

Copy parts of tomatoes and Health above to GrazingInfo book.

In Newsletter 59, organic consultant Peter Bacchus of Paeroa kindly found that I had written 35 mm instead of 35 cm for the root depth in good soils that had enough Lime-plus. Thanks Peter.

Vegetable growers

Some may ask why we are starting with this heading. It's because the Gardening chapters are being read just as often now as the farming ones, but have not had anything in the Newsletters.

Tomatoes

Many growers from many areas of New Zealand have not had tomatoes do well this summer. Ours were two weeks later than usual thanks to Global Cooling slowing our spring, and causing much worse catastrophes with heavy ice still in the northern hemisphere. I hope the global warmer stirrers have crawled back under their stones with the global coolers of five decades ago who told us that we were all going to freeze to death. Both should be taken to court and prosecuted for increasing our costs, which in towns and countries are harming the poor and the farmers.

Once December came our tomatoes grew well, but those of some people have not grown well all summer. Reasons are that many garden soils I see are low in humus, and tomatoes like plenty of it and lime and its synergisms, which ours got because our trial last year showed that those that got more than usual Lime-plus (See Elements > Calcium) yielded twice as much as ones next to them with less lime, and had less blight that those getting less calcium suffered. See photos in the chapter on Vegetables & Fruit Trees. Modern tomatoes like Zealandia's Tastiest Tom plants that have yielded 400 tomatoes each for us every year for four years and will again this year, must be well fertilised and have compost dug into a hole 60 cm by 60 cm by 30 cm deep, and given more proper fertiliser raked in again in late January. The plants cost \$12, but every mid January we take two slips off them, place them in a glass of water next to a sunny window and plant them ten days later when the roots they shoot out are 40 mm long. See Vegetables & Fruit Trees > Tomatoes.

Our two this year are now 60 cm high and have tomatoes two cm in diameter. They'll yield until June.

Health

This is also very well read in GrazingInfo. I started it because a quarter of subscribers I met were unwell with easy to correct ailments such as allergies, gluten, both identified with muscle testing, stiff neck with selenium, cramps with magnesium, bad nails and prostate problems with zinc, and/or stiff joints and bad backs with boron and stretching.

Australian experts analysed 14 international studies and found that cooked tomatoes can help patients battling against bad cholesterol, low-density lipoprotein and/or high blood pressure, without having to take statins used by 2.5 million Britons, which can lead to heart problems.

About 56 grams or two ounces of tomato paste or half a litre (a pint) of tomato juice a day could be enough to help many needing it.

The secret lies in high levels of the compound lycopene which gives ripe tomatoes their bright red colour. This powerful anti-oxidant is essential for good health as it helps lower the risk of heart attacks and strokes. Lycopene is much better absorbed when cooked.

Fertiliser, Lime-plus (See it in Elements > Calcium) & silver-bullet cons

Too many farmers are buying products that are very expensive for what they do, don't have what their farm needs most, or worst of all - is not a fertiliser so is useless.

Over recent years I and hundreds of farmers have done ryegrass analyses and found that Lime-plus mixes (lime and deficient trace elements) were needed, not fertiliser mixes of phosphate and potassium, because all over New Zealand, most soils are full of P and K, which only pasture analyses show accurately. At the same time 99% of pasture analyses show calcium down to just over half the 0.8% Ca ryegrass should have.

Unfortunately some helicopter operators are still fleecing farmers. Some started two decades ago applying a few kg of ground up and dissolved DAP three times a year, so spreading costs were many

times more than the fertiliser value. No farmers I know of were sucked in for more than three years, but the con men kept catching new guinea pigs, until the practice died after a few decades.

Four years ago a farmer spent \$27,000 on Lime Flour at 200 kg per hectare (178 lb per acre) flown on by helicopter to 182 ha of hill and flat land. Two years later he and I could not see any benefits. There were very few clovers, only 10 earthworms per spade spit with soil stuck to them, both symptoms of needing lime.

It cost \$148 per hectare spread for the 200 kg. Ground spreading cost is about \$20 per tonne which is \$40 for two tonnes which leaves \$108 per hectare which would have bought almost two tonnes per hectare, which is ten times more. Fine lime was launched when McDonalds lime was not well ground and so coarse it gave lime the bad name of being slow to do any good. In 1990 I complained to them and since then they have ground it properly.

