



PRECISION
SMART CORN SYSTEM

U.S. TECHNOLOGY STEWARDSHIP GUIDE



TRAIT MANAGEMENT STEWARDSHIP



Stewardship Guide

Contents

Stewardship Overview	3
Corn Stewardship	13
Cotton Stewardship	16
Soybean Stewardship	18
Canola Stewardship	20
Camelina Stewardship	26
Wheat Stewardship	28
Alfalfa Stewardship	29
Sweet Corn Stewardship	30

A Message About Stewardship

Bayer is committed to enhancing grower productivity through the introduction of innovative seed, trait, and crop protection products. These new technologies bring enhanced value and benefits to growers, and growers assume responsibility for the proper management of these products. Growers planting seed containing Bayer Technologies (as defined in the Technology Stewardship Agreement), such as those with biotechnology traits, single-use wheat varieties, and/or seed treatments, agree to implement all stewardship requirements, which include, but are not limited to, the following:

- Read, sign, and comply with the Technology Stewardship Agreement and obtain a grower license number from Bayer or its permitted designee before purchasing or using any product or technology covered by the Technology Stewardship Agreement. If you have not read and signed a Technology Stewardship Agreement, you can go to **AgCelerate.com** to complete the online licensing process. If you already hold a valid Technology Stewardship Agreement, this Technology Use Guide (TUG) is included in the current terms and conditions of that Technology Stewardship Agreement.
- Note that the terms of the Technology Stewardship Agreement and the TUG are updated by Bayer from time to time. The most recent version of the Technology Stewardship Agreement can be found at these links: **AgCelerate.com** and **tug.bayer.com**, and the most recent version of the TUG can be found at **tug.bayer.com**.
- Read, understand, and follow all the requirements and directions for use on all seed bags, product labels and/or tags.
- Read and understand the applicable IRM Grower Guide prior to planting seed containing insect-protected traits and comply with the specific IRM requirements for those traits as mandated by the U.S. Environmental Protection Agency (EPA).
- Cooperate and comply with any additional IRM/Integrated Pest Management (IPM) programs that Bayer communicates or makes available.
- Observe regional planting restrictions mandated by the EPA.
- Use seed containing Bayer Technologies (as defined in the Technology Stewardship Agreement) solely for planting a single commercial crop in the United States.
- Comply with any additional stewardship requirements, such as grain or feed use agreements, product marketing requirements, or geographical planting restrictions that Bayer deems appropriate or necessary for proper stewardship or to comply with regulations.
- Sell crops or material containing biotechnology traits only to grain handlers who confirm their acceptance, or who use those products on-farm.
- Do not move seed or material containing biotechnology traits across international boundaries or into nations where import is not permitted.
- Do not use, plant, apply, sell, promote, or distribute a product within a state where the product is not yet registered by the appropriate regulatory authorities.
- Follow all applicable stewardship recommendations as outlined in this TUG.
- Follow the Herbicide Resistance Management Recommendations and the Corn Rootworm BMPs to help minimize the risk of developing weed or insect resistance, respectively.
- Always read, understand, and follow pesticide label directions and requirements. The label is the law.
- It is important to only use pesticides that are approved in your state and only for the applications that are permitted on the pesticides' labels. Applying a pesticide in a manner not permitted on its label is a violation of federal laws, could subject you to fines, and may also result in adverse license effects, including, but not limited to, termination of your Technology Stewardship Agreement.
- Not all pesticide products (even if they have the same active ingredients) have the same use requirements or the same instructions for use. Do not assume that because a pesticide product is approved for use in a specific manner and at a specific time, that the same use is allowed for a different pesticide product, even with the same active ingredients.
- Follow proper disposal of unused pesticide, rinsate, treated seed and product packaging in accordance with the label and seed bag tag requirements.
- If you have questions about a Bayer pesticide product, please call **1-866-992-2937**.

Why Is Stewardship Important?

- 1

Signing a Technology Stewardship Agreement gives a grower access to Bayer’s patented germplasm, seed containing its patented traits, and other seed products, such as WestBred® single-use wheat varieties. Growers also receive limited warranties on Bayer Technology performance and the opportunity to participate, when eligible, in various Bayer programs such as Bayer PLUS Rewards.
- 2

Following IRM requirements helps to prevent the development of insect resistance to *B.t.* technologies, enables the long-term durability of these technologies, and meets EPA requirements.
- 3

Using seed containing Bayer Technologies for planting a single commercial crop encourages investment in seed innovations that help sustain long-term productivity for growers.

Crop or Material Handling Stewardship Statement

The following Excellence Through Stewardship® statement applies to Roundup Ready® Corn 2, DroughtGard® Hybrids with Roundup Ready® Corn 2, VT Double PRO® Corn, DroughtGard® Hybrids with VT Double PRO® Corn, VT Double PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Double PRO® RIB Complete® corn blend, VT Triple PRO® Corn, DroughtGard® Hybrids with VT Triple PRO® Corn, VT Triple PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Triple PRO® RIB Complete® corn blend, VT4PRO™ Corn, VT4PRO™ RIB Complete® corn blend, SmartStax® Corn, SmartStax® RIB Complete® corn blend, SmartStax® PRO and SmartStax® PRO RIB Complete® corn blend, Preceon™ Smart Corn System, Trecepta® Corn, Trecepta® RIB Complete® corn blend, Bollgard II® Cotton, Bollgard II® with Roundup Ready® Flex Cotton, Bollgard II® XtendFlex® Cotton, Bollgard® 3 XtendFlex® Cotton, Bollgard® 3 ThryvOn™ cotton with XtendFlex® Technology, XtendFlex® Cotton, Roundup Ready® Flex Cotton, Roundup Ready® Spring Canola, Roundup Ready® Winter Canola, TruFlex® Canola with Roundup Ready® Technology, TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies, DEKALB® LibertyLink® Canola, Performance Series® Sweet Corn, Roundup Ready 2 Yield® Soybeans, Roundup Ready 2 Xtend® Soybeans, XtendFlex® Soybeans and Vistive® Gold Soybeans with Roundup Ready 2 Yield® Technology:

Bayer is a member of Excellence Through Stewardship® (ETS). Bayer products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Bayer’s Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has been approved for import into key export markets with functioning regulatory systems. 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. It is a violation of national and international law to move material containing biotechnology 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.

The following Excellence Through Stewardship statement applies to Roundup Ready® Alfalfa and HarvXtra® Alfalfa with Roundup Ready® Technology:

Forage Genetics International, LLC (“FGI”) is a member of Excellence Through Stewardship® (ETS). FGI products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with FGI’s

Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Any crop or material produced from this product can only be exported to, or used, processed or sold only in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotechnology 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. Growers should refer to **biotradestatus.com** for any updated information on import country approvals. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

The following Excellence Through Stewardship statement applies to Roundup Ready® Sugarbeets:

KWS SAAT SE & Co. KGaA (“KWS”) is a member of Excellence Through Stewardship® (ETS). KWS has imposed strict rules on itself relating to the responsible use of genetic engineering and plant materials created through its use. KWS has been a member of the industry initiative “Excellence Through Stewardship®” (ETS) since 2013. ETS is an integral component of our quality management system. KWS products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in conformance with the KWS stewardship program. This product (and any crop, material or byproduct produced or resulting from it) can only be exported to, or used, processed or sold in countries where all necessary regulatory and other legal approvals have been expressly granted. It is illegal to transfer material containing biotechnology traits into countries where import of this material is restricted or not permitted. Excellence Through Stewardship is a registered trademark of Excellence Through Stewardship.

Please see the product-specific sections of Roundup Ready® Flex Pima Cotton, Roundup Ready® Alfalfa and HarvXtra® Alfalfa with Roundup Ready® Technology for important information including material handling on those products.

Bayer is a member of the Seed Innovation and Protection Alliance (SIPA), an organization established to promote the understanding and value of seed innovations as well as to facilitate and promote the respect of intellectual property rights for the benefit of members, growers, industry associates, consumers and the agricultural community. For more information about SIPA, visit **seedipalliance.com**.

Intellectual Property Rights

If Bayer reasonably believes that a grower may have planted saved seed in violation of the terms of the Technology Stewardship Agreement and/or contrary to Bayer’s intellectual property rights, Bayer or Bayer’s agents will request invoices and business records to confirm that the grower has not planted saved seed and instead planted the field(s) with seed purchased from an authorized dealer. This information is to be provided within seven days after a written request. At times, Bayer may also enforce its rights to inspect, test, and sample a grower’s field(s) pursuant to the terms of the Technology Stewardship Agreement.

If you have questions about the intellectual property for seed or traits or become aware of anyone who may be saving seed or otherwise planting unauthorized seed in violation of their Technology Stewardship Agreement, please speak with your Bayer representative or contact us in any of the following ways:

- Phone: 1-866-992-2937
- Online: cropscience.bayer.us/contact
- Letter: Trait Stewardship
622 Emerson Rd, Suite 150
Creve Coeur, MO 63141

Anyone may provide anonymous or confidential information as follows:

“Anonymous” reporting occurs when a person reports information to Bayer in such a way that the identity of the person reporting the information cannot be identified. This kind of reporting includes telephone calls requesting anonymity, emails, and unsigned letters.

