Getting the balance right

Sheryl Brown
sheryl.brown@nzx.com

A sustainable approach to fertiliser use is achieved by getting the right balance in soil fertility. And that starts with base saturation according to Allfarm NZ director Andres Reidel.

"Understanding the balance is vital," he told farmers at the Dairy Leaders AllfarmNZ Conference held at Taupo in July.

"We want to grow good crops or pastures and to do that we need to have good soil nutrition. So we need a good understanding of our soils, such as soil type and texture."

AllfarmNZ specialises in farm consultancy on sustainable profitability, giving advice on soil fertilisation, nutrition and business management of farms as a business enterprise. As well as a mastitis management programme, Allfarm offers 10 on-farm nutrition consultancy visits every year.

The company also offers to analyse soil tests to find out the characteristics of the soil, the nutrient holding capacity and the retention of minerals.

Reidel said calcium should be on the radar when it comes to soil fertility.

"Calcium (Ca) is just as important as nitrogen (N), phosphorous (P), potassium (K) and sulphur (S), if not more," he said.

It's a carrier for trace elements, it enhances fertiliser utilisation, makes grass a more complete nutrition, reduces metabolics and reduces toxicity coming from either aluminium or iron.

Calcium is not just a pH corrector, Reidel said. It reduces aluminium toxicity which allows for better root development and relieves P retention in the soil.

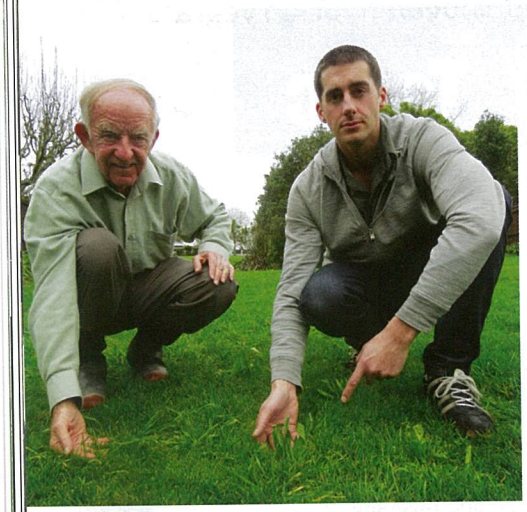
However, Ca, like any mineral, doesn't work on its own – there needs to be an equilibrium.

Andres Reidel – calcium essential for good soil.

"Ca and manganese work as a seesaw," he said. "Too much Ca may offset manganese or iron to a danger level."

That equilibrium is provided by ideal base saturation.

Tissue tests reveal soil secrets



Vaughan Jones, left, and Stephen Roberts check the grass.

At 81, retired dairy farmer, Vaughan Jones is still passionate about helping farmers maximise profitability while farming sustainably.

His website *www.grazinginfo.com* contains 170 farming chapters and 50 software spreadsheets which he's written and used since 1996 and sold since 1998.

He said it's a source of independent information for farmers without any commercial influence. Farmers who register to access the information are asked to pay a subscription or make a GST-included payment only after they benefit from the information.

It shows that it costs $1200 to keep a milking cow for a year. If extra cows cause them all to be slightly hungry, production and profit decrease. One farmer changed from losing to profiting by $500,000 in three years, by reducing cow numbers, using less bought-in feed and by applying agricultural lime and synergistic deficient elements, he said.

The spreadsheets help farmers operate scientifically, by using the highly successful optimum levels he recommends based on pasture tissue analyses.

Ryegrass tissue analysing has revealed calcium levels as low as 0.3% when they should be 0.8%. Correcting calcium levels with its synergistic elements of magnesium, boron and other deficient ones as revealed by pasture analyses, gives pasture yield increases way above what urea can, and for longer.

"We are trying to get the information to farmers to help them make the profit they should and do it the right way without pollution."

Getting a ryegrass analysis is one of the first suggestions Vaughan makes to farmers, to find out what the grass is getting out of the soil and what the cows are eating, for maximum milk production and animal health. He believes it's more accurate and effective than a soil test, and a good investment at $120 twice/year.

"If you don't get the minerals right, you won't do well."

He's helped by Stephen Roberts, a qualified accountant, who suggests soils, pastures and animals be observed closely using photos in GrazingInfo as optimums. For example, excess hair growing on top of a cow's neck shows they are deficient in cobalt, which will result in B12 injections being required. Dry noses might mean they are deficient in sodium. If cows are 'scouring' it could be they are low in selenium which is very low in most of NZ. It causes low fertility, high somatic cell counts (SCC) and weak muscles so cows heads hang below their back level and they can't lift their tails, which then become soiled.

Low potassium (K) levels in pastures are rare, while toxic levels are common. Symptoms of excess K are red clovers disappearing, followed by white clovers. Ryegrass becomes so hard cows have difficulty breaking it off, so it squeaks and often pulls out, although insects often get blamed for the damage.

Farmers can fill in a free spreadsheet questionnaire on the website with their production/ha and other farm information used in decision-making. Those buying the most supplements and with the highest stocking rate/ha are making the lowest profits. Some spend as much as 31% of farming costs on supplements which at today's milk payout, Vaughan believes is a "dead loss". The cause is milking too many cows.

For further information visit *www.grazinginfo.com.*