



Loveland

AGRI PRODUCTS
Get Growing

2015 SA Trial Data

To compare sulphate, oxide and chelated trace elements on grain yield in wheat cv. Mace in a trace-element deficient environment. Keith, SA.

Trial Protocol

- Fully randomised & replicated plot work – 4 replicates
- Plot size = 10m X 1.7m
- Treatments applied –
 - Oxide = Yara Mancozin,
 - Chelate = Wilchem Signature ZMC 2-4-2,
 - Sulphate = Generic
 - + / - Nutrisync M, Awaken.
- Application Date – 21st July 2015.

Seeding Date	20th May 2015
Site	T & J Oldfield, Keith, SA.
Variety	Mace Wheat @ 90 kg/ha
Protocol	Foliar applied
GSP	MAP @ 90 kg/ha + Urea @ 100 kg/ha deep banded

MAP	N	P	K	S	Ca	Cu	Zn
	10	22	---	1.6	--	--	--

Paddock Soil Tests

- No soil tests available for the 2015 season.
- Grey calcareous sandy loam with high soil moisture at planting.
- 2013 – Annual pasture
- 2014 – Clearfield Canola

MAP : 10-22-0-1.6

Treatments

Treatment	Treatment	Applied Rate
1	GSP	
2	MC Sul + Zn Sul	GS25/30 @ 3L + 1L
3	ZMC Oxide	GS25/30 @ 1L
4	ZMC Signature	GS25/30 @ 4L
5	ZMC Signature + Awaken	GS25/30 @ 4L + 1.2L
6	MC Sul + Zn Sul + Awaken	GS25/30 @ 3L + 1L + 1.2L
7	ZMC Oxide + Awaken	GS25/30 @ 1L + 1.2L
8	ZMC Signature + NutriSync M	GS25/30 @ 4L + 365ml
9	ZMC Signature + Awaken + NutriSync M	GS25/30 @ 4L + 1.2L + 365ml

