

# Wheat Maximum Yield Experiment

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## Key messages:

- Wheat on wheat uses high inputs.
- Wheat requires a high amount of nitrogen input to yield near its potential in a good year.

## Aim:

To assess the level of input required to maximise the yields of wheat grown after wheat.

## Method:

A replicated experiment was established using different levels of post emergent N and fungicide to assess yield.

**Location:** Balldale  
**Growing Season Rainfall:**

Annual: 505 mm

GSR: 342 mm

## Soil:

Type: Red Brown Earth

pH (H<sub>2</sub>O): 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 x16

**Replicates:** 4

## Results:

**Table 6: Summary of Yield (t/ha), Protein (%) and Screening (%) and Gross Margin (\$/ha over Zero N) Results**

Treatment Description	Yield (t/ha)	Protein (%)	Screenings (%)	Gross Margin (\$/ha)
0 N	2.9	9.1	6.8	\$0
20 N	3.0	9.0	5.9	-\$2
40 N	3.9	10.8	6.7	\$101
80 N	4.5	11.7	6.0	\$143
120 N	4.5	14.1	7.5	\$96
Fungicide Z31 & Z39 <sup>1</sup> , N	3.2	9.4	1.4	\$32
Fungicide Z31 & Z39, 20 N	4.0	9.4	1.4	\$124
Fungicide Z31 & Z39, 40 N	4.5	10.4	1.4	\$164
Fungicide Z31 & Z39, 80 N	5.2	11.3	1.1	\$280
Fungicide Z31 & Z39, 120 N	5.4	13.8	1.3	\$201
Fungicide <sup>2</sup> Z31, 80N	4.9	11.4	1.4	\$196
Fungicide Z39, 80N	4.6	10.9	1.5	\$149
Fungicide Z45, 80N	3.7	11.4	3.5	\$24

1 – Fungicide Z31 & Z39 - Two applications of 1 L/ha of 125 g/L Triadimefon at growth stages Z30 and Z39.

2 – One application of 1 L/ha of 125 g/L Triadimefon fungicide at either Z30, Z39 or Z45.

All seed treated with Jockey seed dressing. **Yield LSD (5%) – 0.32 t/ha.**

## Observations and comments:

- Addition of N increased the yield. The optimum rate was 80 kg/ha of N.
- Addition of fungicide increased yield by 0.3-1.0 t/ha (10-15%) over similar N treatments.
- A single application of fungicide at Z30-Z33 was as good as two applications of fungicide.
- The most economic treatments (Highest Gross Margins) were 80 kg/ha of N with 2 sprays of Triadimefon.

## Sponsors:

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

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