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Benchmarking Analysis of Gippsland Dairy Farmers

Report Prepared by PrincipleFocus
www.principlefocus.com.au

Commissioned by:



www.tnn.com.au



www.agtechsolutions.com.au



1 Acknowledgements

Particular thanks to the farmers for their cooperation and goodwill in supplying their information to produce this analysis.

Thanks to David Read who diligently worked with the farmers to gather and collate their data in preparation for analysis.

2 Disclaimer

PrincipleFocus believes that the information contained in this report has been obtained from sources that are accurate, but it has not checked or verified that information. Except to the extent that liability cannot be excluded, PrincipleFocus accepts no liability for any loss or damage caused by any error or omission from this report. The reader should make and rely on their own independent inquiries.

This report is not intended to provide any advice and does not purport to make any recommendations for any individuals or third parties. Professional advice should be obtained prior to making any strategic business decisions.

There has been no statistical analysis conducted to reach conclusions on the significance of any differences reported.

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Further information regarding this project may be obtained from:

Jane Appleby

PO Box 1679

LAUNCESTON TAS 7250

Phone: 03 63366 940

Fax: 03 6344 8288

jappleby@principlefocus.com.au

3 Executive Summary

PrincipleFocus was commissioned to undertake comparative business performance analysis of dairy businesses in Gippsland, Victoria, which use the TNN production system. The data collected was to be compared to the performance of conventional producers. Data was collected on property for three consecutive financial years, 2005/06 to 2007/08, from a random cross section of Agtech Solutions/TNN clients.

Comparisons of the data were made to two data sets, Australian Bureau of Agricultural and Resource Economics (ABARE) Gippsland farmers and Dairy Industry Farm Monitor Project (DIFMP) Gippsland farmers.

On average over the three years Agtech Solutions/TNN clients have increased return on assets. They have also steadily increased total gross profit and net farm profit, even though both direct and overhead costs increased slightly over the three years.

On average over the three year period Agtech Solutions/TNN clients have reduced cow numbers per usable area and at the same time increased productivity per cow.

When key financial indicators are compared to DIFMP participants the Agtech Solutions/TNN clients perform on par or slightly better. Although on average cow productivity is slightly under that of the DIFMP participants, when comparing direct costs, Agtech Solutions/TNN clients have lower total direct costs than the DIFMP participants. Comparison of individual direct cost items vary, with total fertiliser costs being slightly higher than DIFMP participants, whilst total feed/fodder costs, animal health, calf rearing and breeding costs much lower.

Comparisons to the ABARE data set showed that Agtech Solutions/TNN clients had better return on assets in each of the three years, particularly in 2006/07 where the average was over 2% above that of ABARE. Agtech Solutions/TNN clients performed better in key productivity indicators when compared to ABARE, with more litres produced per cow.

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4 Methodology

Financial and production information was collected from dairy farm businesses for the 2005/06, 2006/07 and 2007/08 financial years. The three year trends of key financial and production indicators for each business have been outlined.

The average results of the individual businesses were compared to the average of two Gippsland dairy production data sets, the first produced by the Australian Bureau of Agricultural and Resource Economics (ABARE) and the second by the Dairy Industry Farm Monitor Project (DIFMP).

Comparisons to the DIFMP data have only been provided for the 2006/07 and 2007/08 financial years, as this project was not established in 2005/06. To allow for direct assessment the DIFMP comparisons are presented on a per kilogram of milk solids (KG MS) basis. It is important to note that to maintain a consistent data set only the average results from businesses (as identifiable by their property code) that participated in the DIFMP in both years were used for comparison. It is also important to note that to allow for a fairer assessment, comparisons have only been made to the top performing Agtech Solutions/TNN clients, as the DIFMP only report on business working closely with the DIP and performing in the top 30% (i.e. their top performing businesses).

Comparisons to the ABARE data have been provided for all three financial years. ABARE comparisons are presented on a per litre basis. Unpaid or imputed labour costs have been altered to match the methodology used by DIFMP to allow for a more consistent comparison across the groups. The method applied was based on \$400 per cow less paid labour or \$15 per hour, whichever is greater. The averages of all Agtech Solutions/TNN clients have been used in ABARE comparisons.

5 Comparative Analysis - ABARE

5.1 Financial Indicator Comparisons

Key financial business performance indicators have been compared to the ABARE participants over three years. The results are shown in the figures below on a per litre basis. Tables summarising the comparative analysis can be found in Appendix 1: Comparative ABARE Tables.

5.1.1 Farm Return On Assets

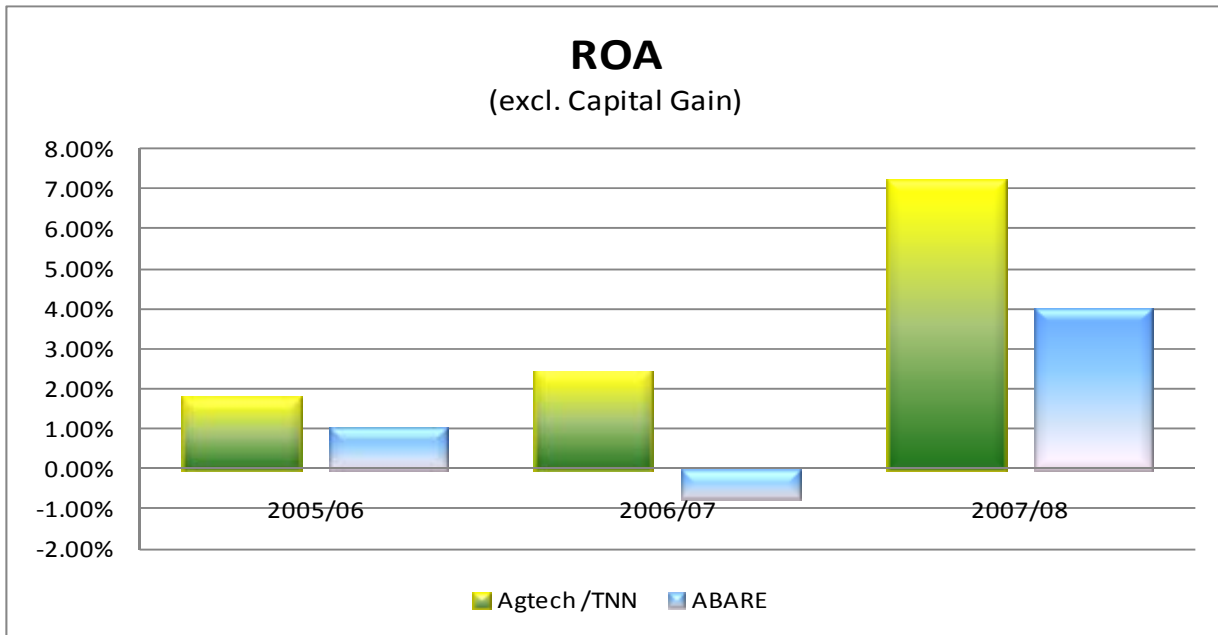


Figure 1: ABARE Comparison - Farm ROA

The Agtech Solutions/TNN clients outperformed the ABARE group in all three years in average return on assets.

5.1.2 Total Gross Profit

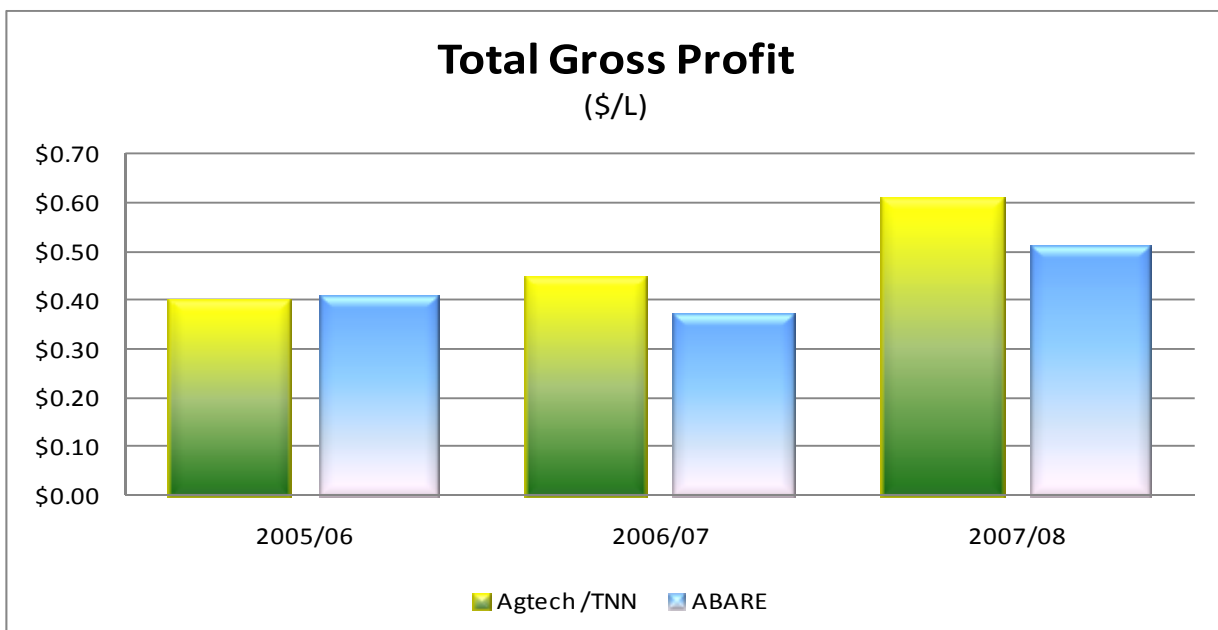


Figure 2: ABARE Comparison - Total Gross Profit

The Agtech Solutions/TNN clients also outperformed the ABARE group in both the 2006/07 and 2007/08 years in total gross profit and were only slightly behind in the 2005/06 year.

