Dairy NZ – Dairy Field Trip (1 and 6)
Tuesday 22 and Thursday 24th March 2011

Field Trip Leaders: Jeremy Savage, Dairy NZ

Focus for the Day: Intensive pastoral Dairy Farming

Programme:

8.20 am Depart Methven Resort

9.30 am Arrive Alistair and Sharon Rayne (Dunsandel) - Introductions
Topic 1 – Principals of the Pastoral System
Topic 2 – Pathway to Success (the Rayne's story)

12.00 pm Depart for Lincoln University Dairy Farm

12.30 pm Lunch on buses

1.00 pm Introduction to LUDF
Topic 3 – Production and Profitability
Topic 4 – Research and Development on LUDF

3.00 pm Afternoon Tea
Topic 5 – Dairy Extension in NZ
Topic 6 – Processing (Fonterra)

4.30 pm Depart Farm

Tuesday – 5.30 pm arrive Methven Resort
Thursday – 4.30 pm arrive Lincoln for BBQ meal and entertainment (depart around 8.30 pm)

In the spirit of the OCCUPATION, HEALTH AND SAFETY ACT the Owners have taken all reasonable care in making your visit to the property as safe as possible, they clearly point out, you enter the property at your own risk.

The Owners and IFMA Congress organising committee will accept no responsibility for any incident or injury to any person or property that takes place while you are visiting the property.

New Zealand Dairy

The importation of two cows and a bull in 1814 marked the beginning of the New Zealand dairy industry. Since this date, dairying has gone on to become New Zealand's top merchandise export earner.

The New Zealand Institute of Economic Research (published Dec 2010) estimates the industry, including downstream activities such as marketing, wholesaling and transport, contributes around 2.8% to New Zealand's GDP and 10.4 billion of export earnings.

Approximately 97 percent of milk produced in New Zealand is processed into dairy products, with the balance sold on the domestic liquid milk market.

Facts and figures

- New Zealand accounts for about one-third of cross-border trade in dairy products, but we only account for a little over 2% of total world milk production. By comparison the US accounts for about 12% of total world production.
- New Zealand dairy exports went to 151 countries (year ending Dec 2009) key markets being China, the US, Japan and the EU.
- Developing countries are the destination for about 72% by export value.
- New Zealand dairy production has risen 77 percent over the past 20 years - from three million dairy cattle in 1989 to six million dairy cattle in 2009.

SONZAF June 2010 – Dairy Sector Production and Export Value

	Actual				Forecast			
Year	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Milk solids (mil kg)	1 314	1 270	1 394	1 435	1 641	1 688	1 724	1 754
% Change to previous year		-3.2%	+10%	+3%				
Export value ($mil)	8 383	10 787	11 429	9 939	12 255	11 409	13 355	15 665
% Change to previous year		+25%	+8.1%	- 16%				

In 2009/10, dairy companies processed 16.5 billion litres of milk containing 1.44 billion kilograms of milksolids (Table 2.1). Total milksolids processed increased by 3.3% from the 1.39 billion kilograms processed in the previous season. The increase was due to more cows milked.

New Zealand has 4.4 million cows spread over 11,600 herds.

A stocking rate of 2.81 cows per hectare was up slightly on the previous season and is the highest stocking rate recorded. Total effective hectares (runoff excluded) were 1.56 million.

Farms in the South Island are, on average, larger than those in the North Island in terms of both farm area and cow numbers. Sixty-five percent of all cows are in the North Island, with 26% in the Waikato region.

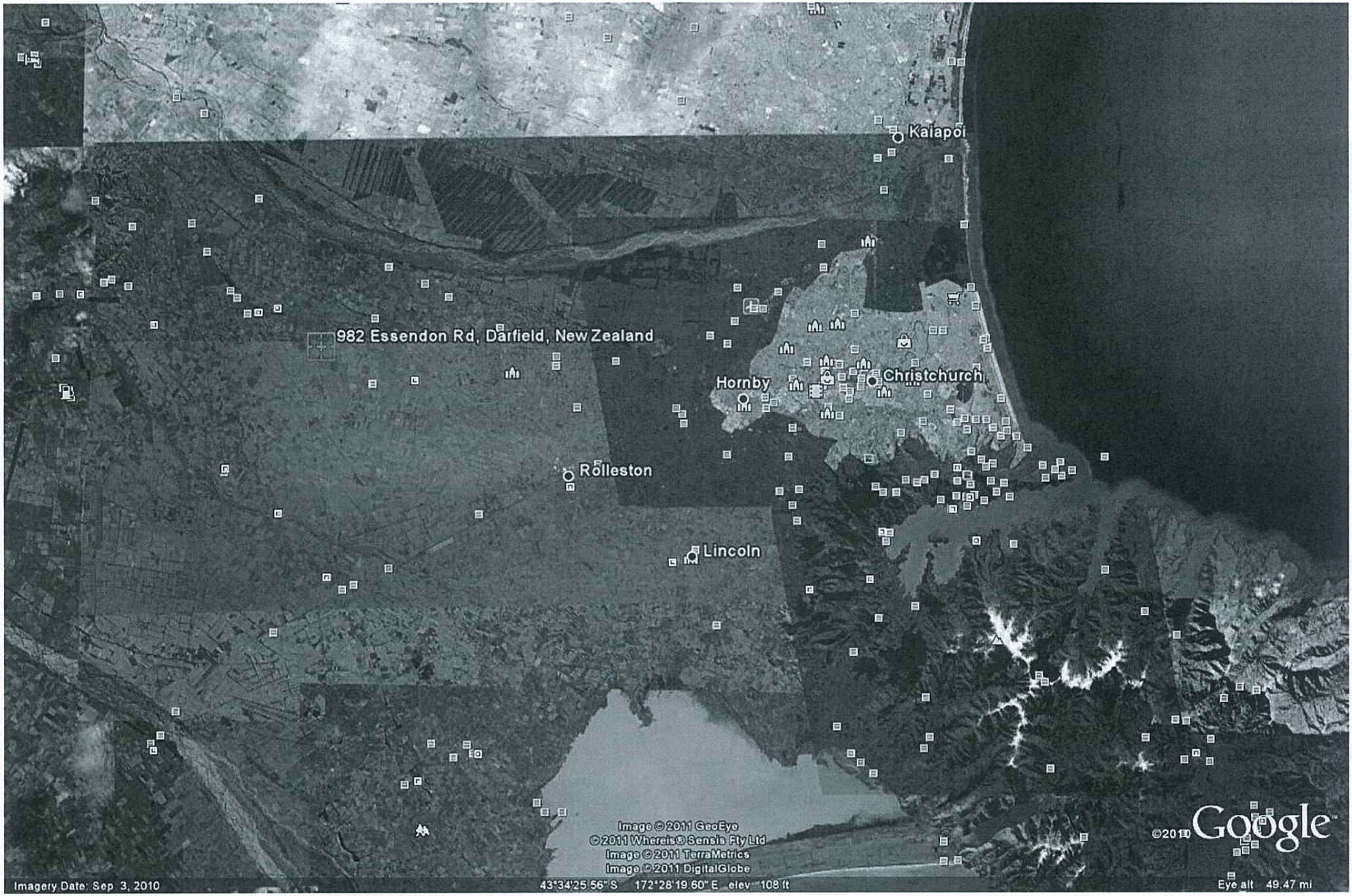
Kaiapoi
982 Essendon Rd, Darfield, New Zealand
Hornby
Christchurch
Rolleston
Lincoln
Image © 2011 GeoEye
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Image © 2011 TerraMetrics
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Imagery Date: Sep 3, 2010
43°34'25.56" S 172°28'19.60" E elev 108 ft
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Farm Information Sheet

Group:	*Dunsandel Farm Systems DG*	***Date:***	29th September 2010		
Farmer Name/s:	*Alistair & Sharon Rayne*	***Staff:***	Bryan, Breffini, Diarmuid		
Consulting Officer:	*Virginia Serra*	***Phone:***	021 932 515	***Email:***	virginia.serra@dairynz.co.nz

Farm Description

Alistair and Sharon farm 670 Crossbred cows at peak on 181 ha effective milking platform. They are owner operators and have 3 full time staff members plus an additional staff person in spring. Alistair is involved on the running of he farm but mainly in a coaching role for staff. The farm is fully irrigated with 2 Pivots in 135 ha, Rotorainers in 40 ha and 6 ha sprinklers. The farm is a system 2 with all cows wintered off and minimal use of imported supplement (<200 kg DM/ha/year). The farm has good free draining soils (water table 100m) and good fertility levels. B64

Event Objectives

- To discuss the drivers behind this low cost, grassbased profitable system
- Pathway to success

Background

- Both B. Agr. Sc. Graduates
- Both Consulting Officers (Dairy Extension Agents) up to 1991 in NZ, followed by 4 years in Ireland focusing the Irish dairy industry on low-cost milk production
- 1995 1 year as Herd Manager in NZ 400 cows (Taranaki-Stratford)
- 1996 6 years 50/50 sharemilking 550 cows, growing to 700 (Canterbury-Dunsandel)
- 2000 Equity partner in Canterbury Grasslands (initially 1600 ha sheep & beef operation, now expanded to 13,000 cows Canty and USA).
- 2002 brought 175 ha Darfield sheep and beef farm, sharemilked 550 cows nearby while converting own property
- 2003-current Dairy farming Darfield initially 500 cows increasing to 670 in 2010/11, target 700 cows 2011/12.

