

# HUIRIMU FARMS



## Business and Environmental Report

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Purpose of this report
Background
Farm Location
Economic performance
Environmental performance
Herd Home Summary and Scenario

## Purpose

This report was prepared for the Sherriff family, to ascertain the effects of a herd home could have on the economic and environmental performance of the farm business and system.

An analysis of the dairy performance was done for 2015-16 using Red Sky Farm Performance analysis, and the farm environmental performance was assessed using Overseer version 6.2.3 in November, 2016.

## Background

The dairy farm (subject of this report) is comprised of around 426 Ha in total including native bush block of 103 Ha and some non-effective areas.

The Farm has an adjoining dry stock and support block (460 Ha) that gives a total farm area of 886 Ha. The farm runs down to the Waikato River at the top of the Arapuni Dam, along the Western Boundary. The farm is mainly rolling to gentle hill, with some steeper land that is mainly grazed with sheep and mixed lighter cattle.

All streams are fenced and there are significant areas of bush, retired gullies and a significant riparian buffer alongside the Waikato River.

The rainfall is 1600 mm on average and the soils are predominately Mairoa ash.

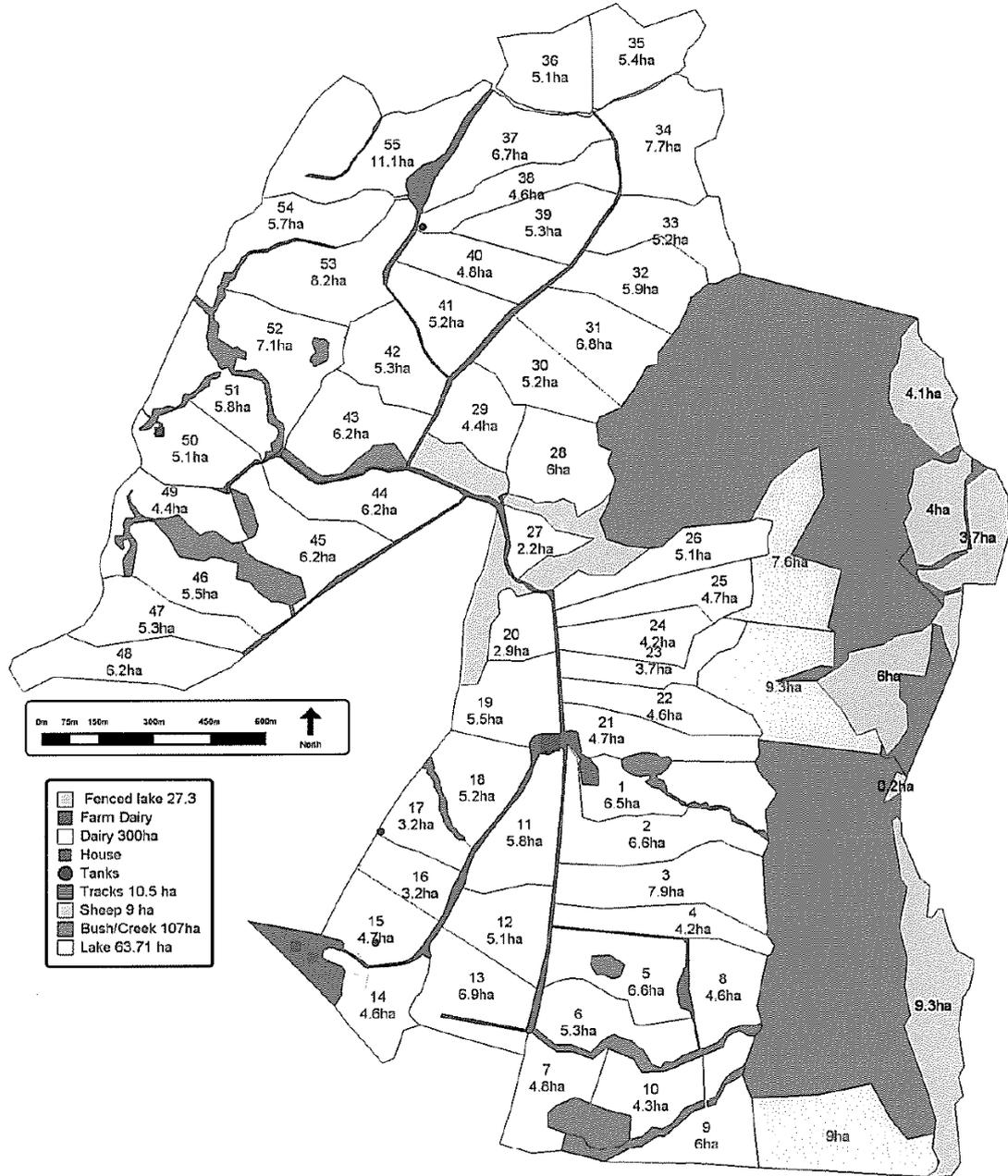




The farm is located on Huirimu Road, Wharepapa South. The entire enterprise totals 886 Hectares. The farm is flanked by the Waikato River, and all sensitive waterways are fenced off. A total of 123 Ha of bush declared as blocks.



