



WEST MIDLANDS GROUP
our knowledge hub

N * K * fungicide

CSBP

ACKNOWLEDGEMENTS: WMG, Brennan

Purpose: Investigate responses to N and K, effects on leaf disease and interactions with a foliar fungicide

Location: Dandaragan

Soil Type: Deep Pale Grey Sand

Soil Test Results:

Depth (cm)	pH	EC	OC	Nit N	Amm N	P	PBI	K	S
0-10	5.8	0.03	0.8	8	1	12	5	23	6
10-20	5.1	0.01	0.4	2	<1	7	3	18	2
20-30	4.6	0.01	0.2	2	<1	7	2	<15	2
30-40	4.6	0.01	0.1	2	<1	12	5	<15	1
40-50	4.4	0.01	0.1	2	<1	18	9	15	1

Rotation: 2015 – Wheat, 2014 – Canola (RR), 2013 Wheat

Growing Season Rainfall (April- October 2016): 497mm

BACKGROUND SUMMARY

To see the difference in different applications of nitrogen and potassium fertilisers, as well as look at the effects of wheat yield from leaf disease and how interactions with a foliar fungicide (Prosaro) from Bayer CropScience affect yield.

TRIAL DESIGN

Plot size: 20M

Crop type and varieties used: Mace

Seeding rates and dates: 40kg/ha – 18th may

Fertilizer rates and dates: MOP – 12th April, 100l/ha Flexi-N – 29 Jun, 70l/ha Flexi-N – 10 Aug.

Herbicide rates and dates: 2L/ha Ultra, 2.5l/ha Boxer Gold, 2l/ha treflan, 300ml/ha lorsban, 1% Response (18th may)

Other applications/ treatment rates and dates: 125ml/ha alphacypermethrin (19 Jul), 300ml/ha Prosaro, 150ml/ha alphacypermethrin + 1% oil (10th Aug)

RESULTS/STATISTICS

Trt	IBS (kg/ha)	Banded (L/ha)	Treatment Banded (kg/ha)	Z21 (L/ha)	Z39 (L/ha)	N	P	K	Harvest		
									Yield (t/ha)	Protein (%)	
1	-	-	72 Agstar Extra	-	-	10	10	0	1.10	9.3	
2	-	30 Flexi-N	72 Agstar Extra	100 Flexi-N	70 Flexi-N	95	10	0	1.70	10.3	
3	-	-	100 K-Till Extra Plus	-	-	10	10	13	1.29	10.2	
4	-	30 Flexi-N	100 K-Till Extra Plus	100 Flexi-N	70 Flexi-N	95	10	13	2.01	9.9	
5	-	50 Flexi-NK	100 K-Till Extra Plus	100 Flexi-N	70 Flexi-N	91	10	18	1.90	10.4	
6	-	-	100 K-Till Extra Plus	-	-	10	10	13	1.13	9.9	
7	-	30 Flexi-N	72 Agstar Extra	100 Flexi-N	70 Flexi-N	95	10	0	1.60	10.5	
8	-	30 Flexi-N	100 K-Till Extra Plus	100 Flexi-N	70 Flexi-N	95	10	13	1.75	10.7	
9	100 MoP	50 Flexi-NK	100 K-Till Extra Plus	100 Flexi-N	70 Flexi-N	91	10	68	2.18	9.4	
									Prob	<0.001	0.004
									LSD	0.20	0.79

*Shaded treatments were treated with fungicide

OBSERVATION/ DISCUSSION/ MEASUREMENTS

Unfortunately, the crop was only sown at 40kg/ha which was half the intended seeding rate. Low seeding rate and severe sub-soil compactions resulted in relatively low yields.

There were only low levels of yellow leaf diseases.

The site responded to N and K. With fungicide applied, there was a 0.7t/ha response to 85 kg N/ha (trt 3 v 4), and a 0.5t/ha response to 68kg K/ha (trt 2v9).

There was a significant response to fungicide at the high rate of N, but only with K applied. This suggests the benefits of fungicide are greatest where nutrient deficiencies are overcome.

Hectolitre weights were 74-77 kg/l and screening less than 5%



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Sampling Pro App

A contractor or the grower collects the samples, using the CSBP Sampling Pro app and sends to the CSBP lab.



CSBP Lab

Analysis is specified by the grower and carried out in the CSBP lab.



NUlogic Soil Analysis Model

NUlogic advisor makes recommendations based on results.

NUlogic