

Introduction

High aluminum levels on Glenfoyle's Blackstone Hill soils have been identified as being a key factor limiting pasture production (P Espie & R Dolby 2004). High aluminum levels occur when soil pH is low with the effect of restricting root development. Lifting the low pH levels will address the aluminum toxicity.

Steep terrain (requiring aerial application) and proximity mean that transport and application costs are a significant issue for this type of hill country operation. Optimise is being trailed at relatively low application rates as a means of minimising the cost of addressing these key soil fertility issues.

Treatments

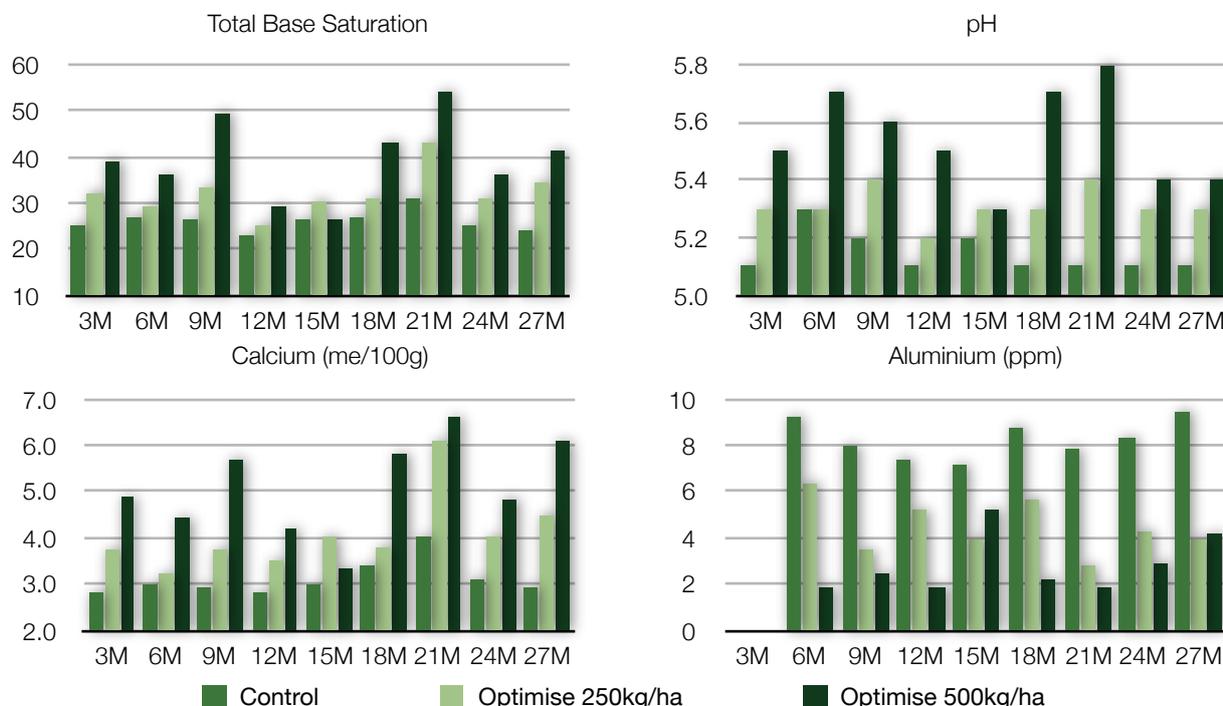
The trial area is on the Zig-Zag site at an elevation of 790m. The trial consists of control plots and treatments as follows:

- Control: Nil application
- Treatment 1: Optimise pelletised ultra-fine lime at 250kg/ha
- Treatment 2: Optimise pelletised ultra-fine lime at 500kg/ha

Trial plots are replicated 4 times. Plots measure 5m x 2m ie 10m² and are spaced 1m apart.

Results

Results from soil test every 3 months (charted below) show a significant impact on soil pH and soluble aluminium levels.



- The average increase in pH by the application of 250kg/ha and 500kg/ha was 0.2 and 0.4 respectively. This lift in pH remained consistent over the 27 month trial period, demonstrating longevity and effectiveness of fine particle lime over an extended time period.
- Aluminium levels declines with increasing rates of Optimise.
- Base saturation and calcium levels increased at both 250kg/ha and 500kg/ha compared to the control.