

Comparison of King Island and Mainland Tasmania Dairy Returns

DECEMBER 2010

Prepared by:

Lance Davey

December 7, 2010



1. Contents

Contents	2
1. Model Farm.....	3
2. Capital Investment	5
3. Milk Income.....	6
4. Farm Costs & Returns.....	8
5. Appendices.....	9

2. Model Farm

For comparison purposes a model farm was developed for a “typical” King Island dairy farm in 2008¹.

The idea was to present the costs and returns for this model farm, and to compare those with a farm operating at the same level of efficiency on mainland Tasmania but with mainland Tasmanian milk prices and input prices.

This report updates the original with 2010-11 income and cost estimates.

The model farm is assumed to be a reasonably efficient operation milking 335 cows on 180 hectares (450 acres). Young stock are assumed to be carried on-farm and around 0.3 tonnes of grain fed per cow.

The assumed milk supply profile has significant winter and summer production but does have a spring peak.

Milk price schedules used are the KID announced prices as at November 2010, and for Fonterra’s seasonal schedule – announced prices to date plus an assumed 40c/kgMS (70c/kMF) in additional step-ups.

While it is acknowledged that no one farm accurately represents the King Island dairy farm sector, it is considered that the comparison should still be valid. The King Island model farm could be made more or less efficient but this could also apply to the Tasmanian comparison.

¹ Davey & Maynard, (2008) Comparison of King Island and Mainland Tasmanian Dairy Returns 2007-08.

Model Farm

FEED SUPPLY			
Farm Area - hectares			
Total			200
Effective			180
Feed Supply - tonnes dry matter			
Dryland Pasture	8.3	t DM/ha	1,494
Grain/Pellets	0.3	t DM/Cow	101
Other			0
Total Feed Supply			1,595
FEED REQUIREMENTS			
Stock Numbers			
Dairy Cows to Calve			350
Cows Milked	95%		335
Dairy Bulls			5
Dairy Calves Born	85%		298
Dairy Heifer Calves Reared	30%		90
Dairy Bull Calves Reared			
Dairy Heifer Calves Carried	100%		90
Dairy Yearling Heifers Carried	100%		90
Milk Production			
Litres per Cow			4,000
Milkfat per Cow	4.2%		168
Protein per Cow	3.2%		128
Milk Solids per Cow	7.4%		296
Total KgMF			56,280
Total Kg MS			99,160
Total Feed Requirements - tonnes dry matter			
Dairy Cows*	3.9	t DM/hd	1,315
Dairy Bulls	4.0		20
Dairy Heifer Calves	0.7		63
Dairy Bull Calves	0.3		0
Dairy Yearlings	2.2		198
Total Feed Requirements			1,596
FEED SURPLUS/DEFICIT			-1
			0%
LABOUR EMPLOYED			
Manager			1.0
Other			2.0
Total Labour Units			3.0
Cows Milked per FTE			112

3. Capital Investment

The total capital investment for the King Island Farm is estimated to be around 42% less than for a similar farm on mainland Tasmania.

Capital Investment

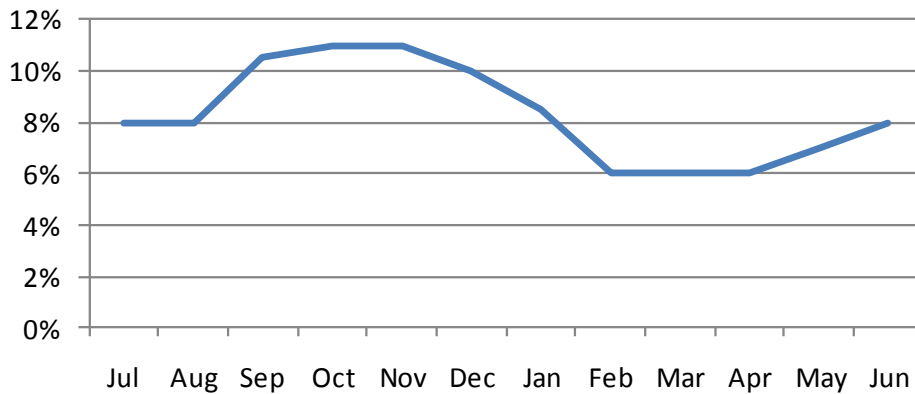
	Mainland Tasmania		King Island	
Land & Improvements	\$15,000 /ha	3,000,000	\$6,500 /ha	1,300,000
Livestock				
Dairy Cows	\$1,400 /hd	490,000	\$1,400 /hd	490,000
Dairy Bulls	\$1,000 /hd	5,000	\$1,000 /hd	5,000
Dairy Yearlings	\$800 /hd	<u>72,000</u>	\$800 /hd	<u>72,000</u>
Total Livestock		567,000		567,000
Plant & Machinery		218,200		240,100
Other Assets		200,000		220,000
Total Assets		3,985,200		2,327,100

