

BLACKLEG RISK ASSESSOR FACT SHEET

Quantify the risk paddock by paddock

Assessing the risk of blackleg starts at windrowing

The blackleg fungus *Leptosphaeria maculans* is the most damaging disease of canola and juncea-canola in Australia. In some circumstances this disease can cause up to 90 per cent yield loss. This Risk Assessor has been designed to help growers make the right choices prior to or at sowing in order to minimise the risk of blackleg. The severity of blackleg is influenced by several factors and the effect of these factors varies between regions. Use the Risk Assessor to determine if your paddock is a high risk situation and what practices can be changed to reduce yield loss caused by blackleg.

Blackleg is challenging to control

- Fungal spores are released from canola stubble and therefore the disease is more severe in areas of intensive canola production.
- Spores are spread extensively and quickly via wind and rain-splash.
- Reproduction is sexual, resulting in diverse populations that can overcome cultivar resistance quickly.

All blackleg management practices have to be implemented prior to, or at, sowing.

Step 1:

Use Table 1 to determine if your farm is in a high blackleg risk region.

Table 1 Regional blackleg factors

Blackleg severity risk factor	Environmental factors that determine risk of severe blackleg infection								
	High risk			Medium risk			Low risk		
Annual rainfall (mm)	above 600	600	550	500	450	400	350	300	250
Regional canola intensity (% area sown to canola)	above 20	20	15			10		5	
Total rainfall received Mar–May prior to sowing (mm)				above 100	91-100	81-90	71-80	61-70	below 61

Combined high rainfall and high canola intensity increases the probability of severe blackleg infection.
High rainfall with low canola intensity or high canola intensity with low rainfall may not result in severe blackleg infection.

Step 2:

Determine each paddock's blackleg severity.

- Assess the level of disease in your current crop. Immediately after windrowing (swathing), pull 50 randomly chosen stalks out of the ground, cut off the roots with a pair of secateurs and using the photos below estimate the amount of disease in the stem cross section.
- A dark coloured stem is a symptom of blackleg (Table 2). Stem cankers are clearly visible at the crown of the plant. Severe cankers may cause the plant to fall over as the roots become separated from the stem.

If you have identified that you are in a high risk situation (Steps 1 and 2) use the reverse side of this document to reduce your risk of blackleg for future seasons.

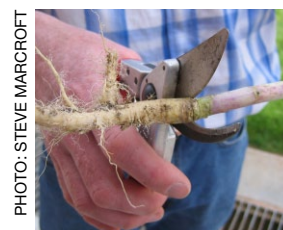


PHOTO: STEVE MARCROFT

Cutting a plant at the crown to assess internal infection.

Table 2 Paddock blackleg severity

High	Medium	Low

Yield loss occurs when more than half of the cross section is discoloured.

Step 3:

Use Table 3 to determine which management practices can be changed to reduce the risk of severe blackleg infection.

- Table 3 helps in the estimation of how each management practice is likely to influence the risk of blackleg causing yield losses.
- By changing particular management strategies the risk of blackleg in a paddock can be minimised. For example, if the same cultivar of canola or juncea-canola has been grown for three years, switching to a different cultivar can reduce the risk of blackleg.

Table 3 Management practices can reduce the risk of severe blackleg infection

Blackleg severity risk factor	Crop management practices that determine risk of severe blackleg infection								
	High risk			Medium risk			Low risk		
Month sown				June to August	May 15 to 31	May 1 to 15	April 15 to 30		
Cultivar blackleg rating	Very susceptible	Susceptible to very susceptible	Susceptible	Moderately susceptible to susceptible	Moderately susceptible	Moderately resistant to moderately susceptible	Moderately resistant	Resistant to moderately resistant	Resistant
Fungicide seed dressing				No			Yes		
Canola stubble conservation				Inter-row sowing	Disk tillage	Knife point tillage	Wide point tillage	Burning/burying tillage	
Distance (m) to 1-year-old stubble	0	100	200	300	400	500	above 500		
Distance (m) to 2-year-old stubble					0	100	250	500	above 500
Years of same cultivar sown within 2km	above 3			3			2	1	0
Distance (m) to 1-year-old stubble of same cultivar	0	100	200	300	400	500	above 500		
Distance (m) to 2-year-old stubble of same cultivar			0	100	200	300	400	500	above 500

Changing management practices can minimise risk of blackleg.

Useful resources:

- **Canola best practice management guide for south-eastern Australia** [Ground Cover Direct 1800 11 00 44, www.grdc.com.au/bookshop](http://www.grdc.com.au/bookshop)
- **Managing Blackleg and Sclerotinia in Canola: The back pocket guide** [Ground Cover Direct 1800 11 00 44](http://www.grdc.com.au/bookshop)
- **Steve Marcroft** [03 5381 2294, Email steve@grainspathology.com.au](mailto:steve@grainspathology.com.au)
- **Blackleg Resistance Ratings** www.nvtonline.com.au
- **Australian Oilseeds Federation – Agronomy Centre** www.australianoilseeds.com
- **National Variety Trials** www.nvtonline.com.au

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