

# Break crop options for the low rainfall zone

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**Project Title:** Validating recent research on break crop options in the low rainfall zone to determine the best options for the difference climate, soil type and biotic stress situations.

Peer Review: Penny Roberts (SARDI)



## Key Messages

- The project aim is to increase grower confidence to utilising break crops in rotations, with a target of 10-15% break crop inclusion in the cropping program, in low rainfall cropping systems.
- Break crop performance was variable across the four trials in 2017, due to high variation in seasonal rainfall.
- Grain yield of break crops at the Mildura trial site ranged from 0.9 – 1.98 t/ha, with field pea, lupin and vetch being the top yielding break crops.

## Why was the project undertaken?

Current farming systems in low rainfall southern Australia are dominated by cereal production, with cereal cropping intensities of 60-70% common. Break crops continue to occupy a very small percentage of arable area despite recent research demonstrating the value and profitability of including them in the rotation. This project builds on GRDC funded projects DAS00119 (Profitable crop sequencing in the low rainfall areas of South Eastern Australia), DAV00113 (Southern region pulse agronomy), CSP00187 (Southern region canola agronomy), and SAGIT funded project MSF115 (Adopting profitable crop sequences in the SA Mallee). The long-term aim of this project is to improve production and profit of low rainfall farming systems through the adoption of break crop management packages specifically developed for low rainfall farming systems.

## How was the project undertaken?

To meet this aim, four randomized break crop trials have been established across the LRZ of South Australia and Victoria, running from 2017 to 2019. The break crop trials include 3-6 varieties (to represent the major options with potential in the low rainfall zone) of canola, lupin (where appropriate), field pea, vetch, lentil, chickpea and faba bean. Specific agronomic management trials addressing break crop production in the LRZ were established in the Upper North, SA, site (Willowie) in 2017, and will be strategically expanded to other sites in 2018 and 2019. Agronomic management trials in 2017 included a chickpea ascochyta blight fungicide trial, field pea blackspot fungicide trial, canola nitrogen management trial, lentil pre-emergent herbicide trial, lentil sowing density trial, and lentil stubble management trial.

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