

A Comparison of the Economics of Dairy Farming between the Regions

**Southland
Canterbury
West Coast**

**Presented by Basil Meyer
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To the Kellogg Rural Leadership Programme**

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**Dear Tony
Please find enclosed my report for the Kellogg Rural Leadership
Programme.**

**I am looking forward to all the presentations and catching up with all
the participants, Cora, Errol and you.**

Sincerely

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Executive Summary

The aim of this project is after analysing financial dairy statistics from owner operators from the three main dairy regions in the South Island: Canterbury, Southland and West Coast, to be able to report on findings such as:

- EFS per cow and EFS per ha
- Profitability of dairying in the three regions
- Return on total farm capital employed (TFCE) for the three regions
- and as a side issue, I was looking to see whether there were any trends in expenses or income peculiar to any of these regions.

Apart from the viability of any dairy farm in these three regions, there are other aspects farm owners may consider to be of importance to them, and their family (i.e. access to health services, entertainment etc.). These 'issues' have not been addressed in this project.

The objective of this project is to provide a comparison of financial performance for owner operated dairy farms in Canterbury, Southland, and the West Coast.

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Introduction

The challenge of this report is to bring together a detailed and comprehensive analysis of the various regions, taking into consideration the difference in farming practises.

Whilst Southland and Canterbury are portrayed as the areas with unlimited potential for expansion, easy access to feed supplements, plenty of sun, and the ability to irrigate, the West Coast is seen as the odd one out with high rainfall, cheap land prices, low per cow/ha production and a low share standard.

For this exercise I used only financial data from irrigated properties in the Canterbury region. Payout used in this report is set for Fonterra and Westland Milk Products at \$ 3.90/MS. Whether this is too optimistic for Fonterra, and far too pessimistic for Westland will be seen at the end of this season.

In this report I will table financial summaries from the past three seasons.

To get an accurate comparison, comparing apples with apples, I did create model farms for each of the three regions, each comprising of 400 cows. All farms were set up using the same stock values and the average equivalent for plant and vehicles as determined from financial analysis from the three different regions.

Finding representative dairy statistics for Canterbury and Southland was relatively easy. However, I had some difficulty obtaining enough information for the West Coast to give the figures quoted some meaning.

- Table I** Summarises three year financial data looking solely at EFS.
- Table II** Is a model farm with 400 cows. Because of the difference in stocking rate, the farm size varies considerably, therefore the costs used are based on per cow.
- Table III** Looks at return on total farm capital employed, again –based on the 400 cow model farm. Whilst the farm is fictitious, set up costs for land, buildings, shares, stock, plant, and vehicles are actual averages for the three regions. The same applies for farm income and expenses.
- Table IV** In this table I was looking to see whether there are any farm expenses which differ significantly between the regions.

Table I : EFS (Economic Farm Surplus)

Region		EFS/ha	EFS/cow
West Coast	1999	\$ 875	\$ 481
	2000	\$ 1446	\$ 720
	2001	\$ 1643	\$ 827
Southland	1999	\$ 1635	\$ 633
	2000	\$ 1719	\$ 694
	2001	\$ 2798	\$ 1091
Canterbury	1999	\$ 1303	\$ 512
	2000	\$ 1984	\$ 654
	2001	\$ 2842	\$ 888

Sources: West Coast: Dexcel, Agriculture NZ

Southland: P.M Fitzgibbon, Accountant, Gore

Canterbury: P.S Alexander, Accountant, Christchurch

Table II : Model farm - 400 Cows

	West Coast	Canterbury	Southland
Stocking rate (cows/ha)	2.1	3.1	2.8
Farm size	190 ha	129 ha	143 ha
Production/cow kg MS	314	357	373
Production/ha kg MS	659	1106	1044
Total MS production	125'600	142'800	149'200
Total Milk Income			
@\$3.90/MS (excl. GST)	489'840	556'920	581'880
Stock Sales / cow milked \$	238	224	231
Total Stock Sales \$	95'430	89'619	92'567
Gross Farm Income (GFI)	585'270	646'539	674'447
Less: Farm Working Expenses			
(FWE) \$	228'255	326'804	316'990
	% 39	49	47
Less: Depreciation			
17.5% of plant values \$	25'605	28'286	29'507
Profit \$	331'410	291'449	327'950
	=====	=====	=====

Table III : Return on total farm capital employed (TFCE) - (400 cow Model Farm)

	West Coast	Canterbury	Southland
Farm Purchase MS	125'600 kg MS @ \$13.50/kg MS	142'800 kg MS @ \$14.50/kg MS	149'200 kg MS @ \$14.00/kg
Shares	<u>\$ 1'695'600</u> @ \$ 1.50/kg MS	<u>\$ 2'070'600</u> @ \$4.85/kg MS	<u>\$ 2'088'800</u> @ \$4.85/kg MS
L&B&Shares Stock	<u>\$ 188'400</u>	<u>\$ 692'580</u>	<u>\$ 723'620</u>
400 cows @ \$1100	\$ 1'884'000	\$ 2'763'180	\$2'812'400
100 R1 @ \$550	\$ 440'000	\$ 440'000	\$ 440'000
Vehicles, Plant	\$ 55'000	\$ 55'000	\$ 55'000
1/4 of GFI	\$ 146'317	\$ 161'634	\$ 168'611
EST Total Farm Capital	\$ 2'525'317	\$ 3'419'814	\$ 3'476'011
	=====	=====	=====

Table III (Continued)

