Taking action: practical steps to reduce footprint – Damian and Jane Roper

Our Vision

To showcase how a modern, efficient, tidy and profitable family farming business can operate alongside the environment without any negative impact.

Farm Overview

- 148 ha effective plus 40 ha leased runoff for young stock.
- System 4
- Cow numbers have dropped from 510 down to 425. Stock rate from 3.44 to 2.87
- Production 580 kgms per cow up from 410 per cow
- Strong focus on improving feed utilisation. There are now 34 ha crops grown on farm
- No tillage used for crops and re-grassing
- Labour and water saving devices installed.

Ecosystems

Over the past four years the Ropers have developed a number of significant ecosystems on the farm. There is a 5ha block of native bush that has had:

- 500m of raise walkway built with 500m more still planned
- Thousands of new plants planted to build the undergrowth and canopy
- A predator control program implemented
- Weta 'hotels' installed

There has also been a 2.5 hectare lake created on the farm. This is surrounded by significant native planting. Artificial reefs established to allow Kura to thrive and water quality and health is monitored.

Lastly a wetland has been established on the farm and has been gifted to the local iwi and area school for the purposes of education.

The Ropers consider their farm ‘open’ and welcome all guest and visitors.
Nitrogen loss

As a part of the Tiaki program, Damian and Jane noted that their purchased nitrogen surplus was high. This meant that they were inefficient in their purchase nitrogen use. Damian set out to address this and managed a 31% reduction in this surplus. The farm dropped from 133 surplus units, down to 92.

Techniques include:

- Reduction in stock numbers
- A breeding policy that focuses on quality and efficiency
- Exacting focus on nutrition and feed
- Growing more crops on farm rather than importing
- No tillage
- Plantain use
- Soil testing of all blocks and tailoring fert use
- 40% reduction in N fert used. 185 units down to 110
- Focus on efficient effluent use and capture.
- Feed pad usage control effluent and reduces feed wastage.

GHG emissions

The measurements for GHG emissions are yet to be completed on the farm, however there are a number of activities which have contributed to a reduction in this area. First, the nitrous oxide losses are correlated to N surplus and so the measured reduction in this surplus, results in a significant lowering of the losses to the atmosphere.

Methane is directly linked to feed consumption and so feed efficiency is important. However, as the per cow production has increased, the total feed consumed has remained similar with an estimated drop of only 8 tonnes of feed consumed. The farm as a total system has seen a drop in its methane footprint by dropping replacement rate as well as by offsetting with significant planting in areas of low pasture productivity.

Farm financial position

![Operating Performance Summary](image)

Your Operating Profit for the 2018-19 season was $3,283 per hectare. This compares to $2,428 for the benchmark.

Operating Profit is made up of Gross Farm Revenue $6.83 per kgMS less Operating Expenses $4.81, multiplied by the production per hectare of 1,625kg (Benchmark GFR $6.89 Opex $4.93 MS/ha 1,237kg)