

2007 CANOLA & JUNCEA CANOLA TRIALS

Juncea canola sowing rate trial in the Millewa

By Michael Moodie

Formerly Agronomist, Victorian Department of Primary Industries (Mildura)

TAKE HOME MESSAGES

- A sowing rate of 3-4 kg/ha gave optimal plant densities for the juncea canola variety 'Dune'
- Both juncea canola and canola produced very low yields with a 19 May sowing in an extremely dry season, but juncea canola appeared to outyield canola when sown at a rate of at least 3 kg/ha. Note: data not analysed.
- Juncea canola provides a real 'break' crop alternative for Mallee farmers, but is not 'risk free'.
- Early sowing into a good subsoil moisture profile is the preferred option to reduce risk of growing juncea canola.

Introduction



Potential break crop: Landowner Allan Moll inspecting the juncea canola trial before harvesting

Is Juncea canola the break crop option Mallee farmers have been waiting for? Lupins, peas, lentils and canola (*Brassica napus*) have all been used with varying degrees of success. But they all have inherent problems in the Millewa of being hard to establish, are limited to particular soil types and do not withstand hot and dry spring conditions.

Juncea canola is the same species as Indian mustard, but has been bred to produce seed with the same oil and meal quality as that of traditional canola. This season the first variety, 'Dune', was demonstrated near Werrimull to evaluate its potential for use in the north-western Mallee.

Method

The juncea canola variety 'Dune' sown at four sowing rates, ie 6, 4, 3 and 2 kg/ha and the older canola variety 'Kimberly' was sown at 3 kg/ha, and compared for plant density, grain yields and gross margins.

The trial was sown on the 22 May with 50 kg/ha of a Hi Fert DAP/SOA blend (N:P:K:S 19:13 :0:9) drilled using 20 kg/ha mixed with the seed and 30 kg/ha below the seed in the same operation. 'Dune' was sown into good moisture which aided a successful establishment of the crop.

Edited by Felicity Pritchard, Oilseeds Industry Development Officer.

2007 CANOLA & JUNCEA CANOLA TRIALS

Plots were approximately 1.25 ha across varying soil types, with each treatment replicated twice.

Results

Plant establishment:

Sowing rates of 3-4 kg/ha were optimum in the trial. Plant establishment increased from 24 to 69 plants/m² as sowing rates increased from 2 to 6 kg/ha (Table 1). A plant density of 40-60 plants/m² is suggested for canola for average rainfall seasons in the Mallee.

Table 1:

Effect of sowing rate on plant density (plants/m²) of juncea canola variety Dune. Note: data not analysed.

Sowing rate	2	3	4	6
Plant density	24	31	47	69

Of note, the crop was sown using a parallelogram tyne and press wheel assembly which provided accurate seed placement across all soil types. If the machinery used does not guarantee an accurate sowing depth, a sowing rate closer to 4 kg/ha may be required to safeguard against the risk of a poor establishment.

Grain yields:

'Dune' averaged a yield of only 134.2 kg/ha (Fig. 1), as only 90 mm of growing season rainfall was recorded at the site.

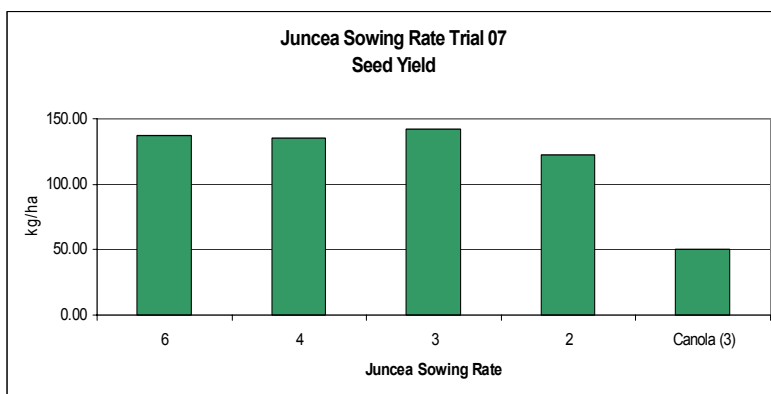


Figure 1: yield (t/ha) vs sowing rate (kg/ha) for juncea canola variety Dune and canola variety Kimberley sown at 3 kg/ha. Note: data not analysed.

Dune sown at all four rates appeared to yield better than Kimberly canola sown at 3 kg/ha, suggesting that juncea may have a lower risk of failure in low rainfall seasons.

Commercial practice

Juncea canola provides a real 'break' crop alternative for Mallee farmers, but is not 'risk free'. Early sowing into a good subsoil moisture profile is the preferred option to reduce risk of growing juncea canola. The trial was sown later than ideal (22 May). The ideal sowing time for juncea canola in the Mallee, and particularly the Millewa, is mid to late April to early May. Sowing beyond this window increases the risk of financial losses if the season finishes poorly.

A gross margin analysis showed losses from growing Dune ranged from nearly \$25/ha to nearly

2007 CANOLA & JUNCEA CANOLA TRIALS

\$50/ha, depending on sowing rate. The least loss occurred with the 3 kg/ha rate. The loss from growing Kimberley was more than \$75/ha.

Sowing at 3-4 kg/ha gave the optimum plant density, but sowing at 2 kg/ha has a high risk of establishment failure. Without good sowing depth control, growers are safer to sow at 4 kg/ha.

As juncea canola is small seeded (a similar size to canola) be sure that you can guarantee shallow but accurate seed placement across the entire paddock.

'Dune' is the first juncea canola to be released and new and improved varieties will become available in time. New conventional earlier-flowering juncea canola varieties are being fast tracked and will widen the sowing window opportunity.

The first Clearfield variety 'Oasis' has been released for 2008 and will give a herbicide option for growers. Triazine tolerant varieties are also being developed and will be available in 2-3 years.