Trial 14

Chickpea Herbicide Tolerance Trial
Sponsored by IAMA

Aim: to determine whether herbicide tolerances differ between the four commonly grown chickpea varieties, Desi types - Desavic, Tyson, Lasseter (was T1414) and the Kabuli type - Kaniva

Results:

	Status	Cost $/ha	yield t/ha			
			Desavic	Lasseter	Tyson	Kaniva
control			0.70	0.73	1.35	1.24
post sowing pre-emergent						
Simazine 1L + Atrazine 0.6L	NR	8.90	1.35	1.41	2.00	1.80
Simazine 0.8L + Spinnaker 0.12L	NR	17.60	1.12	1.07	1.53	1.80
Simazine 1L + Diuron 0.8L	NR	11.90	1.47	1.45	2.18	1.99
Lexone 280g	NR	23.50	1.19	1.25	1.51	1.77
early post emergent						
Broadstrike 25g (no oil)	R	12.50	0.78	0.77	1.56	1.69
Tough 2L	R	43.30	1.20	1.24	1.66	1.98
Significant difference			**P<0.05 LSD=0.30**	**P<0.05 LSD=0.22**	**P<0.05 LSD=0.48**	**P<0.05 LSD=0.51**

Interpretation: Large differences in yield existed between varieties and also in their tolerances to different herbicides. The control plot (no weed control) had a large cover of mustard, shepherds purse and capeweed. Desavic and Lasseter had significant crop damage (expressed by yield) when treated with Broadstrike (without oil or wetter). For Tyson and Kaniva chickpeas the effect of Broadstrike was not as severe but a yield penalty still existed. Simazine plus Spinnaker and Lexone also caused a general yield penalty in the desi type chickpeas (not in the Kabuli type - Kaniva). The best options appeared to have been Simazine plus Atrazine and Simazine plus Diuron. In general, Tyson performed much better in comparison to Desavic and Lasseter. The Simazine treatments (either with Atrazine, Spinnaker or Diuron) obtained the best results for weed control - but the Simazine plus Spinnaker treatment caused some crop damage (on Desavic, Lasseter and Tyson).

Commercial Practice:

- Simazine and Atrazine - not registered, but commonly used and effective in the control of most weeds. Damage can occur if used at high rates on sandy or sandy loam soils, and a large rain washes the chemical into the root zone.
- Simazine and Spinnaker - not registered, but commonly used and reasonably effective in the control of difficult weeds such as musk. In dry finishes this treatment can cause yield decline due to root pruning. Observe plant back periods when intending to plant canola following this treatment.
- Lexone - sowing depth of a minimum 5 cm is essential to separate the seed from the chemical. Trifluralin will still be required on paddocks with hogweed, and whipthistle control will be only marginal.
- Broadstrike - not registered and yield penalties are often observed, especially in years with a dry finish. Poor weed control if the cruciferous weeds are large, or if it is wet and cold at the time of spraying. From this limited trial - Tyson appear to be more tolerant compared to the other desi chickpeas.
- Tough - is registered, and quite safe. Tough has a limited weed spectrum - capeweed, white iron weed, toadrush, amsinckia, milk thistle, prickly lettuce.