K Till : 10-12-11-6

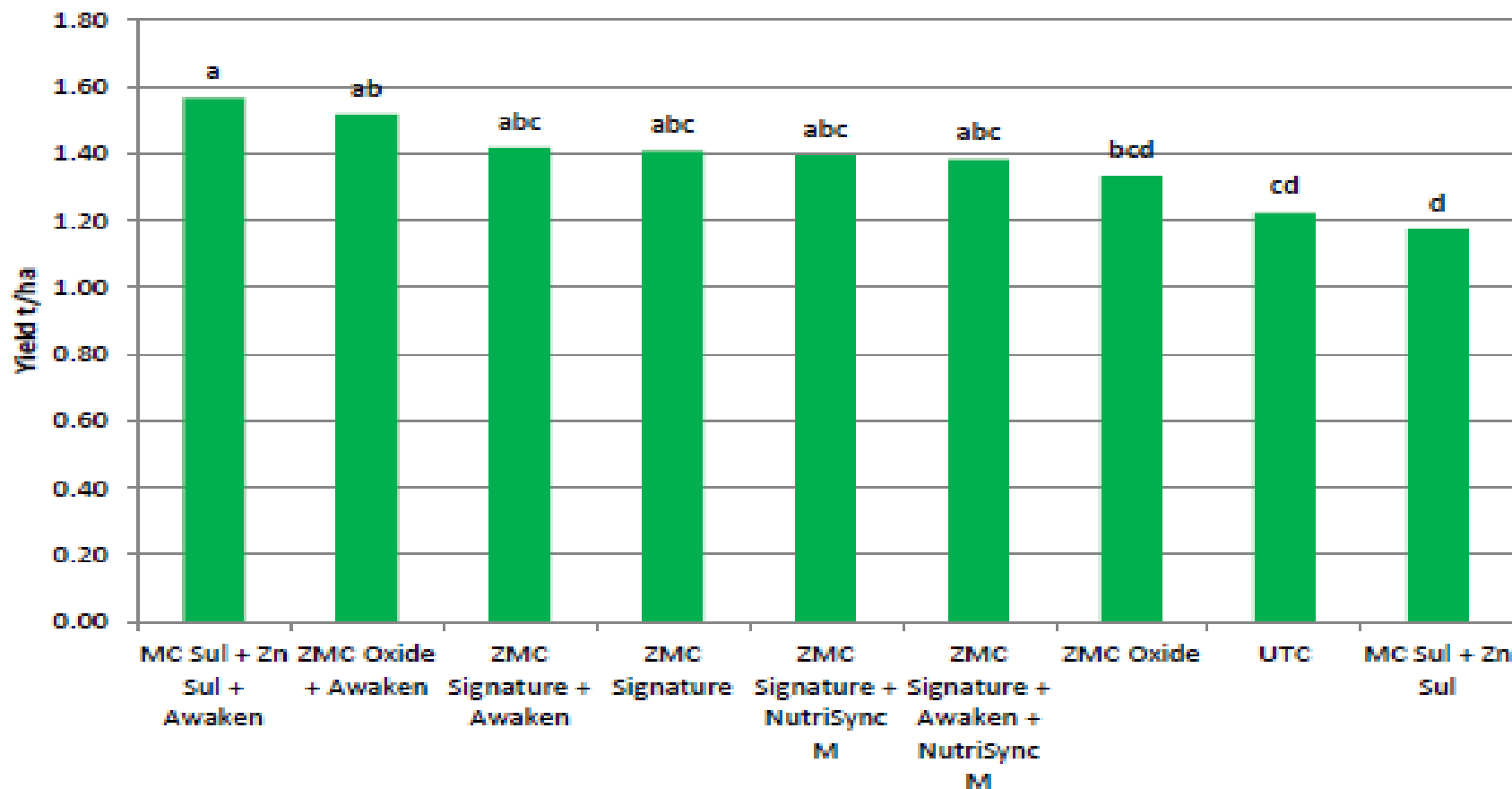
Wheat – Grain Yield

Treatment	Treatment	Applied Rate	Yield t/ha
1	GSP		1.22
2	MC Sul + Zn Sul	GS25/30 @ 3L + 1L	1.17
3	ZMC Oxide	GS25/30 @ 1L	1.33
4	ZMC Signature	GS25/30 @ 4L	1.41
5	ZMC Signature + Awaken	GS25/30 @ 4L + 1.2L	1.42
6	MC Sul + Zn Sul + Awaken	GS25/30 @ 3L + 1L + 1.2L	1.57
7	ZMC Oxide + Awaken	GS25/30 @ 1L + 1.2L	1.52
8	ZMC Signature + NutriSync M	GS25/30 @ 4L + 365ml	1.40
9	ZMC Signature + Awaken + NutriSync M	GS25/30 @ 4L + 1.2L + 365ml	1.38

