

MORAWA

TRIAL RESULTS 2011



TOPIC: USING YIELD PROPHET FOR TACTICAL NITROGEN RESPONSES	Group: <i>Morawa 2011</i>
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ABSTRACT

The nitrogen application treatment based on Yield Prophet reports was the highest yielding treatment. As the season progressed yield potentials increased dramatically. Yield Prophet gave us a high level of confidence in the decision to apply more nitrogen.

BACKGROUND AND AIM

In conjunction with CSBP the aim of the trial was to use yield prophet to help determine rates of nitrogen to apply. In a sense use Yield Prophet to play the season. Pre determined rates of nitrogen were applied and one treatment was left to the discretion of CSBP, Simon Teakle and the Yield Prophet reports at the time. The aim was to see if Yield Prophet could help make a better nitrogen fertiliser decision using yield potentials and available stored moisture.

TRIAL DETAILS

See the details in the CSBP trial report on next page.

RESULTS

See the details in the CSBP trial report on next page.

COMMENTS

The last application of nitrogen was applied on the 20th July. At this stage Yield Prophet indicated that to meet full potential an application of nitrogen was required. The plant available water (PAW) was 37mm at this time giving us approximately 30 days before the crop became moisture stressed. This gave us confidence to apply nitrogen knowing that the crop would continue to grow well for 30 days even without rain.

ACKNOWLEDGEMENTS

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FLEXI-N ON WHEAT

FARMER	Jewell	AREA	Gutha	TRIAL NO	YP11W1	YEAR	2011
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SITE HISTORY:

2010: Wheat (0.8 t/ha) with 80 Agras + 30 Urea; 2009: Wheat (1.7 t/ha) with 40 DAP + 40 urea; 2008: Wheat (2.0 t/ha) with 30 Agras.

SOIL ANALYSIS:

	Description	pH	Salt	OC	N(Nit)	N(Amm)	P	PBI	K	S
0 - 10	Red loam	4.5	0.05	0.4	15	2	33	33	190	6
10 - 20		4.4	0.04	0.3	5	1	23	71	116	13

	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	ECEC	Ex Al%	Cu	Zn	Al
0 - 10	0.9	0.3	0.4	0.08	0.30	2.0	15	0.8	0.4	3
10 -20	0.7	0.2	0.3	0.08	0.38	1.6	24	1.4	0.7	8

AIM: To evaluate the effectiveness of various Flexi-N application strategies.

MANAGEMENT:

17 May 1.8 l/ha Treflan, 300 ml Lorsban. Sowed 56 kg/ha Mace wheat.
 13 Jun Z13 Flexi-N.
 20 Jul Z30 Flexi-N and 100 g/ha NaMo across the trial.
 22 Nov Harvest.

RESULTS AND DISCUSSION:

This site was very responsive to Flexi-N. Three applications (banded, Z13, and Z30) of 40 L/ha Flexi-N in creased yield from 1.8 t/ha to 3.2 t/ha. The nitrogen use efficiency from applied Flexi-N was 27 kg grain/kg N.

There were early responses to 85 kg/ha Agstar before N supply became limiting.

Plant tests in July indicated that molybdenum (Mo) was deficient (as low as 68 ug/kg with 85 kg/ha Agstar Extra), so 100 g/ha sodium molybdate was applied across the trial.

Grain protein was low (8 to 9%) due to yield dilution. Grain tests showed marginal sulphur (S) concentrations (average 0.10 mg/kg) which may have been detrimental to baking quality characteristics such as dough strength and extensibility.

Tr t	Banded (kg/ha)	(L/ ha)	Z13 (L/ha)	Z30 (L/ ha)	N	P	Yield (t/ ha)	Protein (%)	HL wt. (kg/ HL)	Scrns (%)
1	-	-	-	-	0	0	1.42	8.5	78	3.4
2	50 Agstar Extra	-	-	-	7	7	1.83	8.8	78	2.8
3	50 Agstar Extra	40 FN	-	-	24	7	2.47	8.0	78	2.7
4	50 Agstar Extra	40 FN	40 FN	-	41	7	2.90	8.8	78	3.0
5	50 Agstar Extra	40 FN	40 FN	40 FN	58	7	3.20	8.9	78	3.0
6	85 Agstar Extra	28 FN	-	-	24	12	2.58	8.3	78	2.8
7	50 Agstar Extra	40 FN	50 FN	50 FN	61	7	3.29	8.9	79	2.8
							<0.00			
							1	0.15	0.12	0.06
							0.199	ns	ns	ns

* FN =
Flexi-N