Blackleg in Stubble Retained Systems

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On behalf of National Canola Pathology Project - UM51
Stubble total spore release per hectare per rainfall event

1 year old  - 69 450 000
2 year old  - 1 931 998
3 year old  - 363 285
4 year old  - 84 750

Majority of spores released by one-year old stubble

Current stubble conservation strategies (controlled traffic)
Spore release patterns changed under new conservation practices

John McCredden - Pioneer
What impact do these changes have on management decisions and disease epidemiology?

• Canola grown in a 1 in 2 year rotation
  • Are there more spores being released in the second year from vertical stubble?

• Is the delayed spore release impacting on disease symptoms?
  • Upper canopy infection

Abstract

Blackleg disease is caused by the stubble-borne pathogen *Leptosphaeria maculans* and results in significant yield losses in canola (*Brassica napus*) worldwide. Control of this disease includes breeding for resistance, fungicides and cultural practices including stubble management. In recent years, cropping systems have changed with the introduction of no-till farming and inter-row sowing, and it is unknown what impact these changes have had on stubble retention. The aim of this study is to investigate the impact of inter-row sowing on stubble retention and spore release. The use of inter-row sowing resulted in 25–48% of stubble remaining standing (vertical) in fields after 1 year. Furthermore, spore release was significantly ($P < 0.05$) delayed in stubble that remained vertical in the field compared with stubble lying down, with total spore release from vertical stubble 66% less than from horizontal stubble. The impact these changes have on the epidemiology of blackleg disease remains unknown.