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Making a big profit from beef is not easy anywhere in the world. One solution if possible, is to buy the cheapest, thinnest, big framed crossbred (for the hybrid vigour advantages) white face yearling heifers in very late winter or early spring to save the cost of wintering them, or whenever buying prices are lowest (affected by the season), then treat them correctly. 'These White Face' heifers below, are from small headed (for easy trouble-free calving) Hereford bulls, over New Zealand Friesian cows (not USA slow maturing Holsteins), because these grow and finish rapidly, for young, tender, local market meat, not always possible, so book them in with a buyer for higher priced beef.

Being grown on pasture achieves no fat marbling through the meat which is not good for people, and is wasted energy in adding fat rather than meat. Visiting North Americans are always amazed at how much nicer our pasture fed meat is without marbling which they had been taught was necessary.

To make more profit, sell them before the NZ dry summers when pasture becomes insufficient so expensive, and certainly try to sell well before the second winter. Growing and fattening large beef animals through two typical dry summers or two winters are not profitable.

The pasture dry matter costs in cents/kg based on land costs, lime and fertiliser costs, and weather, are about -

- Spring, 8 to 10 cents when fast growing.
- Summer, 20 to 40 cents depending on lack of rain and hay or silage fed.
- Autumn after rain, 10 to 15 cents.
- Winter, 20 to 40 cents if hay or silage are harvested, stored and fed.

The above vary between seasons, and locations. They show that slow pasture growth increases feed costs as do making silage and hay, at about 40 cents to grow, harvest, or buy, store and feed them, at which price there is no profit for beef or dairy farmers in New Zealand, but in some countries it is all they have. Buying grain or similar supplements is negative, not just because of the cost and no profit, but because it decreases meat quality.

An example

Twenty hectare, lifestyle beef farmer Barry Brunton, previously a Hamilton real estate agent, was worried about his fertiliser company advice giving poor pastures, bad animal health, slow growth, and a lack of pasture growth, so phoned me for help in March 2008. He had owned 17 effective hectares at Rukuhia near Hamilton, NZ, since 1963. We did a ryegrass leaf analysis that had never been done before, and applied 5 tonnes of fine LimePlus (Lime and deficient minerals) per hectare (= 2 tons/acre) based on ryegrass leaf and stem figures. In mid August 2008 he bought these 62 heifers for NZ\$425 each at an average weight of 240 kg. They were a mess so the cheapest in the sale. I took this photo with a zoom because I couldn't get near them. They were mineral deficient and nervous, throwing their heads at each other, signs of malnutrition and excess manganese (Mn) bad temper stress from under-limed soils. Fertiliser company advisers almost never recommend lime, because its \$25/tonne is little profit for them compared with fertilisers' \$400/tonne.



His veterinarian tried to sell him drench for worms, but I said, not to, but to feed them well and give them Solminix in their drinking water and extra selenium because the scouring onto their tails was because of low selenium making it impossible to lift their tails. They were then fully fed on correctly limed and fertilised pastures based on a pasture analyses of 15 elements and fed Solminix through an inline dispenser.



This was November 2008, three months after purchase when the Hereford/Friesian cross heifers in

the mob were sold for \$940 each, for the local beef market, before the schedule price drop. Please note that the Hereford/Friesian cross heifers matured faster than the others, and that they were fully fed on good (not perfect yet) pasture, and Solminix, the only complete soluble mineral mix of nine minerals, and NO manganese. Never feed or fertilise with Manganese in New Zealand. Also never feed lime or any calciums because they are fertilisers, not feeds. Consultants who recommend either should be dropped.

Like people, animals vary. The Angus cross (top right) showed low copper (brown hair), even after getting it in fertilisers and in Solminix in the drinking water. Anguses, Murray Greys, Jerseys and Shorthorns need more of some minerals than others. Feed them Solminix with salt at a higher rate, say 0.008% of their live weights, until healthy, then reduce it to 0.006%.

Mn is too high in most NZ soils, and is in some bad mineral mixes and in some bad bore waters. Get your water tested by Hill Laboratories, 1 Clyde Street, Private Bag 3205, Hamilton East 3240. Ph 07-858-2000. They supply the equipment to ensure accurate collecting and handling of the water. Phone them, mention Vaughan Jones at www.grazinginfo.com and they will pay for courier delivery to you.

