

Protecting Canola From Blackleg

Key Points

- Widespread throughout Western Canada, blackleg is present in 70% of surveyed fields, according to a recent study.
- Growing a canola hybrid with built-in genetic resistance is the most effective strategy for protection against blackleg pathogens, combined with a fully integrated pest management approach.

Why are blackleg levels increasing?

- Shorter rotations.
- More surface residue with less tillage.
- More residue from increased canola yields.
- Many canola hybrids rely on seedling resistance alone.

Blackleg disease symptoms

- Blackleg occurs on cotyledons, leaves, stems and pods.
- Leaf lesions are greyish white, round to irregular in shape, often dotted with black fruiting bodies.
- Stem lesions can occur at the base of the stem or at points of leaf attachment.
- Stem cankers appear as dry sunken lesions with black borders that girdle the base of the stem and cause the plant to lodge.
- Inoculum produced on stubble causes infection in subsequent years.



A blackleg stem canker lesion on canola.

Races of blackleg

- 90% of blackleg (*L.maculans*) falls into seven races in Western Canada, with races 2, 3, and 4 being predominant.
- More than one race of blackleg can be present within a given field, so it is important to know if your canola hybrid of interest has strong adult plant resistance.

Types of blackleg resistance

There is no quick way to know what race or how many blackleg races you have in your field - most fields have several races present. Products with strong adult plant resistance provide peace of mind.

Adult plant resistance: Protects against multiple races of blackleg and has strong and durable resistance over time. Adult plant resistance can provide more durable product performance in situations where selection pressure for overcoming resistance is increased (e.g. high canola frequency in rotations).

Seedling resistance: This resistance protects against only one race of blackleg. Seedling resistance is all or nothing.

Recommendations for reducing blackleg

- Always choose a canola hybrid with a complete package of yield, disease resistance and agronomic characteristics that are best for your operation. Learn how different canola hybrids perform in your area and on your farm.
- Scout your fields often to determine blackleg incidence and severity.
- Crop rotation is key. Tight rotations do not allow enough time for disease-bearing stubble to break down in the soil. If blackleg is a concern, a break of at least two years between canola crops on the same field can be effective in reducing blackleg in subsequent crops.

Agronomic considerations

Our blackleg resistance breeding platform includes:

- A multi-source blackleg resistance strategy.
- The stacking of resistance genes.
- Building a solid, adult plant resistance first for long-term stability.
- Blackleg resistance in Pioneer® brand canola involves many genes, giving our canola products stability and performance across many different environments.



Cross section of canola stems showing resistance to blackleg vs. susceptible stems