

A CHICKPEA CULTIVAR X POPULATION X ROW SPACE STUDY IN SOUTHERN QUEENSLAND

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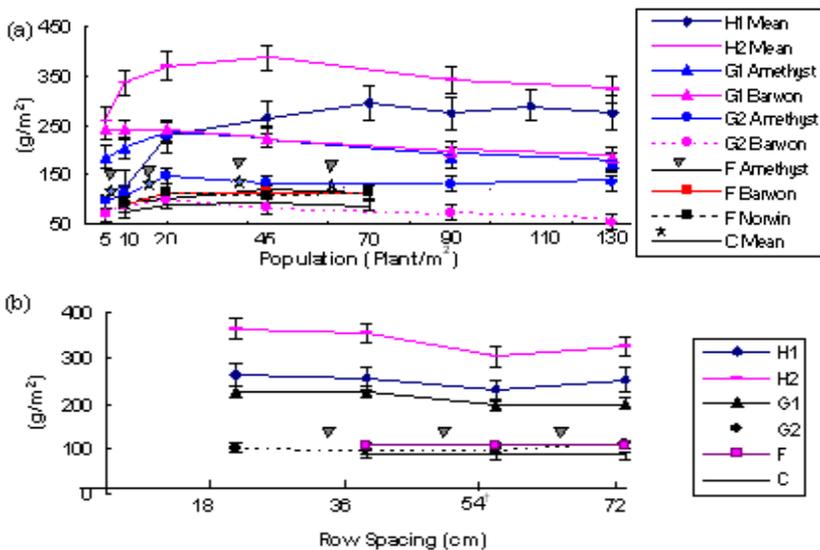
Commercial crop management and selection procedures in the desi chickpea breeding program required more information than presently available (1) on erect and semi-erect types' response to plant density and row spacing for a range of environments.

MATERIALS AND METHODS

Trials were conducted at four sites; Hermitage (H1, H2), Gatton (G1, G2), Formartin (F) and Condamine (C). All trials had the cultivars, Amethyst (erect), Barwon (semi-erect) and sites F and C also had Norwin (semi-erect). The factors were population, row spacing and cultivar. The three factors were arranged in a completely randomised block design of three replicates. All trials were rainfed and planted at the optimum time except H1 and G2 which were late sown.

RESULTS AND DISCUSSION

Machine harvested seed yield data and the analysis of variance are depicted in Fig. 1. Where no interactions were recorded for a factor means only are given.



Analysis of variance

	H1	H2	G1	G2	F	C
p	**	**	**	**	**	**
s	*	**	**	**		

c			**	**		
ps						
pc			**	**	**	
sc						
psc	*					
cv(%)	22	14	12	18	14	22

=was actually a 36 x 72 cm twin row array

l.s.d.=5%

p = population, s = row spacing, c = cultivar

Figure 1. Seed yield and analysis of variance for (a) plant population and (b) row spacing for chickpea cultivars in southern Queensland.

Fig.1a indicate optimum populations are in the 20-45 plants/m² range for all sites and where cultivar response diverged at G1 and G2 this occurred outside the optimum population range. Wide rows showed a yield decline at high yield sites but not at lower yield environments (Fig.1b) and this differed from previous findings (1). There was no cultivar x row space interaction.

REFERENCE

1. Beech, D. F. and Leach, G. J. 1989. Aust. J. Exp. Agric. 29, 241-246.