“Confidential” reporting occurs when a person reports information to Bayer in such a way that the reporting person’s identity is known to Bayer. Every effort will be made to protect a person’s identity, but it is important to understand that a court may order Bayer to reveal the identity of people who are “known” to have supplied relevant information.

For more information on seed and trait intellectual property, go to **traits.bayer.com** and select “Stewardship” at the top of the page.



Commitment to Steward Insect-Protected Traits



Bayer is committed to the success of our grower customers by providing practical, flexible, and cost-effective solutions that address on-farm challenges, contribute to grower choice and provide economic benefits to our customers. To help ensure that insect-protected traits (e.g., *B.t.* traits) remain a viable tool for growers, we are committed to ongoing conversations with the corn and cotton industries on the following IRM efforts to establish the most comprehensive approach to the stewardship of corn and cotton insect-protected traits.

Bayer’s ongoing IRM efforts include:

- Continually working to increase overall awareness of the need for, and adoption of, strong IRM programs through our Bayer seed dealers as well as the academic community.
- Carefully evaluating the need for—and practicality of—updating our BMPs or agronomic recommendations as new scientific data become available. Updates may include information tailored to local growing conditions, refuge compliance, scouting techniques, the addition of soil- and seed-applied insecticides, maturity and harvest schedules, soil management practices, crop rotation and adoption of products with multiple modes of action.

- Expanding our offering of multi-trait corn hybrids and cotton varieties that provide multiple modes of action, increasing the durability of traits. We encourage growers to try these seeds with enhanced protection as the product line expands in their area.
- Researching and developing other genes in our pipeline so that we can continue to deliver products with new and increased modes of action.
- Continuing multiyear, targeted resistance monitoring of insect populations through the Agricultural Biotechnology Stewardship Technical Committee (ABSTC), a consortium of agricultural biotechnology companies.
- Actively investigating reports of insect resistance.
- Conducting thorough, generational studies on sample insect populations as appropriate to determine if stable and inherited resistance is present.
- Monitoring and studying the occasional performance issues in fields with very high insect injury levels that exceed commercial thresholds.

Insect Resistance Management Requirements

An effective insect resistance management (IRM) program is a vital part of responsible product stewardship for insect-protected biotechnology products.

Bayer is committed to implementing an effective IRM program for all its insect-protected technologies in all countries where they are commercialized. Such programs are based on available knowledge, practicality, grower acceptance and implementation of the plan.

The EPA requires that Bayer implement, and that growers who purchase insect-protected products follow, an IRM plan. IRM programs for insect-protected traits are based on an assessment of the biology of the major target pests, grower needs, agronomic practices, and appropriate pest management practices. These mandatory regulatory programs have been developed and updated in cooperation with grower and consultant organizations, including the National Corn Growers Association, the National Cotton Council, extension specialists, academic scientists and regulatory agencies.

These programs contain several important elements. One key component is a refuge. A refuge is simply a portion of the relevant crop that does not contain an insect-protected technology for the target insect pests. The lack of exposure to an insect protection protein allows susceptible insects emerging from the refuge to mate with the rare resistant insects that may emerge from the insect-protected crop. Susceptibility to the insect-protected technology would then be passed onto their offspring, helping to preserve the long-term effectiveness of that and possibly other insect-protected technologies.

Growers who purchase seeds containing an insect protection technology must plant a refuge.* Refuge size, configuration and management are described in detail in the current IRM Grower Guide and in the Corn and Cotton sections of this Technology Use Guide.

Bayer is committed to the preservation of insect-protected technologies. Please do your part to preserve insect-protected technologies by implementing the correct IRM plan on your farm. Failure to follow IRM requirements and to plant a proper refuge may result in the loss of a grower’s access to Bayer insect-protected technologies.

Compliance Monitoring Program

The EPA requires Bayer to take corrective measures in response to a finding of grower IRM non-compliance. As mandated by the EPA, Bayer or an approved agent of Bayer must monitor grower compliance with IRM and refuge requirements. The Technology Stewardship Agreement signed by the grower requires that upon request by Bayer or its approved agent, a grower must provide the location of all fields planted with Bayer insect-protected technologies and the locations of all associated required refuge areas. The grower must fully cooperate with any field inspections and allow Bayer, or an agent of Bayer, to inspect all fields and refuge areas to ensure an approved IRM program has been followed. All inspections will be performed at a reasonable time and arranged in advance with the grower so that the grower can be present.

Questions? We’re Here to Help.

Bayer works collaboratively to develop and implement IRM programs that strike a balance between available knowledge and practicality, with grower acceptance and implementation of the plan as critical components. Refuge requirements vary by the type of product being planted and the location of planting. Growers must plant the amount of refuge acres for a product that is required for their growing region. Please contact your seed dealer with any questions about IRM or refuge requirements and/or call **1-866-992-2937**.

Growers should monitor their fields and contact their seed dealer or Bayer at 1-866-992-2937 if performance problems are observed.

IRM Requirement

Growers must read the current IRM Grower Guide prior to planting for information on required IRM. The corn and/or cotton IRM Grower Guide is located on the seed bag tag.





* In some areas, a natural refuge option is available for cotton containing Bollgard II®, Bollgard® 3, Bollgard® 3 ThryvOn™ Cotton Technologies, and Bollgard® 3 ThryvOn™ Cotton with XtendFlex® Technology. For Performance Series® Sweet Corn products, instead of planting a refuge, the crop must be destroyed no later than 30 days following harvest (but preferably within 14 days). When planted in the Corn-Growing Area, as defined in the Technology Use Guide, there are no requirements for a separate structured refuge for SmartStax® RIB Complete® corn blend, SmartStax® PRO RIB Complete® corn blend, Trecepta® RIB Complete® corn blend, VT Double PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Double PRO® RIB Complete® corn blend, VT Triple PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Triple PRO® RIB Complete® corn blend, and VT4PRO™ RIB Complete® corn blend. However, in the Cotton-Growing Area, a separate 20% structured refuge is required when planting SmartStax® RIB Complete® corn blend, SmartStax® PRO RIB Complete® corn blend, Trecepta® RIB Complete® corn blend, VT Double PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Double PRO® RIB Complete® corn blend, VT Triple PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Triple PRO® RIB Complete® corn blend, and VT4PRO™ RIB Complete® corn blend. See the current IRM Grower Guide on the corn and/or cotton bag tag for details.

Integrated Pest Management Recommendations

Integrated pest management (IPM) describes an effective and environmentally sustainable approach to pest management that relies on a combination of common-sense practices.

IPM programs use relevant, comprehensive information on the life cycles of pests and their interaction with the environment. This information is used to manage pests in a manner that is least impactful to people, property and the environment.

Preventing Pest Adaptation

Use BMPs in conjunction with the appropriate seed product to help obtain the greatest yield benefits.

Use seed products, seeding rates and planting technologies appropriate for each crop and geographical area. As much as possible, manage the crop to avoid plant stress. Here are some additional suggestions:

- Use proper crop rotation practices and products to control pests, making it more difficult for pests to adapt. In areas where crop rotation is not practiced, or where rotation occurs but high pest populations are observed, the use of products with multiple modes of action, such as SmartStax® RIB Complete® corn blend, is strongly recommended.
- Employ appropriate scouting techniques and treatment decisions to preserve beneficial insects that can provide additional insect pest control.
- Manage for appropriate maturity and harvest schedules.
- Use soil management practices that encourage destruction of over-wintering pests.

Monitoring Pests

Carefully monitor fields for all pests and follow regional pest management recommendations to determine the need for remedial insecticide treatments. For target pests, scouting techniques and supplemental treatment decisions should consider the fact that larvae must hatch and feed before they will be affected by the insect protection protein(s). For Lepidopteran pests, fields should be scouted regularly following periods of heavy or sustained egg lay, especially during bloom or flowering, to determine if significant larval survival has occurred.

In cotton, scouting for Lepidopteran pests should include a modified whole-plant inspection, including terminals and all stages of fruit. Larvae larger than 1/4 inch (3 to 4 days old) are generally recognized as survivors that may not be controlled by products with Bollgard II® and Bollgard® 3 Cotton Technologies.

In cotton, scouting for thrips or tarnished plant bug species should include specific insect counts for each species, along with square retention estimates for tarnished plant bug. Please reference your local state extension office for specific economic thresholds for thrips and tarnished plant bugs, as well as specific sampling techniques. Scouting is critical to determine which and how many insecticide applications are recommended to avoid economic losses greater than the pest management costs (i.e., when economic thresholds are met).

ThryvOn™ Cotton Technology does not provide complete control of tarnished plant bug or thrips species, but may reduce the number of insects present, so continue to scout and spray according to locally established economic thresholds.

Controlling Cotton Pests

Bayer recommends the use of appropriate remedial insecticide treatments to help provide desired levels of control if any cotton insect pest reaches locally established economic thresholds in products with Bollgard II®, Bollgard® 3 and ThryvOn™ Cotton Technologies.

