
Determining the Race Structure of *Leptosphaeria maculans* in Western Canada.

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Each year blackleg disease of canola (*Brassica napus* L.), caused by *Leptosphaeria maculans* (Desmaz.) Ces. & De Not., is responsible for significant yield loss of *Brassica napus* L., oilseed rape and canola worldwide. In western Canada, blackleg disease has been managed using a combination of four-year rotations and resistant canola varieties. To determine the current race structures present in western Canada, isolates were collected from eight locations across Alberta, Saskatchewan, and Manitoba in 2007 and 2008. These isolates were inoculated onto eight different canola varieties containing different resistant genes: 'Westar', 'Quinta', 'Glacier', 'MT29', 'Samourai', 'Quantum', 'Falcon' and 'Darmor'. Using the gene-for-gene theory, race structure was determined based on variety resistance to *L. maculans*. A scale of 0 (no disease symptoms) to 9 (severely diseased) (Newman 1980) was implemented to assess plant resistance, with a score of 5 and above suggesting susceptibility. Preliminary results have identified 18 different races, nine of which contain the majority of isolates. These results have also shown that the frequency of *L. maculans* avirulent alleles greatly varies between the different sites in western Canada.

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