

Crop Comparison after Wheat and Canola

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Key messages:

- Wheat on wheat following canola is an alternative that will enable more cereal crop to be grown in a rotation.
- Raising inputs on cereals to increase yield returns well in \$/ha.
- Alternative crops such as canola and lupins are not high income earners compared to growing cereals with optimum (higher than average) inputs.

Aim:

To test if wheat can be successfully grown after wheat and canola and to assess if wheat was the best crop to grow.

Method:

A replicated experiment was established using similar treatments to 2004. However, to test the alternative crops, canola and lupins were added to the experiment.

Results:

Table 7: Yield (t/ha) and return (Gross Margin or GM in \$/ha over farmer¹ wheat) of the 2005 Crop Comparison Experiment

	Farmer ¹		Hi N ²		Hi N+Fungicide ³	
	Yield	GM	Yield	GM	Yield	GM
Wheat	3.3	\$0.00	4.8	\$168.86	5.6	\$263.36
Triticale	3.5	-\$4.09	5.6	\$213.59	6.1	\$255.21
Barley	2.8	-\$42.38	3.7	\$48.47	4.9	\$190.21
Canola	1.4	-\$88.56	2.1	\$128.85		
Lupins	1.4	-\$70.95				

1- Normal Farm management. P applied at 23 kg/ha, N at 53 kg/ha including 40 kg/ha post emergent. 2- Management as for farmers but 80 kg/ha of N applied post emergent. 3 – As for 2 plus 2 x 1 l/ha applications of 125 g/L Triadimefon fungicide applied at Z32 and Z39 for disease control. **Yield LSD (5%) – 0.38 t/ha.**

Table 8: Summary of Protein (%) and Screening and Retention Results of the 2005 Crop Comparison Experiment - Riverine Plains Third Crop Program

Crop	Farmer ¹		Hi N ¹		Hi N+Fungicide ¹	
	Protein	Scrn/Ret ²	Protein	Scrn/Ret	Protein	Scrn/Ret
Diamondbird Wheat	11.2%	2.3%	13.1%	6.7%	12.2%	0.6%
Kosciusko Triticale	10.8%		13.8%		12.4%	
Gairdner Barley	10.5%	67.5%	12.9%	68%	11.8%	68.5%
Grace Canola	32.1%		29.8%			
Wonga Lupins	28.4%					

1- See descriptions in Table 7. 2-Scrn/Ret – Screenings for wheat and retention for barley.

Location: Balldale
Growing Season Rainfall:
 Annual: 505 mm
 GSR: 342 mm
Soil:
 Type: Red Brown Earth
 pH (H₂O): 4.8
 P (Colwell): 32 mg/kg
 Deep Soil N: 84 kg/ha
Sowing Information:
 Sowing date: 18/6/2005
 Fertiliser: 110 kg/ha MAP
Row Spacing: 180 mm
Paddock History:
 2005 – Mixed Crop
 2004 – Wheat
 2003 – Canola
Plot Size: 1.5 x 16
Replicates: 4

Observations and comments:

- Addition of N and the use of fungicide significantly increased the yield of all cereals. This is similar to the 2004 result.
- Addition of N increased the protein of wheat, triticale and barley.
- Addition of fungicide resulted in a small decrease in the protein level in wheat.
- Addition of N and fungicide decreased the screenings in wheat and increased the retention of barley. This was desirable.
- Quality results are similar to the 2004 results except for barley which is contrary to the 2004 results.

Sponsors:

The Grains Research & Development Corporation, Mr R Mathews, Mr R McDonald.

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