Although products with Bollgard II®, Bollgard® 3 and ThryvOn™ Cotton Technologies may sustain less damage from some of the most troublesome lepidopteran, tarnished plant bugs and thrips pests, they will not provide protection against all pests and may require insecticide treatments of target pests under conditions of high pest pressure. Insect pests should be monitored and treated with insecticides when necessary, using recommended economic thresholds from the local state cooperative extension service, professional consultants or other qualified authorities. Whenever possible, select insecticides that are least harmful to beneficial insects.

Performance Series® Sweet Corn

Performance Series® Sweet Corn can control corn earworm under typical infestation levels, but to help ensure quality ears at harvest, supplemental insecticide applications may be required when corn earworm populations are above economic thresholds. Protection from corn earworm must be coupled with thorough scouting and spray programs to help maximize marketable yield potential. Destroy crop residue immediately after harvest to avoid regrowth and minimize selection for insect resistance in late-season infestations.

Weed Management

Bayer believes product stewardship is a fundamental component of customer service and responsible business practices.

Bayer is committed to the proper use and long-term effectiveness of its proprietary herbicide brands through a four-part stewardship program:

- 1)** developing appropriate weed control recommendations,
- 2)** continuing research to refine and update recommendations,
- 3)** educating on the importance of effective weed management, and
- 4)** promptly responding to weed control inquiries through a product performance evaluation process.

As a leader in the development and stewardship of Roundup® Brand Agricultural Herbicides, Roundup Ready® Crops, Roundup Ready® Xtend Crops and other products, Bayer invests significantly in research conducted in conjunction with academic scientists, extension specialists and crop consultants. This investment includes an evaluation of the factors that can contribute to the development of herbicide resistance and how to properly manage weeds to delay the selection for herbicide resistance. Visit the Weed Science Society of America (WSSA) at **wssa.net** and **iwilltakeaction.com** to access herbicide-resistance training lessons that provide in-depth educational information. Get rewarded for using Bayer products, including a wide range of herbicides. Visit

MyBayerPLUS.com to sign up and learn more about this rewards program.



Bayer supports the Take Action Pesticide-Resistance Management partnership. Take Action is an industry-wide partnership between university weed scientists, major herbicide providers and organizations representing corn, cotton, sorghum, soybean and wheat growers to help prevent and manage herbicide-resistant weeds. The Take Action effort encourages the development of a proactive strategy that incorporates a diverse set of controls to manage herbicide-resistant weeds. To learn more, visit **iwilltakeaction.com/weeds**, or contact your local extension office.



What to Do When Herbicide-Resistant Weeds Are Suspected or Present

Bayer investigates new claims of suspected weed resistance cases to Bayer branded herbicides. Report any incidence of repeated non-performance of Bayer branded herbicide products on a particular weed to the appropriate company representative, local retailer or county extension agent. To manage herbicide-resistant weeds, Bayer provides recommended control measures, which may include additional herbicides, label-approved tank mixes, mechanical and/or cultural practices. Bayer actively communicates all this information to growers through multiple channels, including the herbicide label,

supplemental labeling, this TUG, media and written communications, **www.roundupreadyxtend.com**, **www.MyBayerPLUS.com**, **www.weedscience.org** (a database on herbicide-resistant weeds), grower meetings and Bayer-supported external programs. Bayer will report any unique case of confirmed herbicide resistance at **www.weedscience.org**.

Growers must be aware of, and proactively manage for, dicamba- or glyphosate-resistant weeds in planning their weed control program. If a weed is known to be resistant to dicamba or glyphosate, then a resistant population of that weed is, by definition, no longer controlled with labeled rates of dicamba or glyphosate herbicides. Stryax® herbicide with VaporGrip® Technology is not warranted to cover the failure to control dicamba-resistant weed populations.

Recommendations for Managing Resistant Weeds in Roundup Ready® Xtend Crops

Various weed biotypes are known to be resistant to glufosinate, glyphosate and/or dicamba. For regional weed management recommendations specifically related to cotton and soybeans in Roundup Ready® Xtend Crops, refer to **roundupreadyxtend.com/weedmanagement**, and for more information on the Integrated Weed Management Program, visit **iwm.bayer.com**. In addition, visit the Weed Science Society of America at **wssa.net** to access herbicide resistance training and **iwilltakeaction.com** for additional stewardship program resources. A complete list of specimen labels is available at **www.cdms.net/Label-Database**. Approved labels, including any applicable supplemental labeling, must be in the possession of the user at the time of pesticide application and can be obtained by calling **1-866-992-2937** or by contacting your State Pesticide Lead Agency for more information.

Endangered Species Requirement

Before making an application of any 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 croplands. If a grower does not have web access, the grower can contact their seed dealer or call **1-800-332-3111** for assistance.

Read and follow all product labeling before making in-crop or other applications of Bayer branded herbicides or any other pesticide. For supplemental labels or fact sheets for Bayer products, call **1-866-992-2937**. Bayer does not restrict your ability to use any herbicide so long as the product is specifically registered and labeled for in-crop use on the applicable crop. Read the product label or contact the product manufacturer if you have questions about EPA or state approvals for in-crop use. BAYER DOES NOT MAKE ANY REPRESENTATIONS, WARRANTIES OR RECOMMENDATIONS CONCERNING THE USE OF PRODUCTS MANUFACTURED OR MARKED BY COMPANIES OTHER THAN BAYER, INCLUDING BUT NOT LIMITED TO THOSE THAT ARE LABELED FOR USE IN CROP(S) CONTAINING BAYER TECHNOLOGY. BAYER SPECIFICALLY DISCLAIMS ALL RESPONSIBILITY FOR THE USE OF THESE PRODUCTS IN CROP(S) CONTAINING BAYER TECHNOLOGY. ALL QUESTIONS AND COMPLAINTS ARISING FROM THE USE OF PRODUCTS MANUFACTURED OR MARKED BY OTHER COMPANIES, OR THE IMPACT TO BAYER TECHNOLOGY FROM THE USE OF SUCH PRODUCTS, SHOULD BE DIRECTED TO THOSE OTHER COMPANIES.

Treated Seed Best Management Practices and Requirements

The use of seed-applied treatments by growers can be an effective tool to protect seeds for a strong, healthy start. Seed treatments can be precisely applied to help shield seeds from insects and diseases that exist in the soil during a seed's early developmental stages.

Below are some recommended BMPs and requirements for the handling and planting of treated seed:

- Always follow the directions on seed bags and/or tags for proper storage, handling, planting and disposal practices, based on the specific treatments applied to the seed.
- Always follow personal protective equipment (PPE) requirements on seed bags and/or tags.
- Minimize dust by:
 - Using advanced seed flow lubricants that minimize dust, such as Fluency Agent Advanced. Learn more at cropsscience.bayer.us/seedgrowth/fluency-agent-advanced.
 - Avoiding off-site movement of dust from treated seeds during planting or when opening seed containers by observing wind speed and direction.
- Collect and properly dispose of any spilled treated seed to minimize exposure to people, livestock, wildlife and the environment. For more information on treated seed stewardship and handling spills, please visit this site: seed-treatment-guide.com/wp-content/uploads/2018/03/Treated-Seed-Stewardship-for-Handling-Spills.pdf.
- Return leftover seed to its original containers if the seed is intended for storage and use at a later date.

- Completely clean any equipment that has held treated seed of remnant seed and dust and dispose of such remnant seed appropriately. There is zero tolerance for treated seed kernels in the commodity grain channel.
- Refer to seed bags and/or tags for the annual maximum amount of active ingredient(s) that can be applied to each acre. Consider all foliar, furrow, treated seed, plant back, rotational crop and seed disposal contributors that include the same active ingredient(s) and ensure they do not cumulatively exceed the maximum amount.

For more information, please refer to the Guide to Seed Treatment Stewardship, produced by the American Seed Trade Association (ASTA) and Crop Life America (CLA) at seed-treatment-guide.com.



Fluency Agent Advanced

Fluency Agent Advanced is a seed lubricant for corn and soybeans from Bayer. It is replacement for talc, graphite and talc/graphite blended seed lubricants.



Fluency Agent Advanced is an improved version of the original Fluency Agent. It has been optimized for easier handling, including enhanced uniformity and reduced residue buildup. These characteristics allow for improved measuring, pouring and mixing

of product and less residue in the seed hopper.

Fluency Agent Advanced reduces the amount of insecticide active ingredient released in treated seed dust during planting by more than 88%¹ as compared to talc, therefore reducing the risk of exposure to non-target insects, including bees.

To ensure that grower practices help promote agricultural sustainability, we encourage growers to follow these tips:

- C** Communicate planting activities to neighboring beekeepers when practical and be aware of beehives adjacent to the planting area.
- A** Be aware of wind speed and direction during planting, particularly in areas with flowering crops.
- R** Reduce risk to pollinators by eliminating or reducing flowering weeds in fields when practical.
- E** Ensure that seed is planted correctly. To help protect the environment, clean planters and seed boxes to minimize dust release and ensure that treated seed is planted at the proper depth.



