



Soil, Grass and Animal Health

Newsletter Date: August 2013

Special points of interest:

- Basic Agronomy improves performance
- Weather Planning
- Spring Ideas
- Trace elements boosting animal health and milk production
- Gibberellic Acid: Good or Bad

Inside this issue:

Lime for Calcium 2

Mad Weather Proofing 2

Copper and Moly 2

Spring Checklist 3

Soil to Vat 3

Gibberellic Acid 3

EnProve 4

Success:



Back to Basics:

Stunning results in a poor season. Good basic farming, well managed soil, timely crop selection makes for profit in a bad year (and don't I enjoy it).

Good basic agronomy does grow grass (or oats)!!

Do you know your soil fertility levels?	your soil determines the quality of your product and the profitability of your farm
Do you have target fertility levels?	
Do you lime regularly?	Each year you don't look after your soil it gets worse, getting soil back to best productive condition is a slow process measured in years. Don't stuff it up in the first place.
Do you use trace elements for soil?	
Is soil acidity a problem?	
Do you select pasture and crops based on your soil type?	Profitable farming comes from what you produce, not what you buy. So work on producing more, not buying more.
The heart of productive farming is your soil quality. What you produce from	More grass, more milk, more profit.



**You are what you eat:
Poor soil makes poor grass makes poor cows makes poor milk.**

“Modern farming requires better information for better decision making”



Effluent application: critical to soil health

Calcium, calcium and more calcium and don't forget Boron

We all know by now that EVERY living things requires this essential nutrient, but do we know what it does within the plant.

Calcium is used to produce new cell walls, in cell division, it is required for the normal functioning of the plant membranes but it has also been implicated as a second messenger for various plant responses to both environmental signals and hormonal signals.

Calcium is used in a number of enzymes ranging from the transcription regulating gene and cell survival and release of chemical signals.

This essential mineral is so important both to our soil and our plants.

If the soil has a low pH then we use lime, which is Calcium, to lift the pH, but if our pH is ok do we need to put lime on our soil? YES we do as by cutting hay, silage and normal grazing we are pulling a lot of calcium out of the soil therefore the soil is starting to become calcium deficient thus the plant becomes deficient resulting in a small root, stunting of the plant and young leaves may appear deformed. The function of Boron is still unclear but it is known to heavily influence the utilization of Calcium.

Mad Weather Proofing

We can't control the weather and making good calls is getting tougher so what can we do?

Always have the soil in good condition so it will respond quickly. Good quality soil responds more quickly to rainfall and hangs in there longer after ground starts drying.

Have some paddocks planted in tough grasses like good ole Vic Rye. These paddocks will always offer something in adverse conditions.

Good shelter and drainage. Shelter reduces the impacts of winds (hot and cold), protects animals and you. Good drainage moves flashy rain away more quickly reducing that impact.

Make plant and crop selection to the season and soil type. Picking any old seed and hoping it will work isn't going to start working more successfully.

Put more in the shed for a rainy or sunny season, the cheapest hay is that you make, not buy.

Copper and Moly

We know that there are macro nutrients and micro nutrients that are in needed in our soils, and we know most of the macro nutrients. So what do the micro nutrients do?

Copper is required in the soil and like iron is associated with enzymes within the plant that are involved in the redox reaction which in turn helps to stimulate growth and development of the plant. Copper may even help with the deterrent of pest from our crops and grasses as it is taken up by the plant.

E.g. red Legged Earth Mites, Lucerne Flea, Slugs and Snails.

Molybdenum ions are components of several enzymes which include the plant taking up nitrogen and nitrogen fixation and in some soils, such as the acidic soils in Australia the supply of Molybdenum can be inadequate;.

Copper and moly corrections cost about \$30 per hectare and should last 3-5 years

Heading into Spring: Production Checklist

Now is the time to start planning (and actioning) for spring and for many this one is make or break.

Maximising pasture and crop production will matter.

Soil nitrogen is still very high but for rapid growth urea may be required, a basic soil test will show this.

If you haven't corrected acidity or EC with Lime, phosphorus might be required on low P soils, if your P is high you're good to go. A Bray phosphorus test is more reliable than Olsen P.

If you're planning crops, trace elements are typically low and limiting. Zinc, copper, moly and boron need to be added for good growth.

If you're encouraging clover, moly and boron will have to be sprayed (we can supply these now).

If you have used giberellic acid these paddocks won't be any good for hay and silage, lock away paddocks that haven't had giberellic acid.

If you're losing spring production soil and plant test in spring not autumn.



Dung beetles at work

Soil, plants, cows, vat: What links them?

We sometimes forget that there is a direct relationship from soil health to plant health through to animal health. What if my soil is low on some minerals and trace elements and how does that relate to my animal health?

Low Calcium—milk fever, grass tetany, muscle twitching, general weakness.

Low Copper—Hair abnormalities, rough coat, anaemia.

Low Iron—Anaemia.

Low Zinc—reduced feed intake, excessive salivation, hair loss on face, excessive lameness.

Low nitrogen—Poor growth rate, poor food intake particularly in calves.

Low Sulphur—Reduced feed intake and milk production.

Low Manganese—reduced reproduction performance, bone deformities in calves.

“Good farming is about good soil”

Giberellic Acid: The good and Bad

GA's are plant hormones called Gibberellins. They are commonly called Gibberellic Acids and were first discovered in the 1930's by Japanese scientists. There are 127 GA's and all the plant hormones such Auxin, GA's, Brassinosteroids etc. all interact with one and other. The most readily available of the GA's is GA3. The plant naturally produces these GA growth hormones themselves, but in the areas of Orchards, Viticulture and Cut Flowers, GA3 is applied to bring forward the fruit,

flowers and grapes. It also makes the fruit, flowers and grapes larger but is only applied when flowering just starts and the grapes are forming. A great deal of research went into these areas.

As for GA3 being applied to pasture grasses for long periods of time there has not been a lot of research.....so please be careful....so excessive use of GA3 now, may cost u grass later in spring.



What is in your soil?

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What's holding your production back?