# Huirimu Farms Ltd Dairy



## Farm Business Performance: Dairy Platform: 2015-16

	HUIRIMU 2015-16 (Milk Price: \$3.90)	DAIRY WAIKATO 2014-15 (average at \$4.40 MS)
Cow Numbers	890	459
Effective Area (Ha)	300	137
Stocking Rate	3	3.33
Milk solids (kg MS/Ha)	1455	1606
Milk solids/cow(kg)	481	394
Pasture Harvested (TDM /Ha)	11.8	10.3
Nitrogen applied kg/Ha	120	166
TDM eaten per cow	5.81	4.81
% imported feed	73.4	74.6
Cost of Production excl Finance Costs (\$/kg MS)	4.03	4.46
Cost of Production including Finance Costs (\$/kgMS)	4.72	5.84
Operating Profit (\$/Ha)	515	184
Operating Profit Margin (%)	7.2	2.7
Return on Capital (%)	0.9	0.9

### Key Points

- Huirimu is achieving high production per cow and per hectare in Wharepapa South.
- The pasture harvest is in the top 10% for the locale, as is the production per cow and per hectare.
- Cost of production is well managed. Bought in feeds are predominately from the runoff, with 580TDM of maize being grown on the support block, this was costed as an imported feed for the purpose of this analysis.
- Cows are wintered on the dry stock block on crops over the winter, however this scenario has been difficult, and to future proof the farm and improve health and welfare for the cows, a herd home scenario has been modelled in Overseer.
- Historically around 1 T grain has been fed in the dairy (in shed) to complement the maize (approx. 1 T DM/cow) and pasture silage provided from the dry stock block
- The replacements (220 R1YO and R 2YO) are grazed on the drystock block.
- The comparison with other Waikato Dairy is based on 2014-15 benchmark figures from Red Sky, with a milk price 10% more. (\$4.40/ kg MS)



## Environmental Performance of Huirimu Farms

Farm Enterprise	N Use kg/Ha	N Leach Kg/ha/yr OVP 6.2.3	P Loss Kg/Ha/yr	Pasture Eaten TDM/Ha/Yr	GHG/Kg MS or Meat	
Dairy Platform 2014-15	120	35	1.1	9.5	8.8	Cows wintered off on Drystock
Dairy Platform 2015-16	120	34	1.1	11.3	8.8	
Drystock Block(base) 2014-16	34	23	1.2	8.9	19-23	
<b>Herd Home Scenario</b>						
Dairy HH	120	22	1.2	12		Cows in Herd Home to Calve down
Drystock HH	30	21	1.4	10		
Dairy and Drystock (full enterprise)		21.5*	1.3			

\*average over 855 ha as blocks(total combined enterprise)

## Key Assumptions

### Historical Models

1. Dairy 2014-15
2. Dairy 2015-16
3. Drystock Base

### Dairy HH model Assumptions

1. Dairy cow numbers at 890, MS per cow 550 per cow, through efficiency savings on walking and reduced feed wastage with precise nutritional management. These cows have already performed very well in the face of challenging wintering conditions and long walking distances. Historically there has been 30% lameness in the herd, this will be reduced with Herd Home and proximity to dairy, and no winter cropping.
2. Feed will be supplied from 20 ha of maize grown on dairy platform and no turnips in summer. Effluent from herd home will be spread over effluent (flat areas) as well as used on the maize block and other flat blocks pre silage, using a slurry spreader.
3. Cow diet will be maintained with close association with nutritionist (Parry Matthews) and optimising animal health and welfare
4. The N use across the platform is same as before at 120 kg N per ha (non- effluent areas) and the pasture harvest is assumed to be similar (11.8-12.0 TDM/Ha) but may improve with less pasture damage as cows are housed 5-8 hours per day over much of the season in an on off hybrid grazing system.
5. The Overseer model assumes optimum spreading for effluent and that all streams and vulnerable areas are fenced off and stock excluded. In the case of Huirimu farms, this is the case. There is excellent waterway management.
6. The cows (600) go from being wintered off on the dry stock property

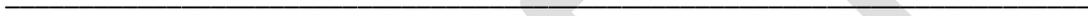


### Dry stock HH model Assumptions

1. The cows will not be wintered on the dry stock block, therefore the rotational cropping with swedes will be stopped. The only cropping on the dry stock block will be maize and annuals on 34 Ha to provide feed for the milking platform.
2. With 600 fewer cows wintered, all dairy replacements will continue to be wintered as before, but there will be less cropping overall.
3. A group of 100 large bulls will be fattened from the 380 kg range to 580-600 kg range.
4. Overall stock units on the dry stock property increase, but cropping area is reduced.

### Dry stock base model

1. This model had 55 Ha of cropping and dairy herd wintered on crops. All dairy replacements and bull beef were run on this block. N use per hectare was modest at 34 kg N per ha per year, crop blocks received significantly more and were modelled using the arable model.



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