



Lucerne

– the biological way

Reading an article in the March Coast & Country prompted me to write this piece on growing Lucerne in a biological way.

Doug Avery, a farmer from Marlborough who was almost brought to ruin by drought, is now called “The Drought Man” and “The Lucerne Man”. He made a dramatic change from grass to Lucerne pastures in an effort to save his family farm (in the family since 1919). In 1998, tired, disillusioned and almost at his wits end, Doug and his wife were working endlessly, unable to pay the bills and feed their family. Then Doug attended a one hour seminar about Lucerne

given by Professor Derrick Moot. Moot promoted the concept of using Lucerne as a primary grazing plant, when Doug had a ryegrass and clover-based system. A lot of hard work later (he was called the “Lucerne Lunatic”), his farm’s performance has doubled. Doug’s lambs fatten at 400 grams per day (compared to the national average of 178g).

In 2010, Environmental Fertilisers were asked to develop a fertiliser programme for a Lucerne block near Cambridge. When we took on the project, they were doing 4 cuts a year, we built that up to 7 cuts a year with the best cut being 116 bales off 11ha. That year (2012) the farm cut a total of 450 bales (at 10 bale equivalent). For every \$1 spent on fertiliser, there was a \$10 return in the extra dry matter grown.

A change of farm managers saw a switch back to more conventional fertilisers. The crop became infested by aphids (luckily no insecticides were

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Green Agriculture Innovation Awards

Green Agriculture Innovation Awards (GAIA) is an event to celebrate the producers who are championing the use of soil-friendly practices which support ecological and economic benefits while improving food quality. Download the entry forms from www.biologicalfarmers.co.nz.

Entries close 30 April.

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Lucerne – the biological way continued...

used; the manager decided to just cut the Lucerne, and the new growth did not become infested with insects). In 2013, the same farm cut 300 bales in 4 cuts, plus grazed the ewes in July and August. The Lucerne is now approximately 5 years old. They hope to cut once more before the growth slows down for the winter.

Another client near Cambridge planted his Lucerne in 2009 and we took over the fertiliser recommendations in 2010. His best year was produced on 3 year old Lucerne where he got 5 cuts totalling 97 bales off 3.7 ha. This year, the five year old Lucerne did well under the extreme dry conditions. It is still green and he did 3 crops with total bales of 80 bales off 3.7 ha, along with nine 40 minute grazings (dairy cattle).

In November 2013, Grant Paton planted 1 hectare of Lucerne on hard marine clay at our lease block. He'd been told you can't grow Lucerne on marine clay (he likes a challenge). The picture below was taken at the end of March after one hard grazing in January and has received a foliar of Humus Builder, Vegetative, Liquid Kelp, Cal Phos, Activated Carbon, plus trace minerals. No herbicides have been used.

Only time will tell how the Lucerne will go on the marine clay in Hauraki, but we have found that keeping the Reams plant available calcium high will help with the yield and keeping weeds at bay.

New team members at Environmental Fertilisers



Russell Twentyman
General Manager

Russell Twentyman is the new General Manager of Environmental Fertilisers. He has a background in business management, strategic development and people management. Russell aims to expand the company and provide quality products so that our clients can continue to grow nutrient dense food.

In his spare time Russell enjoys playing table tennis, squash, walking the dog and flies planes. He has an extended family with 6 children (so there's not much spare time!)



Wayne Young
Production

Wayne Young joins us in Production where he is fitting in well. He is learning to drive the loader, so that if Grant Tilsley is away, bulk orders of fertiliser can still go out on time. He lives in Paeroa and is enjoying being home every night to spend more time with his family (his last job involved a lot of travel).



Biological Maize vs Conventional

Just a bit of information for everyone comparing biologically grown maize vs conventional.

The maize physical height itself was the same but the mineral density of the plants/cobbs must be more because the dry weight of the biological maize calculated out at 4800kg/ha more.

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Biological Maize

345g/plant. 80,000plants/ha x 0.345kg/plant
Gives 27.6 tonnes dry matter/ha

Conventional Maize

285g/plant. 80 000plants/ha x 0.285kg/plant
Gives 22.8 tonnes dry matter/ha

The difference between these two crops planted at similar times equates to 4.8 tonnes dry matter. So the additional value is \$1248/ha @ 26cents/kg or \$1440/ha @ 30cents/kg.



Nano-Cal

- Superior Lime

A fine particle (less than 90 microns) calcium product that is readily available for plants. Nano-Cal is 24% calcium and also has the following trace minerals: iron, copper, manganese, zinc and boron. It is good for soil microbes with a soluble sugar component. Due to it being readily available

for plants, you only require around 20% of the normal lime requirements (eg. 300-500kg/ha instead of 1 tonne/ha). This will save in freight and spreading costs. For the month of April, we have reduced the cost of Nano-Cal to \$120 per tonne excluding GST (down from \$150 per tonne).

Short Bits

Breast Cancer and Prostate Cancer is a result of lack of Manganese in the diet.

Never mix Zinc and Manganese in the same foliar solution.

Always add Iron and Zinc together in a foliar spray.

When growing strawberries the lower the Manganese generally the bigger the berries.

Manganese deficiency will result in a variation in fruit size, and is only required by plants that reproduce themselves by seed, therefore strawberries don't require it. This also linked with the lack of plant available calcium and phosphorus. The following crops don't require high manganese levels, strawberries, cabbage, cauliflower, lettuce, endive etc.

Crops like cotton, corn and stone fruit like peaches and plums require plenty of manganese. If the fruit has set it is too late for that season's crop.

Manganese needs to be taken into the plant in the phosphate form.

Applying your calcium (lime, Nano-Cal) and phosphorus (Soil force, RPR) in the Autumn, you can almost double the yield response compared to applying the same in the spring.

Lichen or moss growing on the trunk of the bark of trees is a sign of iron deficiency, make sure you ionise the spray solution as it will work a lot better.

Peach or Plums trees leaking gum out of the trunk (the trunk is too tight) is a lack of copper in the plant, this does not mean the application of copper will fix the problem.

News in Brief (from Acres USA)

PESTICIDE IMPACTS WORKER BUMBLEBEES

Exposure to a widely used pesticide causes worker bumblebees to grow less and hatch out a smaller size, according to a new study by Royal Holloway University of London. The research, published in the Journal of Applied Ecology, reveals that prolonged exposure to a pyrethroid pesticide, which is used on flowering crops to prevent insect damage, reduces the size of individual bees produced by a colony. The study is the first to examine the impact of pyrethroid pesticides across the entire life cycle of bumblebees.



FRACKING CHEMICALS MAY DISRUPT HORMONES

University of Missouri researchers have found greater hormone-disrupting properties in water located near hydraulic fracturing drilling sites than in areas without drilling. The researchers also found that 11 chemicals commonly used in the fracking method of drilling for oil and natural gas are endocrine disruptors. The study, "Estrogen and Androgen Receptor Activities of Hydraulic Fracturing Chemicals and Surface and Ground Water in a Drilling-Dense Region," was published in the journal Endocrinology.

Our Goal

To maintain and grow your soil health & productivity, pasture & crop yields & profitability by supplying fertilizers producing mineral-dense feed/food.

Our Motto

Healthy soil, healthy pasture/crops, healthy animals, healthy consumers.



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