The pasture in November still didn't have much clover because it had not had lime, boron, cobalt, magnesium, etc., for four decades and too much potassium at about \$800 a tonne in previous bad expensive fertilising by the fertiliser company. Clovers increased after applying the much cheaper LimePlus, with not needed fertilisers. Some limes in the north and south islands, have 2% magnesium, which reduces the lime cost by \$4/tonne. Magnesium is almost always needed, except in alluvial soils around Whakatane and Thames, where the natural high magnesium level can be a problem, so never apply more, or in the USA high magnesium Wisconsin and surrounding states.

Read Minerals in Soils > Magnesium for reasons for applying magnesium, which on an equal cost basis grows more pasture than dolomite or other magnesiums, and gives healthier animals. Serpentine, being a natural sea mineral has many elements that are already in some of the expensive fertilisers sold to unsuspecting farmers. Check the mineral levels and values, by using the spreadsheet called Fertiliser Analyses Comparisons. Most fertiliser mixes are much more expensive than LimePlus or Fertiliser Nutrient Planner mixes we do, with the best reactive phosphate and deficient minerals.

After selling them, the very pleased Barry Brunton emailed me, "Your LimePlus with trace elements mix and Solminix deserve considerable credit."

Some beef farmers buy weaned three month old calves for about NZ\$400 each, which are not good buys when year-old ones can be bought for about NZ\$600. Obviously these prices vary.

Don't buy Jerseys or other small breeds, or their crosses, because they grow too slowly and don't get big, so are not profitable, but Jersey/Hereford crosses do make tasty tender meat, which makes them good for home slaughter (family meat) which sells at higher prices.

Dairy farmers who are being fleeced by Fonterra and other middlemen should rear beef animals to sell when funds are needed and rear some to two years even if they have to graze them off farm, and eventually sell some when two years old for about \$2,000 which is the value of the year's milk if it was a cow, which would have to be fed.

This photo in November 2008 shows how tame they became on Solminix's nine soluble minerals, and why farmers like the White Face heifers. While I was photographing, she walked up to me.

Being half Jersey, they are tamer, finish sooner (especially the heifers), and earn more, partly thanks to hybrid vigour.

I've suggested that Barry Brunton and other beef clients buy earlier in future, to be able to sell more before the beef schedule drops, and then buy another lot after the price drops and sell them when you want to.

No lime had been applied for 4 decades, because the fertiliser sales people said that, because his pH was 6, no lime was needed. How wrong they were, as are 99% of others. I've consulted for 500 farmers since 1960 and only five (1%) had been applying the correct amounts of lime. See Soils > pH.



His very high potassium (K) pasture level at 3.7%, was one reason for the high pH, causing ryegrasses to be hard so more prone to pulling out. There were almost no clovers (high K kills clovers - reds first, then whites), and he had weeds galore as on most Waikato farms that lack calcium and trace elements. A pasture analysis showed that everything except K was low, so I recommended 5 tonnes of LimePlus and deficient trace elements. The pastures improved so much within a month, that Barry

Brunton phoned to ask if the better growth than ever before was possible just from liming. I confirmed that it was, but with the other deficient elements of sulphur, magnesium, boron, cobalt and selenium all with it.

Later he emailed, "I have the Hill Laboratory's pasture analysis figures you organised, which confirmed your report on the animals' deficiencies. I'm impressed."

Please read Elements > Calcium and Magnesium, to see what LimePlus can do.

Tonic Plantain (see Herbs) at 0.25 kg per hectare, and Kotare II medium leafed white clover at 1 kg that has replaced Kopu II short lived large leafed clover that should not be sown except in two year pasture mixes. Tahora small leafed white clover was added at 0.5 kg per hectare because it makes more nitrogen than any other clover.

All were mixed and spread with the LimePlus mix, germinated and grew well.