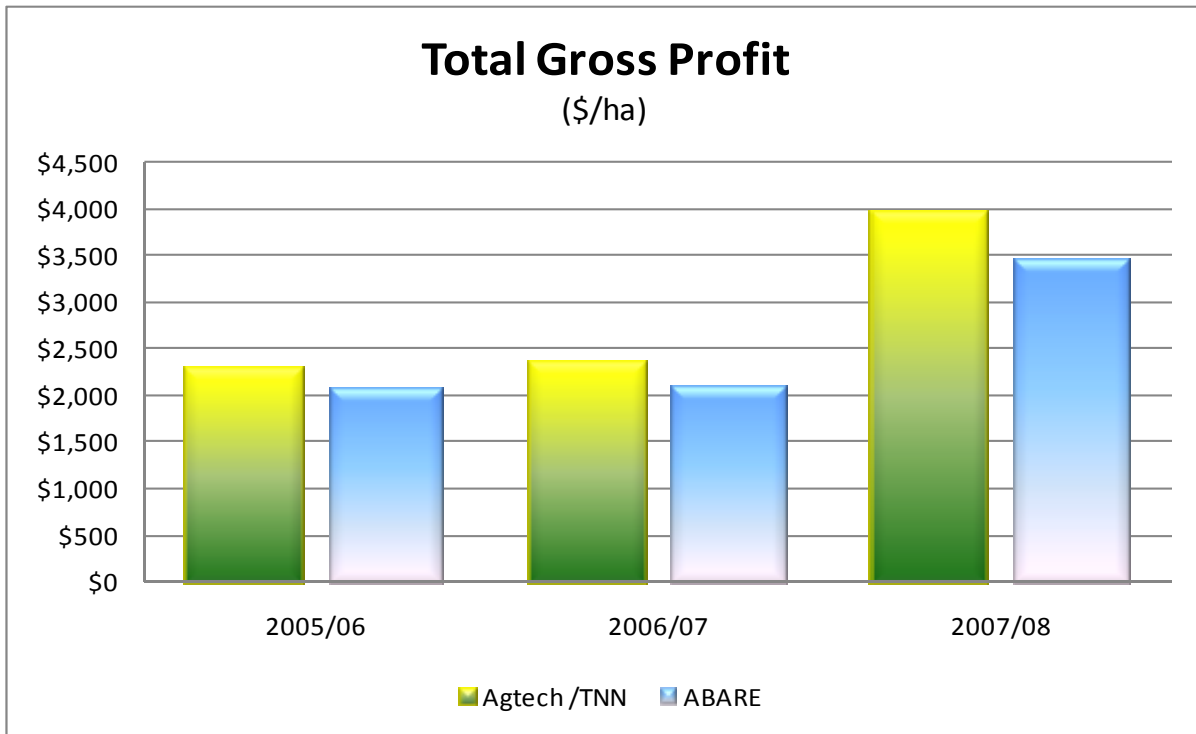


Figure 3: ABARE Comparison - Total Gross Profit (\$/ha)

When total gross profit was compared on a per hectare basis the Agtech Solutions/TNN clients outperformed the ABARE group in all the three years.

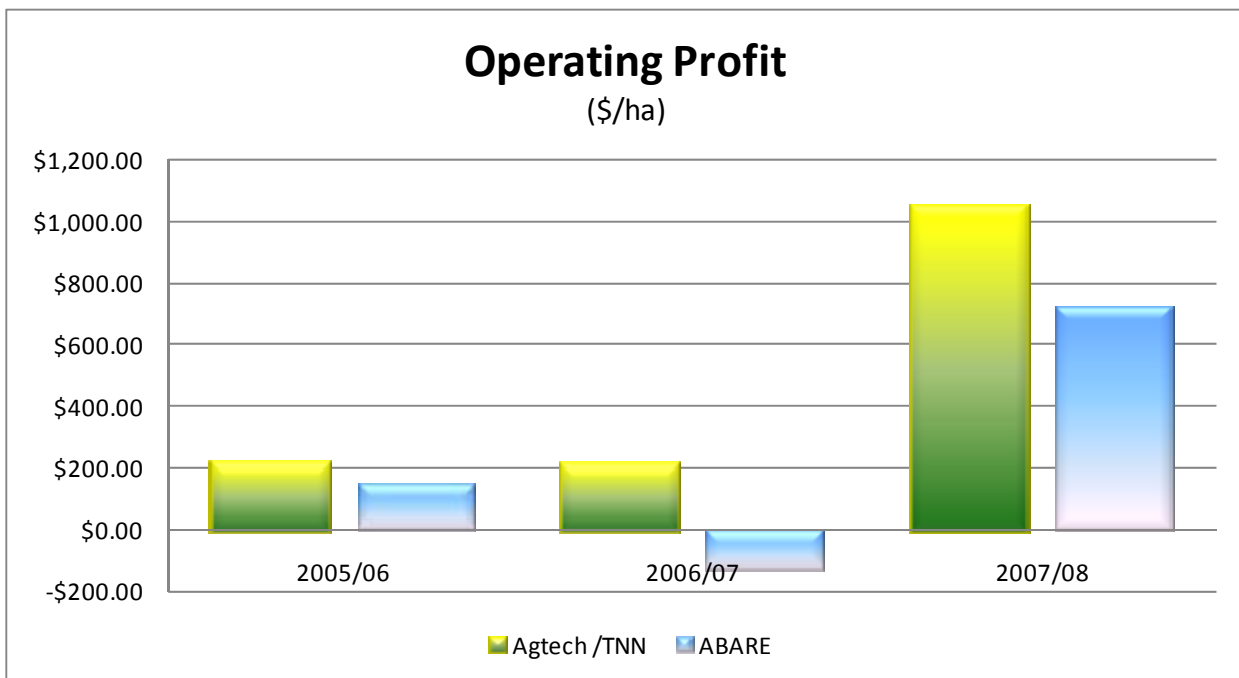


Figure 4: ABARE Comparison - Operating Profit (\$/ha)

The Agtech Solutions/TNN clients also had a higher operating profit or EBIT per hectare than the ABARE group.

5.2 Production Indicator Comparisons

5.2.1 Milking Cows Per Usable Area

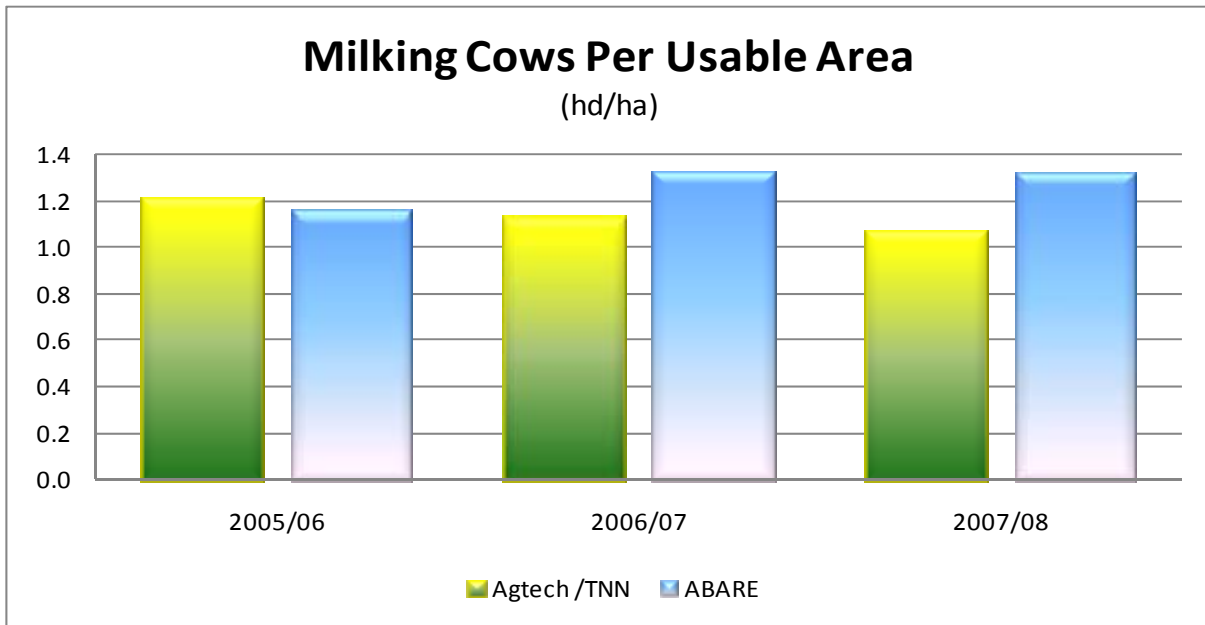


Figure 5: ABARE Comparison - Milking Cows Per Usable Area

Agtech Solutions/TNN clients carried fewer cows per hectare in most years analysed when compared to the ABARE group.

