

## Using Liberty Link® and Optimum® GLY Canola in Rotation

### Key Points

- Rotating crop and herbicide systems supports sustainable weed and disease control and long-term profitability.
- Alternating herbicide tolerance technologies can help reduce herbicide resistance risk, improve volunteer canola control, and increase operational flexibility.
- A 2-3 year break between canola crops (with cereals and/or pulses in between) is essential to reduce clubroot, blackleg, verticillium stripe, and sclerotinia inoculum.

### Crop and Herbicide Rotation

- Crop rotation is a cornerstone of sustainable canola production, helping growers manage weeds, diseases, and maintain long-term profitability.
- Incorporating both Liberty Link® and Optimum® GLY canola systems into a crop rotation offers advantages beyond simple trait diversity.
- Alternating herbicide tolerance technologies can help reduce herbicide resistance risk, improve volunteer canola control, and increase operational flexibility—all while protecting market premiums and supporting stewardship practices.
- This integrated approach ensures a resilient cropping system that meets both agronomic and economic goals for your farm.
- The following are considerations for utilizing both Liberty Link® and Optimum GLY® canola on your farm.

### Herbicide Resistance Management

- Different modes of action: Liberty Link® uses glufosinate (Group 10) herbicides. Optimum GLY® uses glyphosate (Group 9) herbicides.
- Rotating these systems reduces selection pressure on weeds, slowing the development of herbicide resistance in species such as kochia, wild oats, and cleavers. This is a cornerstone of integrated weed management.

### Volunteer Canola Control

- Alternating herbicide systems simplifies volunteer canola control.
- Pre-seed tank mixing effective mode of action herbicides and timing application 1-4 days prior to seeding (depending on annual or perennial weed targets) helps optimize weed control, maximizes yield potential, and sets up a clean start to the crop.



- A meta-analysis of 89 studies from 2003 to 2020 estimated an average of 30% canola yield loss due to weed interference in Canada (Geddes et al., 2022).
- Volunteer canola with stacked herbicide tolerance traits can become a major issue if the same system is used repeatedly.
- Effective rotations help maintain seed purity for specialty oil contracts and prevent contamination that could jeopardize premiums.

### Disease Management

- A 2-3 year break between canola crops (with cereals and/or pulses in between) is essential to reduce clubroot, blackleg, verticillium stripe, and sclerotinia inoculum.
- Rotating crop and herbicide systems supports sustainable weed and disease control and long-term profitability.

### Operational Flexibility

- Using both herbicide tolerance systems gives growers flexibility in weed spectrum management and herbicide timing.
- Liberty performs best in warm, sunny conditions on small weeds and is challenged by Group 1 resistant wild oats and green foxtail, as well as cleavers, etc.
- Glyphosate is effective on the previously listed weeds, however, Group 9 resistant kochia is a concern on a growing number of acres in western Canada.
- Using both herbicide tolerance traits (and herbicide actives) separately in a crop rotation is key to managing existing and future weed concerns.

**Year 1**  
**Liberty Link or Optimum GLY Canola**



**Use Liberty (Group 10) or  
glyphosate (Group 9)**

**Year 2**  
**Wheat**



**Disease break,  
volunteer control**

**Year 3**  
**Peas or Barley**



**Soil health improvement,  
disease break**

## Stewardship and Market Access

- Identity preservation is critical for high-value contracts (e.g., high oleic or omega-9 canola).
- Rotating systems, cleaning equipment between fields, and managing volunteer canola reduces contamination risk and protects market premiums.
- Customer feedback in 2025 revealed that Liberty Link volunteers from conventional hybrids in Liberty Link “specialty oil” canola crops created concerns for customers to meet contracted specifications.

## Best Practices for Rotation

- Keep detailed records of canola hybrids (and their respective herbicide traits) to avoid herbicide misapplication.
- Use separate field blocks for different systems and clean equipment thoroughly.
- Scout and control canola volunteers aggressively to prevent competition with the crop and negative yield impact. Volunteer canola control should be a multi-year approach (year 2 and 3).

## Bottom Line

- Using both Liberty Link and Optimum GLY canola in rotation is not just about weed control—it’s about whole farm profitability, resistance management, disease suppression, operational flexibility, and protecting market premiums.
- This integrated approach supports long-term sustainability and profitability in Western Canadian canola production.

## Reference

Geddes, C.M., B.D. Tidemann, J.T. Ikley, J.A. Dille, N. Soltani, and P.H. Sikkema. 2022. Potential spring canola yield losses due to weeds in Canada and the United States *Weed Technol.* 36:884-890.



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