

Blackleg Disease Cycle

Leptosphaeria maculans

1 Spores Released

In the spring, ascospores are released from the infected stubble and infect plants through stomata and wounds.

Crop rotation allows residue to decompose, reducing the inoculum available to infect the next crop.

2+ years

2 Primary Infection

Cotyledons and young leaves exhibit lesions with pycnidia. See **A** below.



3 Secondary Infection

The pycnidia release pycnidiospores which spread disease to other leaves and plants via rain splash and wind. Secondary infection has less impact on blackleg severity.

4 Fungal Growth Towards Stem

During mid-season flowering, infection from cotyledons/lower leaves spreads internally to the stem base. See **B** below.

Cross-Section of Stem

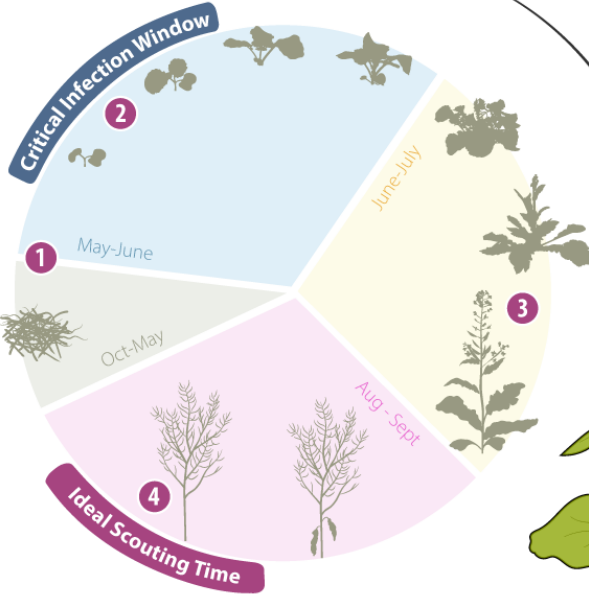


6 Blackleg Survives on Residue

Fungus overwinters for 2+ years on infected canola stubble, primarily as mycelium pycnidia, and pseudothecia. See **D** below.

5 Stem Cankers and Plant Lodging

Lesions can cause root and stem cankers, which lead to lodging under severe infection. See **C** below.



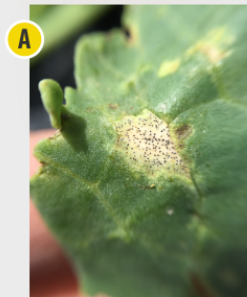
Symptoms of blackleg disease in canola plants:



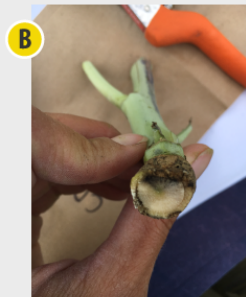
Scouting

The main blackleg disease scouting periods are:

- 1 prior to planting
- 2 cotyledon to two-leaf stage
- 3 flowering stage
- 4 ripening stage to post-harvest



Early stages present as lesions with pycnidia (black specks) on the leaves.



The stem displays varying degrees of black, as seen in cross-section.



Late stages present with root and stem cankering (shrunk, pinched areas).



Pseudothecia and pycnidia can be seen on old canola stubble.