Agreement terms. Each Update Notification for Purchased Seed shall become a part of this Agreement, and Grower's use of Seed and/or Corteva Sourced Technology following receipt of any Update Notification for Purchased Seed constitutes Grower's acceptance of all terms in the Update Notification.

2. LIMITED LICENSE: Upon acceptance by Corteva of this Agreement, unaltered and duly executed by Grower, Grower is granted and hereby accepts, on and subject to the terms and conditions of this Agreement, a limited, non-transferable, revocable, non-exclusive license by Corteva under the Licensed Rights solely to (i) purchase Seed from a Seed Seller or Corteva Licensee and (ii) to plant Purchased Seed to produce a single commercial crop in the United States in a single season or (iii) if Grower has entered into a current and valid seed production agreement with Corteva or a Corteva Licensee, 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.

In addition, 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 license only covers Grower's activities in the United States and does not authorize Grower to plant Seed in the United States that has been purchased/acquired in another country or to plant Seed in another country that has been purchased/acquired in the United States.

PROHIBITED ACTIVITIES:

- Grower acknowledges and agrees that Grower is NOT permitted to:
- supply, transfer, license or sublicense 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;
 - following burndown, use any phenoxy auxin herbicide-containing product (e.g., containing 2,4-D, 2,4-DB, MCPA, dichlorprop, LV6, MCPB, mecoprop which is NOT expressly labeled for use in conjunction with Enlist crops, including pre-emergent use;
 - following burndown, use any AOPP herbicides (e.g., quizalofop, cyhalofop, haloxyfop, diclofop, fenoxaprop, fluazifop) not expressly labeled for Enlist corn on emerged Enlist corn;
 - following burndown, use any pyridine auxin herbicides (e.g., triclopyr, fluroxypyr) on emerged Enlist crops;
 - save, clean or use any crop produced from Seed for planting, and not to supply crop produced from Seed to anyone for planting. The planting of any crop produced from Seed is not licensed and shall constitute infringement of Corteva's Patents, unless specifically permitted by a written agreement with Corteva or a Corteva Licensee.
 - plant Seed for seed production unless, and only if, Grower has entered into a valid, written Seed production agreement with Corteva or a Corteva Licensee, which agreement requires Grower to either physically deliver to Corteva or the Corteva Licensee, sell for non-seed purposes or use for non-seed purposes all of the Seed produced; and not to purchase or otherwise obtain from Corteva or the Corteva Licensee any of the Seed produced unless, after physical delivery by Grower to Corteva or the Corteva Licensee, that Seed has been conditioned, packaged and delivered by Corteva or the Corteva Licensee to Grower in the same manner as Seed sold by Corteva or the Corteva Licensee to growers who have not entered into a Seed production agreement; and
 - 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.

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 to Grower.

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

The Update Notification is incorporated herein and deemed a material part of this Agreement once posted on the Corteva Agriscience™ website (www.traitstewardship.com). For so long as Grower has a valid Agreement in effect with Corteva, Corteva will provide notice of Update Notifications to Grower to the email address or physical address provided by Grower above.

New Guides are incorporated herein and deemed a material part of this Agreement once posted on the Corteva Agriscience website (www.traitstewardship.com). Current Guides will be available from Seed Sellers, from Corteva directly and/or on the Corteva website (www.traitstewardship.com).

Until this Agreement is terminated or superseded as set out in Article 5, the terms and conditions of use set forth on the packaging (including bag tags) of Purchased Seed are incorporated herein and deemed a material part of this Agreement.

Grower acknowledges and agrees that updates of this Agreement, any Update Notification and any Product Use Guide published from time to time by Corteva are incorporated herein and deemed a material part of this Agreement once posted on the Corteva Agriscience website (www.traitstewardship.com).

Grower's use of Seed after Corteva posts on the Corteva Agriscience website (www.traitstewardship.com) updates of this Agreement, an Update Notification or a Guide, or a new Update Notification or a new Guide, constitutes Grower's acceptance of and agreement to be bound by the provisions of such updated or new documents.

Inconsistencies among (i) the Update Notification, (ii) the Technology Use Agreement, (iii) relevant Guide(s), each as posted on www.traitstewardship.com at the time Grower opens a bag or container of Seed for planting, and (iv) the packaging of the Purchased Seed, shall be resolved in the following order: first, in favor of the Update Notification, second, the Technology Use Agreement, third, the Guide(s), and fourth, the packaging of the Purchased Seed.

4. STEWARDSHIP AND COMPLIANCE:

Grower agrees to read and follow all applicable Guides, the terms and conditions set forth on the packaging of the Purchased Seed, and product labels associated with Corteva Sourced Technology and Enlist Herbicides. You must follow the best management practices, recommendations, and guidelines provided in all applicable Guides.

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 can result in loss of access to insect protected hybrids for at least one year.**

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

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.

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 hereof, including, but not limited to, completing written and oral questionnaires and cooperating with Corteva and third party on-farm IRM compliance assessments.

Grower authorizes the Representatives to enter upon land where Grower has planted or is growing Seed as well as any refuge area and access to bins, wagons or seed storage containers for purposes of examining the land and Grower's crop and taking samples of crops, crop residue or seeds located thereof. Such inspection, examination or sampling shall be available to Corteva and the Representatives only after Corteva or the Representatives deliver or mail to the Grower written notification at least three (3) days in advance and Corteva or the Representatives also have reasonably attempted to discuss the visits with the Grower in advance of the visit. Corteva will indemnify Growers for entry by Corteva employees or the Representatives onto land, but not for Grower's gross negligence or a violation of the law.