LSD (P=0.05) = 0.0,210 CV = 8.8%

Wheat Grain Yield

Wheat Trace Elements - Keith SA 2015



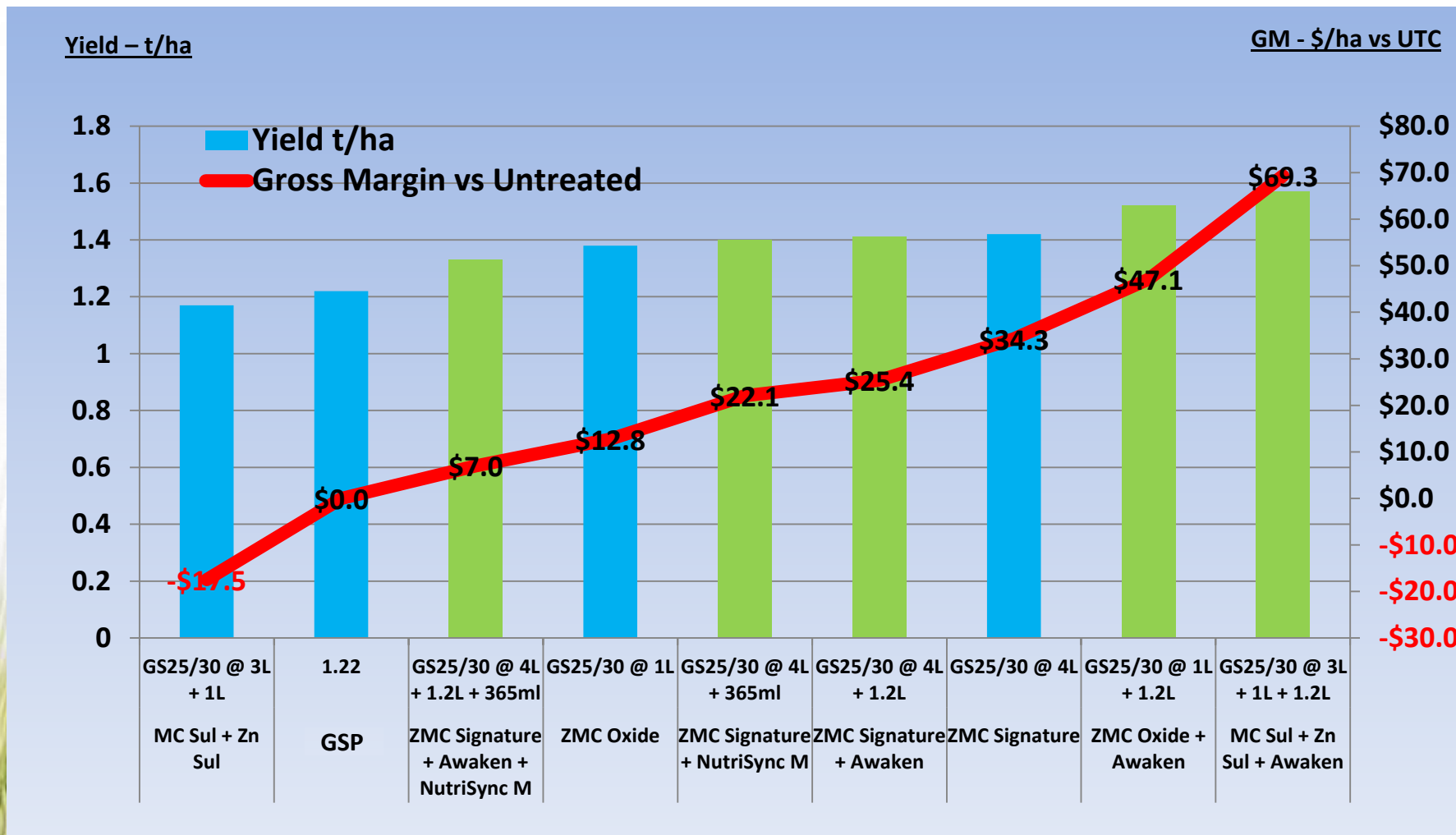
LSD (P=0.05) = 0.0,210 CV = 8.8%

Wheat – ROI / Economics

Treatment	Applied Rate	Gross Margin vs Untreated	Yield t/ha
MC Sul + Zn Sul + <u>Awaken</u>	GS25/30 @ 3L + 1L + 1.2L	\$69.32	1.57
ZMC Oxide + <u>Awaken</u>	GS25/30 @ 1L + 1.2L	\$47.07	1.52
ZMC Signature	GS25/30 @ 4L	\$34.30	1.42
ZMC Signature + <u>Awaken</u>	GS25/30 @ 4L + 1.2L	\$25.38	1.41
ZMC Signature + <u>NutriSync M</u>	GS25/30 @ 4L + 365ml	\$22.08	1.4
ZMC Oxide	GS25/30 @ 1L	\$12.78	1.38
ZMC Signature + <u>Awaken</u> + <u>NutriSync M</u>	GS25/30 @ 4L + 1.2L + 365ml	\$6.99	1.33
GSP	1.22	0	1.22
MC Sul + Zn Sul	GS25/30 @ 3L + 1L	-\$17.45	1.17