¹ When using a deflector and used in accordance with label directions.



Establishing Healthy Pollinator Habitats

Pollinators are essential to agricultural systems.

By providing high-quality habitats for pollinators such as bees and monarch butterflies, you provide benefits to your farm by increasing the diversity of pollinators and other beneficial insects in your area. These benefits contribute to productive and sustainable farmscapes.

In addition, consider establishing diverse habitats that have a mixture of wildflowers, milkweed and other beneficial plants to supply nutrition and breeding areas for a variety of pollinators, including bees, butterflies and birds. Plant these habitats in non-cultivated areas such as conservation lands/buffers, ditches or roadsides. Follow label directions intended to minimize spray drift to non-target plants that provide habitat for pollinators and other non-target organisms.

Every region is different. To get started, check out the resources at farmersformonarchs.org.

Bayer is working with experts in biodiversity, including academics, growers, conservation groups and government agencies across the United States, to improve the habitat and ecosystem for the monarch butterfly and pollinators such as honey bees. We work with the Bee & Butterfly Habitat Fund, Monarch Watch, National Fish and Wildlife Foundation, Keystone Policy Center Monarch Collaborative, Iowa Monarch Conservation Consortium, Pheasants Forever and Missourians for Monarchs Collaborative, among others.

www.bayer.com/en/us/biodiversity-initiatives-in-the-community

Pollinator Health Information

From time to time, claims circulate that insect-protected biotechnology crops harm pollinators. The insecticidal proteins produced by the currently available insect-protected crops are derived from a common soil bacterium, and Bayer screens all the proteins we use for toxicity to pollinators and other non-target organisms.

Bayer has many efforts underway to improve pollinator health:

- We established seed treatment BMPs to manage risks to beneficial insects.
- We contribute to and support stewardship outreach programs to growers and applicators to protect pollinators in programs. Check out the BeSure! program at growingmatters.org. Read more at bayer.com/en/us/healthy-hives.
- We actively support collaborations with the pollinator industry, USDA and university researchers, people engaged in pollinator-dependent agriculture and corn and soybean growers to identify ways to protect and improve pollinator health. In one such collaboration with the pollinator Health Coalition, we're joining growers, universities, conservation groups and others because the issue of pollinator health is too big, too important and too complex for one company or group—we have to work together. For more information, please visit the organization's website, honeybeehealthcoalition.org.

bees  matter



Bayer Corn Technologies



Short stature corn hybrids developed through traditional breeding in the Preceon™ Smart Corn System were developed to be around 1/3 shorter than traditional corn hybrids. With less height to catch wind,* the short stature corn hybrids have increased tolerance to high winds and other challenging weather conditions. Farmers can see a reduced risk of yield loss resulting from lodging, greensnap and goose-necking. Initial trials have also shown potential for greater soil exploration and depth in locations with overall robust root growth,* however the effects of this characteristic have yet to be fully understood.



Products with SmartStax® PRO with RNAi Technology contain Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 and Cry35Ab1 from *Bacillus thuringiensis* (*B.t.*) and DvSnf7 double stranded RNA. Together this technology controls European corn borer, southwestern corn borer, southern cornstalk borer, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer, black cutworm, western corn rootworm, northern corn rootworm and Mexican corn rootworm and controls or suppresses corn earworm. Products with SmartStax® PRO Technology also contain Roundup Ready® 2 Technology and LibertyLink® Technology that provide tolerance to in-crop applications of labeled glyphosate herbicides and glufosinate herbicides, respectively, when applied according to label directions.



Products with SmartStax® Technology contain Cry1A.105, Cry2Ab2, Cry1F, Cry3Bb1, Cry34Ab1 and Cry35Ab1 from *B.t.* that together control European corn borer, southwestern corn borer, southern cornstalk borer, fall armyworm, stalk borer, lesser corn stalk borer, sugarcane borer, black cutworm, western corn rootworm, northern corn rootworm and Mexican corn rootworm and control or suppress corn earworm.^{1,2} Products with SmartStax® Technology also contain Roundup Ready® 2 Technology and LibertyLink® Technology that provide tolerance to in-crop applications of labeled glyphosate herbicides and glufosinate herbicides, respectively, when applied according to label directions.



Products with Trecepta® Technology contain Cry1A.105, Cry2Ab2 and Vip3Aa20 from *B.t.* that together control European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser cornstalk borer, sugarcane borer, beet armyworm, true armyworm, black cutworm, western bean cutworm, and dingy cutworm.¹ Products containing this technology also contain Roundup Ready® 2 Technology that provides tolerance to in-crop applications of labeled glyphosate herbicides when applied according to label directions.



Products with VT4PRO™ with RNAi Technology contain Cry1A.105, Cry2Ab2, Cry3Bb1, VIP3Aa20 from *B.t.* and DvSnf7 double-stranded RNA that together control European corn borer, southwestern corn borer, southern cornstalk borer, corn earworm, fall armyworm, stalk borer, lesser cornstalk borer, sugarcane borer, beet armyworm, true armyworm, black cutworm, western bean cutworm, dingy cutworm, western corn rootworm, northern corn rootworm, and Mexican corn rootworm.¹ Products containing this technology also contain Roundup Ready® 2 Technology that provides tolerance to in-crop applications of labeled glyphosate herbicides when applied according to label directions.

Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between the recommendations in this guide and the applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glyphosate-resistant weed populations in a Roundup Ready® 2 Technology System.

Corn yield is very sensitive to early season weed competition. Weed control systems must provide growers the opportunity to control weeds before they become competitive.

Roundup Ready® 2 Technology provides a mechanism to control weeds at planting and once they emerge. Failure to control weeds with the right rate, at the right time and with the right herbicide product can lead to increased weed competition, weed escapes, the potential for selecting herbicide-tolerant weeds and possible decreased yields. Use a diverse set of weed management tools, including multiple effective herbicides with different mechanisms of action alone or in tank mixes, as appropriate, with Roundup® brand agricultural herbicides, based on the weed spectrum in the field and according to label directions.

Report any incidence of repeated non-performance of Roundup® Brand Agricultural Herbicides or other glyphosate products on a particular weed to the appropriate company representative, local retailer or county extension agent.

Additional Information

Various weed biotypes are known to be resistant to glufosinate, glyphosate and dicamba.

For the current weed control recommendations for herbicide-resistant weed biotypes, please call 1-866-992-2937.

A complete list of specimen labels can be found at cdms.net/Label-Database.

Approved labels, including any applicable supplemental labeling, for Roundup® Brand Agricultural Herbicides must be in the possession of the user at the time of pesticide application and can be obtained by calling 1-866-992-2937 or by contacting your State Pesticide Lead Agency for more information.

* Based upon root observations from 2016-2022 Bayer internal trials both in greenhouse and limited field environments (6 locations, 3 states) comparing limited genetics of short stature vs standard height corn products.

¹ Routine applications of insecticides to control these insects under typical growing conditions and infestation levels are usually unnecessary for these products.

² Applications of soil-applied insecticides (i.e., application of an insecticide to the soil surface, in furrows and/or incorporated into the soil) are not recommended for control of corn rootworm except under limited circumstances and under consultation with an extension agent, crop consultant or other local experts. Soil-applied insecticides should not be necessary for corn rootworm control with this product.

SmartStax® PRO RIB Complete® corn blend, SmartStax® RIB Complete® corn blend, Trecepta® RIB Complete® corn blend, VT Double PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Double PRO® RIB Complete® corn blend, VT Triple PRO® RIB Complete® corn blend, DroughtGard® Hybrids with VT Triple PRO® RIB Complete® corn blend, and VT4PRO™ RIB Complete® corn blend, require a 20% planted, structured refuge in the Cotton-Growing Area. See map on page 25 of this section.

Corn Rootworm Best Management Practices

Bayer has implemented a comprehensive program for management of corn rootworm (CRW), including a series of best management practices, to better assist growers on every field where they reported unexpected damage.

We encourage growers to follow recommended IPM practices, including cultural control tactics, scouting and the appropriate use of pest thresholds and sampling.

If you are not seeing high corn rootworm pressure in a field and you are planting a single mode of action product such as VT Triple PRO® Corn, Bayer recommends updating your IPM program to include



regular scouting to determine if the addition of an insecticide or other IPM practice is necessary.

These BMPs provide practical solutions to reduce rootworm populations, limit CRW damage and enable insect resistance management.

1 Plant the required refuge

2 Rotate crops

- Rotate to a crop that is not a CRW host, such as soybeans, at least every third year if any of the following are applicable:
- In a long-term continuous corn system.
 - CRW populations are high.
 - Experiencing problems with CRW trait performance.
- In areas where rotational-resistant CRW variants exist, such as extended diapause eggs or adult beetles laying eggs in soybean, CRW management options may be needed the following year.

3 Rotate traits

- Use insect-protected products with multiple modes of action for CRW control whenever possible.
- If using a product with multiple modes of action for CRW control is not an option, rotate to a different insect-protected product that controls CRW.

