

## Newsletter 49

14 Sept 2011

### Emails lost?

Apologies to those who emailed us a week or more ago and didn't get a reply, but problems with xtra and Telecom for four days meant that we got no emails and could not send emails, but they didn't tell us that emails were not going, and none we sent bounced back to us.

If we have not replied to yours, please email us again. After they fixed it a dozen emails arrived, but normally we get a dozen a day so we could have missed 40.

### Grow more pasture

The two most serious factors still lowering grazing animal profits are, calcium below 0.8% in ryegrass leaves and stems (tissue), and selenium lower than 0.3 ppm.

99% of the farms I have visited, or have received analyses from, show low calcium (Ca), and have done so for decades. Yes, only 5 of 500 farms had enough Ca. After liming, and applying its synergisms, the soils, pastures and animal health improved. Synergisms are serpentine for magnesium (23%) and its marine trace elements, salt, cobalt, elemental fine Saudi sulphur (100%S), Ulexite slow release (11% boron) and cobalt sulphate (21% Co), and whatever other elements are deficient on the farms concerned, all improved.

You might wonder why salt. Ca and sodium, applied when low, reduce the leaching of cobalt, selenium and other water soluble elements. Neither of these two elements will increase to their optimums in pasture analyses until calcium levels are where they should be. See (and use) the Pasture Analysis spreadsheet in Free Items.

Despite this, and the success within two months of applying three or four tonnes per hectare of LimeMag with its synergisms, at a lower cost than typical fertiliser, some farmers and consultants still don't even measure pasture calcium and pasture selenium levels.

Before doing a pasture sample, please read Pastures > Sampling & Reading Tissue to get accurate useful figures, not ones influenced by soil pollution adversely affecting the figures, or by taking only ryegrass leaf tips which have 10% less calcium than stems.

The Pasture Mineral Analysis spreadsheet is so important that it is free. Type your pasture analyses figures from Hills Laboratory into it, to see the effects from elements that are too low or too high.

Those of you who were brought up with soil testing, try doing a fertiliser mix based on a pasture analysis, and then see if information from a soil test requires a change - it won't. I've done this many times over decades for and with farmers, and they have agreed and saved themselves thousands of dollars, and have increased pasture and animal production, because of the more accurate figures.

Even soil pH is not accurate, because it is affected by so many things. It is done to decide lime requirements, but is of no use for this, so has lost thousands of farmers millions of dollars in total.

Do a pasture analysis now and enter the figures into a free Pasture Mineral Analysis spreadsheet, and email it to me with your number of hectares (acres in USA) and I'll enter it into the Pasture Analysis Records spreadsheet and return it with a fertiliser and/or lime recommendation. The Records spreadsheet will allow you to see trends and results over the years and then make adjustments.

You'll see quick changes in pasture analyses following fertiliser applications, something you won't see from soil tests, because soils take much longer to show any effect. Read Elements > Calcium and see what McNaught, possibly Ruakura's best ever scientist found. See Analysing Pasture Tissue Versus Soils.

Calcium and Phosphorus are the two main growth elements, and Selenium is the main animal health one.

In the southern hemisphere apply 4,000 kg of LimeMag and trace elements, as per the Lime Nutrient Planner, now, to all pastures with a ryegrass figure lower than 0.5% Calcium, and by late December the increased clovers and pasture growth will be much more than possible from nitrogen, or any other fertiliser. If P is below 0.3% apply it as per Fertiliser Nutrient Planner, but remember that 4,000 kg of LimeMag per hectare with its synergisms has increased pasture P levels from 3.5 to 5% (too high), for a fraction the cost of buying P, which doesn't improve the soil health and vitality, or pasture growth, as done by LimeMag and deficient trace elements.

Best of all, the earthworm numbers will increase, be healthier and eat the thatch at the base of most pastures, which is where the facial eczema spores breed. Zinc controlling facial eczema is a cost, while

LimeMag and synergisms grow more and better pastures which make a profit and gets rid of the causes of the problems. See Elements > Calcium for its 50 benefits.

If calcium is not close to 0.8% in your ryegrass tissue, getting it to at least 0.7% will grow more grass and especially clovers, than any kind of nitrogen can.