Farmer Goals

Our goals that are relevant:

- To maximize cash surplus from the farm operation while running a simple low cost system
- To help farm staff grow their skills so they can succeed in their own careers
- To be proactive in making pasture management decisions to maximize pasture production and utilization
- To achieve good reproductive performance without hormonal interventions or induction
- Be within top 10% EBIT/ha for NZ dairy farmers through low-cost grassland farming
- Growth of net worth of 15% pa
- Enjoyable, simple farm operation that grows staff capability

Farming Principles

- Low cost system with minimal tied up Capital
- Simple system with clear decision rules that are easy for staff to follow
- To have satisfied staff and see them progressing in the industry
- Cash Flow done at the beginning of the season and variance report analysed each month
- Run a profitable yet sustainable system minimizing any impact on the environment

Management Practices

- Target covers: At the end of May = 1950 kg DM/ha - At calving= 2450 kg DM/ha
- No topping policy/ Silage cut if there is a true surplus.
- Nitrogen use 200 kg N/ha/year
- Weekly farm walks and paddock cover ranking are used to allocate feed.
- Post grazing residuals are kept at 1,500 kg DM/ha during the season.
- Non cyclers are milked OAD and put with bulls by the Planned start of Mating. No CIDRs are used.
- Effluent system 2 days storage. The area where effluent is applied has been increased

DairyNZ

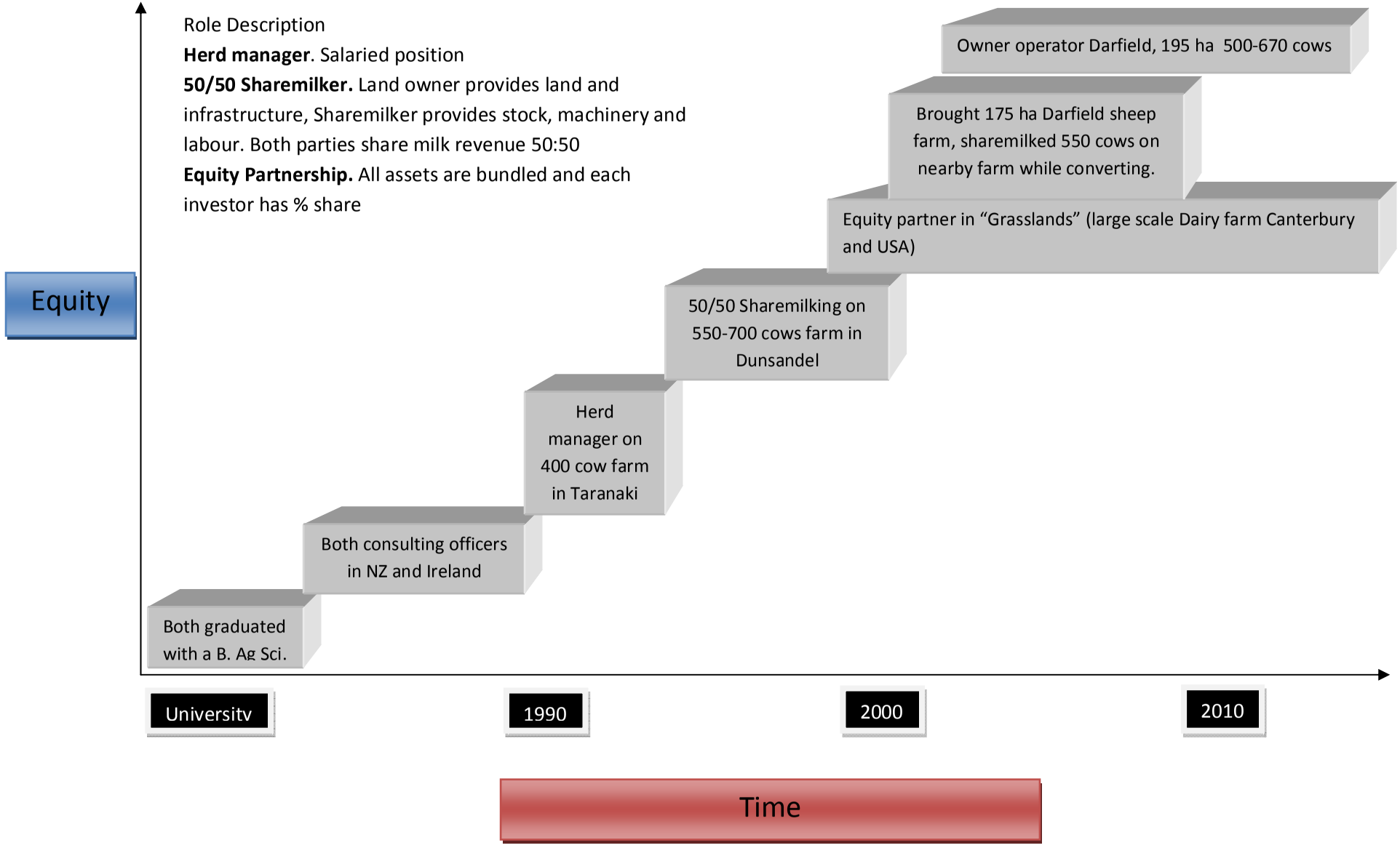
Farm Performance Summary

Farm Business Type	System 2	Benchmark Group selected by		Individual Farm Benchmark (LUDF)	
Region	Canterbury	Cow LWT	445	Breed	xbreed
Olsen P	25	Soil pH	5.7	BW / reliability	57/48

	2010/11 forecast		2009/10		2008/09	
Farm Details	**Farm**	***LUDF***	**Farm**	***LUDF***	**Farm**	***LUDF***
Milking Area	181	*159*	181	*159*	181	*159*
Dairy run-off effective area (ha)						
Milksolids (kg)	255,000	*286,200*	254,166	*273,605*	245,586	*261,401*
Peak cows milked	665	*670*	645	*660*	651	*680*
Stocking rate (cows/ha) + 168 calves on	3.8	*4.2*	3.6	*4.1*	3.6	*4.3*
Planned start of calving (PSC) spring	2-Aug	*5-Aug*	2-Aug	*8-Aug*	2-Aug	*3-Aug*
Nitrogen applied for year (kgN/ha)	200	*250*	190	*185*	175	*198*
Physical KPI's						
Milksolids per ha (kg)	1,409	*1,800*	1,404	1,720	1,357	*1,644*
Milksolids per cow (kg)	383	*427*	394	415	377	*384*
Milksolids per cow as % of Lwt	88%	*93%*	89%	89%	84%	*82%*
Pasture and crop eaten (t DM/ha)	15.0	*17.0*	14.8	16.2	15.3	*17.2*
Imported supplements (t DM/ha)		*1.2*		1.0	0.1	*1.2*
Grazing off dry cows (t DM/ha)	2.5	*3.0*	2.5	3.2	2.2	*1.7*
Total feed eaten/ha (t DM/ha)	17.5	*21.2*	17.3	20.4	17.6	*20.1*
Days in milk per cow (days)	270	*270*	277	266	256	*254*
Cows/full time equivalent (cows/FTE)	190	*181*	161	181	165	*187*
Financial KPI's (Dairy Business)						
Gross Farm Revenue ($/kgMS)	7.41	*6.88*	6.40	*6.45*	5.67	*5.40*
Farm Working Expenses ($/kgMS)	3.02	*3.35*	3.04	*3.35*	3.29	*3.92*
Operating Expenses ($/kgMS)	3.73	*3.76*	3.79	*3.75*	3.96	*4.33*
Gross Farm Revenue ($/ha)	10,434	*12,391*	8,989	*11,084*	7,695	*8,883*
Operating Expenses ($/ha)	5,255	*6,768*	5,321	*6,452*	5,317	*7,118*
Operating Profit (EFS) ($/ha)	5,179	*5,623*	3,668	*4,632*	2,378	*1,765*
Assumptions						

- *For 09/10 and 10/11 40 cents/kg MS was assumed for stock income Operating expenses includes WOM, Depreciation*
- *For 10/11 milk payout used was: Deferred payment last season 1.3 $/kgMS/ Payment this season= 5.6 $/kgMS and dividends was 0.22 $/kgMS*
- *Income is Net of DairyNZ Levy.*

Journey through the Dairy Industry



Physical Data Summary

DairyBase
Platform for growth.