Corteva Agriscience 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 this Agreement including, but not limited to, proprietary plant varieties and/or hybrid products can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing 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 shall direct crops, grain, or material produced from Seed only to appropriate markets. Any crops, grain, or material produced from Seed can only be exported to, or used, processed, or sold in countries where all necessary regulatory approvals have been granted. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

Grower authorizes the Representatives to review the USDA Farm Service Agency crop reporting information, including Form 578 and corresponding aerial photographs.

Upon the request of the Representatives, Grower shall furnish copies of invoices and other relevant documents for Grower's purchases of seed and chemical transactions, and Grower will disclose to the Representatives certain information, including the locations of all fields, to confirm compliance with this Agreement following Corteva's actual (or attempted) oral communication with Grower and not later than

seven (7) days after the date of a written request from Corteva, including the locations of all fields planted with crops containing Corteva Sourced Technology, the identities of all herbicides applied to these fields, and other data as specified in the Guide(s).

Grower hereby consents to the collection, use and disclosure of Grower's personal or company data and purchase information by and among: (i) Corteva and its affiliated companies, including parents, subsidiaries and affiliates ("Corteva"); (ii) 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; and (iv) Corteva partners and service providers for purposes of conducting on-farm IRM or other compliance assessments.

5. TERM AND TERMINATION:

This Agreement, once signed by Grower and accepted by Corteva, will remain in effect until terminated or superseded. Grower or Corteva may terminate this Agreement at any time and for any reason by sending written notice of termination to the other party at the address specified in section A, B or D above. In addition to the foregoing, Corteva reserves the right to revoke Grower's right to use any Corteva Sourced Technologies upon notice to the Grower. In the case of termination by Grower, such notice of termination must include Grower's full name, address, and license number. Upon termination of this Agreement or a license granted hereunder with respect to any Corteva Sourced Technology for any reason, (i) Grower shall terminate the use of all Seeds containing the particular Corteva Sourced Technology which may require destruction; (ii) Grower shall return unused Seeds containing such Corteva Sourced Technology to Corteva at Grower's cost; and (iii) Grower will no longer have a right to purchase or use Seed containing such Corteva Sourced Technology. Notwithstanding the foregoing, Grower's obligations and Corteva's rights that arose under the Agreement prior to termination will continue in effect.

6. CORTEVA SOURCED TECHNOLOGY FEES:

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 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 fees. Grower shall pay interest to Corteva on any past-due fees at the rate of 1.5% per month (18% per annum) or the maximum amount permitted by law, whichever is less, from the applicable due date for such fees until paid. Any payments received by Corteva may be applied to unpaid fees, interest or other charges in Corteva's discretion.

7. LIMITATIONS OF WARRANTIES AND REMEDIES:

Corteva warrants that the Corteva Sourced Technology contained in the Purchased Seed licensed hereunder conforms to the written description(s) in the Update Notification(s) and on the packaging of the Purchased Seed when used in accordance with the directions and in compliance with this Agreement. This warranty applies only to the Corteva Sourced Technology contained in Purchased Seed.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY AND/OR OF FITNESS FOR A PARTICULAR PURPOSE WHICH ARE HEREBY DISCLAIMED.

Because Corteva must have sufficient time to investigate any claim regarding the performance or non-performance of Purchased Seed and/or Corteva Sourced Technology, no claim can be asserted against Corteva unless Grower gives notice to Corteva within fifteen (15) days after Grower first observes indications that the performance of the Purchased Seed and/or Corteva Sourced Technology is not as warranted.

Grower's EXCLUSIVE REMEDY FOR ANY CLAIM OR LOSS, INCLUDING, WITHOUT LIMITATION, CLAIMS ALLEGING STRICT LIABILITY OR NEGLIGENCE, SHALL BE LIMITED TO: (i) REPAYMENT OF THE AMOUNT OF THE PURCHASE PRICE OR (ii) REPLACEMENT OF THE AFFECTED PURCHASED SEED. IN NO EVENT SHALL CORTEVA, ITS AFFILIATES, DEALERS OR LICENSEES BE LIABLE FOR ANY INCIDENTAL, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH SEED AND/OR CORTEVA SOURCED TECHNOLOGY.

8. ADDITIONAL PROVISIONS:

Grower agrees to communicate all applicable terms, conditions and restrictions on Seed whether under this Agreement, a Guide, an Update Notification or otherwise to all persons and entities possessing or taking an interest in Grower's Seed and grain therefrom.

Except as provided herein, notices to Grower or to Corteva shall be sent to the addresses specified in sections A, B or D above.

Grower agrees that should any information provided to Corteva herein change, Grower will promptly notify Corteva via section D above.

Nothing in this 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 limited to those marks associated with the Enlist trait, seed, technology or products.

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

This Agreement (including documents and updates incorporated herein pursuant to Article 3 hereof) constitutes the entire agreement between Grower and Corteva regarding the use of Purchased Seed and Corteva Sourced Technology. All prior agreements and understandings between Grower and Corteva with respect to Purchased Seed and Corteva Sourced Technology are hereby superseded.

If any provision in this Agreement is determined to be void or unenforceable, the remaining provisions shall remain in full force and effect.

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

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

Jurisdiction and Governing Law: This interpretation and enforcement of this Agreement shall be governed by the laws of the State of Iowa 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 COURT OF THE COUNTY 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 IOWA. Grower and Corteva unconditionally waive any right to trial by jury in any action, proceeding or counterclaim in any way arising out of or relating to this Agreement.

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

ExpressSun® trait

ExpressSun® is a trademark of DuPont or its affiliates. Express® is a trademark of FMC.

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

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 Excellence Through Stewardship.

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 sunflower hybrids 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.