5.2.2 Litres Produced

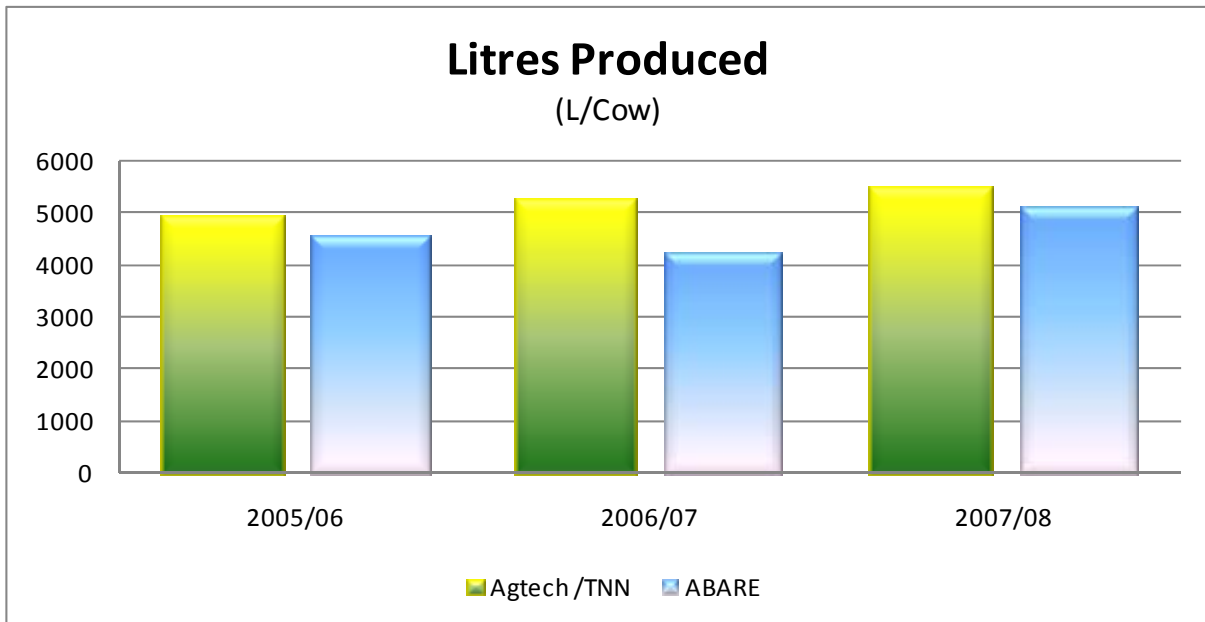


Figure 6: ABARE Comparison - Litres Produced

Over the three year period the Agtech Solutions/TNN clients had more productive cows which produced more litres per cow than those in the ABARE group.

5.2.3 Labour Efficiency

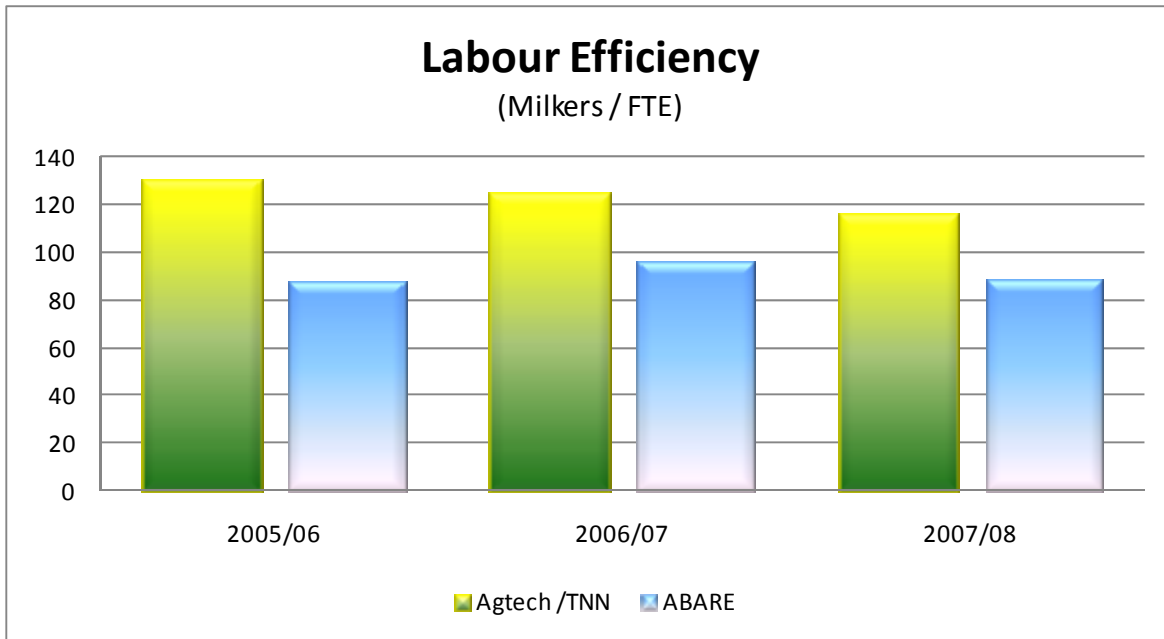


Figure 7: ABARE Comparison: Labour Efficiency (Milkers/FTE)

Agtech Solutions/TNN clients run on average more milking cows per FTE than the ABARE group.

5.3 Direct Costs Comparison

Comparisons could only be drawn for two of the key production costs from the ABARE data, fodder purchases and fertiliser. These are presented below.

5.3.1 Fertiliser

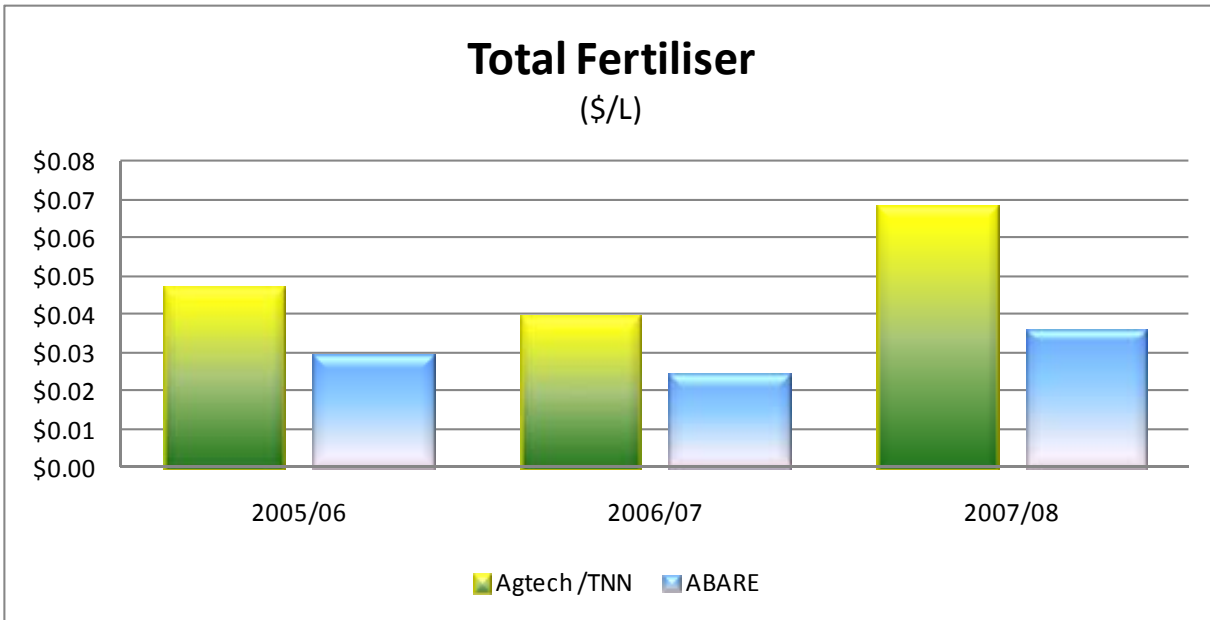


Figure 8: ABARE Comparison - Fertiliser

Agtech Solutions/TNN clients spent more per litre on fertiliser costs when compared to the ABARE group.

