

Clements

Gavin & Giselle

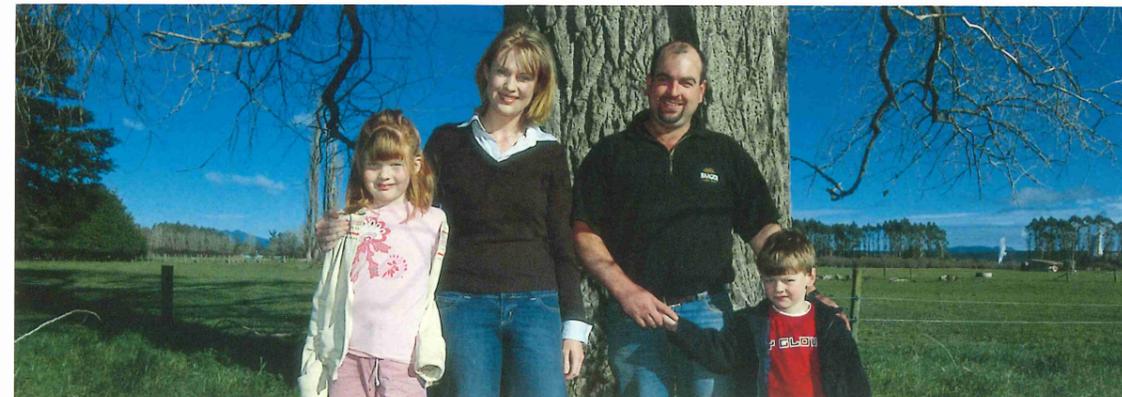
REPOROA – 64HA (INCORPORATED INTO 442HA)

2.8 COWS/HA – 180 COWS MILKED

Application: 120kg/ha dicalcic 15%S / 60kg No.1 Mag (dicalcic magnesium) 300kg/ha Cropfine lime, + trace elements applied twice yearly

Visual Soil Assessment score (22/4/04): 23/28 (Total)

Approximate earthworm count: 500 per m²



The Clements: Kate, Giselle, Gavin, Ashton

When a system starts declining in production, there comes a point where it needs to be reviewed. But when those in the know can't provide an acceptable solution, self-education becomes paramount. Thankfully the information to achieve this is easily accessible; often it's found just out of the square. Gavin Clements once found himself in this position, with the farm on rock bottom, desperate for an answer and aware the only way production was ever going to increase was if he took back the control.

"Our first season on the place was with high inputs of NPK plus dolomite. Eventually that system came to a halt with the lowest production on the farm ever," says Gavin. "Through artificially stimulating the soil we'd exhausted everything. So in 1998 we made the decision to switch the irrigator off and looked to rebuilding the soil structure. After reading a Hatuma Update in 2000 we started using dicalcic and Cropfine on our farm, as well as my father's neighbouring farm. I didn't know anyone who used it, but we were desperate for an answer, and when you're in that situation you learn to read pretty quickly. The more I learnt, the clearer the picture became.

When we took over the lease block in 2003, the production was miles apart from my father. But after the first year's application of dicalcic, we'd doubled the amount of silage and milk solids produced. And things are improving all the time. During 1999 there were problems with conception rates and mastitis. I was giving a needle to every cow for milk fever, spending \$60-75 per cow a year on health. This year I'm only spending \$10-15. There used to be 20 to 25% empties in the herd; now they're down to only 6%. I didn't use any penicillin or antibiotics last year either. This year was the first time I didn't drench the cows and I haven't had the vet out so far. I now know disease is a sign the soil isn't right.

There're more earthworms, and the cows are content, which is a big thing. If they're minerally satisfied it's great. Sometimes they'll chew out the crop, but are in no rush to head back to the pasture. They're happy lying down and chewing their cud. This place was once full of browntop – generally though, since using dicalcic the pasture has come back by itself. If you have browntop it'll always be there unless you change what you're doing.

We put a lot of pressure on the pastures, but the cows eat everything down so well it's hard to keep a small amount left. We had a neighbouring paddock shut up for silage that hadn't had any dicalcic applied to it, only NPK. A lightening storm broke the fence and our cattle were able to roam between the two, yet they'd only eat the sidelings that hadn't had the NPK fertiliser on it before heading back out to the dicalcic paddock. The only time they went onto the silage was to relax, which helped confirm how dicalcic makes the grass more palatable.