Three tonnes of Rorisons LimeMag and trace elements per hectare by truck on half his farm gave a 100% increase in pasture yield within six months and the clover returned. The bank would not lend him funds for more Lime-plus to do the other half of the farm. I know of three banks that have declined lending for lime - possibly influenced by some of the massive fertiliser companies in what is now an unscrupulous business, so beware. Evidence is sales people saying lime is not necessary and/or it takes years to work. Doug Edmeades said that lime was not needed anywhere in New Zealand so beware of his advice! When needed, as shown by moss, Pennyroyal and other, weeds, small clover leaves or none, optimum rates of Lime-plus can make pasture green in a week and double growth in a month, which is faster and grows more than urea on most farms, and last years longer.

Apologies to subscribers who are good 'readers' so have already read the above in GrazingInfo, but the vast majority of farmers don't read enough, and some not at all. Some joined GrazingInfo years ago and have not read any of it.

WIVES, you usually read more than men. If your farm is suffering by growing Pennyroyal, Buttercup and other weeds and not enough clover and pasture, please read both Weeds and Elements > Calcium then suggest to your husband how to fix problems without sprays and without the extra work, and make more profit.

Lime doesn't reduce Yarrow. Yarrow likes it, but no problem, because it is a deep rooting edible herb, which animals eat when it is lush so get minerals, which should be good for them, especially in today's many "ryegrass only" pastures giving mono-culture and mono-feed. It is one reason why I'm so keen to get the VJ Prairie grass that lasts indefinitely in good soil in the Waikato, available, to give variety to our grazing animals.

At last I've found a company who will get it grown and market it to farmers. See Specialty Seeds below.

Deception

I spend too much time and money protecting farmers from inferior products. To do this I have to learn about them, check with users, and sometimes try them.

When someone contacts or visits you to buy something, it is your money they are after, so check all the alternatives before committing and then make sure that it is necessary. If they win, they'll be back, and if you are like the farmers who believe that there are silver-bullets that can make more than the basics, then you have a problem.

Some products are cheaper than proper fertilisers or what is what really needed, so is used as the main selling point.

In all cases ask for comparative trial results and the names and addresses of half a dozen users, and not ones that are at the other end of the country. One 'magic' grass stimulant sales person told me that the only one he could give me, was in the South Island. It was not a fertiliser because it didn't contain enough basic growth elements to qualify as a fertiliser.

He lived in the Waikato on 4 hectares, so I suggested that he must have used it there, which he had. A pasture mineral analysis showed the fed grass to be worse than the control. I, and the client I was protecting, didn't hear from him again.

A farmer wrote to me, "There is so much rubbish advice out there sucking gullible trusting people in. I was even conned into HSR Aussie maize seed last year with the promise of a 30 tonne silage crop. The Olympiad grew 12 tonnes and the Maximus did 15 tonnes. I have not heard from the rep again. Back to Pioneer from now.

A subscriber who obviously had not read the Magnesium chapter, applied the very expensive (in the North Island) dolomite, which the two trials abbreviated below showed was not the best.

The salesman made claims of improved soils and soil life that dolomite on its own could not give. They were from LimeMag and trace elements that had been applied well before.

Trials

Pasture analyses of trials I did on an equal cost basis per hectare of dolomite (NZ North Island dolomite price) against lime and serpentine on Pukeroro loam soil for Bill Chynoweth, and Atiamuri pumice ash for Maurice Thomas, both with pH 6, but low Ca and Mg levels, showed that applying a lime and serpentine mix called LimeMag consisting of 73% CaCO₃ & 7% Mg at 3,000 kg per ha gave -

1. Increased Mg pasture level and 10% higher dry matter yield than same value dolomite.
2. 25% more pasture dry matter yield than dolomite, so serpentine gave a total increase of about 33% more magnesium than dolomite for the same cost per hectare all in the first year.

MAF and others have found the same. The dolomite web site has lots of flowery promotion, but no equal cost comparative trial results.

Fast growing grasses stimulated by optimum calcium levels have lower Mg levels than slow growing grasses lacking Ca. Nitrogen fertilising reduces Mg tissue levels by even more.

Dolomite promotion I've seen and been given doesn't show equal cost trials with other Mg sources. I've seen dolomite demonstration farms and been disappointed. As in many cases, the analyses and the soils showed a need for lime more than for magnesium.

Don't buy dolomite if it is more expensive per kg of Ca (24%) and Mg (12%), which it is in the North Island of New Zealand and the south of the South Island where serpentine is also mined.

