

Northland LIMEMILLERS ASSOCIATION

"Promoting the Benefits of Agricultural Lime"

For more information regarding the field trials discussed within this pamphlet, please contact:

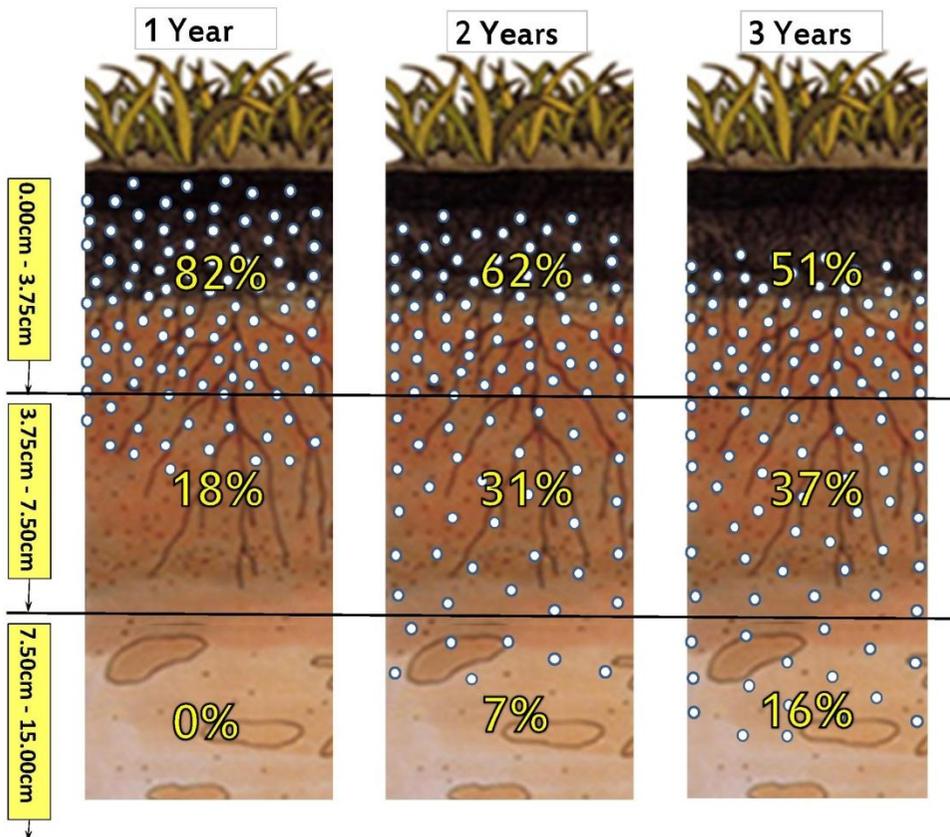
New Lime Research

How to Keep Grass Growing



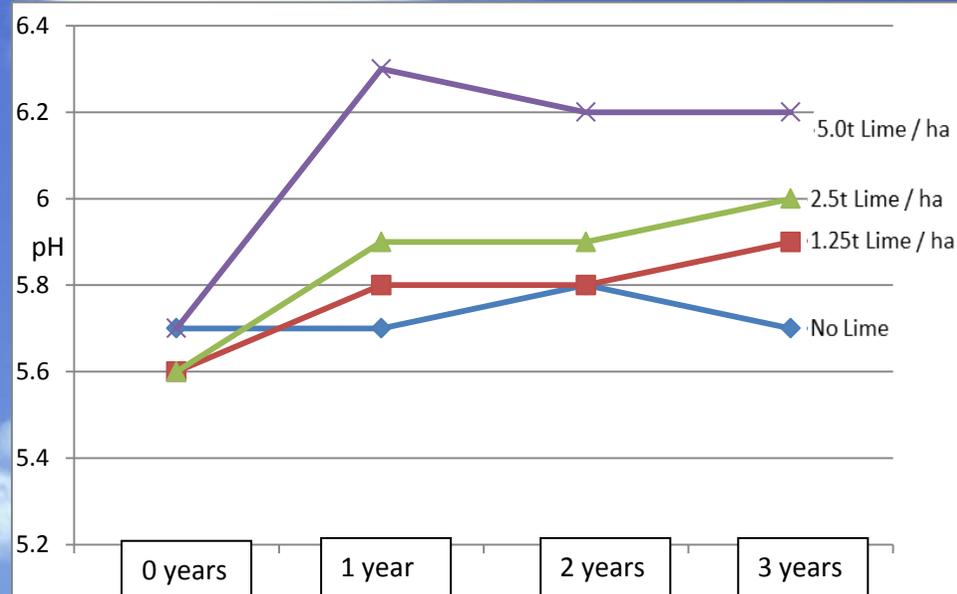
Field Trials Indicate 4 Yearly Liming

Research Scientists Mike O'Conner and Brian Hunt have carried out a 4 year lime trial on Northlands soils to establish how often, and at which rate should lime be applied to maintain the optimum pH for pasture growth. The soil types tested were Aponga / Riponui, Wharekohe, Kaipara Clay and Warkworth Clay. Lime was applied at four rates of 0t lime / ha, 1.25t lime / ha, 2.5t lime/ha and 5.0t lime/ ha. Soil test results over 4 years show the movement of the liming effects down the soil profile. As shown in the diagram below, after 3 years on average 16% of the liming effect has dropped below the useful level to plants, requiring reliming to maintain the optimum pH for grass growth.



The Optimum Rate – 2.5t lime / ha

The graph below shows the results over 4 years of the field trials at the various rates of 0t lime/ ha, 1.25t lime / ha, 2.5t lime / ha and 5.0t lime / ha. The optimum rate for achieving the desired pH, is shown to be 2.5t lime/ha, with pH results achieved more certainly and more sustainably within the ideal range of pH 5.8 – 6.0. It is noted that generally peat soils suit a lower pH for maximum pasture growth.



Maintenance Schedule Options: The optimum rate of lime application of 2.5t/ha can be applied either in a four yearly cycle, or in smaller amounts annually e.g. 625 kg/ha/annum over 4 years = 2.5 t/ha/4years. It is the total amount of lime applied in the 4 years that is important

Soil Test Precautions: The normal soil test for pH gives an average reading through the top 0 - 7.5cm of soil. It does not indicate where the liming effect is occurring in the soil profile, upper or lower regions. A test may indicate a good pH reading, but this liming effect may be in the lower regions of the soil profile, and may soon leech outside of the root zone.