4 Use non-insect-protected or non-CRW-protected corn

- Use a non-insect-protected product with insecticide.

5 Manage CRW with insecticides

Adult CRW Management Considerations

- Scout fields for CRW adults during silk stage (typically July and August) as adult CRW beetles feed on corn silks and may reduce yield.
- Foliar sprays may be an option if CRW beetle populations reach an economic threshold for damage (~ 0.75 beetle per plant).*
- Follow university extension service or local crop consultant recommendations for products, rates and proper timing of adult spray applications for reducing CRW beetle populations.
- Multiple sprays may be necessary.

Larval CRW Management Considerations

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

*Culy, Edwards & Cornelius. 1992. Journal of Economic Entomology 85: 2440-2446.



Bayer Cotton Technologies



Combining ThryvOn™ Cotton with the proven Bollgard® 3 XtendFlex® Technology results in cotton which contains the insecticidal proteins Cry51Aa2, Cry1Ac, Cry2Ab2 and Vip3Aa19. These varieties have the same insect protection as Bollgard® 3 with the added season-long protection against tarnished plant bugs and thrips species,¹ which may help reduce the number of foliar insecticide applications needed to control these sucking pests. Bollgard® 3 ThryvOn™ Cotton with XtendFlex® Technology varieties include tolerance to labeled dicamba, glyphosate and glufosinate herbicides, providing effective weed control options for use before, at and after planting.



Bollgard® 3 XtendFlex® Cotton combines the proven performance of the insecticidal proteins Cry1Ac and Cry2Ab2 with Vip3Aa19 for greater protection against cotton bollworm, tobacco budworm, fall armyworm and beet armyworm while further decreasing the chance of resistance development. The increased insecticidal efficacy of Bollgard® 3 Cotton is combined with the triple herbicide tolerance to labeled dicamba,² glyphosate and glufosinate herbicides from XtendFlex® Technology to provide our highest available level of protection from yield-robbing insects and weeds.



Bollgard II® XtendFlex® Cotton contains two distinct insecticidal proteins, Cry1Ac and Cry2Ab2 for control of tobacco budworm, pink bollworm and cotton bollworm. Bollgard II® XtendFlex® Cotton provides tolerance to labeled dicamba,² glyphosate and glufosinate herbicides, allowing effective and sustainable weed control options for use before, at and after planting.



XtendFlex® Cotton varieties include tolerance to labeled dicamba,² glyphosate and glufosinate herbicides, providing effective weed control options for use before, at and after planting.



Bollgard II® with Roundup Ready® Flex Cotton varieties offer growers the benefits of both insect protection and glyphosate tolerance combined in one crop. These varieties exhibit the same insect protection qualities as Bollgard II® Cotton and are tolerant to in-crop applications of glyphosate agricultural herbicides, when used according to label directions.

¹ ThryvOn™ Technology may help reduce insecticide applications for tarnished plant bugs and thrips species [tobacco thrips (*Frankliniella fusca*), Western flower thrips (*Frankliniella occidentalis*), tarnished plant bug (*Lygus lineolaris*) and the Western Tarnished Plant bug (*Lygus hesperus*)]. Scouting is critical to determine which and how many insecticide applications are recommended to avoid economic losses greater than the pest management costs (i.e., when economic thresholds are met).

² Bayer will not authorize the use of dicamba herbicides containing the dimethylamine (DMA) salt of dicamba for use in Bollgard® 3 XtendFlex®, Bollgard II® XtendFlex® or XtendFlex® Cotton even if the EPA were to approve those herbicides for use with those products.



Roundup Ready® Flex Cotton varieties offer improved tolerance to the active ingredient in Roundup® Brand Agricultural Herbicides. This technology gives growers the opportunity to make in-crop broadcast applications of glyphosate agricultural herbicides, when used according to label directions.



Bollgard II® Cotton varieties contain two distinct insecticidal proteins, Cry1Ac and Cry2Ab2, from *Bacillus thuringiensis* (*B.t.*) that control tobacco budworm, pink bollworm and cotton bollworm. Bollgard II® Cotton also provides control against fall armyworm, beet armyworm, cabbage and soybean loopers and other secondary leaf- or fruit-feeding caterpillar pests of cotton.



The Acceleron® portfolio delivers coverage on three fronts: fungicides, insecticides, and nematicides to help protect your seed investment against diseases, insects and nematodes as well as moisture or nutrient stress. For more information, please consult your local retailer or visit cropscience.bayer.us/seedgrowth/acceleron.

Your Guide for Successful Cotton Crops With ThryvOn® Technology

Navigating the world of cotton farming just got easier with the latest advancements in ThryvOn® Technology. Bollgard® 3 ThryvOn® cotton with XtendFlex® Technology is an innovative new product. The first of its kind, this Bt cotton technology offers growers protection against key tarnished plant bug and thrips species.¹ ThryvOn Technology is stacked with Bollgard 3 XtendFlex Technology to provide a broad spectrum of insect and weed protection, including protection against bollworm, tobacco budworm and other common worm pests. Additionally, with tolerance to glyphosate and glufosinate, Bollgard 3 ThryvOn cotton with XtendFlex Technology provides more options against tough-to-control and resistant weeds like Palmer amaranth, waterhemp and marestail. Whether you're facing challenges with thrips species or the nuisance of tarnished plant bug species, our straightforward guide is here to help. We've boiled down the essentials into easy-to-follow steps, tailored to keep your cotton healthy and productive.

ThryvOn Technology helps reduce the damage caused by key tarnished plant bug and thrips species, resulting in potentially fewer insecticide applications needed to control these pests throughout the season. For thrips species, ThryvOn Technology reduces the number of eggs laid, which decreases thrips species populations and the damage they cause. ThryvOn Technology also helps control young tarnished plant bug nymphs, which can result in less plant bug damage. As ThryvOn Technology does not provide complete control of tarnished plant bug or thrips species and has little impact on adults of these species, growers planting ThryvOn Technology should continue to scout and spray with insecticides when necessary. Be sure to follow your locally recommended tarnished plant bug and thrips species economic thresholds from your state cooperative extension service, professional consultants or other qualified authorities. Whenever possible, select insecticides that are least harmful to beneficial insects.

¹ Tobacco thrips (*Frankliniella fusca*), Western flower thrips (*F. occidentalis*), tarnished plant bug (*Lygus lineolaris*) and Western tarnished plant bug (*L. hesperus*).



Bayer Soybean Technologies



XtendFlex® Soybeans are built on Roundup Ready 2 Xtend® Technology to help maximize yield potential, and they have tolerance to labeled dicamba¹, glyphosate and glufosinate herbicides² which will provide additional weed control options for use before, at and after planting.



Roundup Ready 2 Xtend® Soybeans are built on Roundup Ready 2 Yield® Technology to help maximize yield potential, and they have tolerance to labeled dicamba¹ and glyphosate herbicides, providing additional weed control options for use before, at and after planting.



Roundup Ready 2 Yield® Soybeans combine in-plant tolerance to labeled glyphosate herbicides with a high-yield potential product.



Vistive® Gold Soybeans with Roundup Ready 2 Yield® Technology combine in-plant tolerance to labeled glyphosate herbicides with a high-yield potential product that produces a low-saturate, high-oleic soybean oil with broad applications.



The Acceleron® portfolio delivers coverage on two fronts—fungicide and insecticide—to help protect your seed investment against diseases and insects. For more information, please consult your local retailer or visit crops.science.bayer.us/seedgrowth/acceleron



¹ Bayer will not authorize the use of dicamba herbicides containing the dimethylamine (DMA) salt of dicamba for use in Roundup Ready 2 Xtend® or XtendFlex® Soybeans even if the EPA were to approve those herbicides for use with these products.
² Only use herbicides labeled for use in the Roundup Ready® Xtend Crop System and LibertyLink® System.

XtendFlex® Soybeans

XtendFlex® Soybeans are built on Roundup Ready 2 Xtend® soybean technology. XtendFlex® Soybeans enable growers to continue to maximize their yield potential through planting elite genetics on their farm, as well as benefit from soybean technology with tolerance to dicamba,¹ glyphosate and glufosinate herbicides.² Such flexibility offers growers three effective herbicide options against tough-to-control weeds.



IMPORTANT NOTICE: No dicamba herbicide may be used in-crop with this seed unless and until such use is approved or specifically permitted. For current approval statuses for in-crop dicamba use with this seed, scan the below QR code, call 1-866-99-BAYER or contact the U.S. EPA or your state pesticide regulatory agency. Plants that are not tolerant to dicamba may be damaged or killed if exposed to dicamba herbicides.



Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between these recommendations and applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glyphosate-, glufosinate- and/or dicamba-resistant weed populations in a XtendFlex® Soybeans.

Starting clean with a weed-free field and controlling subsequent weeds when they are small are critical steps to obtaining excellent weed control and maximum yield potential. XtendFlex® Soybeans are designed to provide the flexibility to use the diversity of herbicide tools including dicamba¹ glyphosate and now glufosinate² tolerance necessary to control weeds before planting, at planting and in-crop. Failure to control weeds with the right rate, at the right time and with the right product can lead to increased weed competition, the potential for selecting for herbicide resistance and possible decreased yield.

