HERBICIDE TOLERANCE

**PIONEER® BRAND OPTIMUM® GLY CANOLA**, will provide canola growers a superior option for broad-spectrum post-emergent weed control. The addition the LibertyLink® trait to canola hybrids will provide growers a valuable rotational herbicide offering. These two options would provide farmers with added flexibility for effective weed control from glyphosate or glufosinate, each with the high yield potential and strong agronomic performance of DuPont Pioneer genetics.

**R&D PIPELINE PHASE**

**OPTIMUM® GLY CANOLA TRAIT**

- **PHASE 1**
  - CONFIRMED YIELD PERFORMANCE OF ELITE PRE-COMMERICAL HYBRIDS WITH STACKED OPTIMUM® GLY AND LIBERTYLINK® TRAITS
- **PHASE 2**
- **PHASE 3**
- **PHASE 4**
- **LAUNCH**

**LIBERTYLINK® TRAINT**

- **PHASE 1**
  - CONFIRMED YIELD PERFORMANCE OF ELITE PRE-COMMERICAL HYBRIDS WITH INCREASED TOLERANCE TO GLYPHOSATE HERBICIDE AND A WIDER WINDOW OF APPLICATION
- **PHASE 2**
- **PHASE 3**
- **PHASE 4**
- **LAUNCH**

**OPTIMUM® GLY AND LIBERTYLINK® TRAIT STACK**

- **PHASE 1**
- **PHASE 2**
- **PHASE 3**
  - ADVANCED DEVELOPMENT
  - CONFIRMED YIELD PERFORMANCE OF ELITE PRE-COMMERCIAL HYBRIDS WITH STACKED OPTIMUM® GLY AND LIBERTYLINK® TRAITS
- **PHASE 4**
- **LAUNCH**

**GROWER VALUE**  **HARVESTABLE YIELD + WEED CONTROL FLEXIBILITY**

**ANTICIPATING NEEDS** / Canola acres in North America are planted with glyphosate and glufosinate tolerant hybrids. As growers plan for sustainable management of their canola crops, they look for hybrids that offer additional solutions for disease management control while delivering consistent yields. To meet the needs of growers, Pioneer introduced two traits into elite, disease-resistant canola germplasm. These traits offer sustainable weed management options in addition to proven increased yields. Growers can anticipate a 3-in-1 product that delivers a competitive yield advantage, herbicide resistance and protection from Sclerotinia and Clubroot.

**DELIVERING SOLUTIONS** / Developed through proprietary gene shuffling technology, Optimum® GLY Canola will provide a superior option for broad-spectrum, post-emergent weed control in canola, with increased application flexibility. Adding the LibertyLink® trait into the Pioneer product line-up will provide growers with another invaluable post-emergence weed control herbicide option. In addition, the Optimum® GLY and LibertyLink® trait combination, currently in Phase 3 (Advance Development) will also be offered in the future. These traits will be offered in combination with industry-leading Pioneer Protector® traits and complement current Pioneer® herbicide tolerant offerings, including Clearfield®. Testing will continue in 2017 to fully characterize hybrids in elite genetic backgrounds and diverse environments.

Neither Pioneer® brand canola hybrids with glyphosate resistance, LibertyLink®, nor the Clearfield® trait will be offered for sale or distribution until completion of field testing and applicable regulatory reviews. LibertyLink® and the Water Droplet Design are trademarks of Bayer. The unique Clearfield® symbol and Clearfield® are registered trademarks of BASF. © 2017 Trademarks and service marks of DuPont, Pioneer or their respective owners.