

Nitrogen Requirement for Hybrid (43Y92) and OP (Stingray) canola in low rainfall

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Key Messages

- Hybrid canola (43Y92 (cl)) consistently produced 20-30% more grain yield than open pollinated (ATR Stingray) canola across key Mallee soil types at Karoonda in 2018.
- Given the decile 1 season, yields were substantial and ranged from 0.35-1.16 t/ha with yields of more than 0.9 t/ha achieved on all soil types.
- Hybrid canola appeared to have a lower fertiliser N requirement as it produced significantly more grain than open pollinated canola at each level of N input.

Why was the trial/project undertaken?

The Optimised Canola Profitability project has been operating in the Mallee since 2015 and a co-ordinated series of trials have identified the following key strategies:

- Sowing early (April 7-May 7) to achieve flowering in the optimal window offers significant yield benefit,
- Sowing is only recommended with a genuine establishment OPPORTUNITY (10-15 mm rain minimum depending on soil texture),
- Nitrogen is a key input with limited response to the timing of input,
- Legume N can be used to reduce fertiliser N input.

In 2018, we wanted to address the gap in a full understanding of the N response curve to identify yield maximising and optimal profit-risk N input levels. In the final year of experiments there was also an opportunity to test the hybrid variety 43Y92 (cl) which was showing promise in relatively low rainfall scenarios.

How was the trial/project undertaken?

A small plot trial was established at Karoonda (Lowaldie) in 2018 testing the productivity of 43Y92 (cl) and ATR Stingray canola under 5-150 kg N/ha fertiliser input on key Mallee soil types (Swale, mid-slope, dune-crest and dune). A partner trial was established at Lameroo and a site at Minnipa was not sown due to a lack of establishment opportunity.

Useful Resources

Ware et al. (2019) Optimised canola profitability: an overview of 5 years of canola agronomic research in South Australia, Adelaide GRDC Updates.

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