

14th July 2016

DoloZest® News

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Ahead of the game

While those reliant on fertiliser nitrogen to sustain pasture growth are coming under pressure, both financially and environmentally, Functional Fertiliser clients have already made the changes necessary to prosper into the future.

On average close to 150kgN/ha is being applied to dairy land each year, which means that there are a significant number of properties receiving in excess of 200kg.

Councils are already moving to ensure that Nitrate-N concentrations in waterways meet the standards demanded by both urban and rural folk so N usage, based on Overseer, will be regulated.

Limiting animal numbers in our view won't work long term, nor will it receive the necessary support from the farming community. What's required are soil friendly soil nutrient programmes and an appropriate stocking rate decided on by individual owners and operators.

There's an on-going issue with the genuine sustainability of growing systems reliant on fertiliser nitrogen, as well as the quality of the feed produced. People are increasingly demanding to know where their food is coming from and the systems under which it is grown.

The Origin Green movement in Ireland is showing that folk are prepared to pay extra for food that is perceived to be high quality and grown in an environmentally sustainable manner; it's simply the way the world is going.

The research paper, **New research: synthetic nitrogen destroys soil carbon, undermines soil health** argues the premise that synthetic nitrogen helps build carbon in the soil is false.

This work found that *"the net effect of synthetic nitrogen use is to reduce soil's organic matter content. Why? Because, they posit, nitrogen fertilizer stimulates soil microbes, which feast on organic matter. Over time, the effect of this*

microbial appetite outweighs the benefits of more crop residues."

That argument fits with the long term data showing a steady reduction in permanent pasture yields over the last thirty years coupled with the Waikato University work that shows a decline in soil organic matter of 1 tonne/ha/year over the same time.

The research paper goes further, *"Synthetic nitrogen use, they argue, creates a kind of treadmill effect. As organic matter dissipates, soil's ability to store organic nitrogen declines. A large amount then leaches away, fouling ground water in the form of nitrates, and entering the atmosphere as nitrous oxide (N₂O), a greenhouse gas with some 300 times the heat-trapping power of carbon dioxide."*

A project is being planned to measure the rate of carbon sequestration on a client's property. As with the Nitrate-N project, measuring concentrations of Nitrate-N lost to groundwater under the DoloZest/CalciZest based total nutrient programme, the results will be published.

Our position is that the steady increase in total annual pasture production on the two monitor properties, over more than a decade, is evidence that carbon is being steadily sequestered and humus built. One of the effects of soil carbon loss is a steady decline in physical soil structures.

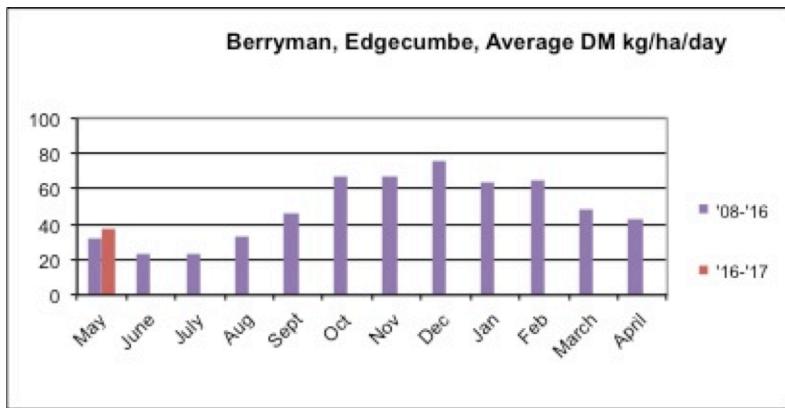
The opposite is also the case. As carbon and humus levels build, physical structures steadily improve and regular digging shows more crumb in the soil even well below spade depth.

There's an interesting publication now available, The New Zealand Land and Food Annual edited by Claire Massey, the Director of Agrifood Business at Massey University. It is subtitled, *Why waste a good crisis? The end of 'white gold fever', and rethinking agribusiness*. It contains twenty two chapters, each by a different contributor.

In the chapter **Strategy of the Brave: Living with the new dynamics of disruptions** contributed by Ian Proudfoot, the Global Head of Agribusiness for KPMG, is the following statement. *“There is a detectable complacency across the primary sector, a reluctance to face up to global changes in the agrifood system. The need to feed the world has given many in the sector a sense of comfort that, come what may, there will always be customers for our products. While this may be true, if we don’t keep up with change it is very likely that we will not be producing the type of products higher-value consumers are looking for, nor meeting the standards they expect. Consequently, it is unlikely they will be willing to keep paying premiums for our products.”*

Again Functional Fertiliser clients are ideally placed to benefit from premiums paid for quality. Quality

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	'08-'16	'16-'17
May	32	38
June	23	
July	23	
Aug	33	
Sept	46	
Oct	67	
Nov	67	
Dec	76	
Jan	63	
Feb	65	
March	49	
April	43	

What spring may bring. The strongest and earliest spring growth follows dry frosty winters, largely because dry soils warm more quickly and sunshine hours are relatively high during frosty spells.

Extra growth occurs during warm wet winter periods but utilisation of pasture is poorer, plant energy levels are lower, requiring extra high energy and fibre supplement, and strong spring growth is delayed.

It’s hard to argue against the old saying that the best insurance available is a shed full of hay. High quality hay, or baleage made from mature pasture, contains the extra energy and fibre that rapidly growing grass in spring is short of. Making it available as a supplement is positive in all regards, and stock eat only what they require.

WinterZest A combination of Sulphate of Ammonia (SOA) and Zest. All fertilisers perform better when applied with carbon and a carbohydrate. Loss of nitrogen is lessened and the growth response is greater. Zest also contains the selected range of soil friendly fungi and bacteria that speed the rate of nutrient cycling and help recover damaged soils.

Rate of application 150kg/ha (75kgSOA+75kgZest) applies 15kg N and 18kg S/ha.

Best applied late July/early August, 6 weeks prior to the period of greatest feed pressure, which is usually the second half of September.

Price \$403.50/t + GST ex store

Regards,

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