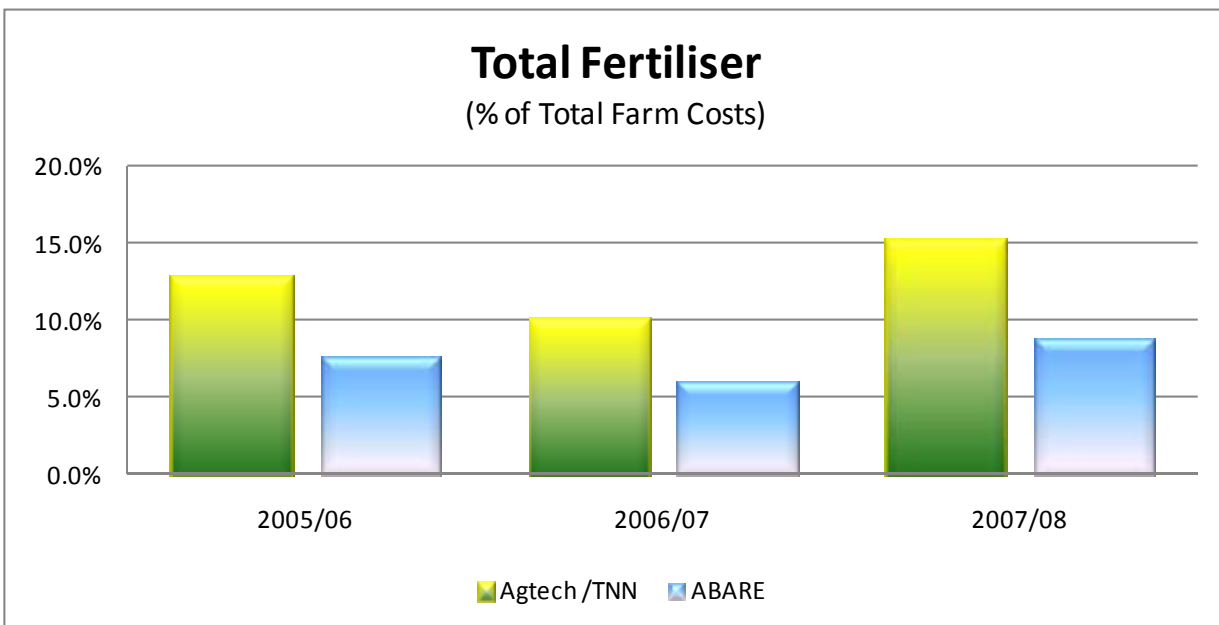


Figure 9: ABARE Comparison - Fertiliser as % of Total Farm Costs

5.3.2 Fodder Purchases

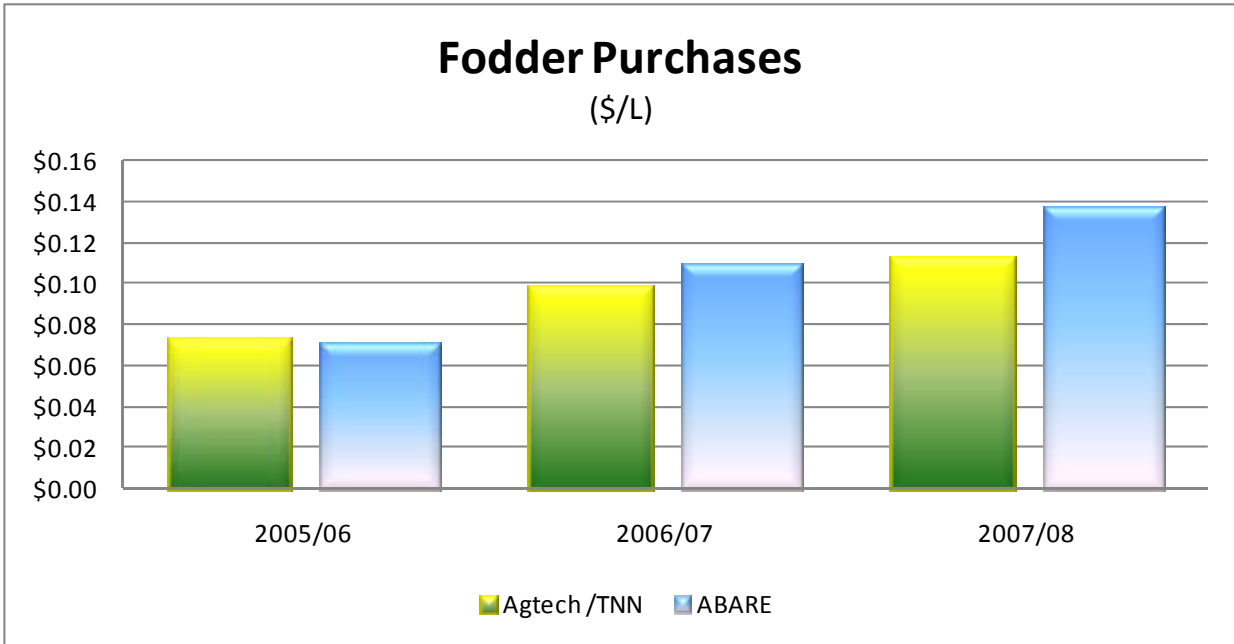


Figure 10: ABARE Comparison - Fodder Purchases

The Agtech Solutions/TNN clients spent less on fodder (including grain) purchases when compared to the ABARE group in each of the three years analysed. This is further emphasised when fodder purchases are expressed as a percentage of total farm costs.

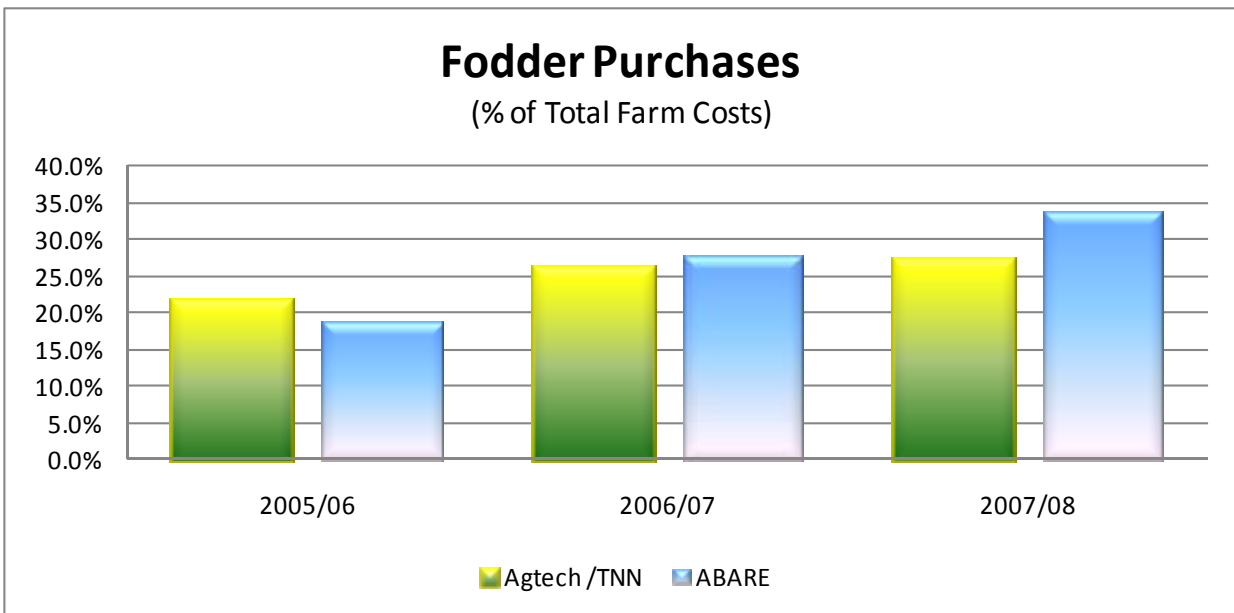


Figure 11: ABARE Comparison: Fodder Purchases as % of Total Farm Costs

6 Comparative Analysis – DIFMP

Please note that as the DIFMP only report on business working closely with the DIP and performing in the top 30%, comparisons have only be made to the top performing Agtech Solutions/TNN clients, to allow for a fairer comparison.

6.1 Financial Indicator Comparisons

Key financial business performance indicators have been compared to the DIFMP participants over two years. The results are shown in the figures below on a per kilogram of milk solids basis. Tables summarising the comparative analysis can be found in Appendix 2: Comparative DIFMP Tables.

6.1.1 Farm Return On Assets

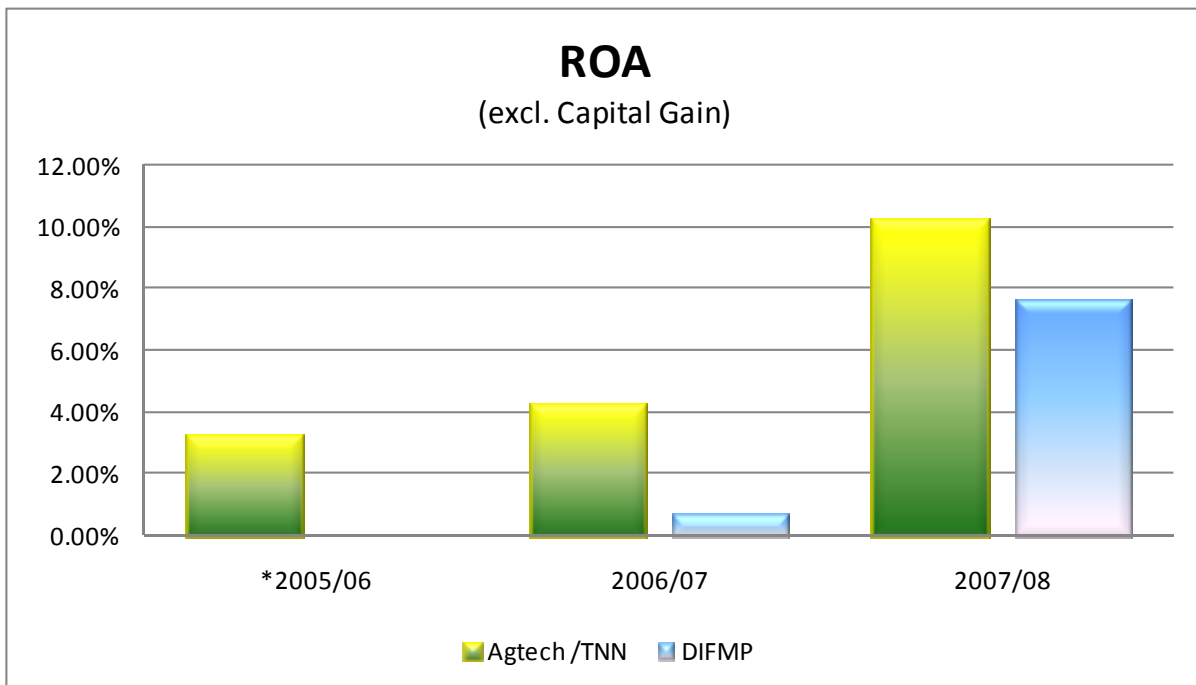


Figure 12: DIFMP Comparison - Farm ROA

Agtech Solutions/TNN clients have experienced a steady increase in ROA over the three years, whilst DIFMP participants have had a substantial jump in ROA from 2006/07 to 2007/08.

6.1.2 Total Gross Profit

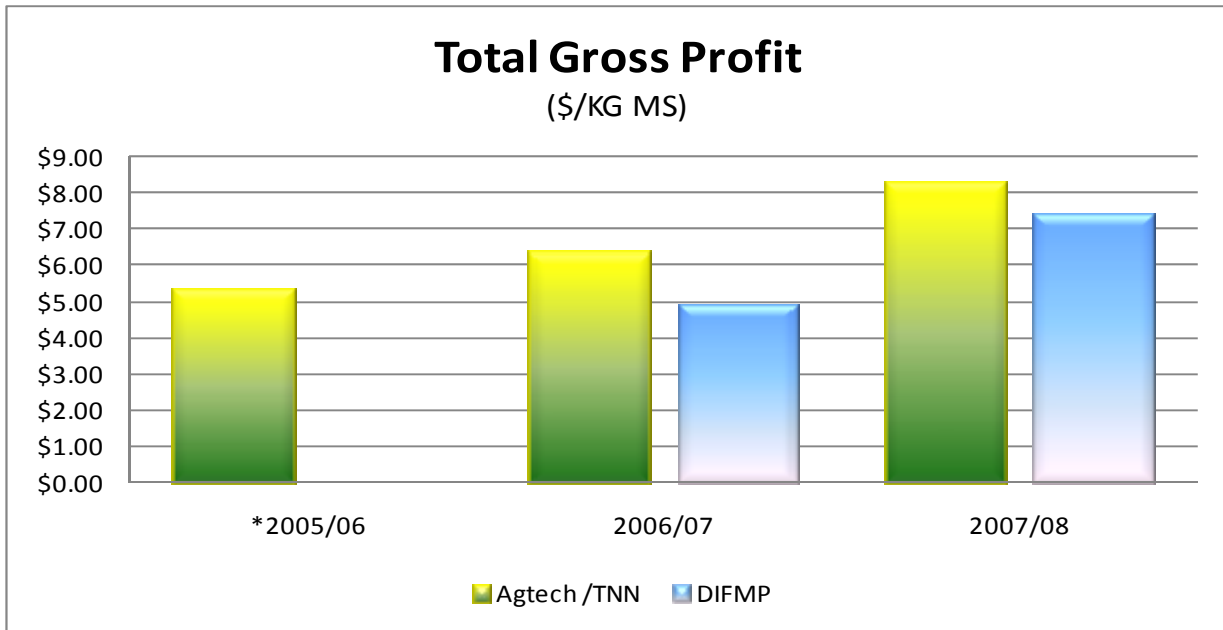


Figure 13: DIFMP Comparison - Total Gross Profit (\$/KG MS)

Agtech Solutions/TNN businesses were above the performance of DIFMP participants during 2006/07 and 2007/08.