Inisfree Ltd (Farm ID: 175062)
Dairy Season ended: 2010

Printed: 29 September 2010

Dairy Co Supplied:	Fonterra		
Production System:	2		
Business Type:	Owner operator	**Balance Month:**	May
Calving Season:	Spring only	**Milking Interval:**	Twice a day
Winter Milk:	No	**Organic:**	No
Region:	Marlborough-Canterbury	**District**	Selwyn
% Milking Area Irrigated:	More than 30%	**Season's rainfall (mm):**	670
Farm Dairy Type:	H48	**NIWA 10 Yr Av Rainfall (mm):**	730

Stock

Predominant dairy breed:	Crossbred
Peak Cows Milked:	645
Stocking rate (Cows/ha):	3.6
Replacement Calves Reared:	142

Land Area (ha)

Total Dairying area:	196.0
less Ungrazeable area:	15.0
Effective Dairying area:	181.0
Dairy Run-off effective area:	0.0
Defined Young Stock area:	4.5
Non-dairy effective area:	0.0

Labour

Full time paid labour equivalents:	4.5
Full time unpaid labour equivalents:	0.0
FTE unpaid management:	0.0
Total FTEs:	4.5
Milking Cups per FTE	10.6

Production

	Total	Per ha	Per cow	Composition
Milk Litres:	2,828,344	15,626	4,385	
Fat kg:	144,956	801	225	5.1%
Protein kg:	109,210	603	169	3.9%
Financial year - Milksolids kg:	254,166	1,404	394	9.0%
Production year - Milksolids kg:	254,166	1,404	394	

Number in Benchmark Group:	1	
Benchmark Group Selected by:	Physical analysis	Individual farms (authorised) : Lincoln University Dairy Farm
Benchmark Group Ranked by:		

Data entered by: **Financial:** **Extended Physical: DairyNZ (Canterbury)**

Physical Detail A

DairyBase
Platform for growth.

Inisfree Ltd (Farm ID: 175062)
Dairy Season ended: 2010

Printed: 29 September 2010

Number in Benchmark Group:	1	
Benchmark Group Selected by:	Physical analysis	Individual farms (authorised) : Lincoln University Dairy Farm
Benchmark Group Ranked by:		

		2009-10		2008-09	2007-08
Physical Description	**Units**	**Farm**	**Benchmark**	**Farm**	**Farm**
Milking area	ha	181.0	159.1	183.0	180.0
Dairy run-off effective area	ha	0.0	0.0	0.0	0.0
Percent of farm at different height to dairy		0%	0%	0%	
Peak cows milked		645	660	651	625
Stocking rate	cows/ha	3.6	4.1	3.6	3.5
Cow breed		Crossbred	Crossbred	Crossbred	Crossbred
Cow liveweight	kg	445	465	450	
Liveweight/ha	kg/ha	1,586	1,929	1,601	
BW/reliability		91 / 44		84 / 46	
PW/reliability		116 / 56			
Season's rainfall	mm	670	580	670	
NIWA 10 Year average rainfall	mm	730	730	760	
Production system		2	3	2	3
Calving season		Spring only	Spring only	Spring only	Spring only
Nitrogen applied for year	kg/ha			175	
Milksolids (MS) Production to factory - (Seasonal year)					
Milksolids/ha	kg/ha	1,404	1,720	1,342	1,447
Milksolids/cow	kg/cow	394	415	377	417
MS/ha to 31st Dec	kg/ha	775	954	774	
MS as % of liveweight		89%	89%	84%	
10 day peak per cow	kg/day	1.80	2.10	2.00	
Average Milksolids/cow/day	kg/day	1.4	1.6	1.5	
Monthly production drop: Peak to 31Dec		5.0%	9.8%	10.4%	
Days in Milk per cow		277	266	256	
Feed Eaten					
feed KPIs based on 11.0 ME Pasture.					
Pasture & Crop eaten	MJME/ha	163,319	178,148	168,625	
Pasture & Crop eaten	t DM/ha	14.8	16.2	15.3	
Imported supplements eaten	t DM/ha	0.2	1.0	0.1	
Grazing off dry cows eaten	t DM/ha	2.3	3.2	2.2	
Total feed eaten	t DM/ha	17.3	20.4	17.7	
Imported supplements eaten	kg DM/cow	43	234	33	
Imported supplements & grazing eaten	kg DM/cow	677	1015	662	
Average utilisation imported supplement		80%	85%	80%	
Average ME imported supplements	MJ/kgDM	7.0	11.2	7.0	
Crops Grazed & Harvested					
Farm area in grazed winter crop	ha	0.0	0.0	0.0	
Farm area in grazed summer crop	ha	0.0	0.0	0.0	
Farm area in harvest crop	ha	0.0	0.0	0.0	
Percent of farm harvested for hay & silage		39%	42%	16%	
People					
Cows/Labour unit	cows/FTE	143	181	165	147
Milksolids/Labour unit	kg/FTE	56,273	75,166	62,298	61,285

Physical Detail B

DairyBase
Platform for growth.

Inisfree Ltd (Farm ID: 175062)
Dairy Season ended: 2010

Printed: 29 September 2010

No DairyBase benchmarks are available for this page, industry targets are provided where applicable.

		2009-10		2008-09	2007-08
Mastitis and Lameness	**Units**	**Target**	**Farm**	**Farm**	**Farm**
Cows treated for lameness		<3%	0%	12%	
Average bulk SCC	1000s	<200	287	249	
Clinical mastitis (1st 6 weeks season)		<15%	0%	8%	
Calving and Mating (Based on InCalf Fertility Focus Report)					
% of cows calving in Spring (vs Autumn)			100%	100%	
Planned Start of Calving (PSC)	Spring		02-Aug	03-Aug	
% Calved by week 3		60%	62%	65%	
% by week 6		87%	88%	93%	
% by week 9		98%	94%	97%	
% Cows induced to calve			0%	3%	
% Cows treated for non-cycling			0%	0%	
Planned Start of Mating (PSM)			24-Oct	25-Oct	
3-week submission rate		90%	80%	89%	
6-week in-calf rate, Actual (A) or Estimated (E)		78%	67% E	0%	
Empty rate			11%	16%	
Length of AB	weeks		6	6	
Length of total mating	weeks		14	11	
Wastage and Replacements					
Cows milked 1 Dec as % of opening cows		>96%	96%	98%	
Percent herd entering as heifers		18-22%	22%	20%	
1st calvers on farm end of season %		>86%	89%	79%	
Soils & Fertiliser					
Olsen P				31	
Quick test K - Potassium (average)				6	
Sulphate-S (average)				4	
Quick test Mg - Magnesium (average)				19	
Soil pH				6.1	
Phosphate applied for year	kg/ha			0	
Potassium applied for year	kg/ha			0	
Sulphate applied for year	kg/ha			0	
Magnesium applied for year	kg/ha			0	
Lime applied for year	kg/ha		0	0	
Irrigation					
Area irrigated	ha		180.0	180.0	
Percent of effective area irrigated %			99%	98%	
Total water applied annually	mm		0	518	
Kg MS/mm water (rain + irrigation)			2.1	1.1	

Comments Non Cyclers are milked OAD and put with Bulls so their matings are not recorded so SR would be lower in FFR that reality

