

Trial #	2
Location	Wanaka
Province	Central Otago
Farm Type	Beef and Sheep
Product Trial	LF
Date	1993 - 1994

Introduction: Soil testing showed adequate levels of major elements, though sulphate levels were low and calcium and pH levels were marginal. Soil biological levels – evidenced by numbers of earthworms and castings – were low, as were soil nitrogen levels. Fertiliser was applied on 19/2/1993 over an area in excess of 40 hectares. This was compared with a large untreated area. A control plot was also established within the treated area. In the 12 months following application regular soil (at 0-25mm & 0-75mm depths) and herbage tests were taken as well as visual field observations (pasture appearance/composition, soil colour, root depth, worm counts).

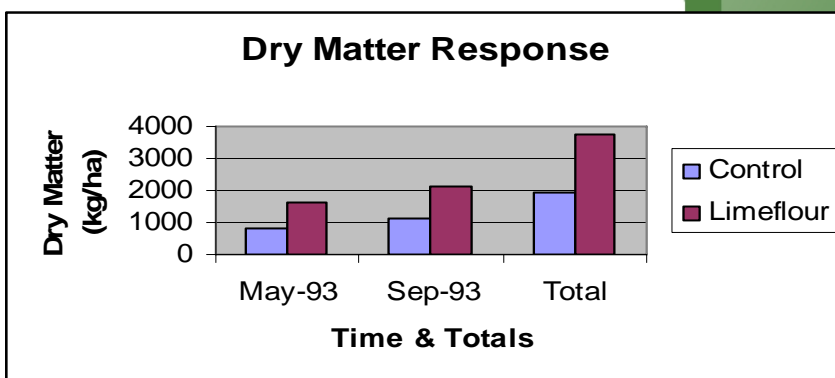
Treatment: 68kg/ha of limeflour
 1kg/ha of DAP (to improve workability of the mix)
 2.5kg/ha of selected trace elements.

Results:

Dry Matter Production (kg/ha)

	May-93	Sep-93	Total (kg/ha)	Increase (%)
Control	813	1112	1925	0
Limeflour	1628	2120	3748	94

In addition to dry matter response, visual observations showed drastically increased pasture vigour, increased clover production and emergence of clovers and grasses in areas previously dominated by ferns. The farmer also observed preferential grazing on the LF treated area.



Earthworm numbers increased under the LF treatment by 10 fold. One or more worms were observed in every sample from the LF treated area, while only one worm was found for every 10 samples on the untreated area.

Comparison of soil test results before and 12 months after treatment showed a general **increase in nutrient availability** under the LF treated sample, particularly for P,B, Mn & Zn. OM and CEC also increased from the control to the LF treated area, confirming increased biological activity.

Herbage samples highlighted increased levels of N,P,K,S,Ca & Mg in the LF sample. The trace elements levels were also higher under LF except for Se & Co.