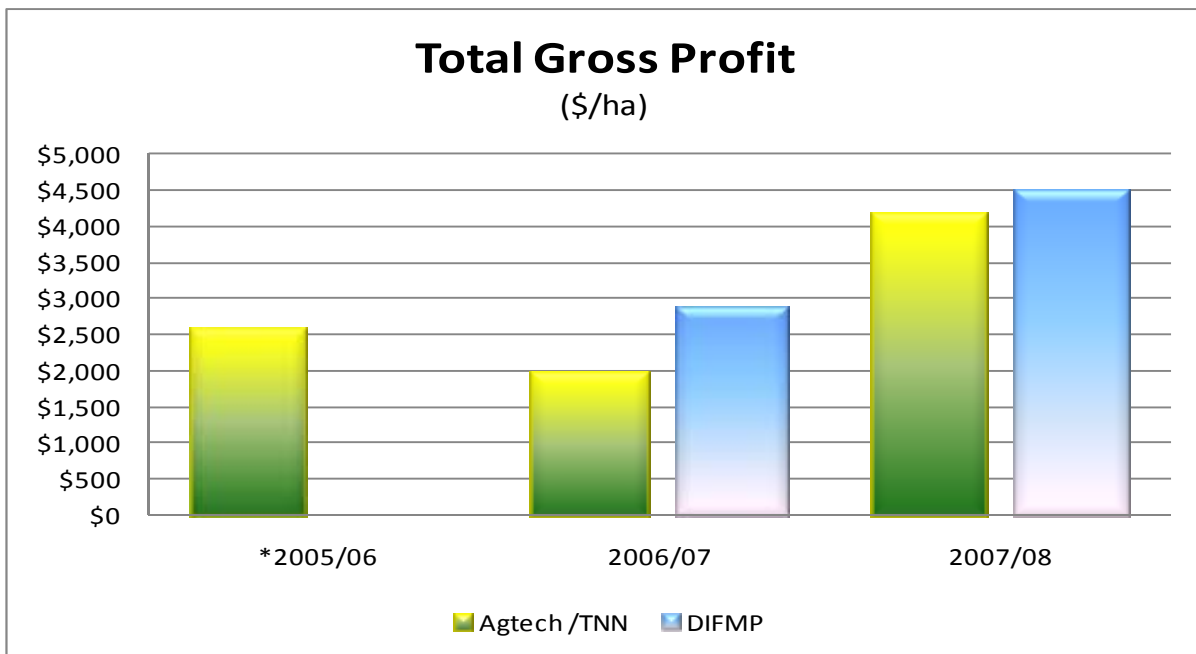


Figure 14: DIFMP Comparison - Total Gross Profit (\$/ha)

When compared on a per hectare basis the total gross profit was below that of the DIFMP participants.

However Figure 15 below shows that operating profit or EBIT was above that of the DIFMP participants.

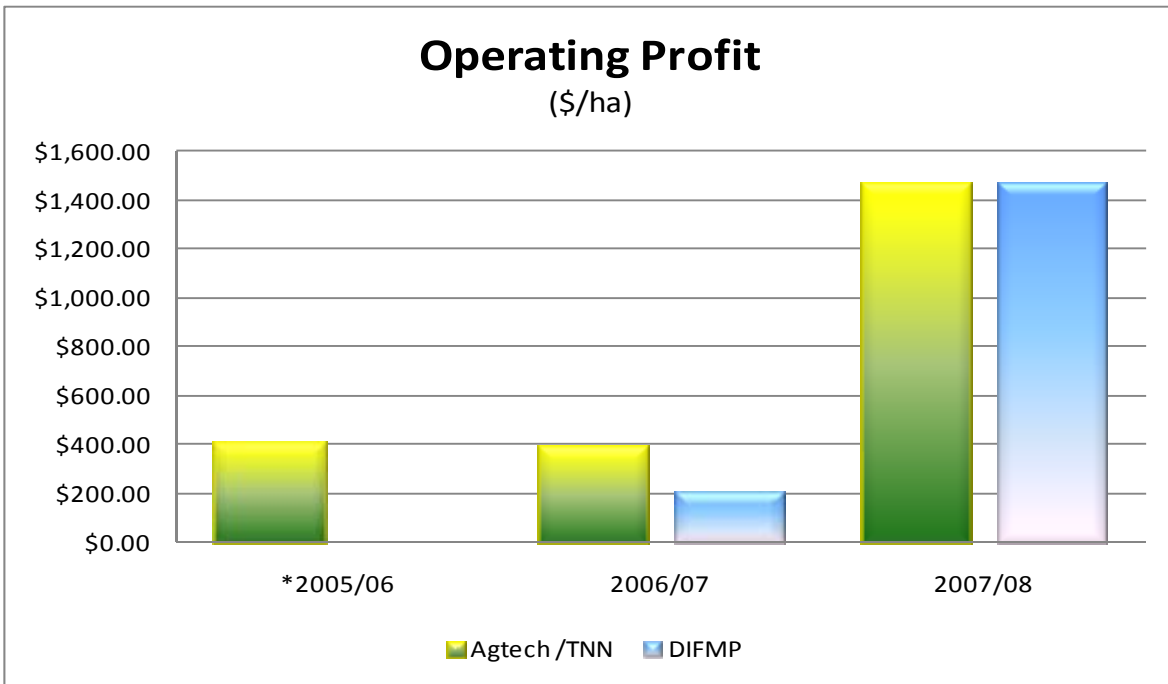


Figure 15: DIFMP Comparison - Operating Profit (\$/ha)

6.2 Production Indicator Comparisons

6.2.1 Milking Cows Per Usable Area

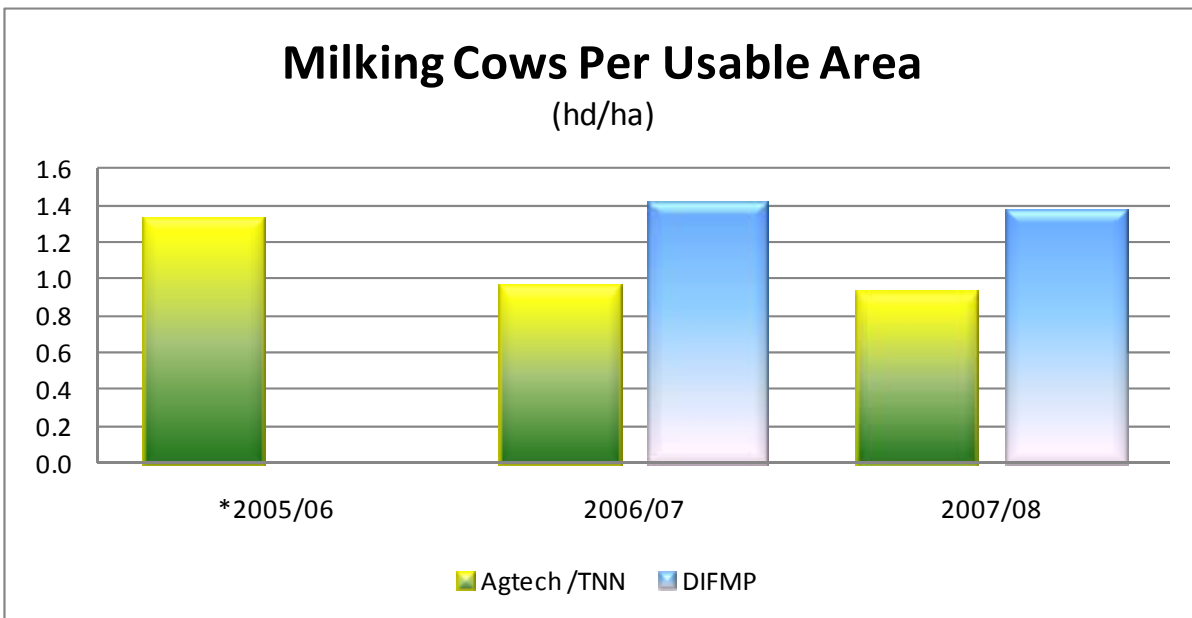


Figure 16: DIFMP Comparison - Milking Cows Per Usable Area

In comparison to the DIFMP group the Agtech Solutions/TNN clients carry, on average, fewer head per hectare.

