

<b>Trial #</b>	4
<b>Location</b>	Wanganui
<b>Province</b>	Wanganui
<b>Farm Type</b>	Beef and Sheep
<b>Product Trial</b>	FPF v/s Granular
<b>Date</b>	1994 - 1995

**Introduction:** Dry matter and soil nutrient responses to different fertiliser treatments on a dry stock farm were compared for 18 months. Fertiliser was applied on 29 March 1994. Additional fertiliser was applied a year later on 20 March 1995. Plots (4m x 4m) were chosen at three sites each with different fertility levels and aspects. "Airstrip" was an exposed site at 600m (2000ft). "Middle Run" was also exposed at 450m (1500ft). "Middle" was a sheltered fattening area at 300m (1000ft).

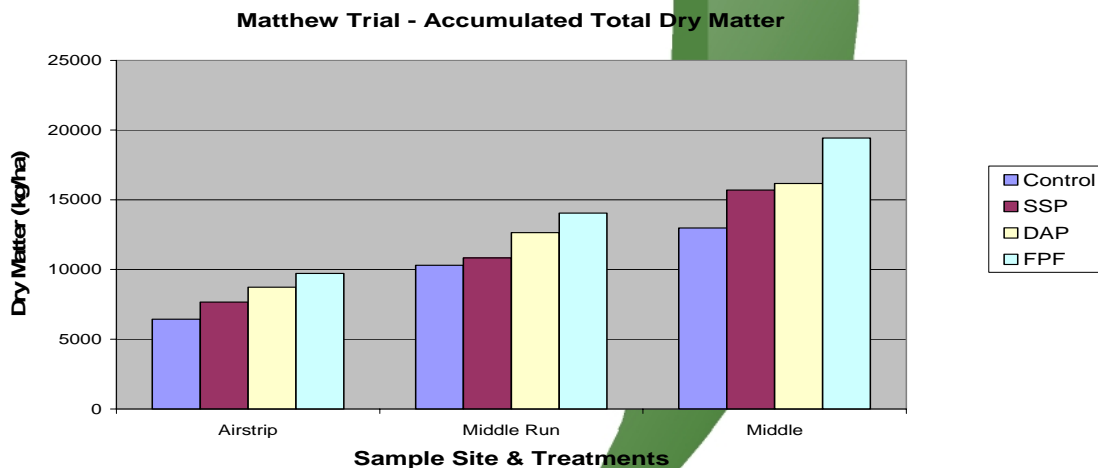
**Treatments:**

	<b>Applied 29/3/94</b>	<b>Applied 20/3/95</b>
1. Control	Nil	2.5kg/ha trace elements (TE)
2. SSP	110kg/ha DAP 13S	500kg/ha Super + 2.5kg/ha TE
3. DAP	150kg/ha of DAP blend	250kg/ha of DAP blend
4. FPF	75kg/ha	75kg/ha

DAP blend – Granular DAP 65%, Elemental Sulphur 15%, Limeflour 20%  
 (Trace elements were applied at 1.5kg/ha in 1994 & 2.5kg/ha in 1995)  
 FPF – same as DAP blend but in FPF form applied at 75kg/ha + TE

**Results:**

<b>Total Accumulated Dry Matter (kg/ha)</b>			
<b>Treatment</b>	<b>Airstrip</b>	<b>Middle Run</b>	<b>Middle</b>
<b>Control</b>	6442	10304	12979
<b>SSP</b>	7661	10829	15702
<b>DAP</b>	8739	12641	16171
<b>FPF</b>	9719	14052	19430



As would be expected when fertility and aspect differences were so great, there were marked differences between the dry matter grown at each site. However, at the same site, there was a consistent pattern with the FPF treatment outperforming the others.

