WEST MIDLANDS GROUP
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Potassium Strategies

CSBP

ACKNOWLEDGEMENTS: Located at Graham's, Waddington

Purpose:	To compare potassium (K) strategies over 3 years
Location:	Waddington
Soil Type:	Sand over gravelly sand clay at 50cm
Rotation:	2015: Wheat (30 MoP banded); 2014 – Canola 2014 2T/ha of lime applied
Growing Season Rainfall (April- October 2015):	500mm (New Norcia)

BACKGROUND SUMMARY

Using potassium fertiliser has come to light in the past decade by farmers as a vitally important nutrient to add to crops and pastures to achieve increased plant vigor and growth. This trial is aimed at looking at the different strategies on the best ways to apply potassium (K) based fertilisers to crops.

TRIAL DESIGN

Seeding:	16 May	80 kg/ha Scepter wheat
Fertiliser:	12 Apr	MoP
	16 May	90 L/ha Flexi-N (basal)
	29 Jun	100 L/ha Flexi-N (basal)
	12 Jul	2 L/ha Coptrel (basal)
	11 Aug	80 L/ha Flexi-N (basal)
Pesticides:	16 May	2 L/ha Treflan, 1 L/ha Sprayseed, 300 ml/ha Lorsban
	11 Aug	300 ml/ha Prosaro, 150 ml/ha alphacypermethrin
Harvest	29 Nov	

RESULTS/STATISTICS

Treatment							Harvest
	April	Banded					Yield
Trt	(kg/ha)	(kg/ha)	N	P	K	Mg	(t/ha)
1	-	79 Agflow Extra	124	14	0	0	2.59
2	-	100 K-Till Plus	124	14	9	0	3.18
3	-	100 K-Till Plus/30 MoP	124	14	24	0	3.21
4	30 MoP	100 K-Till Plus	124	14	24	0	3.15
5	48 MoP	79 Agflow Extra	124	14	24	0	2.99

6	144 MoP*	79 Agflow Extra	124	14	72	0	3.52
7	-	100 K-Till Plus/30 MoP/33 Kieserite	124	14	24	5	3.27
						Prob	0.005
						LSD	0.42

OBSERVATION/ DISCUSSION/ MEASUREMENTS

This trial produced a 0.9 t/ha yield response to potassium (K) fertiliser (trt 1 v 6).

Early rains and a wetter than average season contributed to waterlogged growing conditions through June/July and most likely to significant leaching losses of nitrogen (N).

Topdressed MoP treatments lacked the early vigour of plots sown with potassium (K) banded with K-Till Plus. This was despite about 50mm of rain falling between the date of topdressing (12 April) and sowing (16 May).

As the season progressed, crop growth improved up to the highest rate of MoP (144 kg/ha) applied.

There were no significant yield differences between strategies supplying between 9 and 24 kg K/ha (trt 2, 3, 4, 5).

There was no response to magnesium (Mg) supplied by kieserite (trt 7).