6.2.2 Milk Solids Per Cow

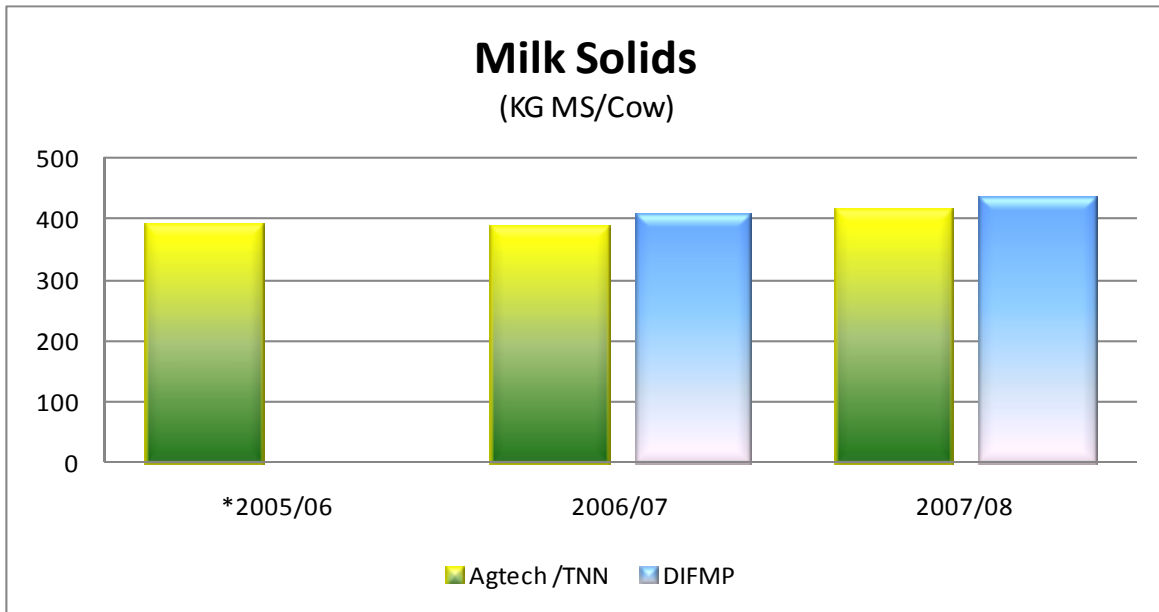


Figure 17: DIFMP Comparison - Milk Solids (KG MS/Cow)

The Agtech Solutions/TNN group have consistently increased the productivity per cow from year to year. However productivity within years is slightly behind participants in the DIFMP.

6.2.3 Labour Efficiency

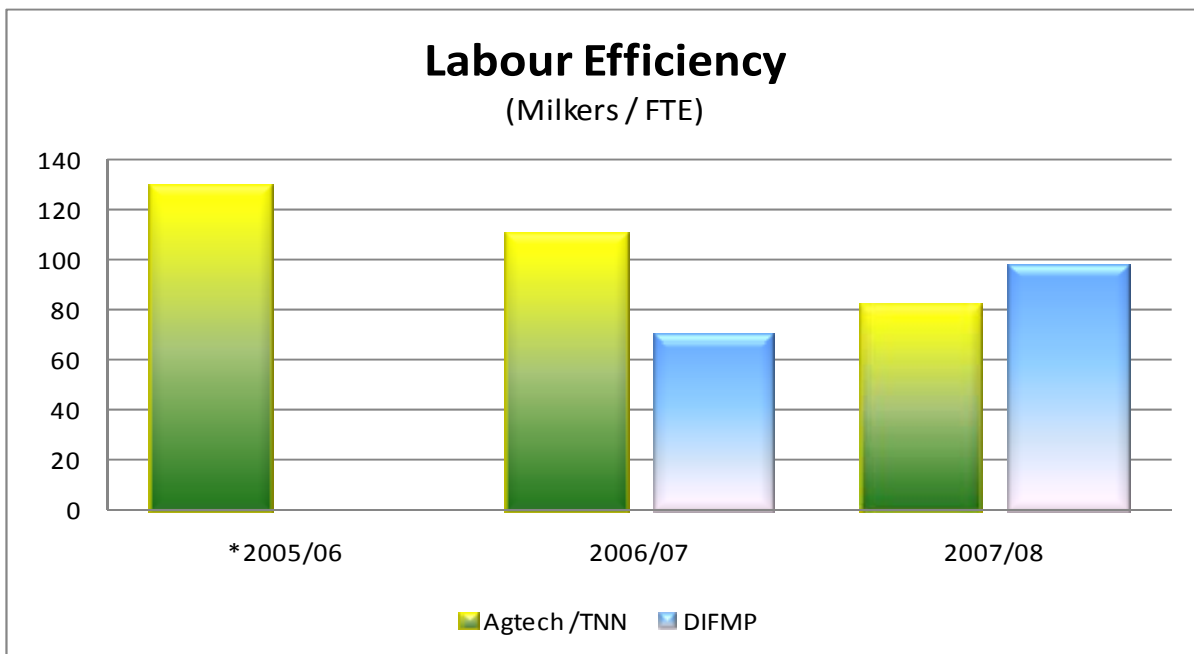


Figure 18: DIFMP Comparison: Labour Efficiency (Milkers/FTE)

Agtech Solutions/TNN clients run on average more milking cows per FTE than the DIFMP group.

6.3 Direct Costs Comparison

In comparison to the DIFMP participants the Agtech Solutions/TNN clients spent less on all of the key production costs with the exception of fertiliser. Even though fertiliser costs are higher, total direct costs are significantly lower than DIFMP participants. Total direct costs for DIFMP participants are on an upward trend, whereas total direct costs for Agtech Solutions/TNN clients have remained relatively level over the three year period.

6.3.1 Animal Health

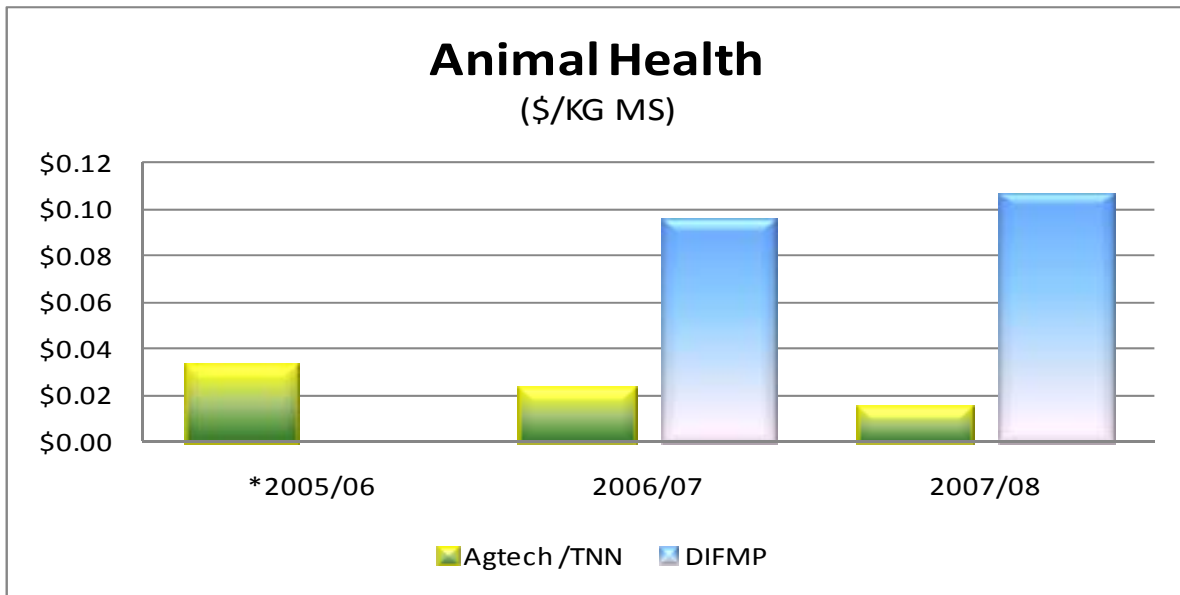


Figure 19: DIFMP Comparison - Animal Health

Animal health costs have consistently decreased over the last three years for Agtech Solutions/TNN clients and are significantly lower than DIFMP participants.

