SGS BIOVISION

TECHNICAL BULLETIN

BLACKLEG RACE TESTING

What is Blackleg Race Testing?

Blackleg is a disease of canola caused by the fungal pathogen *Leptosphaeria maculans*. It targets the canola at the 2-4 leaf stage and infects the vascular tissue, which prevents the flow of nutrients and water to the rest of the plant. Severe infections cause cankers, girdling, pre-mature ripening and possible lodging. These symptoms all contribute to significant yield loss.
Choosing canola cultivars with resistance to the pathogen is one tool to manage blackleg disease. Understanding which pathogen races are present in the field can assist with choosing the appropriate resistance gene in your next canola rotation.
More information at www.canolacouncil.org.

How to submit Samples

- Sample plants with the highest suspected levels of blackleg.
- Submit up to 10 stems per FIELD. Minimize the amount of soil attached to the plant.
- For each sample, submit 3 inches above the crown and the entire root.
- Air dry the sample for a minimum of one day prior to shipment.
- Submit the dry samples in either a paper bag or in a plastic bag with the stems wrapped in paper towel.
- Samples should be couriered. Please avoid shipping over a weekend.
- Standard turn-around is 4-6 weeks.

How does SGS BioVision Test for Blackleg Race?

- The PCR method utilized is the KASP™ system (Kompetitive Allele Specific PCR), an endpoint genotyping technology.
- The first step involves a PCR analysis from the stems identifying the presence of *L. maculans*.
- If *L. maculans* is identified, the samples are genotyped through the KASP SNIP method.
- Quality controls are processed in tandem with multiple Positive Controls, an Extraction Blank, and a No Template Control.
- Reporting:
  - Race genotypes are reported.

  AND
  - Estimated phenotypes (that could be expressed in the field) are reported.
- What to do next?
  - Visit your local seed retailer for recommendations for canola resistance gene.

CONNECT SGS

Learn more about Blackleg Race Testing and our other services at biovision.ca.

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