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## DoloZest® News

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### Why spring growth is likely to be delayed

The pasture cut figures for June and July from the two Bay of Plenty monitor properties have arrived this morning and the growth over that time has been 24kgDM/ha/day at coastal Awakeri, and 19.8kgDM/ha/day at the cooler inland Galatea monitor property.

The Awakeri figure is close to the long-term average, with the soil temperature at the time of cutting above normal at an average of just over 11°C.

The Galatea growth rates are around 50% higher than usual, due to more rain and less frosts, with a soil temperature of 6.2°C.

However we're not lulled into thinking that spring pasture growth will be 'normal'. The really strong growth that provides a genuine surplus of feed, the 70kgDM/ha/day stuff, in our view, will arrive later than usual.

In the regions we have close contact with the 'usual' date when growth exceeds demand occurs between the 15<sup>th</sup> and 20<sup>th</sup> September. It's unlikely to happen quite like that this spring due to excessively wet soils, particularly where there has also been treading damage.

Before soils warm to a minimum of 10°C, the temperature that provides sustainably strong growth, excess moisture will have to drain. Soils ideally contain 25% air and 25% moisture, and right now in most regions most of the air spaces are filled with water.

One perceptive farmer recently stated that he didn't mind what the weather conditions were over winter as long as there's plenty of sunshine, and he's hit the nail on the head, sunshine is the most important factor.

Frosts are usually followed by bright sunny days and after a run of frosts the surface of the soil becomes quite dry. The temperature at 7.5cm (3 inches) may often be below 5°C but due to the

dryness that lifts rapidly as soon as warm rain arrives.

At present most regions are receiving frosts immediately after excessive rainfall, and it will take time for favourable growing conditions to arrive.

#### What to do

Keep the grazing interval as long as possible. It's a balancing act between limiting damage by moving animals on, or providing a larger grazing area, and keeping the time between coming back onto the same area as far out as possible.

This is where the 'shed full of hay' becomes really valuable. Cold wet conditions mean animals require extra energy to stay warm, and hay made from energy rich pasture is ideal.

Hay also contains long fibre, a key requirement for good rumen function, and animals with a gut full of hay will stand still in wet weather. Hay also contains sufficient seed for the rejuvenation of damaged pastures, without the requirement for extra seed.

Where hay or mature balage supplies are exhausted straw is a useful alternative. It will provide the bulk required to keep animals full even though the nutritional value is lower than ideal, and extra high-energy supplement may also be provided, with molasses an option.

Without sufficient energy to maintain body temperatures animals will rapidly breakdown whatever fat reserves they have and quickly lose body condition with a subsequent reduction in production along with poor mating performance.

Magnesium supplementation also becomes a consideration for animals about to calve/lamb, or in the early stages of lactation. Low sunshine hours means the magnesium level in the leaf of plants will be lower and where the supplement fed is not sufficiently high in magnesium, extra may well be required.

Leaf tests taken over the years show that rapidly growing spring pasture is low in all essential minerals, and they don't lift until late spring when higher covers and more hours of direct sunlight allow plant energy levels to rise.

It's essential to appreciate that pastoral farming is an energy conversion process, i.e. turning sunlight via photosynthesis into energy that can be converted by animals into protein rich food.

Rapidly growing short leafy pasture in spring is high in nitrate/crude protein and excess must be excreted for animals to remain alive. This is the reason for excessively watery dung delivered in volume at a great velocity.

Energy is required to excrete, which is why animals with this condition also lose weight rapidly. The speed at which the feed moves through the gut also means that mineral uptake is lessened, immune systems are lowered, with disease and general ill-health issues becoming increasingly common.

### **Making extra sulphur available for plant growth**

Sulphur is a component of protein and therefore an essential element for rapid pasture growth. Soils with naturally low sulphur levels (low ASC), after periods of heavy rain are likely to have insufficient plant available (sulphate) sulphur for optimum growth.

Where quality elemental sulphur, the sulphur contained in FF mixes, has been applied any shortage will rapidly correct as soil temperatures increase and the bacteria responsible for the conversion process, from elemental to sulphate, get busy.

Prior to soil temperatures reaching the 10°C mark, when the speed of nutrient cycling naturally increases, a light dressing of sulphate of ammonia (SOA) will provide sufficient immediately available sulphur to maximise short growing periods that often occur in August.

The recommended rate of application is 75kg/ha, which applies 18kg/ha of immediately plant available sulphur. 15kg of N/ha will also be

applied which will stimulate a small amount of bacterial activity often resulting in a noticeable greening of grasses.

The focus is on providing extra sulphur, as the N at this time if the year has a negligible effect on plant growth. The greatest response to applied N is at the time of most rapid growth in late spring, when extra feed is least required.

As nutrient only enters a plant after processing by soil organisms, the best responses from applied nutrient comes from mixing with carbon, carbohydrate, and an inoculant.

Plants use  
the energy from the sun  
+  
CO<sub>2</sub> + water  
(the process of photosynthesis)  
to produce  
simple sugars  
which are the energy building blocks  
to grow green leaves  
(the energy source for growing meat, milk & more)  
and brown (stems & roots)  
  
Some of the energy  
in the form of simple sugars  
is fed to the mycorrhizal fungi  
on the roots  
which extend the root zone  
to increase the nutrient harvesting  
& water holding capacity in dry conditions  
  
The breakdown of  
dung, old leaves and roots  
releases CO<sub>2</sub>  
which, being heavier than air  
stays close to ground level  
and with the energy of the sun  
starts the whole cycle again.

Carbon to ensure nutrient is not lost, and carbohydrate provides the immediate source of energy necessary for the rapid proliferation of beneficial microbes.

Functional Fertiliser WinterZest is a mix of SOA and Zest. Zest is FF's unique bio-carbon and carbohydrate to which a brew of selected beneficial fungi and bacteria has been added, resulting in less loss of nutrient and a longer stronger response.

**Remember** Sodium is an essential element for animals, so keep the salt available, and along with hay, animals will only eat what is required, not a lick or mouthful more.

Regards,