The value of land and improvements has been reduced by around 15% for both the King Island and Mainland Tasmanian farms since June 2008. This assumption is based on limited sales information and requires further analysis to determine its accuracy.

4. Milk Income

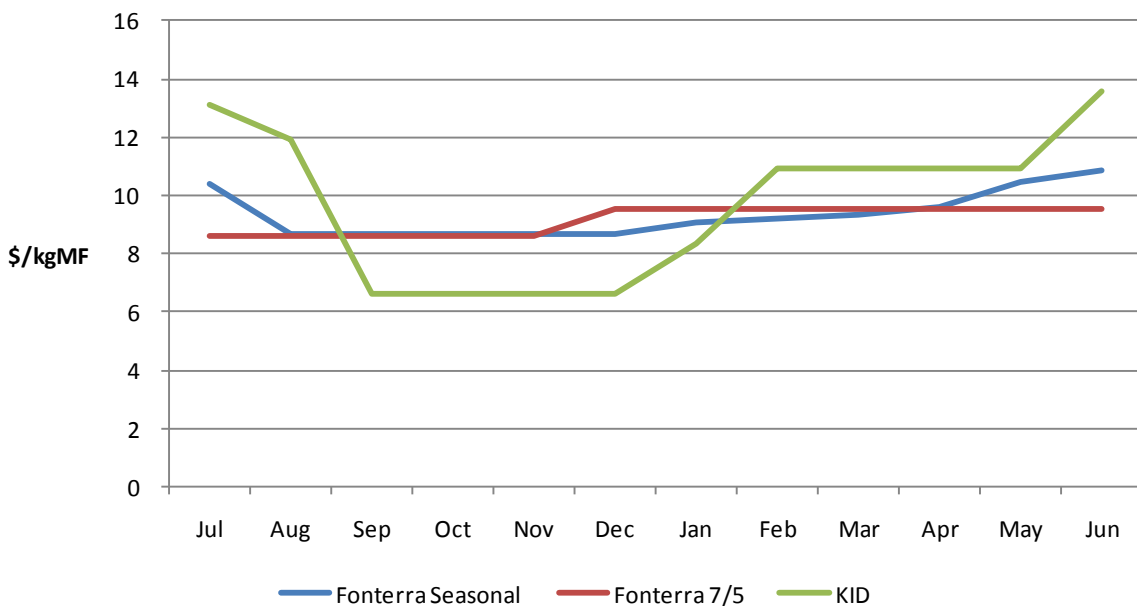
The assumed milk supply profile has significant winter and summer production but does have a spring peak.

Milk Supply Profile



Milk price schedules used are KID announced prices as at November 2010, and for Fonterra’s seasonal schedule – announced prices to date plus an assumed 40c/kgMS (70c/kgMF) in additional step-ups.

