



Copper Management for the Future

Trial Results Summary



Co-operator: Jed and Melissa Siegert 2019

Location: Edillilie/Wangary

Soil Test Results:

Phosphorus (Colwell)	PBI (Colwell P corrected)	pH (1:5 water)	pH (1:5 CaCl ₂)	OC (W&B)	Effective CEC	Ex Ca		Ex Mg		Ex K		Ex Na	
mg/kg				%	meq/100g	meq/100g	mg/kg	meq/100g	mg/kg	meq/100g	mg/kg	meq/100g	mg/kg
40.7	21.0	5.4	4.7	1.57	3.6	2.8	551.8	0.3	41.8	0.28	108.03	0.2	57.2

Ca:Mg Ratio	K:Na Ratio	%Ca	%Mg	%K	%Na	Nitrate- N	Ammonium- N	Cu (DTPA Extr)	Zn (DTPA Extr)	Fe (DTPA Extr)	Mn (DTPA Extr)
		%	%	%	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
7.9	1.11	75.9	9.6	7.6	6.8	18.1	5.7	0.7	1.3	143.7137	4.5107

Sowing Date: 15 May 2019

Treatment Applications:	17 June 2019 - GS22	Other Nutrient Applications:	Sowing – 100kg/ha DAP + Impact
	12 August 2019 - GS31		11 June – Crop 3 leaf – 100kg/ha SoA
	22 August 2019 - GS39		5 July – 100 l/ha UAN
	3 September 2019 - GS49		16 July – 200 l/ha UAN

Herbicides / Fungicides:

<i>Pre Emergent</i>	14 May	2l/ha Roundup	<i>Post Emergent</i>	19 July	Axial
		1.6l/ha Avadex Xtra			Ally/ MCPA/ Lontrel
		2.5l/ha Boxer Gold			
		100ml/ha Goal		5 August	300ml Prosaro + wetter

Tissue Test Results

GS31 - 29 July	Cu (mg/kg)	Zn (mg/kg)	Mn (mg/kg)
Nil	5.58	33.6	58.5
Chelate	7.03	33.5	59.8
Sulphate	6.34	32.6	58.5

Trial Results:***Trial 1 – Product type x Timing x Rate***

Treatment	Product	Rate	Timing	Yield (t/ha)	sig
1	Chelate	Rate 1	GS22	2.19	ab
2	Chelate	Rate 1	GS31	2.20	ab
3	Chelate	Rate 1	GS39	2.44	b
4	Chelate	Rate 1	GS49	2.32	ab
5	Chelate	Rate 2	GS22	2.28	ab
6	Chelate	Rate 2	GS31	2.25	ab
7	Chelate	Rate 2	GS39	2.29	ab
8	Chelate	Rate 2	GS49	2.39	b
9	Sulphate	Rate 1	GS22	2.19	ab
10	Sulphate	Rate 1	GS31	2.43	b
11	Sulphate	Rate 1	GS39	2.16	ab
12	Sulphate	Rate 1	GS49	2.44	b
13	Sulphate	Rate 2	GS22	2.26	ab
14	Sulphate	Rate 2	GS31	2.27	ab
15	Sulphate	Rate 2	GS39	1.94	a
16	Sulphate	Rate 2	GS49	2.18	ab
17	Control	Nil	Nil	2.26	ab

Chelate Product	Spray Gro Gripper Copper	Copper (Cu) as EDTA	6% w/v
	Rate 1:	1l/ha	
	Rate 2:	2l/ha	

Sulphate Product	Copper Sulphate (granular)		25% w/w
	Rate 1	1kg/ha	
	Rate 2	2kg/ha	

Trial 2 – Product type x Rate

	Product	Rate	Timing	Yield (t/ha)	sig
1	Chelate 1	Rate 1	GS31	2.19	a
2	Chelate 1	Rate 2	GS31	2.00	a
3	Chelate 1	Rate 3	GS31	2.10	a
4	Chelate 2	Rate 1	GS31	2.13	a
5	Chelate 2	Rate 2	GS31	2.24	a
6	Chelate 2	Rate 3	GS31	2.00	a
7	Chelate 3	Rate 1	GS31	1.98	a
8	Chelate 3	Rate 2	GS31	2.16	a
9	Chelate 3	Rate 3	GS31	1.90	a
10	Sulphate	Rate 1	GS31	2.14	a
11	Sulphate	Rate 2	GS31	1.93	a
12	Sulphate	Rate 3	GS31	2.15	a
13	Control	Nil	Nil	2.19	a

Chelate Product 1	Spray Gro Gripper Copper	Copper (Cu) as EDTA	6% w/v
	Rate 1: 1l/ha		
	Rate 2: 2l/ha		
	Rate 3 4l/ha		

Chelate Product 2	Agspec RapiSol Cu	Copper (Cu) at EDTA	14% w/w
	Rate 1 25gm/ha		
	Rate 2 50gm/ha		
	Rate 3 100gm/ha		

Chelate Product 3	Wilchem Signature Copper	Copper as Amino Acid Chelate	50g/l
	Rate 1 1l/ha		
	Rate 2 2L/ha		
	Rate 3 4L/ha		

Copper Sulphate	Copper Sulphate (granular)	25% w/w
	Rate 1 1kg/ha	
	Rate 2 2kg/ha	
	Rate 3 3kg/ha	

Trial 3 – Product timing

	Product	Timing	Yield (t/ha)	sig
1	Chelate	GS22	2.48	a
2	Chelate	GS31	2.56	a
3	Chelate	GS39	2.65	a
4	Chelate	GS49	2.50	a
5	Chelate	GS22&31	2.19	a
6	Chelate	GS22&39	2.58	a
7	Chelate	GS22&49	2.55	a
8	Chelate	GS31&39	2.56	a
9	Chelate	GS31&49	2.64	a
10	Control	Nil	2.58	a

Chelate Product	Spray Gro Gripper Copper	Copper (Cu) as EDTA	6% w/v
	Rate: 2l/ha		