

Compost Evaluation

Aim: To evaluate compost and clay for their ability to improve the production capacity of a loamy sand.

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Company: Agritech Crop Research



Farmer: Liam Carter
Location: Main Trial Site, West Buntine

Background: Agritech Crop Research conducted this trial on behalf of the Liebe Group to evaluate the addition of compost and clay on the production capacity of a loamy sand. Compost was applied 6 t/ha and 18 t/ha and clay at 15 t/ha. Combined applications of compost and clay were also evaluated. Each of the soil amendments were spread on the plots and incorporated prior to sowing. Three different levels of nutritional input were applied to each treatment in order to determine the interaction that compost and clay may have with different levels of conventional fertiliser application.

2004 was the first year of this trial and the logistics involved with the spreading of treatments resulted in the trial not being sown until 17th June. With the effects of treatments anticipated to be long term it was however decided to proceed with the trial in order to generate data in a shorter period of time. Despite the late sowing the best plots still yielded up to 2.4 t/ha. Delays in sowing are, however, largely reflected in the lack of significant differences evident in terms of crop vigour, plant counts, head counts or yield.

The area will be resown in 2005 to determine the long-term effects of the different soil amendments.

Special thanks to the Liebe Group who conducted the gruelling task of spreading the clay and compost treatments in this trial.

Trial Details:

Plot size and replication	6.6m x 20m, 3 replications
Soil type	Loamy sand
Sowing date	17 th June 2004
Conditions at sowing	Friable soil, moist
Machinery	Knifepoint, minimum tillage
Seeding rate	75 kg/ha
Fertiliser	As per treatment list
Herbicides and Insecticides	Trifluralin 1 L/ha, Triasulfuron 25 g/ha, Chlorpyrifos 1 L/ha
Paddock History	2003 Lupins

Results:

Table 1: Crop Vigour (1-9) 41 DAS, Crop Counts (/m row) 41 DAS, Ryegrass control (% of control) 102 DAS, Head Counts (/m row) 119 DAS and Yield (t/ha) 152 DAS Factorial Analysis.

Part Rated Rating Data Type Rating Unit Trt-Eval Interval				Crop Vigour 1-9 41 DAS	Crop Counts /m row 41 DAS	Head Counts /m row 119 DA-S	Wheat Yield t/ha 152 DA-S
No.	Treatment	Product	Rate				
TABLE OF R MEANS							
Replicate 1				7.8	33.4	49.8	2.197
Replicate 2				7.9	32.8	53.6	2.181
Replicate 3				8.0	34.0	53.6	2.541
LSD (P=0.05)				NSD	NSD	NSD	0.304
TABLE OF A MEANS							
1	Nil Amendment			7.7	33.5	52.0	2.246
2	Compost 6 t/ha			7.9	33.4	48.6	2.260
3	Compost 18 t/ha			8.0	34.0	53.2	2.478
4	Compost 6 t/ha + Clay 15 t/ha			7.6	33.6	50.1	2.243
5	Compost 18 t/ha + Clay 15 t/ha			7.9	32.6	57.0	2.263
6	Clay 15 t/ha			8.1	33.2	53.0	2.349
LSD (P=0.05)				NSD	NSD	NSD	NSD
TABLE OF B MEANS							
1	Low Fertiliser Regime	K Gold Urea	50 kg/ha 25 kg/ha	7.6 b	32.7	53.7	2.316
2	District Practice Fertiliser Regime	K Gold Urea	100 kg/ha 50 kg/ha	7.9 ab	33.8	49.6	2.234
3	High Fertiliser Regime	K Gold Urea	140 kg/ha 100 kg/ha	8.1 a	33.7	53.7	2.370
LSD (P=0.05)				0.3	NSD	NSD	NSD

Technically reviewed by: Ashley Bacon