Apologies to those who already knew the above, and congratulations to those who have applied it all so know that the above grows a lot more and better pasture than nitrogen, but if you've got the maximum number of animals per hectare, you must use every means. I and 20 years later, Ruakura, found that applying N in mid May and in mid November grows more pasture without fail because the soil temperature and moisture are usually right for growing maximum amounts. Both times build up reserves for periods when feed is always needed. Applying N in late June or July for half the yields, show a lack of planning. Your land and cows are very expensive, so feed them fully for maximum profit. Liming and fertilising your farm correctly months ahead of shortages can return much more than buying supplements such as Palm Kernel Extract (PKE). In a drought when nothing grows, I would feed 2 kg of PKE along fence lines, per cow, but no more. One of my most successful farmers does this.

In all the above I would be growing a summer forage crop, most probably Pasja with Nutrifed in warm areas and with

### **Which Nitrogen**

There are now many artificial nitrogens. If any of you have done comparative cost/yield trials, please send me the results. All mine, and client comparisons I know of, between urea and ammonium sulphate (sulphate of ammonia) showed the latter lasted much longer, and yielded slightly more, without reducing earthworm numbers, which urea does, as well as harden soils. Ammo (half urea and half SoA) has given better overall results. See Elements > Nitrogen for more information.

Some liquid nitrogens like Gibberellic acid are hormones used in Asia since 1937 on seeds and since then on plants. It was used in Japan in 1935 as a metabolic byproduct.

In New Zealand, after the price of urea skyrocketed (despite being made in NZ), alternatives have been sought.

The theory of some liquid nitrogens is to use hormones to force the grasses to grow, but there are no solids in them, so they are taken from the soil. If you soil is low in fertility, consider organic nitrogens like bird manure.

Ask the Gibberellic acid supplier for equal cost comparative pasture trial results against other nitrogens, both on a measured dry matter basis, not on a visual basis.

Photos show longer grass and as with urea, clover suppressed, whereas SoA and Ammo have sulphur so feed the clovers which benefit from S. It is low in most pastures, unless elemental S is used, which is rare.

Part of a recent New Zealand Gibberellic acid advertisement -

Hormones increase stem elongation by stimulating cell division and elongation.

Stimulates bolting/flowering in response to long days.

It helps plants grow if used in small amounts, but after two applications plants start to develop tolerance and don't respond. Since GA regulates growth, applications of very low concentrations can have a profound effect while too much will have the opposite effect.

It is a booster which is cheaper to buy but dearer to apply and has no S, and should not be applied more than twice in a row

MaxiGibb advertise that it, and similar liquid fertilisers, don't have any effect on the nitrogen in the soil, so if the soil doesn't have sufficient nitrogen in it, the results will not be as good. They are pasture additives – not fertilisers, so don't help pasture to grow in droughts, while LimeMag and its synergisms do, amazingly, provided sufficient is applied.

See Elements > Nitrogen for 33 pages on Nitrogen.

I hope to have Calcium Successes loaded into Elements > Calcium within a week or two.

### **Sheep**

Dags are a problem accentuated by low selenium. Plantain has been found to reduce dags. Faecal egg counts decreased after months on pastures containing plantain. See -

[http://www.beeflambnz.com/download\\_file.cfm/FILE010872.pdf?id=144,f](http://www.beeflambnz.com/download_file.cfm/FILE010872.pdf?id=144,f)

Plantain establishes well from oversowing. Mid September and mid March are the times to broadcast it onto short fertile correctly limed pastures. Aim to spread it ahead of a week's rain - good luck!

Sheep can completely graze out some plantains. Lancelot, a shorter variety has been developed for sheep, and Tonic, a taller one for cattle. Superstrike coated or similar coated seeds, are best for oversowing.

Seed costs about NZ\$18 a kilogram. It is very small, so 0.2 kg per hectare gives 10 seeds per m<sup>2</sup>.

### **Spreadsheets**

Many spreadsheets have been updated and loaded. You can tell by the dates. Some have only minor improvements. The Fertiliser Nutrient Planner and Lime Nutrient Planner have important improvements.

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