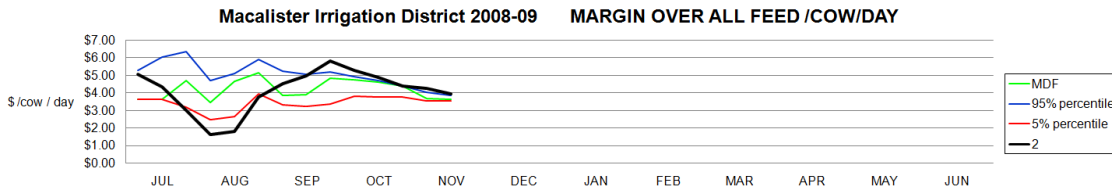




FARM	MDF	13	4	2	26	9	16	Units
Ten day to date:	20-Nov	20-Nov	20-Nov	20-Nov	20-Nov	20-Nov	20-Nov	
Stocking rate	3.9	4.3	4.1	3.9	3.8	3.1	3.3	cows/ha
Grazing allocation 1/	30	30	25	0	0	30	30	th of graze area
Average graze rest time	28	30	27	0	0	28	28	days
Element N/hectare/day	1.4	1.1	1.0	1.2	0.0	0.0	1.2	kg element/ha/day
mm irrigation/hectare/day	3.0	3.0	3.0	2.0	3.0	3.0	4.0	mm water/ha/day
Estm'd pasture consmp'n (incl cons'vd forage)	48	50	56	46	42	41	53	kg DM/ha/day
Pasture consum'd per cow	12.0	11.8	13.4	11.6	11.3	13.0	13.5	kg DM/cow/day
Daily spend / milking ha	\$5.12	\$4.15	\$4.75	\$4.32	\$1.05	\$2.59	\$5.54	\$/ha/day
Estm'd pasture price	\$108	\$83	\$96	\$94	\$25	\$64	\$104	\$/T DM
Conc supp fed/cow	5.6	5.7	2.5	4.5	1.4	1.4	3.6	kg DM/cow/day
Hay/silage supp fed/cow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	kg DM/cow/day
PKE supp fed/cow	0.2	0.0	0.5	0.0	0.0	0.0	0.0	kg DM/cow/day
Estim'd supp waste	3%	3%	4%	3%	3%	3%	2%	%
Conc supp avg price	\$304	\$351	\$239	\$237	\$333	\$356	\$313	\$/T DM
Hay/silage supp avg price	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$/T DM
PKE supp price	\$253	\$0	\$253	\$0	\$0	\$0	\$0	\$/T DM
Total feed intake/cow	17.7	17.4	16.3	16.5	12.7	14.3	17.0	kg DM/cow/day
Estm'd body cond'tn change	0.00	0.00	0.00	0.00	0.00	0.00	0.00	kg LW/cow/day
Litres/cow	27.3	28.0	24.4	23.8	13.0	20.2	26.9	l/cow/day
Fat test	4.11%	4.00%	4.02%	4.31%	5.20%	4.07%	4.01%	%
Protein test	3.30%	3.15%	3.21%	3.34%	3.90%	3.28%	3.15%	%
Fat per cow	1.120	1.121	0.981	1.028	0.674	0.821	1.078	kg/cow/day
Protein per cow	0.901	0.883	0.783	0.797	0.505	0.662	0.847	kg/cow/day
MS per cow	2.02	2.00	1.76	1.83	1.18	1.48	1.92	kg/cow/day
Anticipated final milk price (less levies)	\$3.33	\$3.31	\$3.32	\$3.41	\$3.34	\$3.26	\$3.30	\$/kg MS
Anticipated final milk price (/litre)	\$0.247	\$0.236	\$0.240	\$0.261	\$0.304	\$0.240	\$0.236	\$/per litre
Fat return per cow	\$2.47	\$2.47	\$2.16	\$2.33	\$1.49	\$1.78	\$2.37	\$/
Protein return per cow	\$4.98	\$4.89	\$4.33	\$4.52	\$2.79	\$3.59	\$4.68	\$/
Volume charge per cow	\$0.71	\$0.73	\$0.64	\$0.62	\$0.34	\$0.53	\$0.70	\$/
Milk income/cow	\$6.73	\$6.62	\$5.85	\$6.23	\$3.94	\$4.84	\$6.35	\$/cow/day
All feed cost/cow	\$3.06	\$2.99	\$1.86	\$2.28	\$0.76	\$1.30	\$2.53	\$/cow/day
Margin over all feed/cow	\$3.67	\$3.64	\$3.99	\$3.95	\$3.18	\$3.63	\$3.82	\$/cow/day
M/A/E (ha/ha/day)	\$44.33	\$45.40	\$46.40	\$46.57	\$11.92	\$11.08	\$12.49	\$/ha/day
	11.9	12.0	12.0	12.0	11.9	12.0	12.0	\$/ME/kg DM
	24.6%	22.8%	23.1%	23.1%	34.5%	36.1%	32.4%	% CP
	\$310	\$337	\$371	\$371	\$60	\$91	\$148	\$/tonne DM
	\$250	\$246	\$223	\$223				\$/tonne DM



Macalister Irrigation District Dairy Farm Productivity Tracker Project

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October 2011





ACKNOWLEDGEMENTS

The Macalister Demonstration Farm would like to acknowledge the contribution of the participating dairy farmers for their valuable advice and common sense approach to problem solving as this project was developed. Participating farmers were Ross Anderson, Justin Boyle, Rod Cannon, Damian Coulthard, Matthew Gault, Rob Gilligan, Andrew Goold, Andrew Hargreaves, Alex McArthur, Stewart McRae, Wayne Saunders, Dale Scott, Malcolm Sellen, Kane Smolenaars, Michael Thorn, Max Vera and Brad White.