	West Coast	Canterbury	Southland
Milk Income			
@ \$3.90/kg MS	\$ 489'840	\$ 556'920	\$ 581'880
plus Stock Sales	<u>\$ 95'430</u>	<u>\$ 89'619</u>	<u>\$ 92'567</u>
Gross Farm Income (GFI)	\$ 585'270	\$ 646'539	\$ 674'447
less: FWE	39%	49%	47%
	\$ 228'255	\$ 326'804	\$ 316'990
less: Depreciation	<u>\$ 25'605</u>	<u>\$ 28'286</u>	<u>\$ 29'507</u>
Profit	\$ 331'410	\$ 291'449	\$ 327'950
	=====	=====	=====
less: management salaries	<u>\$ 60'000</u>	<u>\$ 60'000</u>	<u>\$ 60'000</u>
	\$ 271'410	\$ 231'449	\$ 267'950
Return on TFCE	10.75 %	6.77 %	7.71 %

**Table IV : Significant differences in expenses
between the three regions for the
2000/2001 Season**

	West Coast	Canterbury	Southland
Wages/ACM	\$ 81	\$ 174	\$ 128
Animalhealth/ACM	\$ 53	\$ 63	\$ 59
Feed Costs/ACM (Grazing, Meal, Straw, etc.)	\$ 97	\$ 267	\$ 298
R+M Vehicle Exp. + Fuel/ACM	\$ 106	\$ 155	\$ 141

- **Main factor for the much lower wages costs on the Coast is that most farms on the West Coast tend to be family units with no or only 1 or 2 staff employed.**
- **The difference in the animal health costs, I guess, are probably because of higher stocking rate, which would mean more pressure for animals.**
- **The substantial difference in feed costs is, as outlined later in this report, the result of higher stocking rate (for Canterbury and Southland) with large amounts of feed purchases.**
- **R+M, Vehicle Expenses again are a reflection of the higher plant and vehicle requirements in Canterbury and Southland.**

Findings

It should be noted that all these financial figures are averages for the regions, taken from statistics.

All the regions will have variations within themselves (i.e. South Westland versus Grey Valley: 8 – 9'000 kg DM against 12 – 14'000 kg DM grown, which is reflected in a big variation in stocking rate).

On a first impression the West Coast's EFS per cow and ha is well below the other two regions. Due to the fact mainly of the lower stocking rate of around 2 cows/ha compared to 2.7 for Southland and 3.1 for Canterbury.

Also the average production per cow of 314 kg Milk solids (2001/2002 Season) is substantially lower than in Canterbury (357kg Milk solids) and Southland (373kg Milk solids). The higher per cow/ha production in Canterbury and Southland was mainly a result of substantial feed purchases and grazing off. A system not widely used on the West Coast.

However once the financial data has been analysed, a different picture started to emerge.

Findings (Continued)

Capital required to purchase a 400 cow dairy farm is higher for Canterbury and Southland than on the West Coast. A substantial cost to dairy farmers in Canterbury and Southland is the much higher share values @ \$4.85/kg MS compared to \$1.50/kg MS.

Furthermore FWE where higher in Canterbury (49 %) and Southland (47 %), compared to the West Coast (39 %). This is mainly due to the cost of irrigation in Canterbury, (free on the West Coast!), and for Canterbury and Southland high per cow feed cost (grazing off, purchase of supplements...), high cost of plant and machinery and higher cost of labour.

The West Coast farmer, in general, has a low cost system, is less reliant on supplement purchases, and would have - on average - less plant, machinery and vehicles.

Conclusion

Whilst the profit and return on total farm capital employed maybe the highest on the West Coast, living on the remote “Wet Coast” is not everybody’s cup of tea. Showing a higher profit for the West Coast has just about to be a ‘must’ to compensate for the frequent prolonged wet weather Coasters have to put up with at times.

Large scale conversion opportunities, a fact in Canterbury and Southland, are very rare on the West Coast, and some of those conversions may come at a much higher cost (hump & hollowing, vegetation clearing etc.). Having said that, much of the land currently used for dairying on the West Coast is significantly under utilised. Substantial production gains could be made by a higher stocking rate and better per cow production.

Certainly ease of access to grazing, purchase of supplement, be this grain, hay, straw or other feeds are in favour of Canterbury and Southland, whereas the Coast has the added cost of transport.

Conclusion (Continued)

Canterbury and Southland are increasingly in the spotlight because of environmental issues, mainly water usage for irrigation, and water pollution through fertilizer and effluent runoff into waterways. An issue which will not go away and needs addressing. Whether this will have a detrimental effect on farms relying on irrigation in the long term, could have an influence over the land usage in these areas.

The pressure in that respect is much lower on the West Coast because:

- (a) farms as a rule are not as large as in Canterbury and Southland**
- (b) the intensity of farming is less on the West Coast**
- (c) the high rainfall on the West Coast has a dilution effect and**
- (d) the 380 or so dairy farms on the West Coast are scattered over a very long distance, from Karamea to Franz Josef, with substantial native vegetation in between to act as buffer.**

Conclusion (Continued)

The West Coast may be attractive for dairy farmers disillusioned with Fonterra and given the profitability of West Coast farms, compared to Canterbury and Southland, and Westland Milk Products new strategy, Special powder blends, infant formula, nutraceuticals, etc., adding more value to its products, the West Coast could become the Mecca of New Zealand dairy farming.

And finally, would we purchase a dairy farm on the West Coast again? The answer is YES! The West Coast has given us the opportunity to get into farm ownership at substantially lower cost compared to all other regions. Purchasing a farm which has had (and still has) the potential to increase production, was then, still is today, and will be in years to come, a viable, profitable and enjoyable farm to operate.

References

P.S. Alexander & Associates Ltd, Chartered Accountant,
Christchurch

P.M. Fitzgibbon & Co. Ltd, Chartered Accountant, Gore
Agriculture New Zealand

Dexcel