

## 2007 CANOLA & JUNCEA CANOLA TRIALS

### Variety Specific AGRONOMY Packages

# Canola, juncea canola and condiment mustard row spacing trial

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- A trial was undertaken at Merriwagga, central west NSW, to compare the effects of row spacing on the yields as part of the "Variety Specific Agronomy Packages" (VSAP) for southern NSW project of the NSW DPI, funded by the Grains Research & Development Corporation. This 2007 trial was part of a series of trials in its first year of a four year project.
- There was no significant difference in yield of any canola, juncea canola or mustard varieties/hybrids between 15 cm and 60 cm row spacing in this trial, which was severely affected by drought.
- Wider rows in this trial delayed flowering by at least five days in all varieties.
- The *B. juncea* varieties seemed to branch out more on wider rows than the canola varieties.

### Introduction

The aim of the trials was to observe and measure the influence on yield of two row spacings (15 cm and 60 cm) in five canola varieties/hybrids, one juncea canola and one condiment mustard variety.

### Method

The trial was conducted at the Merriwagga CWFS research site on red sandy loam overlying calcareous subsoil. The average annual at the site is 370 mm, and average growing season rainfall (Apr-Oct) is 220 mm.

**Table 1:**

Varieties/hybrids/line used in the row spacing trial.

Variety	Species	End use quality	Herbicide tolerance
Hyola 75 (hybrid)	<i>Brassica napus</i>	canola	conventional
Hyola 50 (hybrid)			
<sup>AV</sup> Jade			
Tarcoola			
Bravo TT			
Dune	<i>B. juncea</i>	juncea canola	conventional
"Selection 2"		condiment mustard	

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The paddock was an 18 month chemical fallow. The trial was sown on 7 May 2007, with sowing rates varying between varieties, each targeting 40 plants/m<sup>2</sup>. Granulock 15 (60 kg/ha) was banded with the seed, and 1.2 L/ha trifluralin as TriflurX® + 2 L/ha glyphosate as Roundup PowerMAX™ was incorporated by sowing. The trial was harvested on the 12 November.

Five varieties of canola one variety of juncea canola and one variety of condiment mustard were sown at 15 cm and 60 cm row spacings (Table 1). Each treatment was replicated three times in a randomised block, with varieties randomised in the second and third block. Plots were 10 m x 1.44 m.

A good early start allowed timely sowing, but by August conditions became extremely dry. In total only 96 mm fell between April and October. This trial survived mostly on stored subsoil moisture, but struggled severely during pod fill. The trial was direct headed along the entire plot width.

### Results

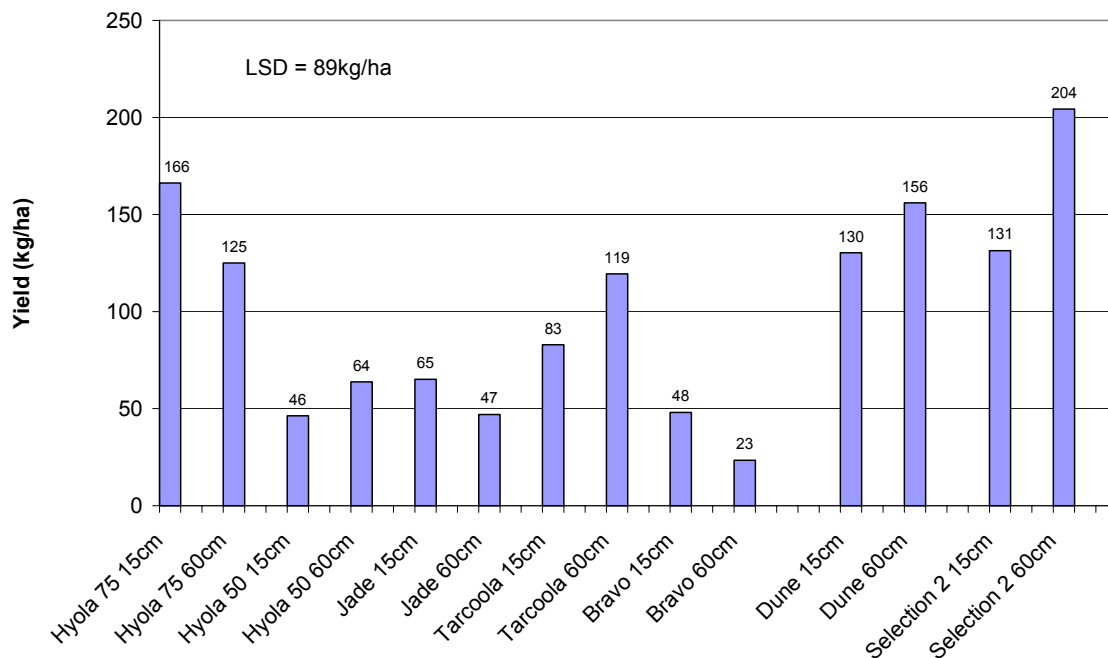
No variety showed any significant difference in yield between the two row spacings (Table 2).

Wider rows in this trial were observed to delay flowering by at least five days in all varieties. It was evident, however, that the *B. juncea* varieties seemed to branch out and handle the wider rows better than the *B. napus* canola varieties.

There were some plots that appeared to be affected by allelopathy from camel melons. Those plots were excluded from the analysis.

**Figure 1:**

Yields (kg/ha) of canola, juncea canola and condiment mustard varieties at two row spacings.



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### Commercial practice

Juncea canola suits the lower rainfall environment over canola as it is quicker to develop and set pods than canola (ie later sowing than canola), shows much more early vigour, seems to handle the hotter drier spring conditions, shatters less, and has more consistent yields across seasons making it a more reliable break crop. It may also be direct headed in some paddocks.

This project is in its second year (2008) of a three year project.

The value of wider row spacings is in the ability to handle higher stubble loads without stubble removal. Following a good season (eg cereal crop yields exceeding 3 t/ha), stubble can be too thick to get through if every tyne is left on the machine. By being able to sow every second row (ie wider row spacings), however, many machines will handle a very heavy stubble load.

By leaving heavy stubbles intact there are many benefits, but particularly to do with moisture retention.

We wanted to have confidence in widening row spacings with condiment mustard, juncea canola and canola, but at this stage of the project have not yet had the yield data to support this