BLACKLEG DISEASE CYCLE

Leptosphaeria maculans

ADAMA

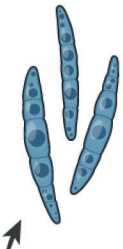
2 PRIMARY INFECTION

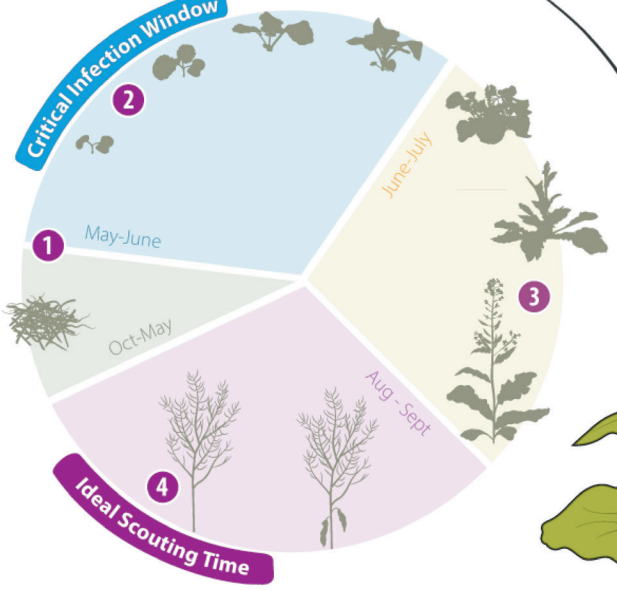
Cotyledons and young leaves exhibit lesions with pycnidia.

See A below.

1 SPORES RELEASED

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



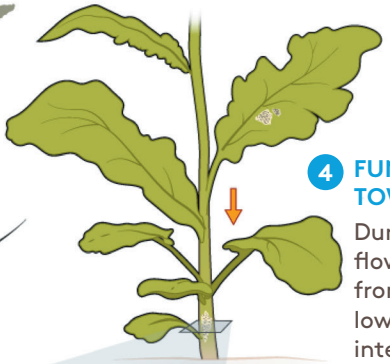


3 SECONDARY INFECTION

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

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

2+ years



4 FUNGAL GROWTH TOWARD STEM

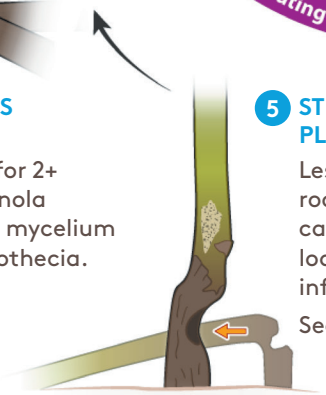
During mid-season flowering, infection from cotyledons/ lower leaves spreads internally to the stem base.

See B below.

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.

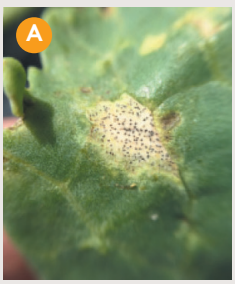
See C below.

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

SYMPTOMS OF BLACKLEG DISEASE IN CANOLA PLANTS:



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 (shrunken, pinched areas).

Pseudothecia and pycnidia can be seen on old canola stubble.

FUNGICIDE

ADAMA

BUMPER® 432 EC

For control of blackleg in canola.

Fungicide Group:
Group 3

Active Ingredient:
Propiconazole 432 g/L = EC

Application Rates and Acres Treated:
Rate (when used alone):
60 – 120 ml/ac

Acres Treated: 40 – 80 ac/jug

Packaging:
Case: 2 x 4.8 L jugs

Water Volume:
Ground: 80 L/ac
(20 US gal/ac)

Aerial: 16 – 20 L/ac
(4 – 5 US gal/ac

Rainfastness:
1 hour

Protect your yield and quality and give yourself the chance for a "Bumper" crop

As our industry continues to better understand blackleg in canola, a recently released study has indicated that damage, whether by flea beetles or environmental, at the cotyledon stage increased the amount of blackleg present.[1]

REPLACES	Tilt, Pivot, Fitness
CROP STAGING (NO TANK MIX)	Rosette stage, between 2nd true leaf and bolting.
KEY PESTS CONTROLLED	Blackleg
PEST STAGING	N/A
TANK MIX OPTIONS	SILENCER® 120 EC or ZIVATA™
MIXING INSTRUCTIONS	BUMPER® 432 EC SILENCER® 120 EC or ZIVATA™
RE-ENTRY PERIOD	24 hours
PRE-HARVEST INTERVAL	60 days
ADDITIONAL INFO	BUMPER® 432 EC will control blackleg and enhance yield potential during the early stages of canola growth. The disease may reappear later in the season, but with minimal effect on yield.

Always read and follow label directions.

[1] Canadian Agronomist. (May 17, 2022). *Canola cotyledon wounds contribute to blackleg disease.*