

# Coexistence

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

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

For products receiving premiums, the grower is producing a crop supported by a special market price, and therefore assumes responsibility for meeting any applicable market specifications to receive the applicable premium price from that market. Likewise, for products containing biotech traits that may not yet be approved in certain export markets or have special considerations related to production practices (e.g., herbicide application, specialty characteristics), the grower assumes responsibility for the stewardship

conditions and implementation related to use of such technologies. Even though the ultimate responsibility is on the grower producing a crop for a particular market to implement appropriate stewardship practices and requirements, including those communicated by a seed provider, it is also each grower's responsibility to communicate with and be aware of the planting intentions of his or her neighbors to gauge the need for any appropriate management and coexistence practices. By communicating what is being grown on neighboring fields and the potential implications of those crops on each growers' management decisions, growers can utilize some of the following coexistence considerations to limit potential conflicts, while acknowledging the generally recognized and accepted occurrence of the movement of incidental amounts of pollen:

- What is the crop biology and what are the product characteristics, specifically considering whether or not the crop is self-pollinating or cross-pollinating;
- What options exist to arrange or select planting locations and fields to help minimize the potential for outcrossing to or from a particular crop, by considering , for example, appropriateness of buffer rows, environmental windbreaks, or land devoted to conservation;
- What options exist related to staggering planting times to help temporally isolate a given crop from the potential of unintended outcrossing;
- What are cleaning and handling options for a particular crop that could help to minimize the potential for inadvertent 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.

## Insect Resistance Management Grower Guide

# Qrome® Insect Protection

(Q/LL/RR2)

### Insect Resistance Management (IRM) Requirements

**IMPORTANT: READ PRIOR TO PLANTING**



**WHAT IS QROME® INSECT PROTECTION TECHNOLOGY?** Qrome® Insect Protection products provide protection or suppression against susceptible European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, stalk borer, sugarcane borer, and corn earworm; and also provide protection from larval injury caused by susceptible western corn rootworm, northern corn rootworm, and Mexican corn rootworm. Please contact your sales professional for more information regarding insect resistance management guidelines, best management practices and corn products for your area and to understand whether there has been a shift in susceptibility or insect resistance documented in your area.

#### \*QROME STEWARDSHIP GUIDANCE

Qrome products are approved for cultivation in the U.S. and Canada and have also received approval in a number of countries. We continue to pursue additional import approvals for Qrome, including in China, in accordance with Excellence Through Stewardship product launch guidance. Grain and certain by-products produced from Qrome cannot be marketed in unapproved locations, including China, until the applicable approval is granted. Growers can refer to <http://www.biotradestatus.com/> for updated information on import country approvals.

Until further notice, Qrome products can only be sold to and planted by growers who agree to use the grain as feed for livestock on their own farming operation or agree to only sell their grain directly to producers who agree to feed this grain to their livestock. No export of grain produced from Qrome products is currently permitted as part of stewardship requirements.

#### REFUGE PERCENTAGE

**NON-COTTON GROWING AREAS:** No additional refuge acres are required because the refuge for Qrome Insect Protection products is in the bag.

**SOUTHERN CORN/COTTON GROWING AREAS:** On each farm, plant up to 80% of the corn acres with Qrome Insect Protection products. Plant at least 20% of the corn acres to a corn borer refuge.

**REFUGE DESIGN:** The corn borer refuge for each field may be arranged in a number of configurations that allow the grower to easily incorporate an effective refuge into a farming operation. The refuge should be sown on the same day, or with the shortest window possible between planting dates. In cotton-growing areas, the following refuge requirements must be followed:

- The refuge may be planted in-field, adjacent to (e.g., across the road), or as a separate block within 1/2 mile of the Qrome Insect Protection corn field.
- In-field refuge options include: blocks, perimeter strips (i.e., along the edges or headlands), or in-field strips.
- When planting the refuge in strips across the field or as a perimeter, refuges must be at least four rows wide.
- Please note: Use of a neighbor's field does not satisfy the refuge requirement.