SIDDC
South Island Dairying Development Centre

Partners Networking To Advance South Island Dairying

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH•NEW ZEALAND

DairyNZ

Ravensdown

LIC

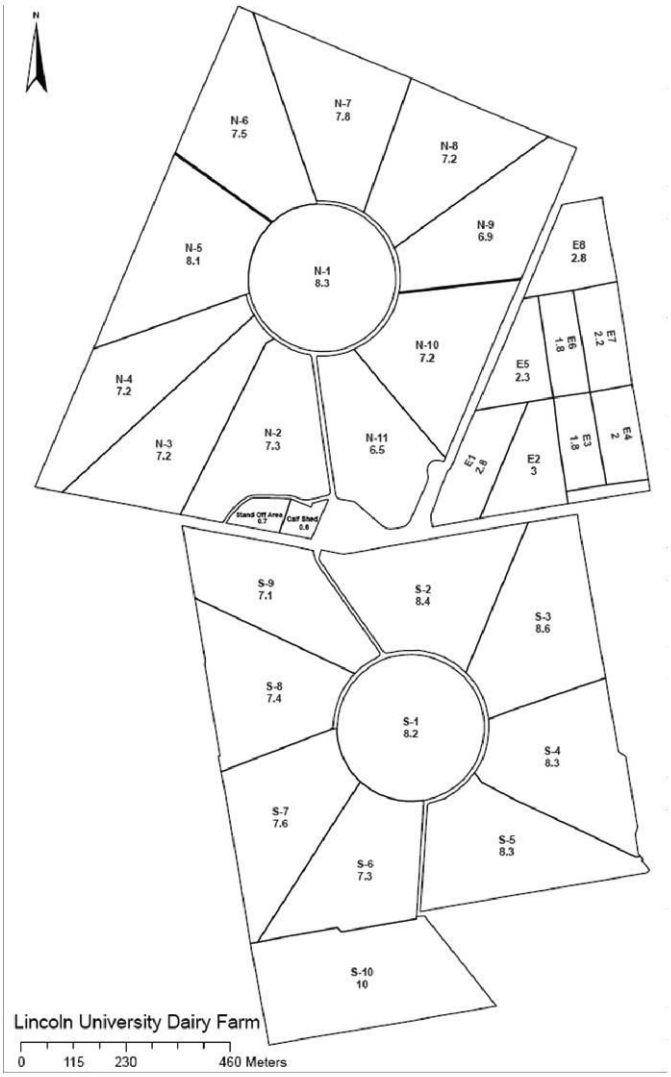
Plant & Food RESEARCH
RANGAHAU AHUMĀRA KAI

agresearch

SIDE

Phone: +64 3 325 3629
Fax: +64 3 325 3603
Email: office@siddc.org.nz
www.siddc.org.nz

Lincoln University Dairy Farm IFMA Field Trip



Staff

Peter Hancox – Farm Manager
Andre Scholtz – Herd Manager
Kenny Oluboyede – Farm Assistant
Richard O'Brien – Farm Assistant

LUDF Hazards Notification

1. Children are the responsibility of their parent or guardian
2. Normal hazards associated with a dairy farm
3. Other vehicle traffic on farm roads and races
4. Crossing public roads
5. Underpass may be slippery

Please follow instructions given by event organisers or farm staff

Introduction

The 186 hectare irrigated property, of which 160 hectares is the milking platform, is a former University sheep farm. The spray irrigation system includes two centre pivots, small hand shifted lateral sprinklers, and k-lines. The different soil types on the farm represent most of the common soil types in Canterbury.

Key objectives

1. To develop and demonstrate world-best practice pasture based dairy farming systems and to transfer them to dairy farms throughout the South Island.
2. To operate a joint development centre with SIDDC partners, where the practical application of new technologies can be developed and refined.
3. To use the best environmental monitoring systems to achieve best management practices under irrigation, which ensures that the industry's annual profit from productivity target is achieved in a sustainable way and that the wider environment is protected.
4. To continue the environmental monitoring programme and demonstrate technologies that will ensure that the 3-year rolling average concentration of nitrate-N in drainage water from below the plant root zone remains below the critical value [16 mg N/L] that is specified in ECan's proposed regional rule as requiring reduction [Rule WQL18].
5. To use Environmental Best Practices [including 'eco-n' nitrification inhibitors] to protect the environment, while enhancing profitability.
6. To operate an efficient and well organised business unit.
7. To provide a commercial return exceeding the average weighted cost of capital on annual capital evaluations to Lincoln University.
8. To create and maintain an effective team environment at policy, management and operational levels.
9. To actively seek labour productivity gains through adoption of technologies and practices that reduces labour requirements or makes the work environment more satisfying.
10. To assist Lincoln University to attract top quality domestic and international students into the New Zealand dairy industry.

Specific objectives for the season 2010/11

1. To deliver a Dairy Operating Profit of $6,800/ha and Return on Dairy Assets of approximately 7.9% from a $6.93 payout – [milk price plus dividend] - with budgeted milksolids production of 288,000 kg and Cash Farm Working Expenses of $3.35/kgMS.
2. To improve water use efficiency for better integrating the technologies currently existing on the farm by ensuring useable decision making data is accessible to the farm management in a timely manner.
3. To increase the land area that effluent is applied to so that nutrients are better distributed and there is an increased range of contingency plan options. Also, ensure that nitrate losses are not greater on effluent areas than on non-effluent areas, and that there is no significant microbial contamination of the shallow aquifers.
4. To manage pastures and grazing so milkers consume / harvest as much metabolisable energy [ME] as practicable, with a target of 200 GJ/ha ME. For example, this could be achieved by consuming / harvesting 16t DM/ha with average ME 12.5.
5. To optimize the use of the farm automation system [Protrack] and demonstrate / document improved efficiencies and subsequent effect on the business.
6. To achieve a 6 week in-calf rate of 79% and 10 week in calf rate greater than 89% ie empty rate of less than 11%.
7. To continue to document and measure LUDF's influence on changes to defined management practices on other dairy farms.
8. To ensure specific training is adequate and appropriate to enable staff members to contribute effectively in meeting the objectives of the farm.

Ongoing research

- The effect of fertilisers & other farm inputs on groundwater. 10 groundwater monitoring wells sunk to monitor and manage the effect of fertiliser, grazing, irrigation and effluent inputs over a variety of contrasting soil types.
- Effects of eco-n on nitrate leaching and pasture production.
- Pasture growth rates, pests and weeds monitoring.
- The role of nutrition in lameness in Canterbury.
- Resource Inventory and Greenhouse Gas Footprint

Climate

Men Annual Maximum Temperature	32 °C
Mean Annual Minimum Temperature	4 °C
Average Days of Screen Frost	36 Days per annum
Mean Average Bright Sunshine	2040 Hours per annum
Average Annual Rainfall	666 mm

Farm area

Milking Platform	160 ha
Runoff [East Block]	14 ha

Soil types

	% Milking Platform
Free-draining shallow stony soils (Eyre soils)	5
Deep sandy soils (Paparua and Templeton soils)	45
Imperfectly drained soils (Wakanui soils)	30
Heavy, poorly-drained soils (Temuka soils)	20

Soil test results

Date	pH	P	K	S	Ca	Mg	Na
Dec – 01	5.8	30	11	34	8	23	12
Jul – 02	5.8	31	14	35	9	22	12
Oct – 02	5.9	35	8	29	8	21	12
Jun – 03	6.1	37	12	7	9	23	9
Jun – 04	6.4	37	13	11	9	22	10
Jun – 05	6.1	35	13	10	9	22	8
Jun – 06	6.3	33	15	9	10	27	11
Jun – 07	6.3	39	16	17	10	29	13
Jun – 08	6.1	36	12.4	9	10	29	12
Jun – 09	6.1	32	11	11	9	30	9
Jun - 10	6.0	32	10	6	10	32	10
Target Soil Test	5.8 – 6.2	30 – 40	5 – 8	10 – 12	4 – 5	20+	5 – 50

Soil Reserve K = 4.5 (Target = 0.8 – 1.2)