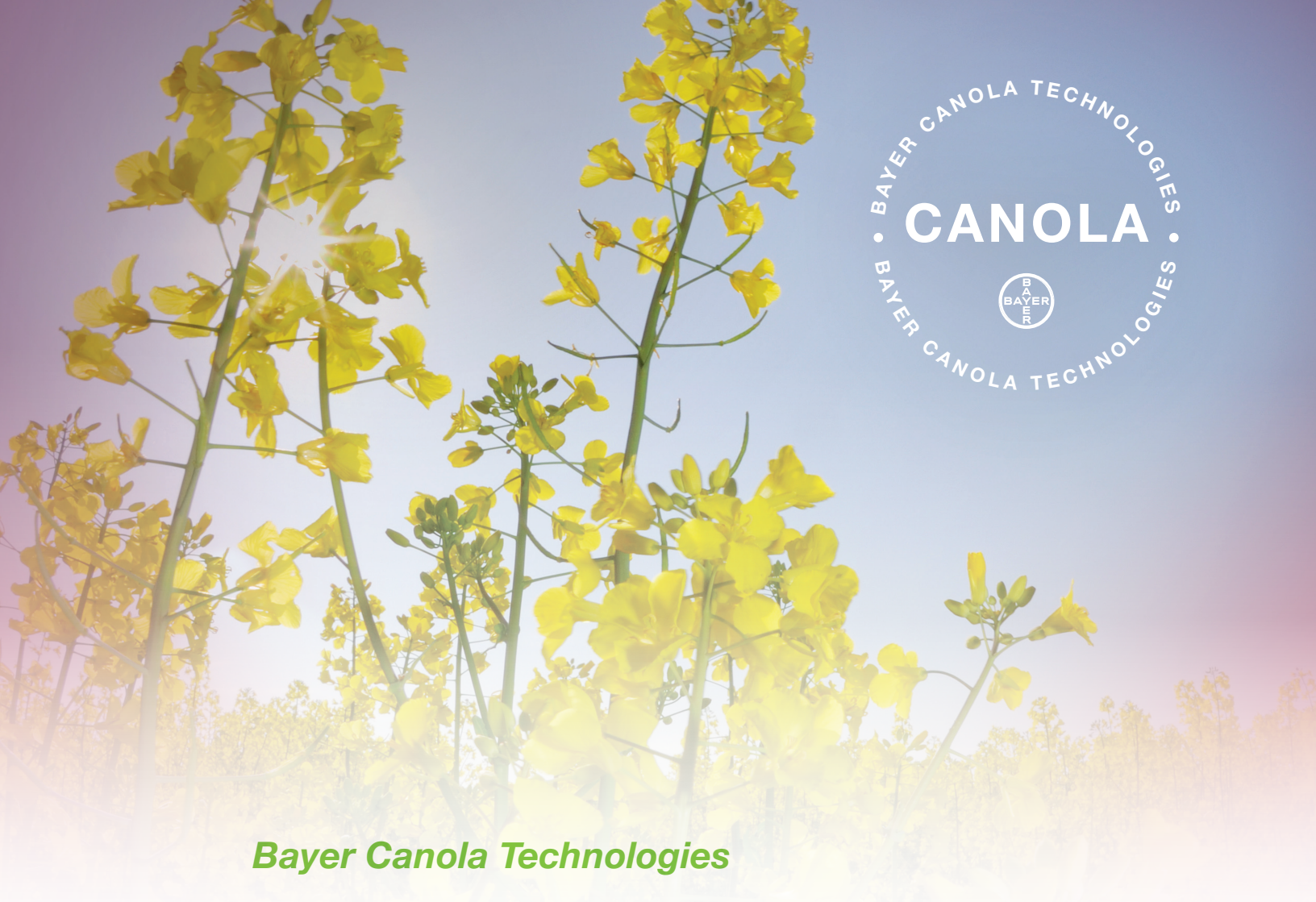
- Report any incidence of non-performance of applied herbicides against a particular weed species to your appropriate company representative or local retailer. For Bayer products, please call **1-866-992-2937**.

Additional Information

Weeds such as lambsquarters, waterhemp, pigweed and giant ragweed tend to emerge throughout the season. Sequential glyphosate agricultural herbicides, Stryax® herbicide with VaporGrip® Technology and/or Liberty® herbicide (a glufosinate herbicide) applications and/or the addition of a soil residual herbicide may be required for control of subsequent weed flushes.

Various weed biotypes are known to be resistant to glufosinate, glyphosate and dicamba. For the current weed control recommendations for herbicide-resistant weed biotypes, please call **1-866-992-2937**. A complete list of specimen labels can be located at cdms.net/Label-Database. Various weed biotypes are also 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. Approved labels, including any applicable supplemental labeling, for Roundup® Brand Agricultural Herbicides and/or Liberty® herbicide must be in the possession of the user at the time of pesticide application and can be obtained by calling **1-866-992-2937** or by contacting your State Pesticide Lead Agency for more information.

¹ Bayer will not authorize the use of dicamba herbicides containing the dimethylamine (DMA) salt of dicamba for use in Roundup Ready.
² Xtend® or XtendFlex® Soybeans even if the EPA were to approve those herbicides for use with these products only use herbicides labeled for use in the Roundup Ready® Xtend Crop System and LibertyLink® System.



Bayer Canola Technologies



TruFlex® Canola with Roundup Ready® Technology is part of an improved system designed for a range of growing conditions that provides high-yield potential varieties that have tolerance to glyphosate herbicides, enabling a wider application window for grower flexibility and better weed control and crop safety.



TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies is part of an improved system designed for a range of growing conditions that provides high-yield potential varieties that have tolerance to glyphosate and glufosinate herbicides that provide additional weed control options and enable a wider glyphosate application window for grower flexibility and better weed control and crop safety.



DEKALB® LibertyLink® Canola contains the LibertyLink® trait combining in-plant tolerance to glufosinate herbicides with a high-yield potential product.



Roundup Ready® Spring Canola combines in-plant tolerance to glyphosate herbicides with a high-yield potential product.

Roundup Ready® Winter Canola combines in-plant tolerance to glyphosate herbicides with a high-yield potential product developed for seeding in the fall and harvesting in the following spring/summer.

TruFlex® Canola with Roundup Ready® Technology

TruFlex® Canola with Roundup Ready® Technology is part of an improved system designed for a range of growing conditions, providing high-yield potential varieties and improved tolerance to glyphosate herbicides, delivering better weed control and crop safety over other Roundup Ready® Canola products.



The TruFlex® Canola System enables a wider glyphosate application window providing growers with up to 10–14 more spray days than our Roundup Ready® Canola products. The TruFlex® Canola System allows for the control of a broad spectrum of tough-to-control weeds, including cleavers, foxtail barley and wild buckwheat. It also helps enable season-long dandelion control. TruFlex® Canola with Roundup Ready® Technology also allows growers the option to apply glyphosate agricultural herbicides at labeled rate for a single application up to the six-leaf stage with improved crop safety. Also with the added benefit of a wider window of application that extends past the six-leaf stage all the way to the first flower, growers have more flexibility to manage in-crop applications.

Planting Limitation

Grower must not plant products with TruFlex® Canola technology in any wildlife feed plots.

Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between these recommendations and applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glyphosate-resistant weed populations in TruFlex® Canola.

Application of Roundup® Brand Agricultural Herbicide

- Spray when canola is at emergence to six-leaf stage of growth.
- To help maximize yield potential, spray TruFlex® Canola at the one- to three-leaf stage to eliminate competing weeds.
- No more than two in-crop applications may be made from emergence through first flower, with a total in-crop application of glyphosate agricultural herbicides at labeled rate.

Additional Information

Various weed biotypes are known to be resistant to glyphosate. For the current weed control recommendations for glyphosate-resistant weed biotypes, call **1-866-992-2937**. Approved supplemental labeling for Bayer herbicide products can be obtained by calling **1-866-992-2937**. A complete list of specimen labels can be located at **cdms.net/Label-Database**. Approved labels, including any applicable supplemental labeling, for Roundup® Brand Agricultural Herbicides must be in the possession of the user at the time of pesticide application and can be obtained by calling **1-866-992-2937** or by contacting your State Pesticide Lead Agency for more information.

TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies

TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies is part of an improved system designed for a range of growing conditions that provides high-yield potential varieties that have tolerance to glyphosate and glufosinate herbicides, thus providing additional weed control options and enabling a wider glyphosate application window for grower flexibility and better weed control and crop safety.



TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies has tolerance to glyphosate and glufosinate herbicides, providing growers with additional weed control options for use before, at and after planting.

TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies enables a wider glyphosate application window, providing growers with up to 10–14 more spray days than our Roundup Ready® Canola products. TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies allows for the control of a broad spectrum of tough-to-control weeds, including cleavers, foxtail barley and wild buckwheat. It also will help enable season-long dandelion control.