LSD (P=0.05) = 0.0,210 CV = 8.8%

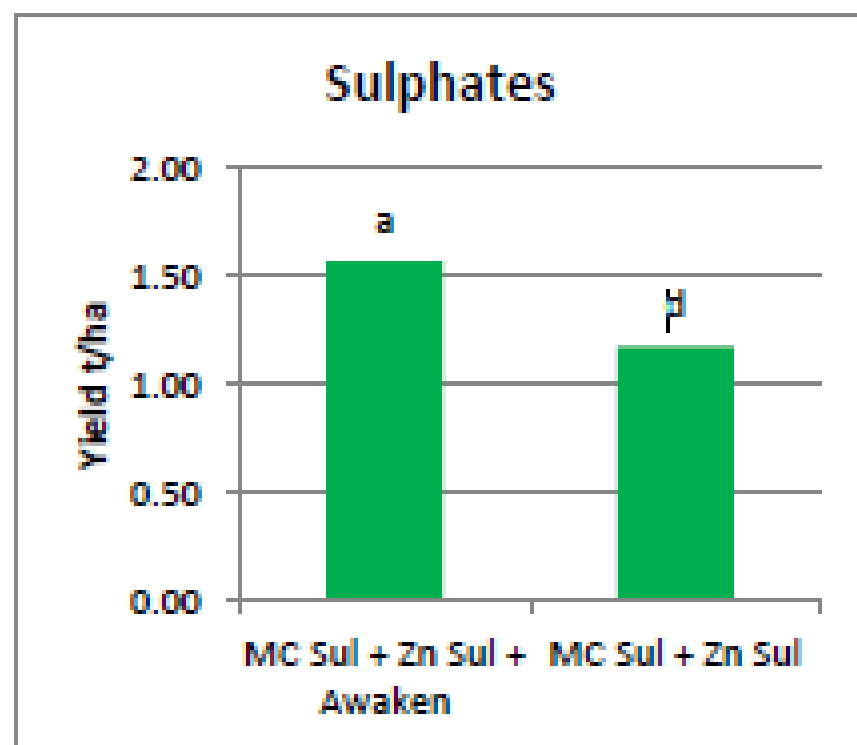
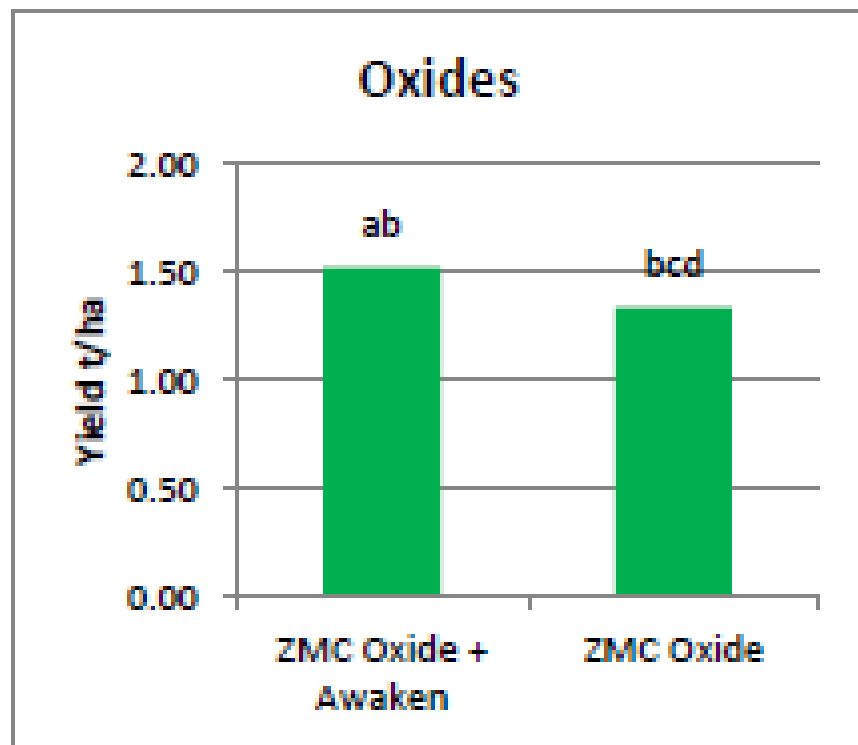
Wheat - Economics based on Wheat @ \$250/tn