Rorisons are opening a serpentine quarry in Marlborough, South Island, which should provide low cost good marine Mg there.

Dolomites vary and some have lead and other impurities so, even if cheap, get a complete current analysis before buying. Rorisons serpentine analysis is on their web page <http://www.rorisons.co.nz/>

Faster growing grasses usually have less Mg and other important elements, but LimeMag (calcium and serpentine which has magnesium silicate) gave higher levels in Ca and Mg, as well as higher dry matter yields.

Farms that have been getting lime and serpentine have higher Mg levels in pastures and in animals, with fewer metabolic problems than neighbours not applying it.

A MAF trial of magnesiums showed that when applied and measured over years, serpentine leached the least and gave 80% of what was applied back in pasture. Some quick release magnesiums returned only 40% and lost 60% because of leaching.

This is by (Hogg & Karlovsky 1968) in the New Zealand Journal of Agricultural Research, 2004, Vol. 47.

Mg uptake in pasture tissue

Product	% increase over control
Serpentine superphosphate	117
Superphosphate + fine dolomite	83
Superphosphate + coarse dolomite	45
Fine dolomite reverted superphosphate	68
Coarse dolomite reverted superphosphate	39

Typical of MAF and many scientists trials, no percentages or mention of costs of each were given.

Always do fertiliser, lime and other comparative TRIALS by paddocks and cost per hectare, on your farm or on 10 m² trial areas, and vary the quantities with all applications of all products, especially the new to you 'silver-bullet' con ones, because you need to know whether the product is needed and if so, how much is most profitable. Compare them with what a grass analysis shows is needed most using the GrazingInfo Free Items Pasture Mineral Analysis spreadsheet optimums, not what the laboratory uses. They vary between laboratories, sometimes allowing 200% differences, and are sometimes plain wrong.

If all farmers tested products against what their pastures needed, they would not apply Maxicrop and other seaweeds, Probitas (expensive serpentine), rokdusts (expensive any quarry dust), humates

(expensive cheap weak coal), and similar products for several years, before finding they are not working and pastures are getting worse. Some farmers, usually pressurised by smooth sales talk, do their whole farm, and then when the pastures don't improve, sometimes get told that it takes time and that more is needed. Several pre-subscribers have done their whole farms for three years before seeing the disasters.

An extremely good Waikato farmer with excellent pastures because he had limed every year for 30 years, changed from annual lime to a humate, and weeds took over in less than a year. I wondered if the weed seeds were in the humate. See Weeds for a photo.

Being organic doesn't make products better, more productive, or what your farm needs. Only a pasture analyses and a spade do this. Knowing everything in Soils, Earthworms, Cultivation and Elements (22 of them) that are in GrazingInfo help. See the spreadsheet called "Interactions in soils, pastures & blood" which shows how all elements effect each other.

Never be a guinea pig. Always ask to see results on LOCAL farms before spending a cent on different products. Always compare them with what a pasture analysis shows is most needed, which 99% of the time in New Zealand is calcium and boron. Comparative trials I've done on hundreds of farms around the world have shown that these two were needed. See Elements > Calcium > Japan. North America including Canada is a big area, all of which from Vancouver Island to Florida is low in boron (has half New Zealand's levels which are also low). See Elements > Boron.

Even good fertilisers such as good reactive phosphates and the best elemental FINE sulphur have to be done correctly to get the best out of them. Reactive phosphate has to have fine sulphur mixed with it to make contact which will make the P work as fast as superphosphate does in slightly acid soils, which is almost all of New Zealand, without leaching. The coarse sulphurs, pebbles, globules, etc., from some companies don't work with reactive phosphates, so when getting quotes and ordering insist of fine elemental sulphur as set out in the Fertiliser Nutrient Planner spreadsheet which suggests quantities of each element to apply.

On minerals, remember that adequate S helps prevent milk fever. Good fine elemental S maintains levels the longest.

Pasture Seeds

Autumn pasture sowing is only weeks away. Almost all seed companies and commission consultants have recommended more than twice as much seed per hectare than is needed, costing farmers collectively millions of dollars. A seed company that has been honest with quantities is Specialty Seeds Ltd, Box 29-389, Fendalton, Christchurch 8540, New Zealand. 76a Hayton Road, Sockburn, Christchurch 8042. 0800 727 8873. <http://www.specseed.co.nz/> mail@specseed.co.nz

See the Seeds per m2 chapter that they sent to me.

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