#### INSECTICIDE USE

**NON-COTTON GROWING AREAS:** Foliar insecticide treatments for control of European corn borer, corn earworm, southwestern corn borer, fall armyworm, black cutworm, western bean cutworm, lesser corn stalk borer, southern corn stalk borer, and sugarcane borer may be applied only if economic thresholds are reached for one or more of these pests. Foliar insecticide treatments are also permitted for control of corn rootworm adults if economic thresholds are reached. Economic thresholds will be determined using methods recommended by local or regional professionals (e.g., Extension Service agents, crop consultants). Microbial Bt insecticides must not be applied to non-Bt corn refuge plants.

**SOUTHERN CORN/COTTON-GROWING AREAS:** Insecticide treatments for control of European corn borer, corn earworm, southwestern corn borer, fall armyworm, black cutworm, western bean cutworm, lesser corn stalk borer, southern corn stalk borer, and sugarcane borer may be applied only if economic thresholds are reached for one or more of these pests. Economic thresholds will be determined using methods recommended by local or regional professionals (e.g., Extension Service agents, crop consultants).

Microbial Bt insecticides must not be applied on the refuge.

**QROME PRODUCT STEWARDSHIP AGREEMENT (QPSA):** All plantings of Qrome products shall include execution by the grower of a QPSA noting that Qrome products can only be sold to and planted by growers who agree to use the grain as feed for livestock on their own farming operation OR agree to only sell their grain directly to producers who agree to feed this grain to their livestock.

#### SALES AND PLANTING RESTRICTIONS

**CALIFORNIA RESTRICTION:** The planting of Qrome Insect Protection products is prohibited in certain California counties. Contact your sales professional for additional details.

**MAINE RESTRICTION:** The sales, distribution, and planting of Qrome products are prohibited in Maine.

**PUERTO RICO RESTRICTION:** The sales, distribution, and planting of Qrome Insect Protection products are prohibited in Puerto Rico.

**PRODUCT USE STATEMENT:** This seed is a blend of 5% refuge seed and 95% seed containing: the Herculex® XTRA Insect Protection genes that produce a *Bacillus thuringiensis* (Bt) Cry1F protein and the Bt Cry34Ab1 and Cry35Ab1 proteins; the Agrisure® RW trait that includes a gene that produces a Bt mCry3A protein, and the YIELDGARD® Corn Borer gene which produces a Bt Cry1Ab protein that provide protection or suppression against susceptible European corn borer, southwestern corn borer, black cutworm, fall armyworm, lesser corn stalk borer, southern corn stalk borer, stalk borer, sugarcane borer, and corn earworm; and also provide protection from larval injury caused by susceptible western corn rootworm, northern corn rootworm and Mexican corn rootworm. Product responses may vary by location, pest population, environmental conditions, and agricultural practices. These proteins and the genetic material necessary for their production in corn are registered under EPA Reg. No. 29964-21

**YOU MUST SIGN A TECHNOLOGY AGREEMENT AND QROME PRODUCT STEWARDSHIP AGREEMENT, READ THE PRODUCT USE GUIDE PRIOR TO PLANTING AND FOLLOW INSECT RESISTANCE MANAGEMENT (IRM) REQUIREMENTS.**

**PATENT STATEMENT:** The Herculex I and Herculex RW Insect Resistance technologies incorporated into these seeds are protected under one or more U.S. patents. The purchase of these seeds includes a limited license to produce a single corn crop in the United States (or other applicable country). The use of seed from such a crop or the progeny thereof for propagation or seed multiplication or for production or development of a hybrid or different variety of seed is strictly prohibited. Agrisure RW technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG, under one or more U.S. patent numbers. This license does not extend to the use of seed from such crop or the progeny thereof for propagation or seed multiplication. Furthermore, the use of such seed or the progeny thereof for propagation, seed multiplication, production or development of a hybrid or different variety of seed, research, breeding or crossing, is strictly prohibited. Resale or transfer of the seed is strictly prohibited.

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Agrisure® is a registered trademark of, and used under license from, A Syngenta Group company.

Agrisure® technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG