

Trial 4. Plant Density for Hyper-Yielding Spring Canola (FAR NSW C22-04)

Objectives: To determine optimum plant density for hyper-yielding spring canola

Key points:

- For the third consecutive year there was no response to plant density ranging from target densities of 15 to 75 plants/m² (achieved density in 2022 of 17 to 82 plants/m²).
- There was no significant lodging in 45Y28 RR even at the highest plant densities.
- There was no effect of plant density on grain quality.
- Plant density achieved was higher than targeted. The assumed canola establishment was 65% but establishment achieved was just over 70%.

Treatments: 45Y28 RR canola sown at four seeding rates to target 15, 30, 50 and 75 plants/m².

Table 1: Effect of plant density on grain yield, oil and protein of 45Y28 RR.

Target Plant Density	Sowing Rate (kg/ha)	Achieved Plant Density	Grain Yield (t/ha)	Oil (%)	Protein (%)
15 plants/m ²	1.2	17.1 plants/m ²	4.75	48.5	18.3
30 plants/m ²	2.4	33.8 plants/m ²	4.78	48.2	18.9
50 plants/m ²	4.0	55.2 plants/m ²	4.83	48.5	18.8
75 plants/m ²	6.0	82.2 plants/m ²	4.62	48.7	18.9
LSD (<i>p</i><0.05)			<i>n.s.</i>	<i>n.s.</i>	<i>n.s.</i>

Table 2. Trial management details

Sowing date:		19 April
Variety:		45Y28 RR
Target plant density:		As per treatments
Sowing Fertiliser:		130 kg/ha MAP (in-furrow) & 170 kg/ha Single Super (broadcast pre-sow).
Nitrogen:	6 Leaf	113kg N/ha
	Bud Visible	113kg N/ha
Fungicide:	6 Leaf	Prosaro 0.45L/ha
	20% Bloom	Aviator Xpro 0.80L/ha
	50% Bloom	Prosaro 0.45 L/ha