Planting Limitation

Grower must not plant TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies in any wildlife feed plots.

Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between the recommendations in this guide and applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glyphosate-resistant weed populations in TruFlex® Canola with Roundup Ready® and LibertyLink® Technologies.



DEKALB® LibertyLink® Canola

DEKALB® LibertyLink® Canola contains the LibertyLink® trait combining in-plant tolerance to glufosinate herbicides with a high-yield potential product. The LibertyLink® trait allows growers to spray glufosinate in-crop for nonselective post-emergence control of the toughest weeds, including pigweed, giant ragweed, waterhemp, kochia, wild buckwheat and marestail.



For canola products containing the LibertyLink® trait, growers must hold both a valid and current Bayer Technology Stewardship Agreement and BASF Grower Technology Agreement before purchasing such products.

Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between these recommendations and applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glufosinate-resistant weed populations in DEKALB® LibertyLink® Canola.



Roundup Ready® Spring Canola

Roundup Ready® Spring Canola products contain in-plant tolerance to glyphosate, the active ingredient in Roundup® Brand Agricultural Herbicides.



You can spray Roundup Ready® Spring Canola with Roundup® Brand Agricultural Herbicides in-crop from emergence through the six-leaf stage of development.

The introduction of the Roundup Ready® trait into leading spring canola brands and varieties gives growers the opportunity for excellent weed control, proven crop safety and maximum yield potential. With Roundup Ready® Spring Canola, growers have the weed management tool necessary to help improve spring canola yield potential while providing a viable rotational crop to help break pest and disease cycles in cereal-growing areas.

Planting Limitation

Grower must not plant Roundup Ready® Spring Canola in any wildlife feed plots.

Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between the recommendations in this guide and applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glyphosate-resistant weed populations in Roundup Ready® Spring Canola.



Roundup Ready® Winter Canola

Roundup Ready® Winter Canola products have been developed for seeding in the fall and harvesting the following spring/summer.



Roundup Ready® Winter Canola brands and varieties contain in-plant tolerance to the active ingredient glyphosate in Roundup® Brand Agricultural Herbicides so you can spray Roundup Ready® Winter Canola with Roundup® Brand Agricultural Herbicides in-crop from emergence to the pre-bolting stage.

The introduction of the Roundup Ready® trait into winter canola products gives growers the opportunity for excellent weed control, crop safety and maximum yield potential. Roundup Ready® Winter Canola offers growers an important option as a rotational crop in traditional monoculture winter wheat production areas. Introducing crop rotation is an important factor in reducing pest cycles, including weed and disease problems.

Grazing

Bayer recommends that Roundup Ready® Winter Canola not be grazed. While Roundup Ready® Winter Canola may provide growers additional opportunity as a forage for grazing livestock in the future, insufficient information exists now to allow safe and proper grazing recommendations. Preliminary data suggest that excessive grazing can significantly reduce yield and that careful nitrate management is critical in managing Roundup Ready® Winter Canola as a forage to limit the risk of livestock nitrate poisoning.

Planting Limitation

Grower must not plant Roundup Ready® Winter Canola in any wildlife feed plots.

Weed Management

FOLLOW ALL PESTICIDE PRODUCT LABELING. If there is any conflict between these recommendations and applicable pesticide product labeling, the pesticide product labeling controls. Follow the recommendations below to help minimize the risk of developing glyphosate-resistant weed populations in Roundup Ready® Winter Canola.

Additional Canola Information

Volunteer Canola Containing Roundup Ready® and/or LibertyLink® Technologies

Canola can present unique challenges as a volunteer plant due to the persistence of seeds in the soil; a small seed size that allows it to easily be moved by equipment, wind or water; pollen movement from flowering plants; and the ability for a single plant to produce a large number of seeds.

The introduction of herbicide tolerance in canola did not change the fundamental reasons volunteer canola can occur, but it does require that growers consider that Roundup Ready® and LibertyLink® Technologies (and other herbicide tolerance traits) may be present in volunteers when developing volunteer management plans for canola.

In addition to cultural control methods, there are numerous herbicide products that can be used to control volunteer canola containing Roundup Ready® Technology (or other herbicide tolerance traits) in cropping systems.

- If field scouting identifies volunteer canola prior to a burndown or pre-harvest application with a glyphosate herbicide, it is recommended to tank mix additional herbicides labeled for that use and to ensure all volunteer canola (including other herbicide tolerant canola types) and any canola volunteers containing Roundup Ready® Technology are controlled.
- If field scouting identifies volunteer canola in another crop containing Roundup Ready® and/or LibertyLink® Technology, it is recommended to tank mix additional herbicides labeled for use in that crop type that control volunteer canola, including other herbicide tolerant canola types, with Roundup WeatherMAX®, Liberty® or other labeled glyphosate herbicides to ensure all volunteer canola, including any canola volunteers containing Roundup Ready® and/or LibertyLink® Technology, are controlled.
- Where conventional tillage is used, light cultivation provides effective control of all canola volunteers, including any containing Roundup Ready® and/or LibertyLink® Technology.

For additional information, please call the Bayer Technical Support Line at **1-866-992-2937**.



Introducing newgold® – Bayer’s New Multi-Crop Seed Brand for Biofuels

newgold® seed is our first multi-crop seed brand developed specifically for low-carbon intensity crops, turning acres into a source of cleaner energy and stronger returns for farmers.

Bayer has announced the launch of newgold® seed, its first multi-crop seed brand developed specifically for low-carbon intensity crops, designed to help farmers participate directly in the fast-growing biofuels market while strengthening farm profitability and sustainability.

The brand is launching in the United States and Canada this year. newgold® seed represents a win for farmers and the environment, and a key step forward in our strategy to “Expand Beyond the

Core” within the global Crop Science **Five-Year Framework**, by developing seeds for biofuel and strong value chain partnerships from field to fuel.



Global Crop Science Five-Year Framework

From Vision to Action in Low-Carbon Agriculture

newgold® seed represents a shift from treating biofuels as a niche opportunity to building a scalable agricultural system that connects farmers, fuel producers, and markets.

The brand focuses on low carbon intensity oilseed crops such as **camelina** and **winter canola** – crops designed to fit between seasons, into existing rotations, or on underutilized acres – creating potential additional revenue streams for farmers.

By combining best-in-class seed technology, agronomic expertise and strong industry partnerships, Bayer is helping farmers turn sustainability goals into measurable, bankable outcomes.



Farmers worldwide are increasingly adopting cover crops to enhance soil fertility, reduce erosion and boost long-term productivity. Crops such as camelina can deliver multiple sustainability benefits and offer farmers new revenue opportunities while increasing on-farm productivity.

More Than a Crop: A Profit Multiplier

At the core of newgold® seed is a simple idea: Low-carbon crops must work economically at the field level. newgold® seed is designed as a profit multiplier, giving growers the flexibility to decide how and where it fits best on their operation:

- As a double crop, adding value between seasons
- Within rotations, improving soil health while diversifying income
- On marginal or underutilized land, turning unused acres into productive assets

By bridging the gap between the field and fuel producers, Bayer aims to reduce uncertainty and help farmers confidently adopt low-carbon cropping systems that deliver value today and resilience for the future.



WestBred® Wheat

Bayer offers a portfolio of elite WestBred® wheat varieties that provides growers with high-yield potential options for both winter and spring wheat across all major classes.



Seed quality, patent/plant variety protection, and good stewardship practices are important factors in maximizing yield and profit potential while enabling Bayer to continue investment and innovation in wheat genetics.

Bayer's WestBred® single-use wheat varieties are included in the Technology Stewardship Agreement, establishing certain rights and obligations for wheat growers similar to other row crops.

The Technology Stewardship Agreement gives growers permission to use Bayer Technologies (as defined in the Technology Stewardship Agreement) on an annual basis. By entering into a Technology Stewardship Agreement, Bayer or its permitted designee subsequently issuing a grower a license number, the grower has a limited-use license to Bayer Technologies in wheat, including WestBred® wheat varieties, subject to the Technology Stewardship Agreement's terms and conditions.

Bayer will continue to patent new single-use wheat varieties that we commercialize. Intellectual property rights encourage advancements and investments in innovation. Our investments in advanced breeding allow us to accelerate the rate of innovation in wheat, which translates into additional value for farmers.

Intellectual property rights in the United States include patents on specific wheat varieties and Plant Variety Protection (PVP) certificates that plant breeders obtain when they develop a new variety.

A list of varieties designated by Bayer as single-use is published electronically at cs.bayerpatents.bayer.com and may be updated yearly at Bayer's sole discretion.



Bayer Alfalfa Technologies



Roundup Ready® Alfalfa products have in-plant tolerance to the active ingredient glyphosate in Roundup® Brand Agricultural Herbicides.



HarvXtra® Alfalfa with Roundup Ready® Technology 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.



