

## **Chickpea and lentil emergence and establishment is resilient to changes in sowing depth and timing.**

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Impact of sowing timing and depth on chickpea and lentil emergence and establishment are being measured in two WA sites; Dandaragan, a medium rainfall sandy site and Merredin a low rainfall site on sandy loam.

Lentil and chickpea are somewhat unique amongst our common cropping plants in that they have hypogeal germination, where their cotyledons stay below ground and the seed sends up a thin epicotyl. This allows them to successfully germinate and emerge from extreme depths. Sowing depth, esp. depths greater than 10 cm have received very little attention in the literature, however farmers in Queensland are successfully experimenting with this. Under dryland conditions, especially those experiencing declining autumn rainfall, deep sowing could offer benefits in chasing deep soil moisture. Deep sowing could also be a key tool in farmer uptake of these crops as farmers can potentially sow high value legumes prior to their current sowing programs.

This season, both mid-April and mid-May sowing of lentil (PBA Bolt) and chickpea (PBA Striker) was undertaken at standard practice depth (~ 5 cm) and a very deep sowing treatment of 20 cm at both WA sites. Deep sown treatments had a 2-3 day delay in emergence time for chickpeas and up to a week in lentil. The deep and shallow treatments showed no differences in emergence number, aside from May sown lentils in Merredin where deep sown plots showed lower emergence. The effect on establishment will be discussed also.

Pulses have previously been grown extensively in WA, however the cropping area of many of these, including lentil and chickpea, declined following disease outbreaks. New cultivars have addressed these issues. We hope to stack these genetic technologies with the latest sowing techniques to create a resilient, profitable legume management package for the WA farming system.