LSD (P=0.05) = 0.0,210 CV = 8.8%

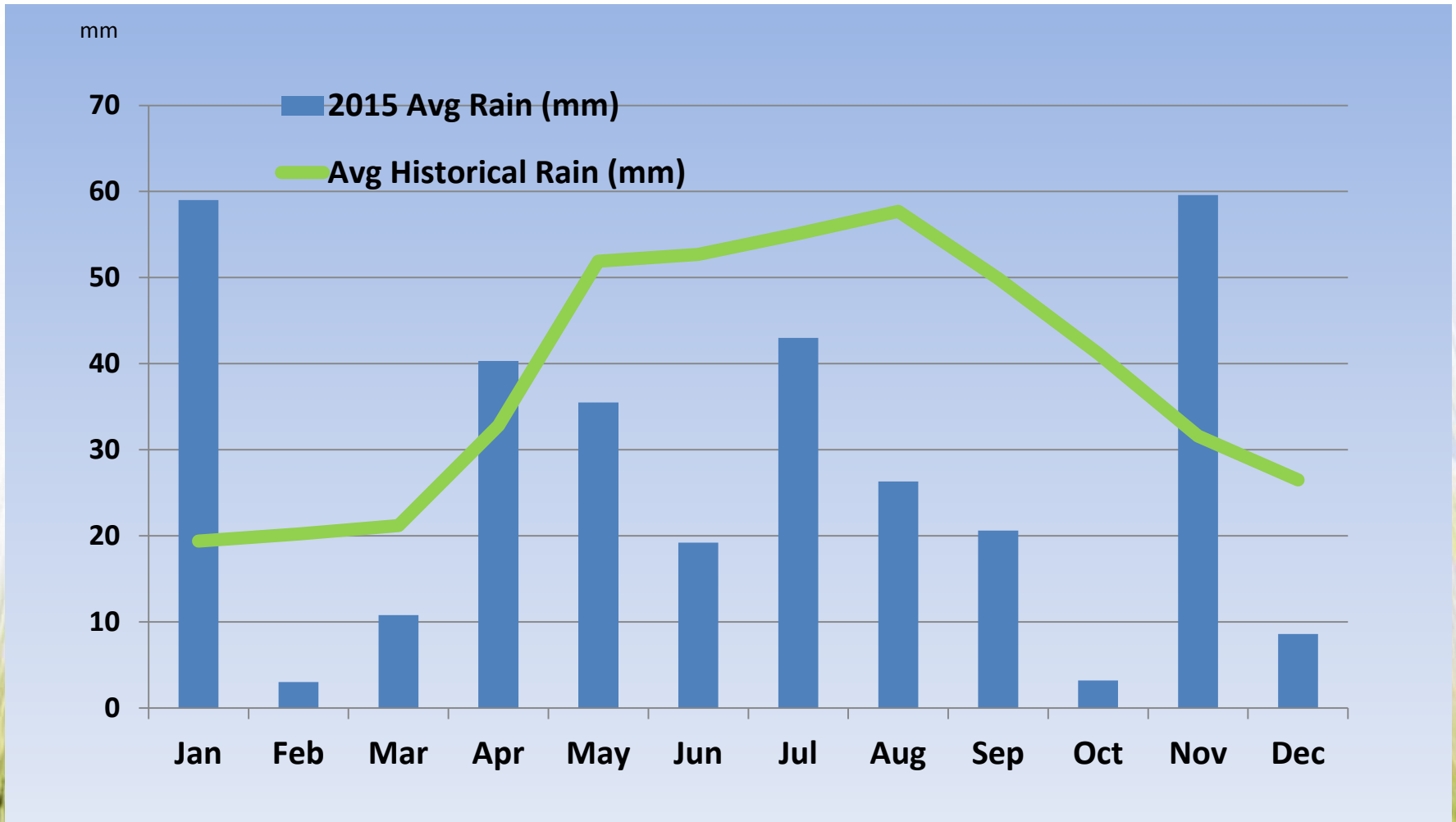
Wheat – Addition of Awaken

- Awaken increased grain yield by 34% when added to the Zinc and MC Sulphates compared to Sulphates alone.
- Awaken also provided a 14% grain yield when mixed with Oxides.



LSD (P=0.05) = 0.0,210 CV = 8.8%

Keith, SA. Rainfall



Conclusions

- A dry season resulted in low yields at the site and resulted in few statistically-significant yield increases from trace element application at GS 25 due to moisture and potentially frost limiting crop potential.
- Only Sulphate + Awaken and Oxide + Awaken treatments showed significant yield improvements over untreated.
- The biggest yield response was had from adding Awaken to the Sulphate trace elements, which increased yield by 28% over untreated and 34% over the Sulphates on their own.
- 14% gain in yield from adding Awaken to an oxide was apparent.
- The addition of Awaken to sulphated trace elements, which saw a 34% yield increase over using the sulphates alone.
- No Grain quality parameters were assessed.