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Promising Fertiliser Trial Results

Between March 2005 and March 2007, Soiltech supervised a trial comparing Mainland Minerals (MM) fertilisers with conventional superphosphate. The trial took place in the hill country behind Roxburgh in Central Otago at an altitude of approx 600m. The trial objective was to measure and compare the dry matter responses of different MM fertilisers and Superphosphate in a dry climate.

Six different treatments, each with five replications, were applied to 3m x 3m plots in March 2005.

The treatments were as follows:

1. Control
2. Granular Sulphur Superphosphate (equivalent to 250 kg/ha)
3. FPF 70 (DAP 50, ES 15, Salt 15, LF 20, mix 2 at 2.5 + B1 + Cu2)
4. FPF 140 (Treatment 3 x 2)
5. LF 100 (Lime-flo 78, S 10, Salt 10, B 1, Cu 1)
6. LF 200 (Treatment 5 x 2)

N.B. Quantities in kg/ha unless stated otherwise

Prior to setting down the trial, soil tests indicated the following site fertility: pH 5.8, CEC 20, BS% 67 OM 8.5, Olsen P 28, Resin P 68, Total P 679kg/ha, Sulphate 7, Organic S 4, Trace Elements - generally in desired range. Groundspread truck was used to apply the MM treatments (FPF,LF). Sulphur Superphosphate was applied by hand.

Dry matter (kg/ha) grown/treatment is shown in the table below.

Treatment	5/10/05	8/11/05	6/12/05	18/01/06	26/05/06	9/11/06	14/12/06	19/01/07	20/02/07	TOTAL
Control	2608	2848	2205	1942	1009	2400	2360	3428	977	19776
SSuper	2536	2964	2169	1924	1096	2398	2358	3570	1096	20111
FPF70	2653	3082	2258	2046	1135	2510	2500	3594	1126	20904
FPF140	2829	3371	2469	2056	1131	2681	2566	3695	1193	21991
LF100	2650	3019	2379	2064	1102	2528	2596	3689	1198	21225
LF200	2601	3313	2344	2058	1178	2579	2708	3676	1186	21644

Plots were measured using an electronic probe when growth dictated. They were then mown and the dry matter discarded.

Treatment	Extra DM Grown Above Control (kg/ha)	Extra DM Grown Above Control (%)
Control	0	0
SSuper	336	1.7
FPF70	1129	5.7
FPF140	2216	11.2
LF100	1450	7.3
LF200	1868	9.5

As can be seen in the second table, each MM treatment grew between 5.7 – 11.2 % more dry matter than the control treatment and more than the Sulphur Superphosphate treatment.

Next month, we will present Part 2 of these results, outlining the economic difference to the financial bottom line.