Fertiliser history

Date	Dressing	N	P	K	S	Mg	Ca
Season 2001/02		200	168	-	130	-	94
Season 2002/03		200	45	-	2	-	90
Season 2003/04		200	45	-	64	-	46
Season 2004/05		200	46	-	47	-	57
Season 2005/06	Non-Effluent	200	48	-	76	-	107
Season 2005/06	Effluent	0	30	-	53	-	67
Season 2006/07	Non-Effluent	200	49	-	89	-	110
Season 2006/07	Effluent	0	20	-	52	-	45
Season 2007/08	Non-effluent	200	44	-	73	-	96
Season 2007/08	North Effluent	12	22	-	37	-	48
Season 2008/09	Non-Effluent	245	53	-	88	-	115
Season 2008/09	North Effluent	0	22	-	37	-	48
Season 2009/10	Non-Effluent	225	45	-	47	-	20
Season 2009/10	Effluent	-	5	-	47	-	20

Pasture

- The milking platform was sown at conversion [March 2001] in a mix of 50/50 Bronsyn/Impact ryegrasses with Aran & Sustain white clovers, and 1kg/ha of Timothy.
- Individual paddocks are monitored weekly, & 12 paddocks [57% of area] have been renovated to maintain pasture performance. Pasture mixes on farm now include: 2 paddocks of Arrow plus Alto perennial ryegrasses, 5 paddocks of Bealey, 2 paddocks of Alto perennial ryegrass and 1 paddock Trojan - all with Kotare/Sustain white clovers.
- Annual Pasture consumption for 04/05 season calculated at 15.9t DM/ha,05/06 -16.1t DM/ha, and 06/07 - 16.4t DM/ha,
- Pasture and Crop Eaten (calculated via DairyBase) - 07/08 – 17.9 tDM/ha, 08/09 – 17.2 tDM/ha, 09/10 – 16.2 tDM/ha.

Irrigation and effluent system

Centre-pivots	127 ha
Long Laterals	24 ha
K-Lines	10 ha
Hard Hose Gun	14 ha
Total irrigated	175 ha
Irrigation System Capacity	5.5 mm/day
Length of basic pivot	402
Well depth	90m

Statistics

- A full rotation completed in 20.8 hours for 5.5 mm [at 100% of maximum speed].
- Average Annual Rainfall = 666 mm. Average irrigation input applies an additional 450 mm. Average Evapotranspiration for Lincoln is 870 mm/year.

Effluent

- Sump capable of holding 33,000 litres and a 300,000 litre enviro saucer.
- 100 mm PVC pipe to base of North Block centre pivot, distribution through pot spray applicators.
- System being developed to also apply effluent on to the South Block and outside the pivot.

Mating programme - Spring 2010

1,000 straws DNA proven Kiwicross [including heifers]. Expecting to rear 200 heifers [5 straws per heifer]. Likely six weeks AB, may use one week short gestation Jersey then follow with Jersey bulls. 10 weeks total mating [herd].

Herd details - February 2011

Breeding Worth (rel%) / Production Worth (rel%)	92 / 49% / 117 / 70%
Average weight / cow (Dec) – Herd monitored walk over weighing	458 kg
Calving start date	8 August 2010
Mid calving date	17 August 2010 (9 days)
Mating start date	25 October 2010
Empty rate (nil induction policy) after 10 weeks mating	13% 2009 [6 weeks in-calf rate 74%]

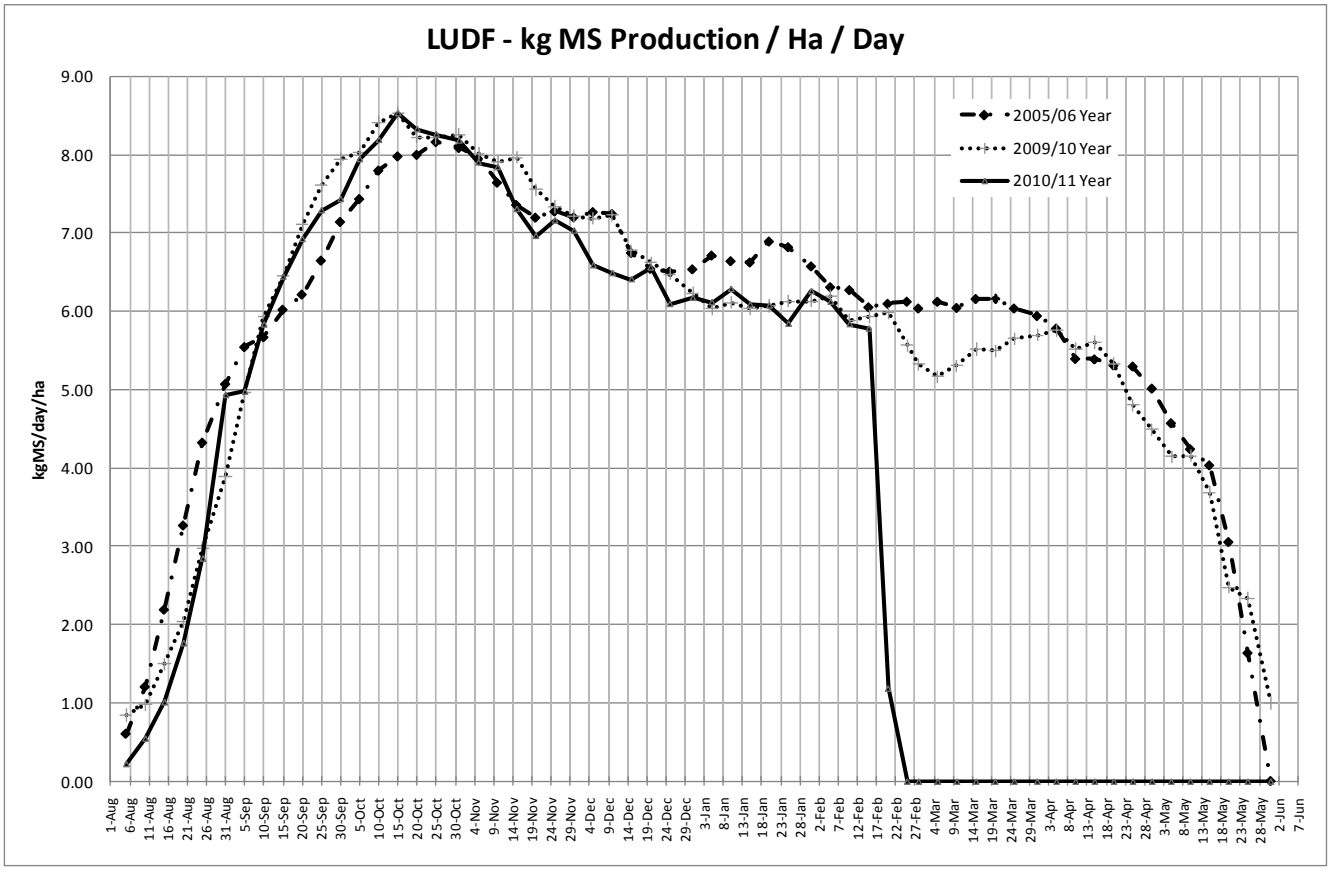
	2002/03	Average 03/04 - 06/07	2007/08	2008/09	2009/10	2010/11
Total kg/MS supplied		**277,204**	278,560	261,423	273,605	
Average kg/MS/cow		**425**	409	384	415	
Average kg/MS/ha		**1720**	1744	1634	1710	
Farm Working Expenses / kgMS		**$2.68**	$3.37	$3.88	$3.38	
Dairy Operating Profit/ha		**$2,534**	$8284	$2004	$4696	
Payout [excl. levy] $/kg		**$4.33**	$7.87	$5.25	$6.37	
Return on Assets		**6.18%**	14.6	4.8%	7%	

