

PRODUCT 'ENHANCERS'

FARMER NAG (P)	AREA Binnu	TRIAL NO PD11W1	YEAR 2011
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SITE HISTORY: Native vegetation: Tamma. 2010: unfertilised pasture; 2009: triticale; 2008: unfertilised pasture.

SOIL ANALYSIS:

	Description	pH	Salt	OC	N(Nit)	N(Amm)	P	PBI	K	S
0 - 10	Gravelly sandy loam	4.6	0.04	1.0	10	2	8	44	140	5
10 - 20		4.5	0.02	0.5	3	2	2	47	65	11
20 - 30cm		4.7	0.03	0.3	3	1	2	65	61	27

	Ex Ca	Ex Mg	Ex K	Ex Na	Ex Al	ECEC	Al	Cu	Zn	B
0 - 10	1.2	0.29	0.28	0.04	0.10	1.8	0.5	0.4	0.2	0.5
10 - 20	0.7	0.25	0.16	0.03	0.21	1.3	1.8	0.4	1.6	0.6
20 - 30cm	0.8	0.33	0.14	0.04	0.22	1.5	2.3	0.4	3.4	0.5

AIM: To determine whether phosphorous (P) recovery could be improved with the use of 'product enhancers', or by a 'biologically enhanced fertiliser approach.

MANAGEMENT:

Apr Site ploughed.
 12 May 1.8 L/ha Treflan, 35 g/ha logran and 300 ml/ha lorsban. Dry sowed 80 kg/ha Wyalkatchem
 14 Jun Z14 Flexi-N. Sprayed 500 ml/ha Jaguar for radish.
 20 Oct Harvest.

RESULTS AND DISCUSSION:

As expected, this site was very responsive to P. There was a 1.0 t/ha response to 7 kg P/ha, and a 2.1 t/ha response to 28 kg P/ha.

Plant analysis did not show any improvement in P uptake from either product enhancer, and neither of these 'enhancers' improved crop yields.

Trt	Banded (L/ha)	Treatment				19-Jul P uptake (mg/plt)	Harvest			
		Banded (kg/ha)	Z14 (L/ha)	N	P		Yield (t/ha)	Protein (%)	HL wt. (kg/HL)	Scrn. (%)
1	-	-	-	0	0	0.7	1.62	11.0	82	0.7
2	48 FN	-	70 FN	45	0	0.9	1.84	10.4	81	0.6
3	36 FN	40 Agflow Extra	70 FN	45	7	1.5	2.86	10.6	82	0.6
4	36 FN	40 Agflow Extra + Enhancer 1	70 FN	45	7	1.5	2.79	10.3	82	0.5
5	36 FN	40 Agflow Extra + Enhancer 2	70 FN	45	7	1.5	2.79	10.5	82	0.5
6	32 FN	79 'NP Crop' + WM seed dressing	70 FN	45	7	1.3	2.52	10.4	82	0.5
7	24 FN	80 Agflow Extra	70 FN	45	14	2.2	3.15	11.1	81	0.4
8	-	160 Agflow Extra	70 FN	45	28	3.4	3.91	10.6	82	0.5
Prob						<0.001	<0.001	0.31	0.44	0.06
Lsd						0.61	0.17	ns	ns	0.2

CONCLUSION:

Soil tests indicated P was going to be the most limiting factor so we knew it was a P responsive site and visually this was the case all season. Even where wheat prices are currently this trial certainly showed there is no substitute for keeping your P rates up where it is needed. For an investment of approx \$90 (for 28 kg P/ha) we achieved a return of \$483/ha.

On these background levels of P we know generally in a dry season that we will recover your costs of P but in a better season we can achieve good rates of return. Armed with this why would you cut P rates without knowing your background levels?

Looking at the alternative fertilisers we couldn't make any benefit from using either of the product enhancers. The Western Minerals product though was significantly lower yielding than the conventional Agflow Extra at the same P rate. This was visually the case during the season and was confirmed by tissue testing earlier in the season with the Western Minerals product having 20% less uptake of phosphorus.

More than anything else this trial shows the importance of getting the P rate right – this is so much more important than worrying about magic bullets and if P is limiting, it will limit the responses to all other inputs including N.

FOR MORE INFORMATION: Contact Stuart Wakelam 0409 205978