Milk Prices by Month, 2010-11

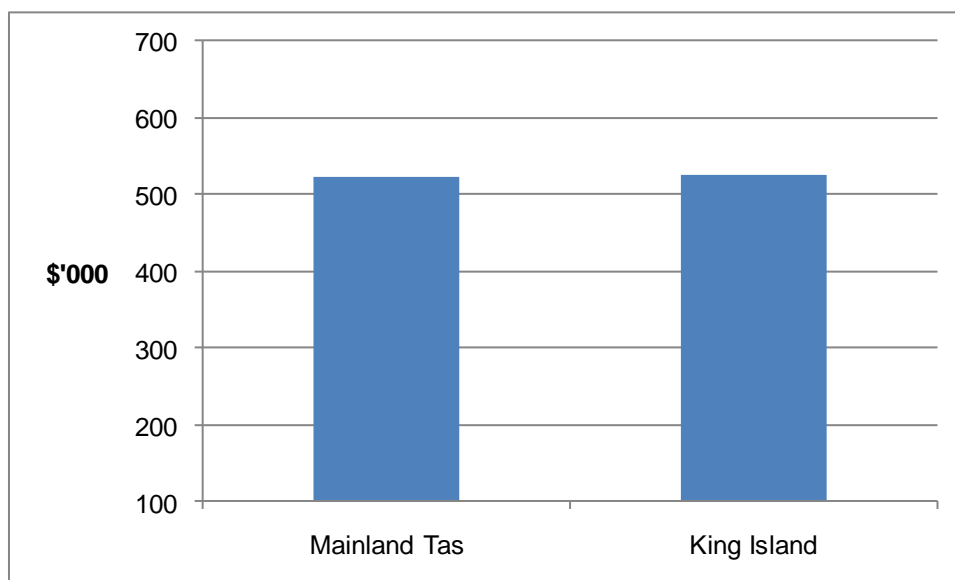


The overall average price for KID has been estimated at \$9.36/KgMF (\$5.31/kgMS) compared to \$9.29/KgMF (\$5.27/kgMS) for Fonterra – with the assumed milk prices

and supply profile. In other words the assumed additional 70c/kgMF (40c/kgMS) step-ups for Fonterra are required to bring the overall average price for the mainland Tasmanian farm up to that for King Island. Without those step-ups the mainland Tasmanian farm will earn less than the King Island farm.

Estimated milk income for both farms in 2010-11 is around \$522,000. Without the extra step-ups the mainland Tasmanian farm income would be reduced by around \$40,000 to \$483,000.

Estimated Milk Income, 2010-11



5. Farm Costs & Returns

Compared to mainland Tasmania the King Island farm operating at the same level of efficiency has:

- A similar level of income
- 12% more cost
- 68% less profit (EBIT).

And despite its significantly lower capital investment the King Island farm earns only a 1.2% return on total capital compared to 2.2% for the Mainland Tasmanian farm.

Farm Costs & Returns, 2010-11

	Mainland Tas	King Island	Difference	
Income				
Milk Sales	522,900	526,600	3,700	1%
Dairy Stock Sales	43,100	40,000	-3,100	-7%
Total Income	566,000	566,600	600	0%
Expenses				
Dairy Stock Purchases	1,300	1,300	0	0%
Dairy Shed & Cow Costs	48,900	54,250	5,350	11%
Pasture & Feed Costs	92,950	100,950	8,000	9%
Purchased Feed	42,800	57,200	14,400	34%
Tractor, Plant & Vehicle Operating	27,200	34,350	7,150	26%
Repairs to Structures & Improvements	33,000	34,650	1,650	5%
Wages/Drawings	157,000	168,600	11,600	7%
Insurance	10,900	11,200	300	3%
Admin & General Overheads	22,250	28,300	6,050	27%
Capital Replacement/Depreciation	43,700	48,100	4,400	10%
Total Expenses	480,000	538,900	58,900	12%
EBIT (Earnings before Interest & Tax)	86,000	27,700	-58,300	-68%
	2.2%	1.2%		

Note: The model farms for both King Island and Mainland Tasmania are assumed to have exactly the same level of inputs and efficiency. In practice there is scope to vary some inputs as a result of higher or lower prices and thus improve overall profitability. For example, the higher price for purchased feed (grain/pellets) on King Island might be expected to lead to lower usage compared to an otherwise “identical” farm in the Circular Head.

