

JAMES MCNALLY DAIRY FARMER

Case Study

from the Kakanui
for the Kakanui

Farm details

Located Maheno Kakanui Road.

300 ha dairy farm carrying 750 milking cows and wintering an additional 50.

Milking platform of 240 ha with the remaining 60 ha used for winter feed and support ground. Currently carrying capacity 3.1 cows per ha.

Currently in 8th milking season.

Family owned and managed property with 2.5 labour units employed.

Operating farm system 3 which involves buying in 80% supplement including silage and 150-200T of barley to feed pre mating. 30 ha of fodder beet is grown for winter feed.

Irrigation supply – 2/3 from Kakanui River and 1/3 from NOIC. This will change to 50:50 when the NOIC expansion comes on line.

Water is delivered 50:50 by pivot irrigator and K-lines.

Water storage pond (125, 000 cu metres) installed two years ago to provide a buffer supply for 4-6 weeks to manage when water allocation is restricted from the Kakanui River.

Effluent management system includes an effluent separator and low rate applications over a large area.

Water testing from spring fed creeks on the farm is undertaken during the irrigation season to ensure the results are within the required limit.

Soil testing is undertaken annually – the farm includes a variable range of soil types.

Photo below: Fenced off spring feed creek on property.

Key tools which comprise the farm plan

1. NOIC's Farm Environment Plan is updated prior to being audited every three years by an independent auditor. This comprehensive document allows the details of the farm system to be thoroughly recorded.
2. The first audit report recommended soil moisture monitoring be undertaken and moisture probes (Aquaflex) have been installed on 3 sites on the farm. The second audit in 2015 requested that calibration of the water application rate and this has been undertaken to ensure the calibration result now matches the moisture recording. This technology provides very useful information on water efficiency.
3. Overseer is updated annually and provides a very sound benchmark document. The input details are completed with the fertiliser representative and the result is currently in mid 20kgN loss/year. The farm is located in a 30kgN loss/year zone under the ORC's current classification.
4. A nitrogen report for Fonterra is also completed annually. This requires farmer input only to tick the boxes and the result is of much less value than the Overseer tool.



Key advantages of a farm environment plan:

- » The plan provides a vital working document which records key information on the farm's environmental performance. It's an invaluable starting point from which any future farm system input changes can be easily assessed from an environmental perspective.
- » The farm system has never been overly intensive so environmental management changes are expected to be minimal. The stocking rate and fertiliser useage are planned to be sustainable into the future.

Short term benefit gained:

- » Spring fed creeks have been fenced off and the buffer zones each side vary in width depending on the slope of the adjacent ground.
- » Increased understanding of paddock selection for growing winter crops and winter grazing practices.
- » Increased confidence that the correct steps are being taken to meet ORC's 6A regulations which become effective in 2020.
- » A confidence that environmental measurements of the current farming operation will contribute positively to the future health of the Kakanui River.

Photo: Water storage pond installed on McNally property two years ago.

What improvements will be undertaken in future?

- » Riparian plantings alongside spring fed creeks will be completed in future when funds allow.
- » Install variable rate irrigation system to increase water efficiency and install more pivot irrigators when funds allow.
- » More water testing.

Longer term benefits expected:

- » Future proofing for the farm resulting from more consistent irrigation water supply when the change to 50% supply from NOIC begins.

Future environmental challenges:

- » There is the potential for an ORC plan change regarding annual N loss in future. With the base assessments completed there is a comfortable understanding of the environmental measurements from which any future decisions can be decided.

Photo: North Otago Irrigation Company Farm Environment Plan covering Irrigation Systems Design, Installation and Management, Nutrient Management, Soil Management, Dairy Effluent Management and Waterway and Riparian Management.

