

Trial 5

Chickpea Agronomy Trial

Aim: Chickpeas are a high value crop with great potential for the southern Mallee and northern Wimmera. The best management practices for growing high yielding chickpeas have not been determined. The questions most often asked are:

- * what is the optimum sowing date for chickpeas?
- * what is the best sowing depth, especially in relation to the use of pre-emergent herbicides?

This trial will take place over three seasons so that we can determine the best sowing date for the southern Mallee and northern Wimmera, and what the safest sowing depth is. Chickpeas are not as tolerant, as some other legumes, to Simazine and Trifluralin, it is possible that deep sowing may reduce crop damage.

Part 1. Sowing date - chickpeas (Desavic) were sown on 4 sowing dates at approximate fortnightly intervals (18 and 29 May, 13 and 22 June 1995). All plots were replicated.

Results:

Sowing date	Yield (t/ha)
18 May	1.79
29 May	0.67
13 June	1.05
22 June	1.01
Significant difference: P<0.01, LSD=0.52	

Interpretation: In 1995 the sowing date for chickpeas was critical - early sown crops far out yielded later sown crops. The very wet conditions in June resulted in very low plant populations, with subsequent reduced yields.

Interim Recommendation: It is too early to tell whether chickpeas will always respond to early sowing as they did in 1995. This trial will be repeated in 1996 and 1997. At this stage, for the northern Wimmera and southern Mallee, a mid May sowing is recommended for chickpeas.

Part 2. Sowing depth in relation to pre-emergent herbicides

Chickpeas (Desavic) were sown at two depths (3 and 6 cm deep) with two rates of Simazine (1.5 and 2.0L/ha) applied Post-sowing Pre-Emergent (note Trifluralin at 1.5L/ha was incorporated pre-sowing to all plots). All plots were replicated. *Warning:* the use of Simazine and Atrazine on chickpeas is not registered, crop damage may result.

Results:

Treatment	Yield (t/ha)
Shallow (3cm), Simazine 1.5L	1.41
Shallow (3cm), Simazine 2.0L	1.00
Deep (6cm), Simazine 1.5L	2.22
Deep (6cm), Simazine 2.0L	1.59
Significant difference: P<0.05, LSD=0.8	

Interpretation: At this sandy soil site chickpea yields were significantly reduced in 1995 when sown shallow in combination with either 1.5 or 2.0L/ha of Simazine. Even the deeper sown chickpeas at 6cm were still badly affected by Simazine at 2.0L/ha. The only safe depth and rate of Simazine was deep sown at 6cm with 1.5L/ha Simazine. Trifluralin at 1.5L/ha may also have been too high for chickpeas sown on a sandy soil.

Commercial Practice: it is too early to tell whether chickpeas are as sensitive to simazine on clay soils as they demonstrated to be on a sandy soil in 1995. This trial will be repeated in 1996.