6. Appendices

Appendix 1 Milk Income

Appendix 2 Budget Details

APPENDIX 1

MILK INCOME 2010-11

Cows Milked 335

Milk Production

	Litres	Milkfat	Protein	Milk Solids
Per Cow	4,000	168	128	296
		4.2%	3.2%	7.4%
Total	1,340,000	56,280	42,880	99,160

Price Schedules

Assuming 40c/kgMS extra stepups for Fonterra

Month	Fonterra Seasonal			KID		
	\$/KgMF	\$/KgPr	\$/L	\$/KgMF	\$/KgPr	\$/L
Jul	4.03	10.04	0.027	13.13		
Aug	3.44	8.62	0.027	11.92		
Sep	3.04	7.62	0.027	6.65		
Oct	3.04	7.62	0.027	6.65		
Nov	3.04	7.62	0.027	6.65		
Dec	3.04	7.62	0.027	6.65		
Jan	3.17	7.93	0.027	8.35		
Feb	3.21	8.03	0.027	10.90		
Mar	3.67	9.17	0.027	10.90		
Apr	3.75	9.36	0.027	10.90		
May	4.07	10.13	0.027	10.90		
Jun	4.21	10.47	0.027	13.59		
Prices include:	\$/KgMF	\$/KgPr	\$/KgMS	\$/KgMF		
Announced Step-ups	\$0.24	\$0.60	\$0.40	\$0.00	From January	
Levy	-\$0.03	-\$0.06	-\$0.04	-\$0.08		
Quantity premium	\$0.06	\$0.16	\$0.10	\$0.00		
Future step-ups?	<u>\$0.24</u>	<u>\$0.60</u>	<u>\$0.40</u>	<u>\$0.00</u>		
	\$0.51	\$1.29	\$0.85	-\$0.08		
SRP Jul-Aug & Mar-Jun	\$0.40	\$1.00	\$0.66			
	Grow th premium excluded					

Milk Income

Month	Supply Profile	Fonterra Seasonal	KID	Difference
Jul	8.0%	49,709	59,137	9,427
Aug	8.0%	42,182	53,689	11,507
Sep	10.5%	48,497	39,324	-9,174
Oct	11.0%	50,807	41,196	-9,610
Nov	11.0%	50,807	41,196	-9,610
Dec	10.0%	46,188	37,451	-8,737
Jan	8.5%	41,012	39,966	-1,046
Feb	6.0%	29,342	36,822	7,480
Mar	6.0%	33,828	36,822	2,994
Apr	6.0%	34,587	36,822	2,235
May	7.0%	43,923	42,959	-964
Jun	8.0%	51,995	61,208	9,213
	100%	522,877	526,593	3,715
Per Litre		\$0.39	\$0.39	\$0.00
Per Kg MF		\$9.29	\$9.36	\$0.07
Per Kg MS		\$5.27	\$5.31	\$0.04

