

# BRYCE BURNETT DEER FARMER

# Case Study

from the Kakanui  
for the Kakanui

## Farm details

Located Kauru Hill Road.

360 ha pastoral deer property in two blocks carrying 700 hinds and 650 weaners. 100 cattle also run when growing conditions allow (none this year). Currently carrying 3,000 stock units.

Family owned and managed property since 1964.

QEII covenant of 19 ha of native bush adjoining the Kauru River created in 2002.

Fertiliser applications have been solely di-calcic products since 2011 which has improved soil structure, increased worm populations, the soil water holding capacity and clover presence in pastures. Minimal nitrogen is applied to boost grass growth in a wet year. Soil tests are undertaken every three years and any trace elements needed are added to the fertiliser applications.

Irrigation is being installed under the NOIC expansion programme this year to future proof the farm for the long term by providing the security of consistent grass supply. A total of 95 ha of flat and gently sloping land to be watered. An increase to 4,000 stock units carried is planned.

A fixed grid pop up sprinkler irrigation system designed specifically for the property will be installed this winter. The sprinklers reset back into the ground when not being used and can be disc direct drilled, mown and driven over easily.

The planned capacity of the system will water 95 ha over 20 hours with 10 sprinklers operational at one time. Run for 20 minutes each sprinkler can deliver 4mm/ha/day. Water can also be applied at a variable rate as needed.

## Farm plan tools:

1. A Beef+Lamb New Zealand Land Environment Plan Level 1 (LEP1) was completed in May 2015. LEP 2 completed in April 2016 by working through booklet personally.
2. Overseer was completed for the first time in April 2016.
3. A NOIC Farm Environment Plan will need to be completed to and audited to ensure water supply is maintained. This plan covers a very broad range of requirements some of which are not relevant to a non-dairy property.

The information recorded in the LEP 1 & 2 plans will provide the data required in the NOIC plan.





### Short term benefits from LEP 1:

- » Have now recognised that past and current farm management practices have been environmentally responsible and sustainable. For example, capturing natural springs into pipes to form a pond eliminated land subsidence and provided a very small irrigation supply (applied by K-lines) for 10 ha.
- » Valued knowing that LEP 1 provides a baseline for future farm developments and practices. For example, knowing what fences need to be changed and what waterholes need to be fenced and planted.
- » Shelter belts on smaller blocks are assured of survival because of the irrigation.
- » In late 2015 land adjacent to Serpentine Creek was fenced off and a margin and access left for future riparian planting

### Benefits of undertaking LEP 2:

- » The additional details noted for the LEP 2 land management units has enhanced the current recording process to ensure a robust working document is produced for the farm's current and potential production and environmental performance.
- » Has clarified that the farm system is working efficiently with current the stocking rate. The planned increase in stocking rate once irrigation begins will be managed to ensure sound environmental stewardship is maintained.
- » Has allowed greater understanding of nitrogen inputs and outputs from clover and also phosphate levels.
- » An Overseer (Version 6) report for the 2015/16 year has been prepared by a certified nutrient budget advisor.
- » The results show an overall farm loss of 6kgN/ha/year and a 0.1kgP/ha/year from the Claremont and Rakaia soil types. This result shows the farm is well within the limits of the 30kgN loss/ha/year set by the ORC for this location.

### Farm management changes in the medium term:

- » Animal health will need to be monitored with more cattle to be carried in the farm system. A drenching programme will ensure worms on the pastures grazed by deer are kept to a minimum.
- » The impact of deer on the irrigated soils will need to be monitored. This will include checking fence lines and wet areas for wallowing and pacing.
- » Take steps to minimise sediment losses down gullies during heavy rain by allowing sediment to spread across the paddocks instead.
- » Expecting that water quality on the farm will be maintained. Future testing will be required to check this.

### Future environmental challenges:

- » It will be important to manage fertiliser useage to control grass production with additional moisture from irrigation.
- » Irrigation use increases nitrogen losses so these will need to be carefully monitored by soil moisture probes in the irrigated pastures.
- » A decision to undertake the more in-depth LEP 3 module has yet to be decided. This stage allows future opportunities and gap analysis to be assessed for the farm.

