

4. FERTILISER TRIALS

4.1 Zinc Efficiency Trial

Researchers

Andrew Speirs – Hifert

Aim

To compare the effectiveness of dry blend zinc, zinc cote fertilizers and soil applied zinc sulphate.

Title

To evaluate effectiveness of Zinc cote products and DAPS.

LOCATION: BALLARAT RD STREATHAM

Soil Type : Clay Loam			
Soil Test :	pH CaCl_2	4.4	NO_3 49
Extract :	P Olsen	21	NH_4 22
Depth: 0 – 10 cm	K Colwel	270	OC% 2.43
	S (KCL)	19	DTPA Zn 0.83
			Al CaCl_2 6.3 ppm

Site Details:

Annual Rainfall mm:

Growing season (A-O) rainfall mm: 1999

Paddock History		Yield T/ha	Stocking Rate DSE	Nutrients Applied				Other
Year	Crop/Pasture			N	P	K	S	
1996	Pasture		14		10		5	
1997	Pasture		14		10		5	
1998	Canola	3		60	30		20	

Notes (crops, grazing management, weeds, disease, trace element history etc.):

Clover dominant pasture, prior to canola. This year weed control not good on wild oats and rye grass.

Treatment Details:

Products			Nutrients Applied (Kg/ha)			
			N	P	S	Zn
1	DAP'S	Urea Zncote	50	25	17	2.5
2	DAP Zncote	Urea	50	25	1.9	2.5
3	DAP dry Zn	Urea	50	25	2.5	2.5
4	DAP	Urea	50	25	2.5	0
5	DAP + TILL	Urea	50	25	2.5	0
6	DAP	Urea Zncote	50	25	2.5	2.5
7	DAP ZnSO_4	Urea	50	25	2.5	0

Plot Management Notes:

Sown: 24.5.99

Seed – Rate: 100 kg/hectare

Seed – Variety: Kellalic (Wheat)

SUMMARY OF RESULTS:

Product			Yield (tonnes/ha)	Protein %
1	DAP'S	Urea Zncote	3.48	13.29
2	DAP Zncote	Urea	3.24	13.48
3	DAP dry Zn	Urea	3.30	13.28
4	DAP	Urea	3.44	13.30
5	DAP + TILL	Urea	3.57	13.09
6	DAP	Urea Zncote	3.29	13.33
7	DAP ZnSO_4	Urea	3.52	13.04
CV			8.80	
LSD T/ha			0.34	

COMMENTS AND DISCUSSION:

- Tissue test data indicates the site is zinc responsive tissue levels showed higher zinc levels in the DAP zinc cote versus the other treatments, however this didn't result in extra yield.
- There was no statistical difference between treatments for yield

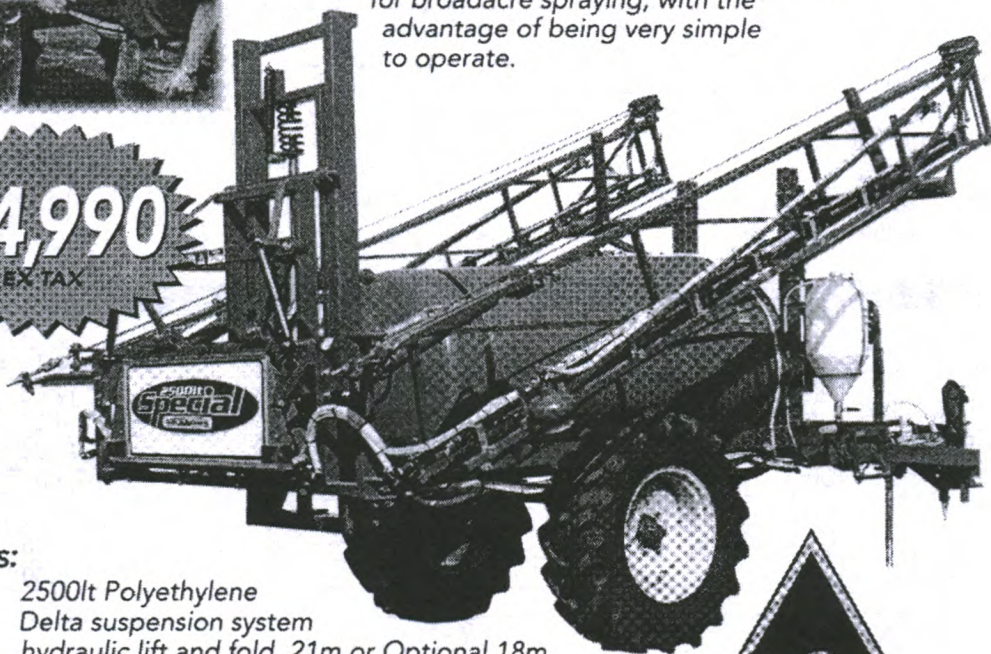
CONCLUSIONS:

- The application of zinc had no effect on yield or grain protein.
- zinc coated products are effective in supplying zinc.