--	--	--	--	--	--	--

APPENDIX 2 BUDGET DETAILS - KID vs Fonterra

Assuming 40c/kgMS extra step-ups for Fonterra

(1) SUMMARY

Model Farm	Mainland Tasmania	King Island	Difference	
Total Farm Area - hectares	200	200	0	
Effective Area -hectares	180	180	0	
Cows Milked	335	335	0	
Replacements Carried	90	90	0	
Milk Production				
Litres per Cow	4,000	4,000	0	
Milkfat per Cow	168	168	0	
Total MF	56,280	56,280	0	
Total MS	99,160	99,160	0	
Labour Units				
Manager	1.0	1.0	0	
<u>Other/Casual</u>	<u>2.0</u>	<u>2.0</u>	<u>0</u>	
Total Labour Units	3.0	3.0	0	
Cows Milked per FTE	112	112		
Assets				
Land & Improvements	3,000,000	1,300,000	-1,700,000	
Livestock	567,000	567,000	0	
Plant & Machinery	218,200	240,100	21,900	
Other Assets	<u>200,000</u>	<u>220,000</u>	<u>20,000</u>	
	3,985,200	2,327,100	-1,658,100	-42%
Income				
Milk Sales	522,900	526,600	3,700	1%
Dairy Stock Sales	43,100	40,000	-3,100	-7%
Total Income	566,000	566,600	600	0%
Expenses				
Dairy Stock Purchases	1,300	1,300	0	0%
Dairy Shed & Cow Costs	48,900	54,250	5,350	11%
Pasture & Feed Costs	92,950	100,950	8,000	9%
Purchased Feed	42,800	57,200	14,400	34%
Tractor, Plant & Vehicle Operating	27,200	34,350	7,150	26%
Repairs to Structures & Improvements	33,000	34,650	1,650	5%
Wages/Drawings	157,000	168,600	11,600	7%
Insurance	10,900	11,200	300	3%
Admin & General Overheads	22,250	28,300	6,050	27%
Capital Replacement/Depreciation	43,700	48,100	4,400	10%
Total Expenses	480,000	538,900	58,900	12%
EBIT (Earnings before Interest & Tax)	86,000	27,700	-58,300	-68%
	2.2%	1.2%		

(2) KING ISLAND MODEL FARM**FEED SUPPLY**

Farm Area - hectares			
Total			200
Effective			180
Feed Supply - tonnes dry matter			
Dryland Pasture	8.3	t DM/ha	1,494
Grain/Pellets	0.3	t DM/Cow	101
Other			0
Total Feed Supply			1,595

FEED REQUIREMENTS

Stock Numbers			
Dairy Cows to Calve			350
Cows Milked	95%		335
Dairy Bulls			5
Dairy Calves Born	85%		298
Dairy Heifer Calves Reared	30%		90
Dairy Bull Calves Reared			
Dairy Heifer Calves Carried	100%		90
Dairy Yearling Heifers Carried	100%		90
Milk Production			
Litres per Cow			4,000
Milkfat per Cow	4.2%		168
Protein per Cow	3.2%		128
Milk Solids per Cow	7.4%		296
Total KgMF			56,280
Total Kg MS			99,160
Total Feed Requirements - tonnes dry matter			
Dairy Cows*	3.9	t DM/hd	1,315
Dairy Bulls	4.0		20
Dairy Heifer Calves	0.7		63
Dairy Bull Calves	0.3		0
Dairy Yearlings	2.2		198
Total Feed Requirements			1,596

FEED SURPLUS/DEFICIT	Feed Supply less Requirements	-1	ie approx in balance
-----------------------------	-------------------------------	----	----------------------

LABOUR EMPLOYED

Manager	1.0
Other	2.0
Total Labour Units	3.0
Cows Milked per FTE	112

* Dairy Cow Requirement 2 t/hd + 6.5 kgDM/kgMS)

(3) CAPITAL INVESTMENT

	Mainland Tasmania		King Island		
Land & Improvements	\$15,000 /ha	3,000,000	\$6,500 /ha	1,300,000	-57% lower land cost
Livestock					
Dairy Cows	\$1,400 /hd	490,000	\$1,400 /hd	490,000	Similar stock values
Dairy Bulls	\$1,000 /hd	5,000	\$1,000 /hd	5,000	Similar stock values
Dairy Yearlings	\$800 /hd	<u>72,000</u>	\$800 /hd	<u>72,000</u>	Similar stock values
Total Livestock		567,000		567,000	
Plant & Machinery		218,200		240,100	10% Contingencies
Other Assets		200,000		220,000	10% Contingencies
Total Assets		3,985,200		2,327,100	-42%
		\$40.19 /kgMS		\$23.47 /kgMS	