Production has gone up steadily. We're about the same as the district average, which is great when we think about how far we've come in that time. Before 2000 we were only milking 300kg MS/ha, now we're just under 800kg MS/ha. But that's an egotistical result; anyone can buy that production. Our bottom line is the important one. That and stock health.

My grandfather was ahead of his time compared to modern day fertiliser practises, applying superphosphate at a tonne to the hectare. He got great results, and with ongoing encouragement from the NPK faculty, that policy evidently passed on to my father as well. But by the time we came, we were left with an unbalanced and depleted soil. These days when I look around at other farmers struggling with deteriorating health in their stock, I can see we're about ten to fifteen years ahead of them in soil exhaustion. There's too much emphasis put on NPK. By using just those we've stripped the soil to the bare minimum, where everything now becomes dependant on a narrow NPK scientific view. True science takes into account the physical and biological, such as the Visual Soil Assessment test and earthworm counts, the chemical, as in minerals, the farming practices, such as stock and crop performance and seasonal conditions. After all, if today's science is so good, why are farmers stuck with increasing health problems in their stock?

A few years ago I was spreading some urea behind the four-wheeler and the trailer managed to tip and dump the contents over the pasture. Even though I shovelled what I could back in to the spreader at the time, that patch of grass didn't start growing again until this year, yet when we unload the dicalcic in the paddock to be spread, the grass comes back afterwards easily. That to

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me shows just how soil-friendly it must be. During a soil test one year the P levels jumped very high, yet we'd only increased the pH to get that result. According to the fert rep it would've taken over a tonne of superphosphate per hectare, above so-called maintenance, to do that. In reality though we'd only applied about 25kg of P in the dicalcic form. That's one thing I've noticed about the soil tests on this place, they're too inconsistent with each other.

In farming there aren't many things we can control, but we can control our inputs. It's no use overloading pastures with phosphate. Superphosphate is too acidic, and when it lands on the soil it turns the surrounding area to a pH of 4.5. This now locks up the phosphate in a tricalcic form which is unavailable to the plant. There is plenty of information to support that; it's a well-documented fact. When you apply nutrients you want them kept in the soil, not washed away or locked up. That's a big benefit of dicalcic, being non water-soluble, yet still highly plant available. Dairy farmers get a bad rap for the declining quality of our lakes; we've got water on our property that's very clean and it's great to know we're doing our part.

We've cut back on the nitrogen being applied. I only use it as a management tool now and if I don't think we need it then I won't use it. Over the last year, we've only put on a total of 30-40kg of nitrogen per hectare, mostly in the form of SOA, and always buffered with extra lime. The clover content of the pasture has been prolific since using dicalcic, so that's a lot of free nitrogen; we'd easily have 40% clover content, which equates to around 400kg of free N. Both our annual applications from Hatuma would be close to the same amount an average dairy farmer would spend on 200kg of urea per hectare.

Dicalcic is not the same as lime and super; it's totally different. Dicalcic is a more balanced form; the calcium to phosphate ratio is bang on. An American scientist once told me Hatuma's dicalcic was very close to being a colloidal phosphate, the very best form of P. You can't go past the citric solubility of it either, especially compared to conventional fertilisers. We apply extra Cropfine lime with it too as a little and often approach. When we apply light applications of lime, we're putting the carbon

back into the soil to feed the microbes. We stay away from heavy dressings because too much will raise the pH too high, therefore allowing the microbes to starve the plant of some nutrients.

Doing a Visual Soil Assessment with soil scientist Graham Shepherd helped me to look at my soil profile, which is a missing part of agricultural science. It's normally something farmers only glance at when there's a rotary-hoe involved. The test is great because it gets you looking at the structure of the soil and even though it was very dry when we last did ours, we managed to find twenty earthworms in the twenty-centimetre cube of soil. The VSA is an ongoing thing now.

Dairy farming has become a lifestyle – it's how they said it was meant to be. I don't want to be an organic farmer, I want to be a sustainable one. I firmly believe if you don't investigate options and opinions then you'll live your life in imprisoned ignorance. I know I'm doing things well because the cows are looking better, the pasture is better and the production is better. It's more pleasurable; I don't have to worry about things anymore. I don't have the stress."