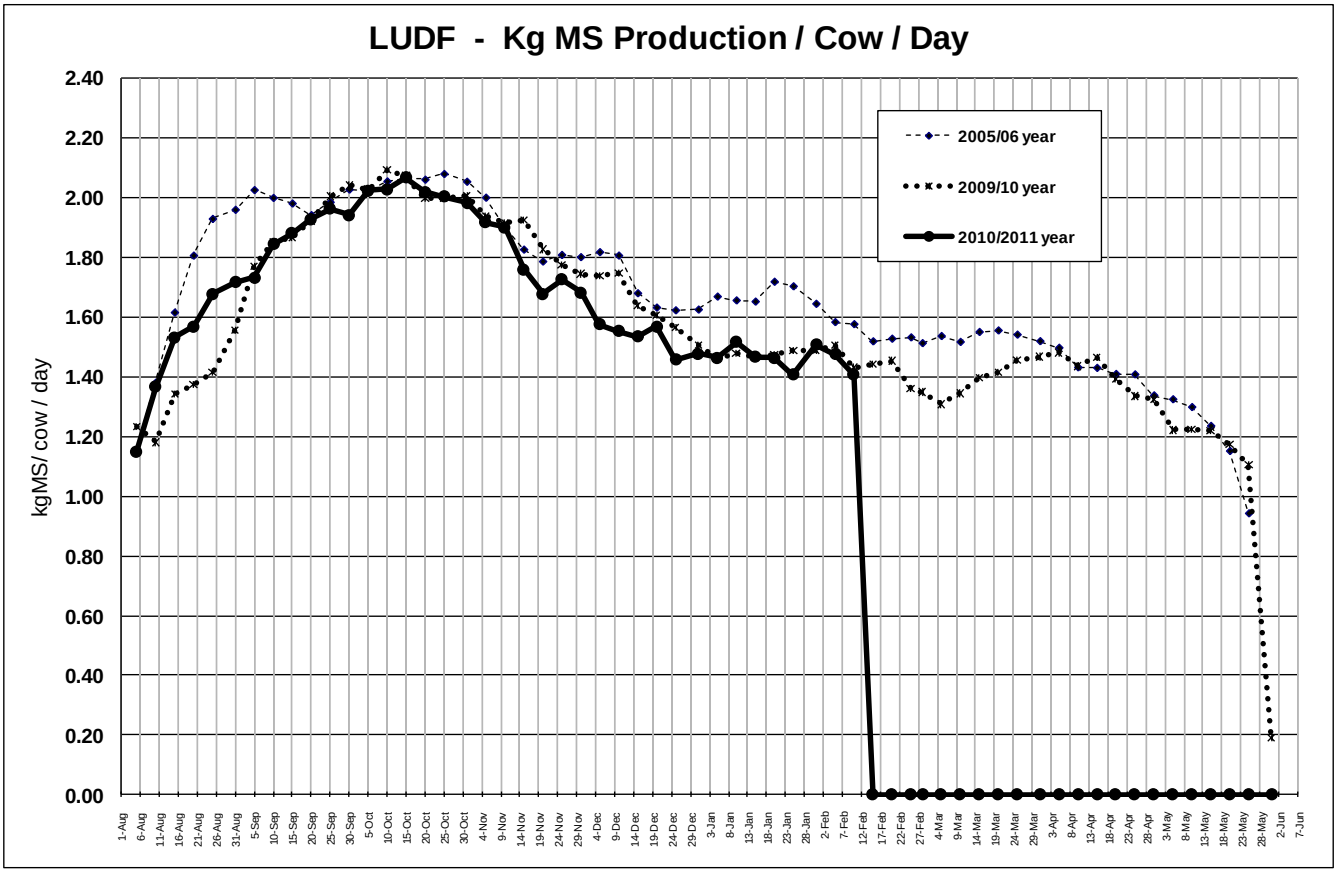
Stock numbers	2002/03	Average 03/04 - 06/07	2007/08	2008/09	2009/10	2010/11
1 July cow numbers	631	**675**	704	704	685	694
Max. cows milked	604	**654**	680	683	660	669
Days in milk			263	254	266	
Stocking rate Cow equiv. / ha	3.75	**4.05**	4.2	4.3	4.13	4.18
Stocking rate Kg liveweight / ha	1,838	**1964**	2,058	2,107	1,941	1914
Cows wintered off No. Cows / Weeks	500 / 8	**515 / 7.8**	546 / 9	547 / 7	570 / 9	652 / 8.4
No. Yearlings grazed On / Off	0/118	**0/157**	0/171	0/200	0/160	0/166
No. Calves grazed On / Off	0/141	**0/163**	0/200	0/170	0/160	0/194
Est. Pasture Eaten (Dairybase) (tDM/ha)			17.9	17.2	16.2	
Purch. Suppl - fed [kgDM/cow]	550	**317**	415	342	259	
Made on dairy/platform [kgDM/cow]	0	**194**	95	64	144	
Applied N / 160 eff. ha			164	200	185	

Staffing & management

Roster System – 8 days on 2 off 8 days on 3 off

Milking Times – Morning: cups on 5.00 am
– Afternoon: cups on 2.30 pm





Lincoln University Dairy Farm - Farm Walk notes

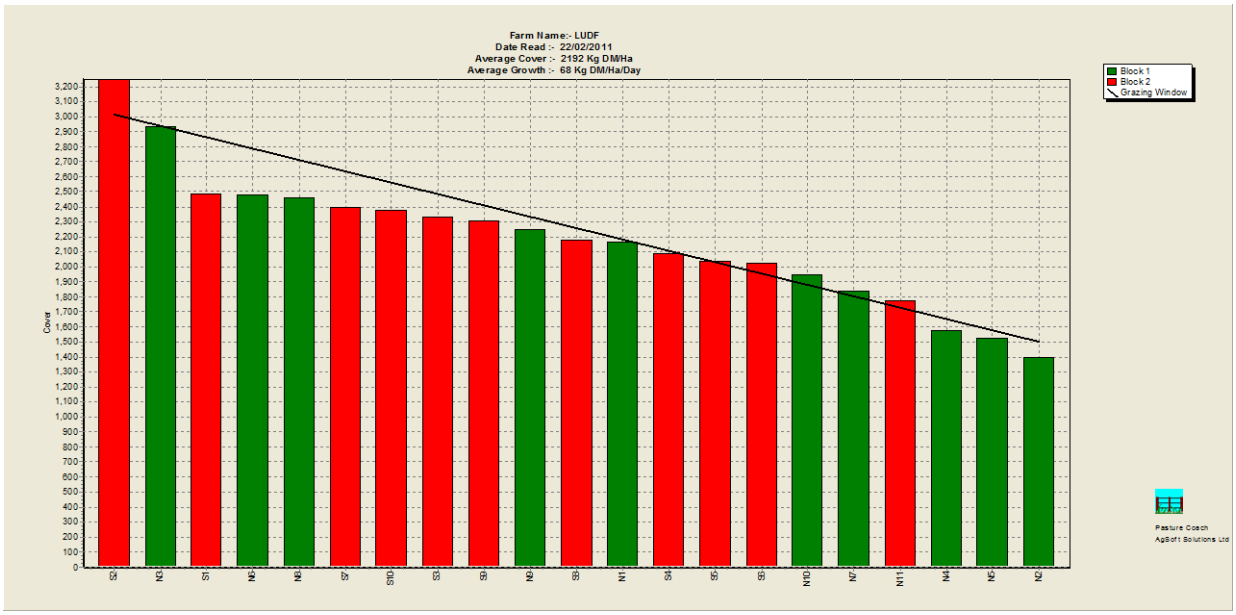
Tuesday, 22nd February 2011

CRITICAL ISSUES FOR THE SHORT TERM

1. **Maintain pasture quality by regular monitoring and making necessary changes**
2. **Keep grazing residuals to the desired 7 - 8 clicks**
3. **Continue Mg supplementation**
4. **Closely observe milking cows for mastitis**
5. **Maintain round length between 21-23 days**

Summary of Key Factors affecting Grazing Management & Animal Performance

6. Soil temperature this week was 17.3^{o}C (last week 16.9^{o}C).
7. We have had no rain over the last week. 3 days of irrigation was required on the North and 2 days on the South Block this week.
8. PASTURE GROWTH was 68 kg DM/ha/day, the same as the 69 kg DM/ha/day last week.
9. Average PASTURE COVER was measured at 2,192 kg DM/ha, down from last week at 2,304 kg DM/ha.
10. In the same week last year growth rate was 77kg DM/ha/day and average pasture cover was 2,299kg DM/ha with slightly lower soil temperature.
11. This morning 659 cows were milked into the vat, 5 of these were lame cows.
12. Including all groups of cows, 53.6 ha was grazed for the week, an average of 7.6 ha/day or 20 day round.
13. Silage was not fed during the week. Season to date 101.4t DM (151.7 kg DM/cow)
14. Paddock S2 was sprayed out for regrassing and seed was sown on 2nd December. It was grazed by the herd on the 27th of January. It has previously been nipped off by the calves and a few days later sprayed with Preside herbicide. The seed mix was Bealey a tetraploid perennial and Trojan a diploid perennial.
15. Paddock N2 was sprayed out on the 8th of January. It was cultivated and drilled with Trojan Ryegrass on the 20th January. It has had a small nip off with calves and is probably about 14 – 18 days from grazing by the herd. It will be weed sprayed after that grazing.
16. Today's feed Wedge (follows on next page). The target line in the wedge reflects the pre-grazing target of 3,010 kg DM/ha and a post grazing of 1,500 kg DM/ha, which is the pre-grazing needed to feed the cows considering the stocking rate of 4.29 cows/ha (656 cows/152.7 ha)), cows eating 16 kg DM/cow/day and a rotation length of 22 days



17. We have a deficit of 12 t DM on this Feed Wedge, This deficit will need to be filled with silage during the week.

18. The growth rate was not high enough this week to enable the round to recover to our targeted 21 – 23 days. This is a little surprising given soil temperature and very adequate soil moisture. Many pastures however are showing considerable nitrogen deficit symptoms.