(4) INCOME & EXPENSES

Assuming 40c/kgMS extra step-ups for Fonterra

	Mainland Tasmania		King Island		KI vs Mainland
Income	Fonterra Seasonal	(\$)	KID	(\$)	
Milk Sales	\$5.27 /kgMS	522,900	\$5.31 /kgMS	526,600	1% higher price (assumes extra 40c/kgMS stepups for Fonterra)
Dairy Stock Sales			KID		
Cull Cow Sales	20% cows \$500 /hd net	35,000	\$500 /hd net	35,000	similar prices
Day Old Calf Sales	\$35 /hd net	7,300	\$20 /hd net	4,200	lower prices for do calves
Bull Sales	25% bulls \$600 /hd net	800	\$600 /hd net	800	similar prices
		43,100		40,000	
Total Income		566,000		566,600	0.1% more income
Expenses					
Stock Purchases	25% bulls \$1,000 /hd	1,300	\$1,000 /hd net	1,300	similar cost
Dairy Shed & Cow Costs					
An. Health/Vet	\$30 /Cow	10,050	\$33	11,060	10% higher cost
Shed Expenses	\$30 /Cow	10,050	\$33	11,060	10% higher cost
Dairy Electricity	\$31 /Cow	10,350	\$37	12,500	21% higher cost
AI & HR	\$35 /Cow	11,730	\$39	12,900	10% higher cost
Stock Cartage/Other	\$20 /Cow	6,700	\$20	6,700	0% higher cost
	\$146 /Cow	48,880	\$162	54,220	11% higher cost
Pasture Costs					
Seed	10% area \$200 /ha	3,600	\$200 /ha	3,600	similar cost
Fertiliser/Lime					
0-7-10	400 Kg/ha \$491 /t (list)	35,400	\$545 /t (list)	39,300	\$54/t 11% higher cost
Urea	400 Kg/ha \$584 /t (list)	42,100	\$629 /t (list)	45,300	\$45/t 8% higher cost
Sprays	\$16 /ha	2,850	\$16 /ha	2,850	similar cost
Contract Work	\$20 /ha	3,600	\$22 /ha	3,960	10% higher cost
Contract Hay/Silage Making	\$30 /ha	5,400	\$33 /ha	5,940	10% higher cost
		92,950		100,950	
Purchased Feed					
Calf Feed	100 kg/calf \$450 /t	4,100	\$570 /t	5,200	\$120/t 27% higher cost
Grain/Pellets	330kg/cow \$350 /t	38,700	\$470 /t	52,000	\$120/t 34% higher cost
		42,800		57,200	
Tractor, Vehicle & Plant Operating					
Registrations	\$2,500	2,500	\$2,500	2,500	similar cost
Diesel	10,000 L \$0.82 /L net	8,200	\$1.12 /L net	11,200	\$0.30/L 37% higher cost
Repairs	\$16,500	16,500	\$18,150	18,150	10% higher cost
Freight			\$2,500	2,500	
		27,200		34,350	26% higher cost
Repairs to Structures & Improvements					
Buildings, Fences, Laneways etc	\$33,000	33,000	\$34,650	34,650	5% higher cost
Wages/Drawings	Including Superannuation				
Owner/Manager	\$80,000	80,000	\$80,000	80,000	similar cost
Other Wages	\$38,500 /FTE	77,000	\$44,300 /FTE	88,600	\$5.8k 15% higher cost
		157,000		168,600	
Insurance					
General	\$6,100	6,100	\$6,100	6,100	similar cost
Workers Compensation	3%	4,800	3%	5,100	6% higher cost
		10,900		11,200	3% higher cost
Admin & General Overheads					
Acctg/Advisory	\$5,500	5,500	\$5,500	5,500	similar cost
Bank Charges/Fees	\$1,100	1,100	\$1,100	1,100	similar cost
General HEC	\$2,500	2,500	\$2,600	2,600	4% higher cost
Rates & Land Tax	\$4,400	4,400	\$4,400	4,400	similar cost
Telephone	\$3,300	3,300	\$3,800	3,800	\$0.5k 15% higher - more STD
Other	\$5,450	5,450	\$10,900	10,900	\$5.5k 100% higher - airfares etc
		22,250		28,300	
Capital Replacement/Depreciation					
Plant & Machinery	20%	43,700	20%	48,100	
Total Expenses		479,980		538,870	12%
EBIT (Earnings before Interest & Tax)		86,020		27,730	-68%
Return on Capital		2.2%		1.2%	