This healthy Hereford bull below is in a dairy herd to breed 'White Faces'. His sheen and clean, strong high tail, and that of the white cow shows no selenium deficiency, which is important, otherwise the sperm's tails break off, and cow fertility is low, and weak calves from deformed semen can be born. Are all your cows tails like these and are all cows' heads held above their back level. Read Selenium in Minerals



The NZ exchange rate also affects the price our meat exporters pay for animals. Our dollar has been too high for decades, because so many people see New Zealand as a safe investing country. None of our banks has gone broke, and NZ is top of the world's list of 'fraud-free' countries, so money pouring into our banks over-increases our exchange rate, at the expense of exporters. About 90% of our beef and dairy products are exported.

In November 2008, Barry Brunton emailed me, "My stock buyer paid you a nice compliment a few days ago. The occasion was drafting off heifers for selling. He remarked that he had seldom seen a mob of cattle in such a clean condition (none with dirty tails) and all with very shiny coats. Take a bow Vaughan."

Growth and weight gains like these are only possible with correct LimePlus, fertilising and feeding a complete soluble mineral mix such as DeLaval nine mineral mix, or better still, mix your own from information in Minerals in Soils.... DeLaval have made and marketed it since I sold them the mix in 1987, but have now removed the salt that is essential. Read Salt. Mineral mixes that don't have all the nine deficient minerals cannot do as good a job. See Minerals & Solminix in Minerals in Soils,

In March 09, based on another pasture analysis, 2,500 kg (2,250 lb/acre) of agricultural lime, 500 kg of serpentine (Mg silicate), 40 kg salt, 8 kg Ulexite boron, 6 kg zinc sulphate & 1 kg of cobalt sulphate per hectare were applied.

When I started with him, I got Barry Brunton to reduce animal numbers, because he was 50 years behind in liming. 8,500 kg per hectare of LimeMag was then applied in two years, and more stock were then grazed, even in the 2008 Waikato drought.

Changing to using plant mineral analyses helped make the above possible. Soil analyses give wrong and inadequate information, and cost New Zealand farmers collectively millions of dollars annually in losses. The last time I did one on my farm was in 1956 (yes 1956), when I saw that it was wrong, inadequate and a useless farm cost increaser. Read Pastures > Analysing Tissue Versus Soils.

In the 1950s New Zealand Ruakura agricultural scientist Ken McNaught studied the benefits of herbage testing for minerals, and wrote that measuring minerals in pastures is far more reliable than in soils. Comparative figures of pastures and soils from Winchmore Irrigation Research in the South Island, and from many other comparisons confirm this, as do mine when consulting for 450 farmers in several countries since 1960.

[Feeding and rationing](#)

Graziers can have hundreds of thousands of dollars tied up in animals, costing a lot just in interest, that are not giving cash income until sold, so I believe it is best to have the optimum number, to fully feed them and keep them growing fast all the time, so they can be sold as soon as possible.

There is less profit in grazing animals that are not gaining weight, unless waiting for the schedule to

increase, or carrying them over winter to take advantage of the surplus of pasture in spring.

Get the annual monthly dollar per kg of live weight schedule from your beef stock agent to see when to buy and sell in an average year. The times change depending on pasture growth which affects all local farmers selling and buying. Abattoirs like to keep their throughput at peak, as long as they can sell, so their needing more or fewer animals, affects prices.

When fully fed, animals get full more quickly, so don't walk around as much wasting energy which uses feed, and pastures don't get as pugged, so produce more, and keep improving instead of deteriorating under high stocking rates. See the spreadsheet called Grazing 40% Rule.

Correctly grazed clovers produce more nitrogen. Both over-grazed and under-grazed clovers produce less nitrogen and less dry matter. A scientist slip up is that Kopu dies out after a few years because it was bred from an annual clover. Tahora II makes the most N. Read Pastures > Clovers for more.

To achieve rapid animal growth will mean getting some animals quickly to prime, so you can sell them to reduce numbers for when there is less growth, to keep feeding the remainder.

Some New Zealand beef farmers buy large numbers of animals when the price is low, and feed them a maintenance diet of pasture until spring, when they fully feed them on the spring flush of pasture. Well bred animals after having been restricted, grow and add weight very quickly, which is what some wild animals do every year. In snow covered areas conserved winter feed is expensive, so some farmers feed the minimum amounts until spring, then fully feed on pasture.

