

Frost

Description: Open flowers are most susceptible to frost damage causing flower abortion, while pods and unopened buds usually escape. Severe frosts can kill developing seed, which turns into a mushie brown mass that dries to a small black or brown speck. Yellow/green discolouration and scarring of external surface of pods. As the pods mature, early frost damage causes irregularly filled pods. Late frost, when the seed is at the milk stage (40% moisture), can cause significant losses with shrivelled seed that may retain its green colour and affect oil quality.

Contributing factors: Most susceptible to frost damage from flowering to the clear watery stage (approx. 60% moisture). Night air temperatures (recorded at 1.2 m above ground) fall below 2 °C. Low lying areas, light-coloured soil types and dry soil increase the risk of damage.

Image: S Marcroft, MGP



Frost at flowering and pod set results in flower abortion and developing canola seed is killed.

Monitoring: Inspect crops between bud formation and pod growth after a frost. Check low lying, light-coloured soil types and known frost-prone areas first. Symptoms may not be observed until 5 to 7 days after the frost. Peel open flowers and pods using tweezers and a needle and inspect using a magnifying glass.

Management: Canola flowers for a 30 to 40 day period allowing pod set to continue after a frost.



Canola seed pod showing early frost damage, affected seeds dry to a small black or brown speck.

Most yield loss occurs when frost occurs after flowering when pods are small. A series of frosts can result in forced delay of pod set, leading to poor seed fill, especially if a dry finish occurs. Normally, when canola is badly affected by frost after flowering, cereal crops are also affected as they are approaching flowering.

Images: T Potter, SARDI; C. White and P Maloney



Yellow/green discoloration of pods.