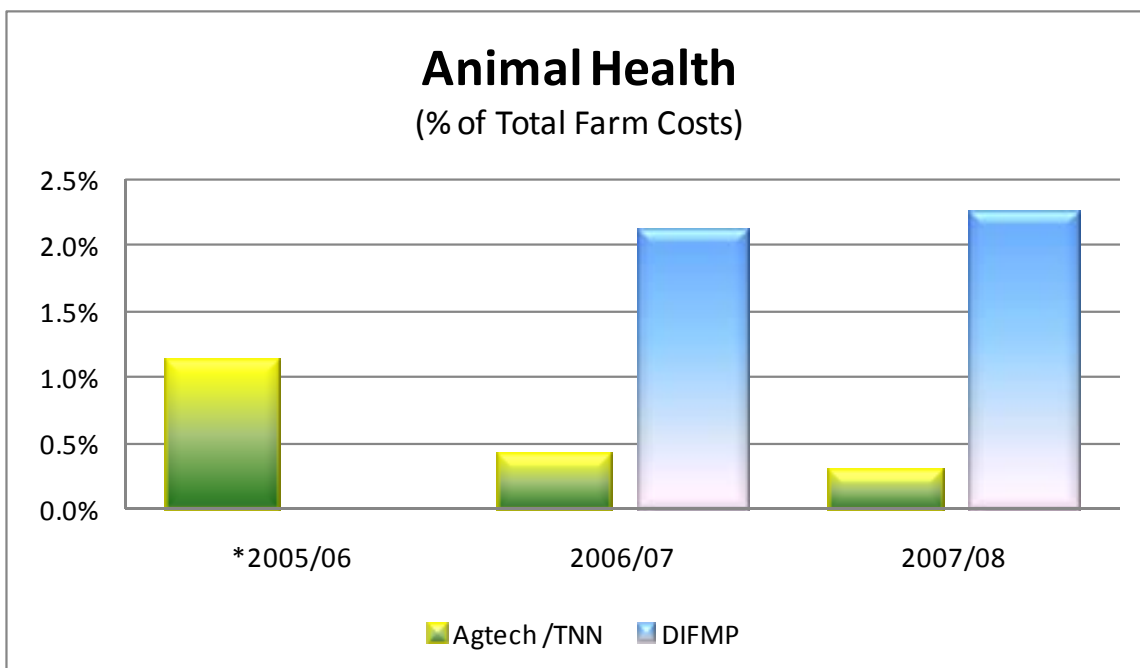


Figure 20: DIFPM Comparison - Animal Health as % of Total Farm Costs

6.3.2 Fertiliser

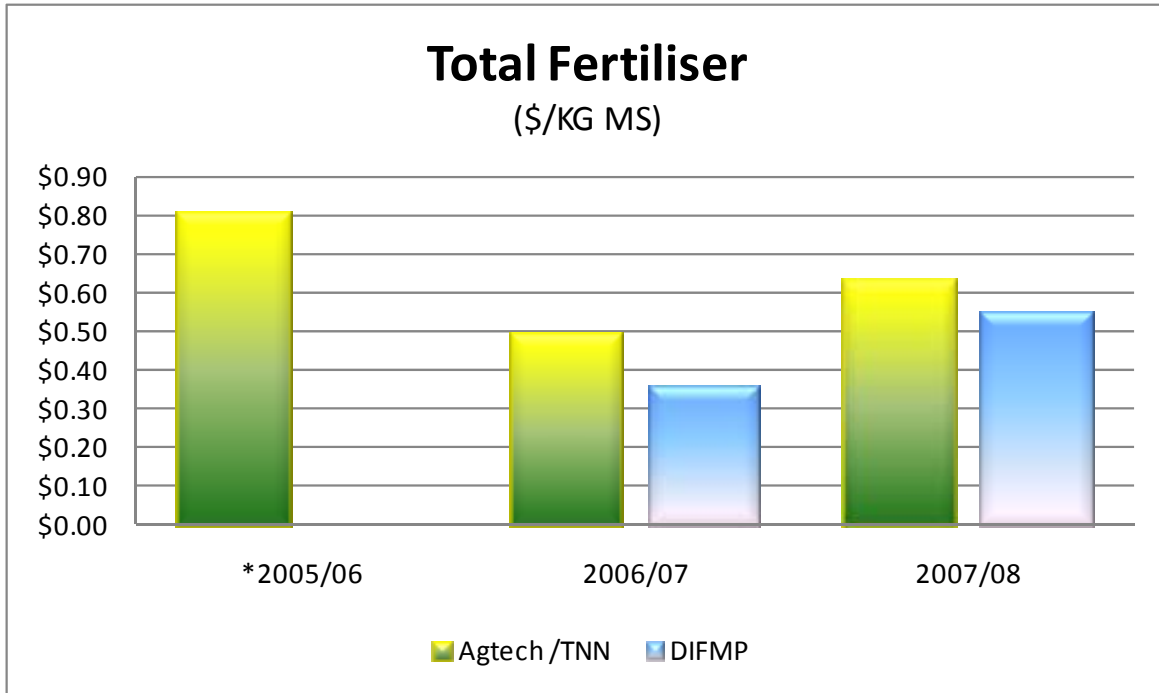


Figure 21: DIFMP Comparison - Fertiliser

Agtech Solutions/TNN clients spent more on average for fertiliser when compared to the DIFMP participants. However a downward trend is evident over the three year period, whereas DIFMP fertiliser costs appear to be trending up.

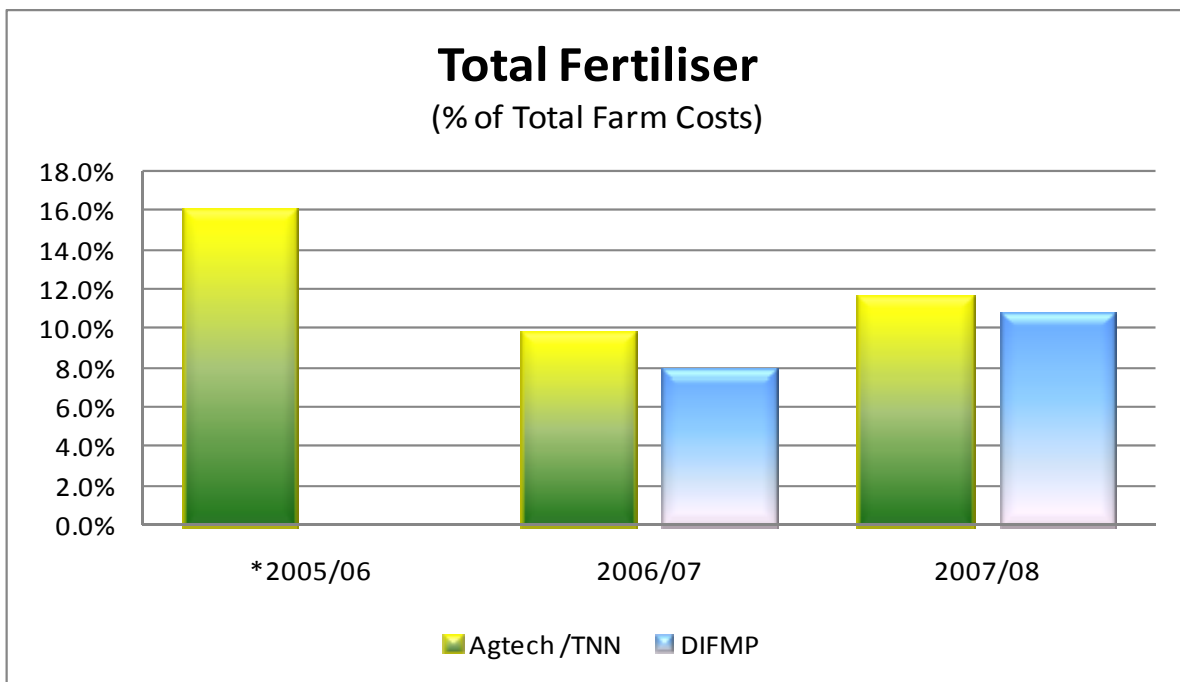


Figure 22: DIFMP Comparison - Fertiliser as % of Total Farm Costs

6.3.3 Fodder Purchases

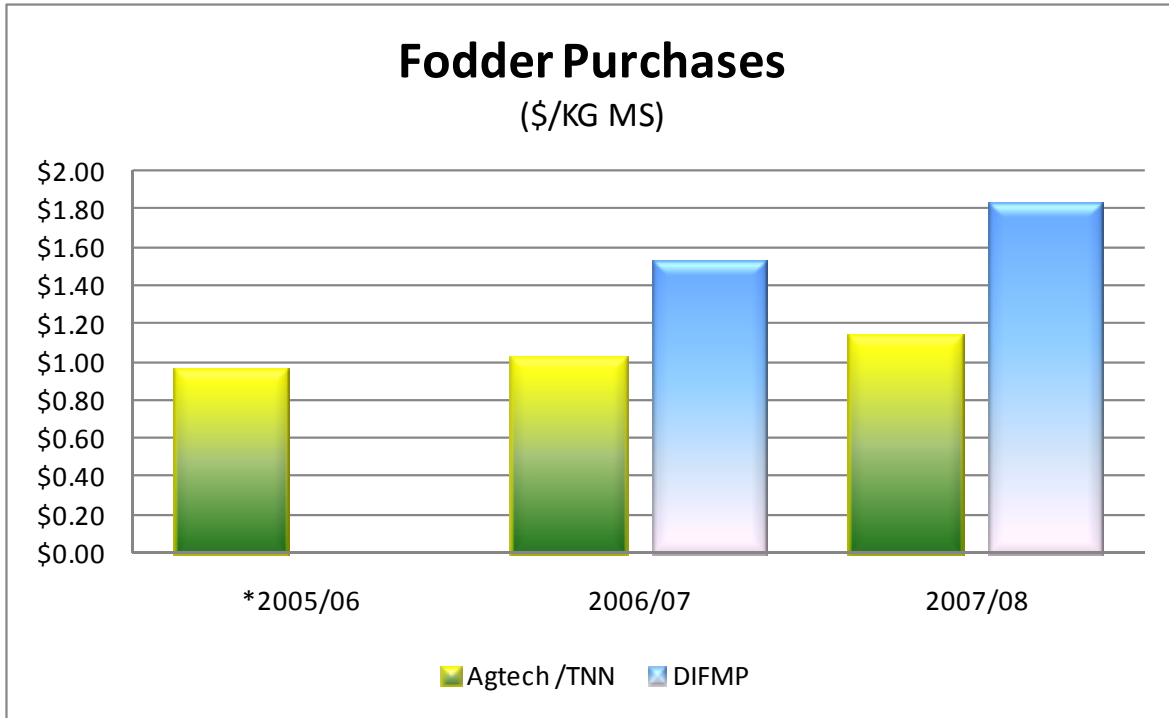


Figure 23: DIFMP Comparison - Fodder Purchases

When comparing all fodder purchases, included grain, Agtech Solutions/TNN clients are again spending less than the DIFMP participants, even during the drought effected years. Fodder purchases are also lower than the DIFMP participants when compared on a percentage of total farm costs basis.