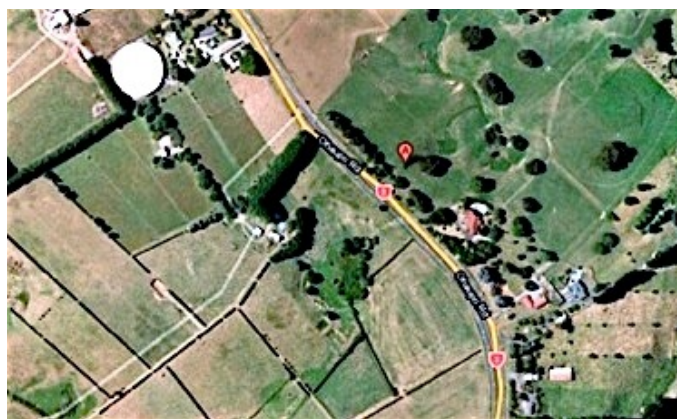
[Check mobs daily if possible](#)

Have as few mobs as possible. If some in a mob are not growing as fast at the best, check why not by getting blood and/or livers analysed because it could be one or more mineral deficiencies. See optimum Blood & Liver levels in Spreadsheets. Also move the worst to better pastures until they catch up, when they can go back with the main mob. Another cause can be undershot jaws suffering because pasture is very short, in which case move them to longer pasture.

[Profiting](#)

His grasses and clovers grew better, staying much greener than neighbours in the 2010 autumn drought and kept growing, allowing an increase in stock numbers. Earthworms increased from only two or three per spade spit in 2008, to 10 to 20 right through the dry January on period. P and K had been in excess, so none was needed, despite the fertiliser company recommending more.

Barry Brunton's farm (now sold) is the top right square green area - thanks mainly to 9 tonnes of LimeMag and correct trace elements per hectare, over 18 months. When I started with him, I calculated that the farm was 25 tonnes of lime per hectare in arrears, because none had been applied for four decades, because the pH was about 6, so the fertiliser sales people he used claimed it was not needed. They, of course, were wrong, but wanted to sell phosphate and potash, at NZ\$400 and NZ\$800 per tonne respectively, rather than lime at \$25/t.



[Pasture fed ducks](#)

This photo on the left was taken in May 2008 when I started consulting for Barry, showing the



weedy uneven rough pasture with no clover and lots of weeds caused by the toxic superphosphate acid

fertilisers with excessive potassium and phosphate and shabby lustreless ducks fed two hand fulls of maize daily. Look at them and the improved even pasture, after exactly two years (2010) of LimePlus with deficient minerals.

Look at the evenly growing and well grazed weed-free pasture on the right with no bare patches and no dung pats which were eaten by earthworms like shown below. LimePlus and later, Phosphate Nutrient Planner based on Gafsa reactive phosphate, with deficient elements added to encourage earthworms that increase and eat all the thatch (dead grass), so facial eczema ceases without having to use zinc for Facial Eczema, provided every other aspect of correct farming is applied. Read Animal Health > Facial Eczema.

The two best white clovers (see above) and Bealey NEA2 ryegrass were oversown in one of the LimePlus applications, so the spreading cost was zero.

Who would have thought that soft fine agricultural lime, and trace elements based on ryegrass leaf mineral analyses, would give feathers with such sheen, lustre and health to ducks eating only pasture.

The cattle were fed Solminix in their drinking water. See the eBook on Solminix. Not all is absorbed, so earthworms become bigger and fatter from that in the manure. The increased number of earthworms dispose of dung pats in about two weeks when moist, which decreases parasites and flies.

No earthworm killing urea or other forms of N were applied. Read the Earthworms chapter.

[Sourcing beef cattle to finish \(grow and fatten\)](#)

This is not easy, partly because there are hundreds or thousands doing the same as you, at the same time.

There is little profit in finishing beef cattle over winter, or keeping a beef cow for a year for one calf, except on very cheap land. Our best sheep farmers have bred ewes that have twins every year. There is scope for a young person to start breeding a beef herd that does the same.

