

Using resources efficiently

Key Farmer Messages

- ◆ Adaptation and mitigation for climate change can have long term benefits for the farm
- ◆ Consider the opportunities for reducing the farms external footprint
- ◆ Efficient use of energy, water and nutrients are key to long term resilience
- ◆ Make the best use of the available science around nutrient losses
- ◆ Measure and monitor - pasture growth, feed crops, body condition score, live weights, soil fertility and the nutrient level of effluent applied

Introduction to the farm

Key Facts

- **Area** - 425ha near Riverton in western Southland
- **Production type** - Vaughan and Megan run 905 crossbred cows on their 425 ha farm. Just over 100 years ago his grandfather was using the land to grow flax to make ropes and twine but the flax mill closed in 1972 and it became an extensive sheep and beef property. The Templeton's moved onto the property in 1988 and converted to dairying in 2002.



Planning for the Unexpected

Vaughan Templeton is a dairy farmer near Riverton on the Southland coast. His farm is low lying and coastal. He is passionate about using resources and energy as efficiently as possible to create a low input pathway from grass to cows to milk to money.

His main aim is to manage the effluent and fertiliser so that the nutrients remain in the root zone of his pastures to maximise the value of nutrients, to maintain pasture production and protect the water ways. It's a balancing act that has to take into account the steady year round rainfall and shallow sandy soils.

What have Vaughan and Megan done?

Vaughan was involved in the early development of low-rate effluent application systems using increased storage area and weeping walls. He consequently expanded the effluent application area to 100ha of the farm.

The effluent is sprayed on paddocks at 4mm/hr for 30 minutes then spelled for 30 minutes, up to a maximum of 2 hours total application. This is designed to match the rate the soil and plant can cope with application. Vaughan is planning to test the effluent this year for nutrient concentration to further improve his application. *Overseer* is used to better understand nutrient application and effluent flow. In addition, Vaughan has installed a green water yard wash system using water from the storage pond.

Good management practice includes a focus on measuring and monitoring pasture production and comparing records over time to understand the variation between seasons and years; measuring crops regularly to ensure feed targets are met; and weighing and condition scoring animals.

For further resources go to

www.climatecloud.co.nz

Why was the change needed?

With the change to dairying in 2002 Vaughan and Megan have become increasingly aware of the negative perception of dairying and of the environmental risks for lowland waterways. Vaughan wants his farm practice to be ahead of the regulators. This includes working with councils and the industry to ensure any proposals they come up with are workable on farm.

What has the outcome been?

Vaughan has reduced his cow numbers to better match pasture and crop production. As many cows as possible are wintered on the property with the remainder grazed on the sheep farm next door.



The focus on energy efficiency includes:

- fuel use involved in transporting feed and animals
- the electricity used in pumping effluent
- fertiliser application using GPS

The environmental gains on the property have been significant. Vaughan has taken the opportunity to enhance wildlife habitats on the farm. He monitors the main drain through the property (as in the picture) for sediment loading regularly. He has problems with the fenced off stream banks slumping and dumping sediment in heavy rains or floods. The problem appears to be the weak rooting system developed in long ungrazed grass. So the challenge is to manage these areas better and still meet the requirements of regional council.

What does this mean for the farm in the future?

The Templeton's plan is that they and their family will still be farming profitably in the future and meeting the requirements of both the industry and the wider public. Vaughan predicts that energy will become more expensive in the future and that this will have a greater impact on farm profitability. As he sees it, nutrients are worth dollars. "I've got to keep those nutrients in the rooting zone to grow the grass to feed my cows and hopefully put most of them back on the paddocks to make a profit. It's nothing radical, it's just good farm management."



Advice for other farmers

- Target efficiency - a kg MS/per kilo of milk solids per kilo of cow live weight
- You've got to know how much grass you're growing. That's your number one driver of profit"
- "Losing nutrients is just losing money". Efficient use of energy and nutrients is key to long term resilience.
- Keep nutrients in the root zone so when conditions are favourable, pasture performance is maximized. That can give a feed buffer so you can better manage through the feed pinch.

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