19. We have now started our fifth round of Urea. This week 38 ha received 25 kg N. Season to date we have applied 237 kg N per ha over the non effluent area (128 ha) – equivalent to 189kg N/ha across the whole of the milking platform (160 ha).

20. Two new lame cows this week. There have been 59 lame cows since calving started on the 20 July.

21. No new cases of clinical Mastitis, season to date 65 cows treated for Mastitis.

22. SCC has ranged from 199 – 250,000. All cows are currently having one quarter stripped each morning milking to check for mastitis.

23. Production this week was 1.38 kg MS/cow/day (1.42kg MS/cow last week) and 5.71kg MS/ha/day (5.87 kg MS/ha last week).

24. The herd was pregnancy tested 35 days after six weeks of mating. The number judged to be in calf was 482. Against the herd at the start of mating of 669 cows this is 72.0%

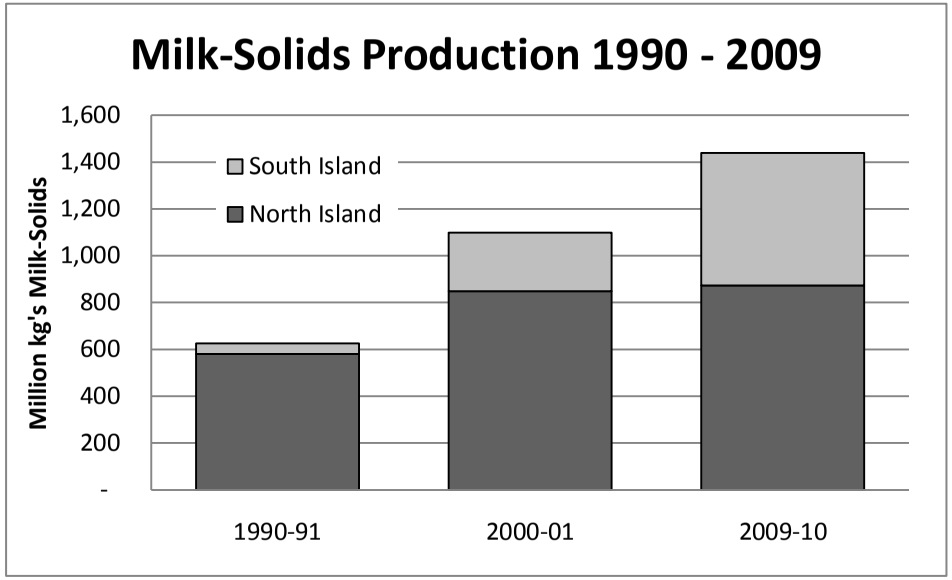
25. Last week we rechecked our empties The number judged to be in calf is now 586 against the herd at the start of mating of 669 cows this is 87.6%

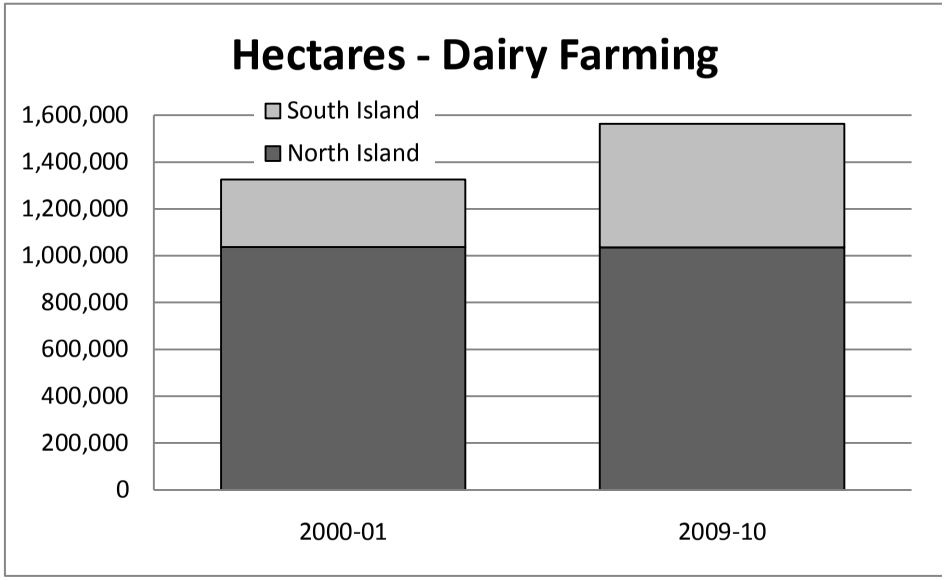
26. R2 heifers were preg tested Thursday 10th February and we had 152 out of 166 deemed to be in calf (91.5%)

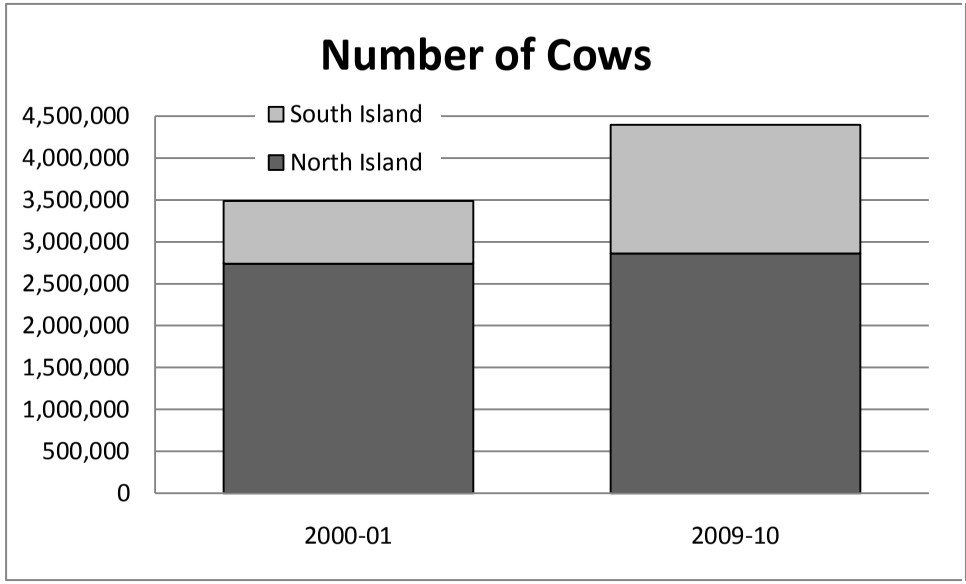
Next farm walk will be on **Tuesday, 1st March 2011, at 9.00 am.**

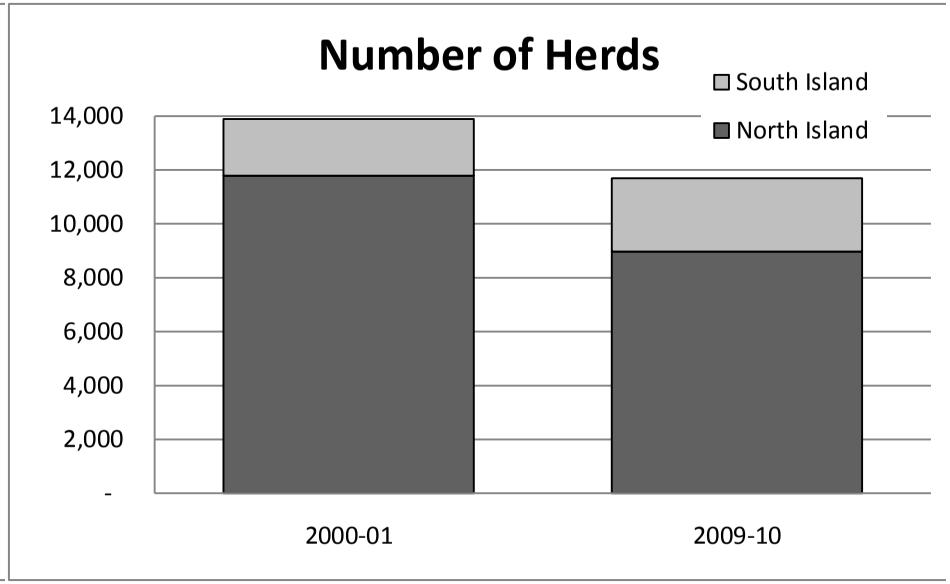
Farmers or their managers and staff are always welcome to walk with us. Please call to notify us of your intention and bring your plate meter. Phone SIDDC – 03 325 3629

Management Group: Peter Hancox (Farm Manager), George Reveley (for SIDDC), Virginia Serra (DairyNZ).