GoldAcres has developed a No Frills model of its market-leading broadacre sprayer.

This is the sprayer for farmers who don't need the sophistication that comes with our top of the range sprayers, however, it has all the features necessary for broadacre spraying, with the advantage of being very simple to operate.

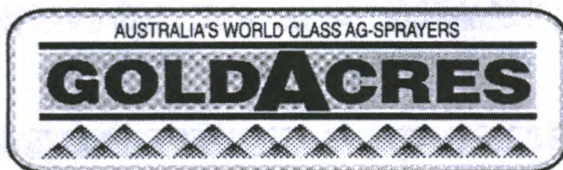


Features:

- Tank - 2500lt Polyethylene
- Boom - Delta suspension system hydraulic lift and fold. 21m or Optional 18m
- Marker - Double sided Exactafoam
- Wheels - Large diameter singles for lower H.P. requirement, better ride and easier turning
- Fill System - Top/bottom water transfer
- Controls - Raven 440 monitor/controller
- Plus many standard Goldacres Prairie Features



All Australian Company



GOLDACRES TRADING PTY LTD,

1-3 NORTH WESTERN RD, ST ARNAUD, VIC 3478.

PH: (03) 5495 1166 FAX: (03) 5495 2239

E-Mail: goldacre@ruralnet.net.au

Home Page: <http://www.goldacres.com.au>

ZINC EFFICIENCY TRIAL (CONT...)
LOCATION: BLACKWOOD RD PENSHURST

Soil Type : Clay Loam			Al CaCl ₂	2.1 ppm
Soil Test :	pH CaCl ₂	4.3	NO ₃	67
Extract :	P Olsen	18	NH ₄	10
Depth: 0 – 10 cm	K Colwel	167	OC%	2.4
	S (KCL)	9	DTPA Zn	0.9

Site Details:

Annual Rainfall mm: 550mm

Growing season (A-O) rainfall mm: 400mm

Paddock History		Yield T/ha	Stocking Rate DSE	Nutrients Applied				Other
Year	Crop/Pasture			N	P	K	S	
1996	Pasture		14		10		5	
1997	Pasture		14		10		5	
1998	Pasture	3						

Notes (crops, grazing management, weeds, disease, trace element history etc.):

Clover dominant pasture.

Treatment Details:

Products			Nutrients Applied (Kg/ha)			
			N	P	S	Zn
1	DAP'S	Urea Zncote	50	25	17	2.5
2	DAP Zncote	Urea	50	25	1.9	2.5
3	DAP dry Zn	Urea	50	25	2.5	2.5
4	DAP	Urea	50	25	2.5	0
5	DAP + TILL	Urea	50	25	2.5	0
6	DAP	Urea Zncote	50	25	2.5	2.5
7	DAP ZnSO ₄	Urea	50	25	2.5	0

Plot Management Notes:

Sown: 1.6.99

Seed – Rate: 100 kg/hectare

Seed – Variety: Kellalic (Wheat)

SUMMARY OF RESULTS:

Product			Yield (tonnes/ha)	Protein %
1	DAP'S	Urea Zncote	3.77	14.05
2	DAP Zncote	Urea	3.78	14.05
3	DAP dry Zn	Urea	3.76	13.85
4	DAP	Urea	3.82	14.05
5	DAP + TILL	Urea	3.76	13.80
6	DAP	Urea Zncote	3.71	13.85
7	DAP ZnSO ₄	Urea	3.93	13.90
CV			3.60	
LSD T/ha			0.16	

COMMENTS AND DISCUSSION:

- Although the site was not zinc responsive the plots treated with zinc coated product had the highest zinc level when tissue tested at 5 leaf stage.
- Given the fact that all plants were zinc sufficient, zinc had no effect on final yield.
- There was no significant difference in yield or grain protein between treatments.

CONCLUSIONS:

- This trial demonstrated that zinc coted products are an effective way of applying zinc to a crop.
- The application of zinc had no effect on final yield.

FUTURE DIRECTIONS:

- This trial will continue in 2000.