



HYBRID CANOLA FIELD REPORTS

Best Management Practice for Reducing Blackleg Canker – Part 2

There are many factors which can affect the severity of yield loss due to blackleg infection. The following steps have been adapted from the GRDC blackleg management guide and Steve Marcroft's talk *Blackleg in the farming system – understanding disease risk* at the 2017 Southern GRDC Advisor Update.

This is Part 2 of a two-part series on blackleg, dealing with the factors to consider during the post-seeding period.

Fungicide use.

The use of effective fungicides can greatly reduce the risk of blackleg infection. In medium and high blackleg pressure situations this should begin with an effective seed treatment such as Jockey® Stayer®. Use of a seed treatment in these situations is recommended because the seedling is protected from time of emergence, whereas a fertiliser applied fungicide such as flutriafol may leave the plant vulnerable until the roots access the fungicide in the soil.

The length of protection against blackleg leaf lesions is quite variable and both Jockey Stayer and flutriafol will only offer seedling protection in the early growth stages. An effective in-crop foliar fungicide may be applied to protect the plant during the 4-6 leaf stage through to green bud. Note that a national rating may be effectively reduced locally where a variety has been intensively grown. Bayer's new foliar fungicide, Aviator® Xpro®, offers improved length and level of blackleg control over Prosaro® fungicide, and should be considered the premium in-crop blackleg fungicide from 2017.

Stem canker occurs when leaf infection is able to grow from the cotyledon or leaf, through the stem and into the base of the plant. Blackleg is thought not to grow far down the stem, so as the plant elongates and the infected leaves grow away from the base of the plant, the disease will not be able to grow from the leaf into the base of the plant. Therefore, stem canker will not form from leaf infection occurring after stem elongation.

Month sown.

Dr Marcroft recommends sowing for an expected start of flowering between 23 July and 25 August. This timing is linked to various benefits.

Modern canola varieties flower quickly so when growers sow early in the season to avoid spring drought, warm autumn temperatures from emergence can lead to rapid plant development.

Blackleg infection occurs in late autumn and through winter. Rains cause fruiting bodies on canola stubble residues to release spores that land on canola crops. Canola cotyledons and seedlings are particularly susceptible to early infection that can cause stem canker and yield loss. The later canola is sown, the more likely it is to emerge while blackleg spore showers are occurring. Sowing canola towards the end of the optimal sowing window will also often mean a slower rate of growth, further increasing the risk of loss to blackleg. Crops in this situation must be monitored closely to decide if an in-crop fungicide should be considered.



Blackleg expressed as upper canopy infection.

Blackleg infection on the flowers, pods and upper parts of the plant after the start of flowering is known as upper canopy infection. While earlier sowing has reduced the likelihood of blackleg to cause stem canker, it may increase the occurrence of this later-season blackleg by exposing the flowering plant to the cold and wet conditions of winter, which are more optimal for disease development. This then creates a dilemma for growers- sow early and risk upper canopy infection or sow later and risk increased stem canker. The disease seems to cause the most damage when it infects either opened or pre-opened flowers. Flower infection allows the disease to then grow into the flower stem (petiole) and then into the plant stem proper. If this occurs the disease can have a larger yield impact as the infection can effectively cut off the infected stem. Where pods are infected late in the season, yield loss is probable because diseased pods become prematurely brittle and are more susceptible to shattering.

There is still work to be done to understand the balance of risk of the canker form of blackleg against upper canopy infection.



Next year's blackleg management starts this spring.

This series of articles has outlined the management options available to growers in dealing with blackleg on their farm. A good time to start thinking about a plan for next year begins in spring as blackleg levels in different paddocks and varieties on your farm becomes evident. At windrowing, make stem cuts at ground level to assess the level of infection. If a plant has greater than 50% blackening of the stem, it is likely that there was yield loss due to blackleg. If you are approaching a 50% blackening average of a large number of stem cuts across a paddock, then consideration should be given to changing your blackleg management strategy to avoid future yield losses.

For more information please consult the [GRDC Blackleg Management Guide here](#).



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