Bayer Sweet Corn Technologies



Performance Series® Sweet Corn contains Cry1A.105, Cry2Ab2 and Cry3Bb1 proteins from *Bacillus thuringiensis* (B.t.) that together control European corn borer, southwestern corn borer, sugarcane borer, southern cornstalk borer, fall armyworm, stalk borer, lesser corn stalk borer, western corn rootworm, northern corn rootworm and Mexican corn rootworm and control or suppress corn earworm.



This product also contains Roundup Ready® 2 Technology that provides crop safety to in-crop applications of glyphosate agricultural herbicides when applied according to label directions.



Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, **including applicable refuge requirements for insect resistance management**, for the biotechnology traits expressed in the seed as set forth in the Technology/Stewardship Agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation and agreement to comply with the most recent stewardship requirements.



Subject to final commercialization decisions, availability of the Preceon™ Smart Corn System is expected for the 2026 growing season. Product Use Statement: Enlist E3® soybeans contain the Enlist E3 trait that provides crop safety for use of labeled over-the-top applications of glyphosate, glufosinate and 2,4-D herbicides featuring Colex-D® technology when applied according to label directions. Following burndown, the only 2,4-D containing herbicide products that may be used with Enlist® crops are products that feature Colex-D technology and are expressly labeled for use on Enlist crops. 2,4-D products that do not contain Colex-D technology are not authorized for use in conjunction with Enlist E3 soybeans. Warning: Enlist E3 soybeans are tolerant of over-the top applications of glyphosate, glufosinate, and 2,4-D. Accidental application of incompatible herbicides to this variety could result in total crop loss. When using 2,4-D herbicides, grower agrees to only use 2,4-D products that contain Colex-D technology authorized for use in conjunction with Enlist E3 soybeans. Always read and follow herbicide label directions prior to use.

No dicamba may be used in-crop with seed with Roundup Ready® Xtend Technology, unless and until approved or specifically permitted. No dicamba formulations have been registered for such in-crop use at the time this material was published. Please follow www.StryaxApplicationRequirements.com for status updates.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.

IMPORTANT: Produce Marketing and Stewardship Requirements for Performance Series® sweet corn: This product has been approved for import into key export markets with functioning regulatory systems. 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. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. It is the grower's responsibility to talk to their produce handler or purchaser to confirm their buying position for this produce so that the marketing requirements can be met.

U.S. Herbicide Information for Performance Series® sweet corn: Glyphosate agricultural herbicides are approved for use on Performance Series® sweet corn (containing Roundup Ready® 2 Technology) in all U.S. states, the District of Colombia and Puerto Rico. If the directions for use on sweet corn with Roundup Ready® 2 Technology (which includes Performance Series® sweet corn) are not listed in the product label that is attached to the product you purchased, contact your Bayer representative. The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local dealer or representative for the product registration status in your state.

Bayer is a member of Excellence Through Stewardship® (ETS). Bayer products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Bayer's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Commercialized products have been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all applicable 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 should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Excellence Through Stewardship.

All growers in Idaho and Oregon who intend to plant Performance Series® sweet corn must contact Seminis Vegetable Seeds, Inc. at 866-334-1056 to order Performance Series® sweet corn seed. Performance Series® sweet corn may only be sold into the Treasure Valley area of Idaho and Oregon (which consists of Ada, Canyon, Gem, Owyhee, Payette and Washington counties in Idaho and Malheur County in Oregon) during the time period beginning on January 1 and ending on February 15 of each calendar year. Growers must inform Seminis Vegetable Seeds, Inc. of the location(s) of their Performance Series® sweet corn field(s) to ensure pinning prior to delivery of Performance Series® sweet corn seed.

Performance Series® sweet corn Insect Resistance Management (IRM) – Post-Harvest Requirements: Crop destruction must occur no later than 30 days following harvest, but preferably within 14 days. The allowed crop destruction methods are: rotary mowing, discing, or plowing down, or, for home garden use only allowed in the U.S., by chopping up the stalks using home garden tools such as a hoe. Crop destruction methods should destroy any surviving resistant insects.

Preceon™ Smart Corn System hybrids, developed through biotechnology, are not currently available for commercial sale or commercial planting. Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell.

It is a violation of federal and state law to use any pesticide product other than in accordance with its labeling. NOT ALL formulations of dicamba or glyphosate are approved for in-crop use with Roundup Ready 2 Xtend® soybeans. NOT ALL formulations of dicamba, glyphosate or glufosinate are approved for in-crop use with products with XtendFlex® Technology. ONLY USE FORMULATIONS THAT ARE SPECIFICALLY LABELED FOR SUCH USES AND APPROVED FOR SUCH USE IN THE STATE OF APPLICATION. Contact the U.S. EPA and your state pesticide regulatory agency with any questions about the approval status of dicamba herbicide products for in-crop use with products with XtendFlex® Technology.

FOR CORN, EACH ACCELERON® SOLUTIONS OFFERING is a combination of separate individually registered products containing the active ingredients: **BASIC** plus Poncho®/VOTIVO® Offering for corn: metalaxyl, ethaboxam, prothioconazole, fluxastrobin, clothianidin, Bacillus firmus I-1582. **ELITE** plus Poncho®/VOTIVO® and Acceleron® N-314 Offering for corn: metalaxyl, ethaboxam, clothianidin, and Bacillus firmus I-1582, and fluopyram; prothioconazole and fluxastrobin at rates that suppress additional diseases. **BASIC** Offering for corn: metalaxyl, prothioconazole, fluxastrobin, ethaboxam, and clothianidin. **ELITE** Offering for corn: metalaxyl, ethaboxam, and clothianidin; and prothioconazole and fluxastrobin at rates that suppress additional diseases.

BioRise® Corn Offering is the on-seed application of BioRise® 360 ST.

Not all products are registered for use in all states and may be subject to use restrictions. **The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Not all products are registered for use in all states and may be subject to use restrictions.**

See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.

B.t. products may not yet be registered in all states. Check with your seed brand representative for the registration status in your state.

Refuge seed may not always contain the DroughtGard® trait. **Roundup Technology®** includes glyphosate-based herbicide technologies.

Performance may vary, from location to location and from year to year, as local growing, soil and environmental conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on their growing environment.

The recommendations in this material are based upon trial observations and feedback received from a limited number of growers and growing environments. These recommendations should be considered as one reference point and should not be substituted for the professional opinion of agronomists, entomologists or other relevant experts evaluating specific conditions.

IMPORTANT IRM INFORMATION: Certain products are sold as RiB Complete® corn blend products, and do not require the planting of a structured refuge except in the Cotton-Growing Area where corn earworm is a significant pest. Products sold without refuge in the bag (non-RiB Complete) require the planting of a structured refuge. **See the IRM/Grower Guide for additional information. Always read and follow IRM requirements.**

Roundup Ready® Technology contains genes that confer tolerance to glyphosate. **Roundup Ready® 2 Technology** contains genes that confer tolerance to glyphosate. **LibertyLink® Technology** contains genes that confer tolerance to glufosinate. **Roundup Ready® Flex Technology** contains genes that confer tolerance to glyphosate. **Roundup Ready 2 Xtend® soybeans contain genes that confer tolerance to glyphosate and dicamba. Products with XtendFlex® Technology contains genes that confer tolerance to glyphosate, glufosinate and dicamba.** Plants that are not tolerant to glyphosate may be damaged or killed if exposed to those herbicides. Plants that are not tolerant to glyphosate, dicamba, and/or glufosinate may be damaged or killed if exposed to those herbicides. Plants that are not tolerant to dicamba may be damaged or killed if exposed to those herbicides. **Glufosinate** will kill crops that are not tolerant to glufosinate. Contact your seed brand dealer or refer to the Bayer Technology Use Guide for recommended weed control programs.

Insect control technology provided by **Vip3A** is utilized under license from Syngenta Crop Protection AG. The distribution, sale, or use of an unregistered pesticide is a violation of federal and/or state law and is strictly prohibited. Check with your local dealer or representative for the product registration status in your state. Herculex® is a registered trademark of Dow AgroSciences LLC. Agrisure Viptera® is a registered trademark of a Syngenta group company. LibertyLink logo®, LibertyLink®, Poncho® and Votivo® are trademarks of BASF Corporation. Respect the Refuge and Corn Design® is a registered trademark of National Corn Growers Association. Bayer, Bayer Cross, Bollgard II®, Bollgard®, DEKALB®, DroughtGard®, EverGol®, Performance Series & Design®, Preceon™, Raxil®, RiB Complete®, Roundup Ready 2 Technology and Design®, Roundup Ready 2 Xtend®, Roundup Ready 2 Yield®, Roundup Ready®, Roundup Technology®, SmartStax®, Trecepta®, TruFlex®, Vistive®, VT Double PRO®, VT Triple PRO®, Vt4PRO™, WestBred® and XtendFlex® are trademarks of Bayer Group. All other trademarks are the property of their respective owners. For additional product information call toll-free 1-866-99-BAYER (1-866-992-2937) or visit our website at www.BayerCropScience.us. Bayer CropScience LP, 800 North Lindbergh Boulevard, St. Louis, MO 63167. ©2026 Bayer Group. All rights reserved.