Milk-Solids Production 1990 - 2009
Million kg's Milk-Solids
1,600
1,400
1,200
1,000
800
600
400
200
-
South Island
North Island
1990-91
2000-01
2009-10


Hectares - Dairy Farming
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
South Island
North Island
2000-01
2009-10


Number of Cows
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
South Island
North Island
2000-01
2009-10


Number of Herds
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
South Island
North Island
2000-01
2009-10

How our farmers invest in their future

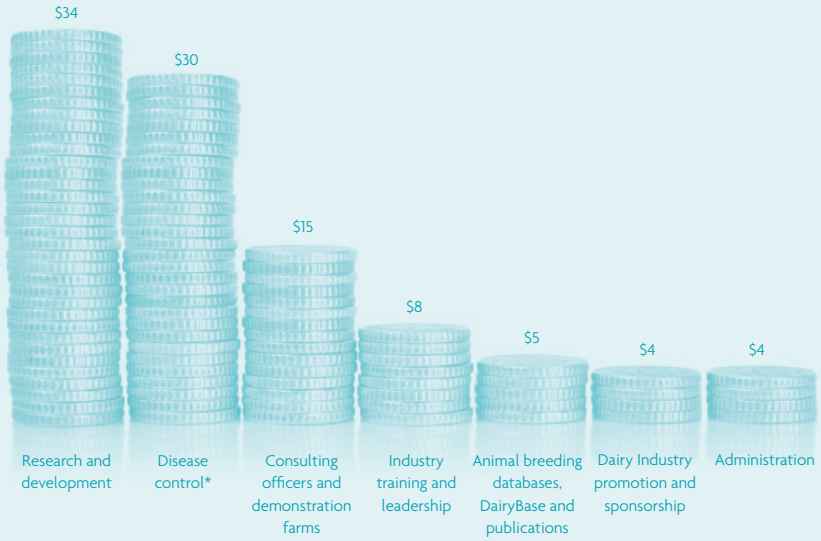
Because farmers are investing $50 million a year into industry good activities, DairyNZ is able to attract another $100 million from other funders such as government and industry partners.

The DairyNZ levy at a glance

Forecast Levy Investment by Activity 2009/10

Your total forecast levy collected = $51.8 million

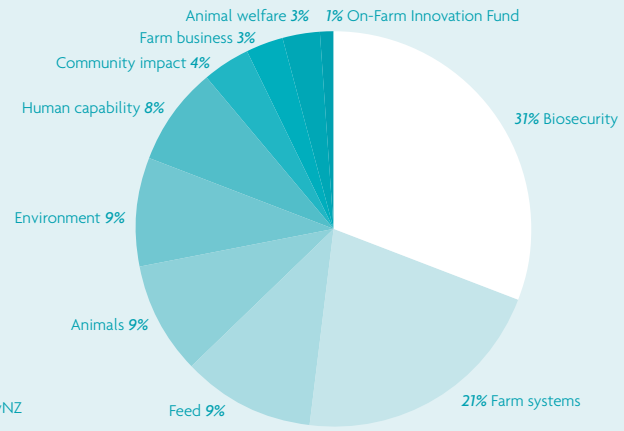
Investment for every 100 levy dollars



Source: DairyNZ

*Over 95% of disease control expenditure goes to the Animal Health Board for Tb control.

DairyNZ 2009/10 forecast investment by programme ($54.3 million)



Source: DairyNZ

Developing the tools to succeed

There's always room on every farm to build on its performance. Investment through the DairyNZ levy has resulted in tools, expertise and advice that farmers can access today. Here are a few examples.

DairyNZ Farmfacts

Developed by DairyNZ, Farmfacts have become an invaluable resource for dairy farmers. The range of topics covered are comprehensive: from pasture management to the environment, you'll find answers to your questions here. Find it all at ***dairynz.co.nz/farmfacts***

DairyNZ Pasture Plus

Join a DairyNZ Pasture Plus group if you are serious about increasing farm profitability through improved pasture management. Visit ***dairynz.co.nz/pastureplus*** to learn more.

DairyNZ Career Pathways

The Career Pathways tool uses simple technology to bring career planning to life. The tool includes career planning resources, creates customised career maps and simplifies the process of learning about on-farm and near-farm positions, all via a portable USB flash drive. Order your own at ***dairynz.co.nz/careerpathways***

DairyNZ Progression Groups

Forums for like-minded farmers, Progression Groups have been developed for those who want to enhance their skills and career options. Visit ***dairynz.co.nz/progressiongroups*** to learn more.

DairyBase

Discover the opportunities for your business with DairyBase, the secure web-based tool for analysing dairy farm financial and physical performance. Visit ***dairybase.co.nz*** to learn more.

DairyNZ Mark and Measure

Mark and Measure seminars are two interactive two-day seminars designed for dairy farmers and their partners. Over 1,000 farmer graduates are reaping the business and lifestyle rewards of attending. Visit ***dairynz.co.nz/markandmeasure*** to learn more.

DairyNZ Compliance Toolkit

The Compliance Toolkit was created to save dairy farmers time, and frustration, by pulling together in one place the most important forms and information farmers need to know when running a dairy farm. Find it at ***dairynz.co.nz/compliancetoolkit***

DairyNZ Healthy Hoof

The Healthy Hoof Programme is a simple, stepwise approach to managing lameness caused by physical factors on dairy farms. It consists of five key steps that each farm takes with the support of a trained programme provider. Find out more at ***dairynz.co.nz/healthyhoof***

DairyNZ InCalf

Dairy cow fertility underpins the viability and productivity of every dairy business. DairyNZ InCalf has designed an integrated approach to herd reproductive management that will improve your farm's reproductive performance. Find out more at ***dairynz.co.nz/incalf***

DairyNZ HR Toolkit

Your guide to positive employment relationships. Find out more and order your own copy at ***dairynz.co.nz/hrtoolkit***

DairyNZ Budgeting Templates

Take the time to complete a budget. Knowing your true position will help you make factual and realistic decisions, rather than being consumed by worry. DairyNZ has developed simple budget templates and guides. Find them and a step-by-step guide to completing them at ***dairynz.co.nz/budgets***

DairyNZ Farm Enviro Walk

The Farm Enviro Walk is a self-assessment checklist individual farmers use to identify potential issues, opportunities and practices that may need improving in the areas of nutrient, effluent and land management. Visit ***dairynz.co.nz/few*** to learn more.

Smart Water Use

The Smart Water Use on Dairy Farms programme puts farmers at the front of the pack when it comes to treating water efficiently. Save water, save money, smart move. Visit ***dairynz.co.nz/smartwateruse*** to learn more.

Fencepost Jobs

In partnership with Fonterra, the Fencepost Jobs site has been opened to the public and enhanced to become the most comprehensive job and career resource in the New Zealand dairy industry. Find it all at ***fonterra.com***


BZ19 Timaru NZTopo500 Nov-08 Scale 1:666666
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Printed by Freshmap™
Field Trip Location Map
1/4/6/9
2
3
5
7
8
10
11
CHRISTCHURCH
ASHBURTON
Banks Peninsula
Pegasus Bay
Canterbury Bight
Lake Ellesmere (Te Waihora)
Rakaia River
Waimakariri River
5110000N
1450000E