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Promising Fertiliser Trial Results (Part B)

Last month we reported on a trial Soiltech supervised between March 2005 and March 2007, comparing Mainland Minerals (MM) fertilisers with conventional Superphosphate. Just to recap, the trial took place in the hill country behind Roxburgh in Central Otago. The trial objective was to measure and compare the dry matter responses of different MM fertilisers and Superphosphate in a dry climate.

There were six different treatments, each with five replications. Treatments 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), and 6. LF 200 (Treatment 5 x 2) N.B. Quantities in kg/ha unless stated otherwise

Site fertility before the trial was good. 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:

Treatments	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**

What this all means in terms of economic costs and benefits is outlined in the table below i.e. the Mainland Minerals treatments all gave a better return/hectare than Superphosphate, which in this trial, gave a negative return.

Treatments	S Super P	FPF70	FPF140	LF100	LF200
Applied in March 2005	250kg/ha	70kg/ha	140kg/ha	100kg/ha	200kg/ha
Extra DM grown (2 yrs) over control treatment	336kg	1129kg	2216kg	1450kg	1868kg
Extra SU/ha able to be run on extra feed*	0.31	1.03	2.02	1.32	1.71
Return/SU**	$68.00	$68.00	$68.00	$68.00	$68.00
Potential increase in return/ha***	$21.08	$70.04	$137.36	$89.76	$116.38
Cost/ha fertiliser applied	$73.00	$84.00	$129.00	$61.00	$84.50
Fertiliser cost/ha spread over 2 years	$36.50	$42.00	$64.50	$30.50	$42.25
Net return/ha	-$15.42	$28.04	$72.86	$59.26	$74.13

* Assumes a SU requires 1.5kg of dry matter intake/day (1095kg over 2 years)

** Assumes $8.00 for wool + 1.2 lambs @ $50.00/lamb

*** Extra SU/ha multiplied by the Return/SU