## Soil Analyses

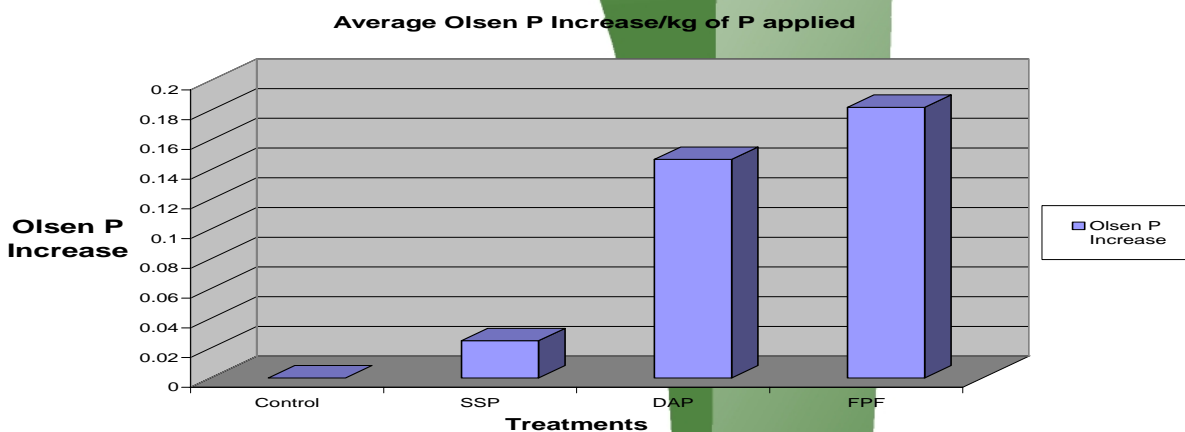
Various tests were performed, some of which are summarised here.

Olsen P The DAP treatment was the most effective at raising Olsen P levels followed by the FPF treatment. This suggests that the extra dry matter grown by the FPF treatments at each sample site is not directly correlated to the available P levels in the soil.

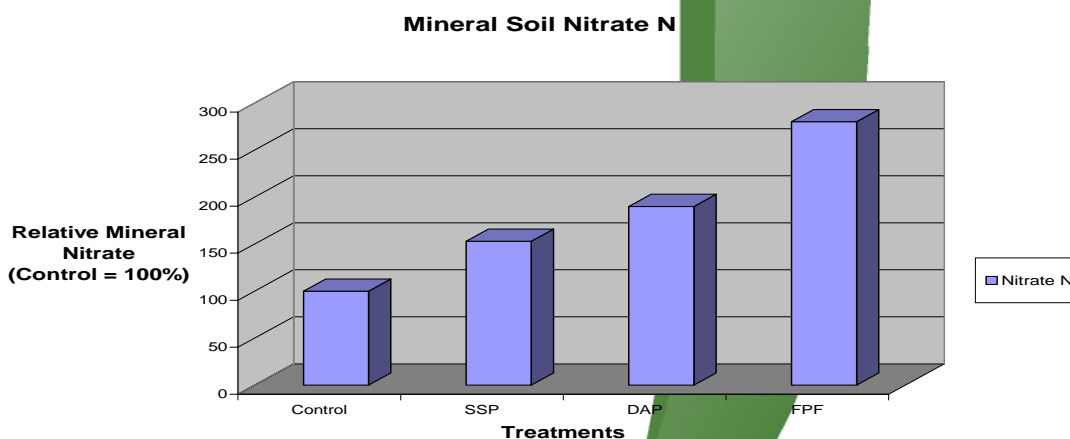
The amount of P applied/treatment varied significantly i.e.

Control	Nil
SSP	63kg/ha
DAP	52kg/ha
FPF	15.6kg/ha

It is interesting to calculate the increases in Olsen P measured as a function of the amount of P applied.



Trials by AgResearch indicate there is no difference between SSP & DAP in relation to increases in Olsen P levels. These results contradict that conclusion, unless the differences are explained by the Limeflour and Trace Elements in the FPF mix.



The relative increases in soil **sulphate** and **trace element** levels of boron, copper and zinc showed similar trends as those displayed for the relative soil nitrate.