Another way is to buy when prices are low, which is usually when all farmers' pasture is lacking. This means having good pasture growth and/or pasture in reserve, which with correct LimePlus, trace elements and fertilising as required, is easier, but not by using urea which is an empty product made from air which grows grass without clovers.

NZ Friesian cows that are being culled from dairy herds can be good buys to fatten at most times. Some can be in calf, but late, so can fetch a good price as springers (fresheners) back to dairy farmers! The others usually fatten quickly, however, North American Holsteins don't fatten (finish) as quickly as New Zealand Holsteins/Friesians which are also black and white originally from Friesland in Holland.

Some cows might be sold solely because they were thin on a farm that was overstocked, so were culled.

Good New Zealand Holsteins/Friesian cows that are thin from underfeeding, and from overproducing, can put on weight very quickly. An advantage of this type of farming is that the number of cows can be bought and sold to match your available feed.

[Controlled grazing](#)

Trials in Victoria, Australia, showed that when ruminants were grazing or walking they were not producing (the same applies to producing milk), and that meat production relates to the amount of rest the animals get, such as when chewing the cud and resting.

If feeding a little grain, they can be taught to follow you by using the same vehicle, same bucket, etc. If being moved by road, they will follow you if with the same bucket is hung on the vehicle and shaken, as one should do when feeding them.

With controlled grazing, animals soon learn to follow you or the vehicle to a new paddock.

In March 2010 researchers from California State University in Chico, found that grass-fed beef comes out ahead in many ways. Pasture fed beef has lower levels of unhealthy fats and higher levels of omega-3 fatty acids, which are better for cardiovascular health. Grass-fed beef also has lower levels of dietary cholesterol and more vitamins A and E and antioxidants. The study found that meat from animals raised entirely on pasture had about twice the levels of conjugated linoleic acid (CLA), which may have cancer fighting properties and lowers the risk of diabetes and other health sicknesses. The authors pointed out that consumers of grain-fed beef can increase their levels of healthy CLAs by eating slightly fattier cuts. See <http://www.eatwild.com>

[Breeding](#)

So if you have no other way, then buy and/or breed the best.

What I would do if I were long term beef farming, is what Coco Collelmo, has done, that is buy the

best beef cows and breed up a herd that excels in profiting from pasture, and then sell its semen, bulls and heifers, to other grazing farmers, at much higher prices than if for slaughter.

This is a 100% pasture fed small-head Angus bull in USA, from 100% New Zealand genetics.

Coco Collelmo, of Fair Oaks Ranch, Paso Robles, California, kept improving a grass fed herd of Angus sourced from a 107 year old grass based herd in New Zealand. He wrote, "We started out implanting 37 embryos on the first round, and have over the last 9 years developed an outstanding group of cattle. We sell beef directly to our customers, supply bulls in the west and north west, and have semen available.

"Our herd works for us in dry land California conditions all the way up to Klamath Falls, Oregon and Montana."

See at www.forangus.com

GrazingInfo readers will know to look for large bodies on short strong legs, but you may not know that small heads like this one, are essential for easy and fast calving. Slow calving gives dog type scavengers and some birds more time to damage the calf, before the mother can get up and defend it.

I'm not promoting Angus above any other, I'm showing what can be done.

Also note that new animals keep coming up which can make more money than common beef, or cows, e.g., milking goats and Alpacas.

Talking about grazing and profits in beef and dairying, if animals are not fully fed from day one, they will not develop the full sized bodies that this Angus has and Pukeroro cows below have.

Pollution

The USA National Geographic magazine in October 2002, showed that it takes six drums or 1,200 litres of oil to rear one confinement beef animal or dairy cow, to grow the grain, treatments, transport, etc. In New Zealand it takes less than 100 litres of oil per animal including transport, with no subsidies. The grain is mostly maize (corn) which in USA is 50% subsidised, and causes a colossal loss of carbon from soils exposed for six months every year, while pastures farmed the GrazingInfo way are not exposed so increase soil carbon.

Before our Greenies and those in other countries, criticise New Zealand farmers for pollution, they should look at themselves, and their front lawns. USA has more nitrogen going into their waterways from their urban home lawns than goes in from farms. These are their figures, not mine.