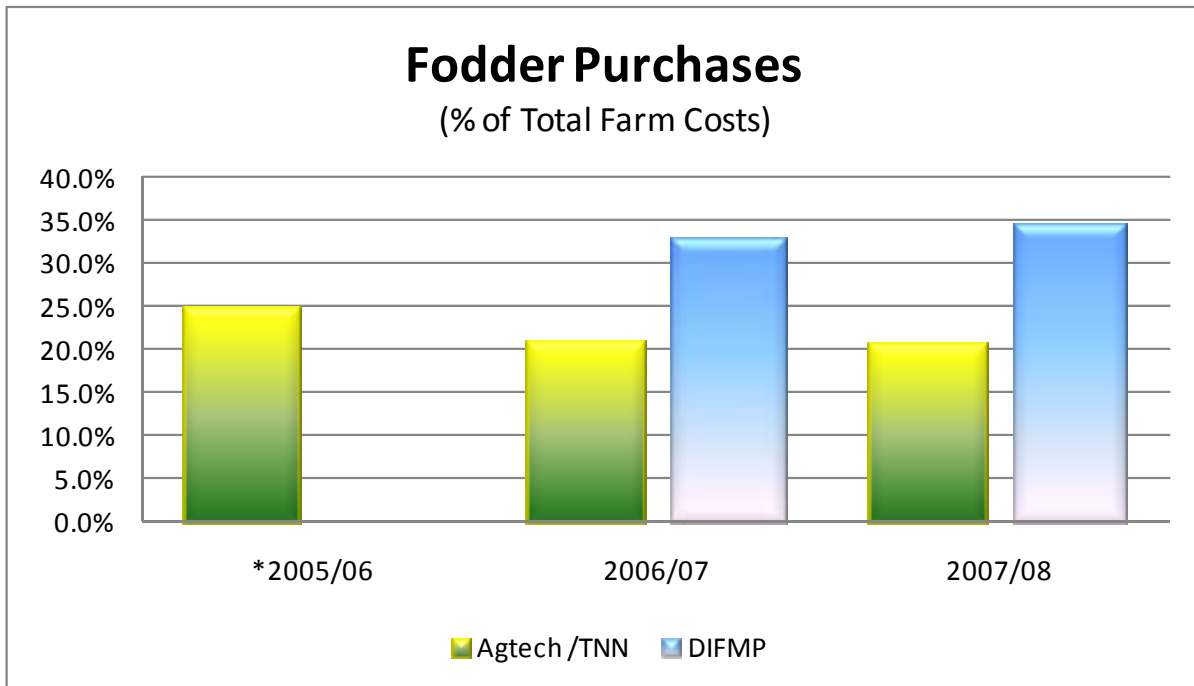


Figure 24: DIFMP Comparison - Fodder Purchases as % of Total Farm Costs

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Department of Primary Industries (2008), *Dairy Industry Farm Monitor Project*,
[http://www.dpi.vic.gov.au/DPI/nrenfa.nsf/LinkView/FC67CE5AA5E0D2CBCA2574970081F7BCC9A57DD57328E556CA25749B00163E23/\\$file/Dairy_Industry_Report_08_Appendices.pdf](http://www.dpi.vic.gov.au/DPI/nrenfa.nsf/LinkView/FC67CE5AA5E0D2CBCA2574970081F7BCC9A57DD57328E556CA25749B00163E23/$file/Dairy_Industry_Report_08_Appendices.pdf) (Accessed: 10/02/10)

Appendix 1: Comparative ABARE Tables

Financial Indicators	2005/06		2006/07		2007/08	
	Agtech /TNN	ABARE	Agtech /TNN	ABARE	Agtech /TNN	ABARE
Total Gross Profit (\$/L)	\$0.40	\$0.41	\$0.45	\$0.37	\$0.61	\$0.51
Total Gross Profit (\$/ha)	\$2,273	\$2,085	\$2,351	\$2,093	\$3,957	\$3,463
Net Milk Income (\$/L)	\$0.34	\$0.34	\$0.35	\$0.32	\$0.51	\$0.46
Total Costs (\$/L)	\$0.36	\$0.38	\$0.40	\$0.39	\$0.45	\$0.40
Operating Profit (EBIT) (\$/L)	\$0.04	\$0.03	\$0.05	-\$0.02	\$0.16	\$0.11
Operating Profit (EBIT) (\$/ha)	\$216.26	\$148.32	\$209.47	-\$128.29	\$1,052.75	\$726.01
Interest & Lease Costs (\$/L)	\$0.04	\$0.05	\$0.05	\$0.04	\$0.05	\$0.05
Net Farm Income (\$/L)	-\$0.01	-\$0.02	\$0.00	-\$0.06	\$0.12	\$0.06
Finance Ratio (% of income)	11.0%	12.1%	9.8%	11.2%	7.9%	8.8%
ROA (excl. Capital Gain)	1.77%	1.1%	2.43%	-0.7%	7.18%	4.0%

Physical Information	2005/06		2006/07		2007/08	
	Agtech /TNN	ABARE	Agtech /TNN	ABARE	Agtech /TNN	ABARE
Total Usable Area (ha)	208.86	190.00	243.43	170.00	176.71	173.00
No. of Milkers (hd)	222	220	217	226	207	228.00
Milking Cows Per Usable Area (hd/ha)	1.20	1.16	1.13	1.33	1.07	1.32
Litres Produced (L/Cow)	4,946.91	4,580.00	5,239.44	4,250.00	5,476.73	5,100.00
Litres Produced (L/ha)	5,921.75	5,106.00	5,861.19	5,651.82	5,846.83	6,772.54
Labour Efficiency (Milkers / FTE)	129.90	88.00	124.26	96.00	115.71	88.26

Costs (\$/L)	2005/06		2006/07		2007/08	
	Agtech /TNN	ABARE	Agtech /TNN	ABARE	Agtech /TNN	ABARE
Total Fertiliser	\$0.05	\$0.03	\$0.04	\$0.02	\$0.07	\$0.04
Fodder Purchases	\$0.07	\$0.07	\$0.10	\$0.11	\$0.11	\$0.14

Costs as % of Total Farm Costs	2005/06		2006/07		2007/08	
	Agtech /TNN	ABARE	Agtech /TNN	ABARE	Agtech /TNN	ABARE
Total Fertiliser (% of Costs)	12.8%	7.6%	10.1%	6.1%	15.3%	8.9%
Fodder Purchases (% of Costs)	21.8%	18.9%	26.3%	27.9%	27.5%	34.0%

Appendix 2: Comparative DIFMP Tables

Financial Indicators	*2005/06		2006/07		2007/08	
	Agtech /TNN		Agtech /TNN	DIFMP	Agtech /TNN	DIFMP
Total Gross Profit (\$/KG MS)	\$5.29	n/a	\$6.33	\$4.97	\$8.31	\$7.42
Total Gross Profit (\$/ha)	\$2,570	n/a	\$1,979	\$2,879	\$4,166	\$4,512
Net Milk Income (\$/KG MS)	\$4.50	n/a	\$4.57	\$4.39	\$6.70	\$6.43
Total Direct Costs (\$/KG MS)	\$2.32	n/a	\$2.24	\$2.69	\$2.42	\$3.22
Total Overhead Costs (\$/KG MS)	\$2.13	n/a	\$2.88	\$2.04	\$2.99	\$1.85
Operating Profit (\$/KG MS)	\$0.84	n/a	\$1.20	\$0.25	\$2.89	\$2.34
Operating Profit (EBIT) (\$/ha)	\$404.64	n/a	\$395.97	\$210.93	\$1,462.74	\$1,472
Interest & Lease Costs (\$/KG MS)	\$0.34	n/a	\$0.65	n/a	\$0.65	\$0.71
Net Farm Income (\$/KG MS)	\$0.50	n/a	\$0.56	n/a	\$2.24	\$1.63
Finance Ratio (% of income)	6.3%	n/a	8.6%	11.3%	8.0%	9.8%
ROA (excl. Capital Gain)	3.25%	n/a	4.26%	0.7%	10.25%	7.6%

Physical Information	*2005/06		2006/07		2007/08	
	Agtech /TNN	DIFMP	Agtech /TNN	DIFMP	Agtech /TNN	DIFMP
Total Usable Area (ha)	198.00	n/a	296.75	178.18	153.00	184.00
Grazed Area (ha)	194.00	n/a	291.75	178.18	148.25	180.91
No. of Milkers (hd)	240	n/a	210	252	188	255
Milking Cows Per Usable Area (hd/ha)	1.32	n/a	0.95	1.42	0.92	1.38
Milk Sold (KG MS/Cow)	389.79	n/a	386.00	410	414.36	437
Milk Sold (KG MS/ha)	517.06	n/a	380.62	575	395.38	602
Labour Efficiency (Milkers / FTE)	129.96	n/a	110.04	70	82.30	98

Direct Costs (\$/KG MS)	*2005/06		2006/07		2007/08	
	Agtech /TNN	DIFMP	Agtech /TNN	DIFMP	Agtech /TNN	DIFMP
Animal Health	\$0.03	n/a	\$0.02	\$0.10	\$0.01	\$0.11
Breeding & AI	\$0.06	n/a	\$0.05	\$0.06	\$0.04	\$0.10
Calf Rearing	\$0.07	n/a	\$0.03	\$0.10	\$0.05	\$0.07
Fertiliser	\$0.81	n/a	\$0.49	\$0.35	\$0.63	\$0.55
Fodder Purchases	\$0.96	n/a	\$1.02	\$1.53	\$1.14	\$1.84

Direct Costs as % of Total Farm Costs	*2005/06		2006/07		2007/08	
	Agtech /TNN	DIFMP	Agtech /TNN	DIFMP	Agtech /TNN	DIFMP
Animal Health (% of Costs)	1.1%	n/a	0.4%	2.1%	0.3%	2.2%
Breeding & AI (% of Costs)	1.1%	n/a	1.1%	1.5%	0.8%	10.0%
Calf Rearing (% of Costs)	1.5%	n/a	0.5%	2.3%	1.0%	1.4%
Fertiliser (% of Costs)	16.0%	n/a	9.8%	7.9%	11.6%	10.9%
Fodder Purchases (% of Costs)	24.8%	n/a	20.9%	33.1%	20.5%	34.7%

Appendix 3: Glossary of Terms

Direct Costs	All cost that increase or decrease directly with the number of units produced.
FTE	Full Time Equivalent – standardised people unit calculated as 50 hours a week.
Finance Ratio	Interest and lease costs as a percentage of gross profit.
Finance Costs	Total interest plus total lease costs.
Gross Profit	Total income including livestock trading gains or losses and other property income.
KG MS	Kilograms of milk solids.
L	Litres of milk.
Net Farm Profit	Operating profit less interest and lease costs.
Number of Milkers	Total number of cows milked for at least three months.
Operating Profit	Often referred to as EBIT (earnings before interest and tax), gross profit less direct costs and overhead costs.
Overhead Costs	All fixed costs that do not vary directly with the number of units produced. Does not include interest, lease, principal or capital costs.
ROA (excl. CG)	Return on Assets – operating profit divided by the value of total assets, not including capital gain.
Unpaid Labour	Cost of owner/family labour calculated as the greater of \$400 per cow less paid labour or \$15 per hour.