Hamilton Lake in the Waikato, New Zealand is the most polluted lake in the country, 100% from urban runoff and pollution (not from farms) which all cities suffer.

The excellent Dr Mercola wrote that 100 percent of USA grown beef contained bacteria associated with faecal contamination, which can cause blood or urinary tract infections, some of which, can be life threatening. Google for Dr Mercola and get his newsletters.

The New Zealand townie media who show their jealousy, by criticising farmers, almost daily, and often wrongly, almost never mention the filthy, dangerous, urban runoff and the city lakes.



If Federated Farmers don't stand up for themselves, more bureaucracy and penalties will be imposed on farmers already over ruled and over taxed through high council rates. The latest is Waikato Regional Council charging dairy farmers \$500

per annum for milk cooling and animal drinking water, which comes from their own bores or springs on their farms. I would refuse to pay it.

Grazing

I took this left photo on a new client, Pukeroro Stud in 1980. On the right is the same herd 18 months later, after applying LimePlus and GrazingInfo.com systems. I never topped because the dry grasses shown growing around the right cow's back left leg is 'roughage' to balance the lush, sappy, high protein, pasture that cows like to eat first. Topping displeases grazing animals because it spreads the animal manure across the whole area, which animals obviously smell, then dislike the whole paddock, so eat less.

On cow on the right is a good well fed on perfect pasture, and developed, healthy New Zealand Holstein/Friesian cow, grazing correctly limed and fertilised, mostly perennial ryegrass and white clover pasture. The cows got my Solminix soluble mineral mix of nine minerals in their water, hence their high production, sheen and health.

The un-grazed dry ryegrass around its back leg is not a problem and will be eaten when cows want some drier grass to go with the lush pasture, during this grazing, or the next one. If too much un-grazed grass occurs, graze the paddock sooner next time. Don't top or clip it because doing so is wasteful, expensive, unnecessary and doesn't allow animals to balance their diet, so scouring can occur from too much typically short lush 26% protein pasture. Topping after grazing is dirty work, spreads manure and parasite eggs over most of the paddock so makes it infectious and unpalatable, causing cows at the next grazing to eat and produce less. If the pasture gets out of control, make silage or hay, or mow a third or half the paddock before grazing and fence the animals on it until most is eaten, then give them the rest of the paddock. After a number of paddocks are done like this, cows become accustomed to it and like it, so eat the mown pasture first without having to fence them on to it. This is done before grazing so there is no dung to soil the pasture.

Remember that if animals aren't lying down within a few hours after entering a new paddock, it is because pasture was too short to get the fast fill needed for high animal production.

Repeated extremely short grazing can kill grasses, then in spring the clovers spread and cover the bare areas increasing the percentage of clovers which increases bloat.

Don't worry too much about a few un-grazed clumps in pastures. I've never seen a farm taken over by un-grazed clumps in good pastures. If there are bad grasses such as high endophyte and tall fescue in good temperate pastures, or weeds in dry areas, and bad under-grazing, pastures can become a mess, but one should not worry about un-grazed clumps over dung and urine areas in good pastures.

When I see farmers making animals graze pastures extremely short, I say to myself that they don't want top animal or top per hectare production.

Assuming stocking rates are the same, cattle leave more pasture around their dung pats when water soluble artificial fertilisers are used, when calcium and earthworm numbers are low, when nitrates are high, and when there are imbalances. In most cases farmers are amazed how their grazing becomes more even after years of applying correct amounts of LimePlus and organic fertilisers, and animals eat the buttercup because it becomes more palatable.

Vaughan Jones, ONZM Queen's Honour in 2013, for services to farming. Ag University in 1948, 99% in dairying. NZ Dairy Board winner of Most Improved Dairy Farm in Waikato in 1959. International Agricultural Consultant & Journalist. Represented NZ at Ag Journalist Congresses in USA in 1992 & Austria in 1994. Managing Director of GrazingInfo.com website since 1970, now with 500 members. NZ Marketing Institute founder and chairman. Doubled sales & exports, for many companies, including Gallagher from \$3m to \$23m in four years. DeLaval NZ Ltd doubled sales and then added a million a year for four years.