This project was largely funded through the generous support of GippsDairy.

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Executive summary

Dairy farmers are under increasing pressure to improve pasture consumption and make very careful use of purchased feed in order to maintain a profitable business.

Monitoring of the key factors that drive profit is a crucial part of any management process. If done regularly and consistently, monitoring provides the opportunity for timely corrective management and then to rapidly see the response.

The MID Dairy Farm Productivity Tracker project captured all the feeding data from each of the twenty participating MID dairy farmers every ten days. Farmer participants provided data on milker numbers, milk fed to calves, supplements fed (purchased and own, quantity, quality, price, waste estimate and fodder conserved), change in body condition and stage of pregnancy, and grazing area and grazing rest time. All of this information was presented back to farmers within three days in table form as well as being presented graphically for ease of interpretation of the main drivers of feeding profitability. The graphs show trends and, over subsequent years, yearly comparisons.

The data of all farms was consolidated and group graphs showed the group average, group top 5 %, group bottom 5%. The Macalister Demonstration Farm graphs were also shown in the consolidated district graphs. All individual data was kept confidential with no individuals identified in the consolidated data that was released publicly.

Consolidated data and graphs were made available to the broader industry through the MDF Newsletter and regular media articles, providing a comprehensive picture of the physical feed and milk production of the district's dairy farms.

The range in feeding profitability measured as Margin Over all Feed (MOAF)/ha/day in 2009-10 was \$7,208 down to \$387 with an average of \$4,831/ha/day and in 2010-11 from \$9,682 to \$5,928 with an average of \$7,941/ha/day.

All of the farms in the project (where data is complete) improved their feeding performance and profitability measured as MOAF/ha/day from 2009-10 to 2010-11. The largest jump in performance of any farm was \$7,970 MOAF/ha/day while the least improvement was \$712 MOAF/ha/day. The average improvement for all twenty farms was \$3,110 MOAF/ha/day. The largest contributor to this improvement was the milk price but most had tuned their system in some way, mainly by increasing purchased feed or by increasing herd numbers, in response to an anticipated better return.

A project made a number of key findings:

- High margins per cow and per hectare result from high milk production per cow coupled with good grass consumption per hectare.
- Grass consumption per hectare, delivered by good management and a high level of grass growing inputs, associated with an appropriate stocking rate, delivers a high amount of cheaper grass per cow.
- Improved feeding margins and the expressed perceptions of the farmer participants indicates that the Tracker project has resulted in changes in feeding management that have had a positive impact on farm performance.
- Farmers can benefit from complex data if they are trained to manage it, if it is current and they have respect for its integrity.
- The Tracker project resulted in a much greater focus on pasture management to maximize pasture consumed and raised the importance of feed margins/hectare as an important profit driver.
- Benchmarking or comparison to other like farms can have a positive motivating effect on dairy farmers.
- While talking to other farmers was important to the success of the project, it was less significant as a motivator to act than was expected.
- Projects like the Tracker project may play a positive role in raising the computer skills of farmers.



Introduction

Project background

Dairy farmers are under increasing pressure to improve pasture consumption and make very careful use of purchased feed in order to maintain a profitable business.

Monitoring of the key factors that drive profit is a crucial part of any management process. If done regularly and consistently, monitoring provides the opportunity for timely corrective management and then to rapidly see the response.

To this end, individual farmers need a frequent, reliable, and meaningful method to monitor and assess the factors that drive feeding profitability, mainly pasture consumption, but also milk production per cow. They can then make active management decisions and see a real time response. This is data not readily available to dairy farmers.

A focus on assessing, monitoring and publishing the main drivers of feeding profitability, including comparison with other periods on the same farm, or with other farms, is likely to help the understanding of how those drivers connect and work, to show the link between decision, practice and performance. Monitoring these key factors may provide some incentive to improve them.

Project objectives

This project is a pilot project that aims to help individual farmers - by monitoring on a frequent and regular basis and using graphs to allow easy interpretation - make their pasture consumption and cow feeding decisions.

Short Term Goals:

Farm level

- Improve the quality, relevance and timeliness of performance monitoring for individual dairy farmers to help them better understand their feeding profitability.
- Evaluate the extent and nature of changes in feeding management as a result of having expanded and current information at the farm level.

District level

- Provide district feed production and milk performance information to industry (all farmers, milk companies, service providers, development agencies, policy makers, etc).

Long Term Goals:

Farm level

- Increased feeding profitability, mainly by improving pasture consumption per hectare.

District level

- Increased feeding profitability, mainly by improving pasture consumption per hectare.

Project partners

1. GippsDairy



Project activities

The MID Dairy Farm Productivity Tracker project captured all the feeding data from each of the twenty participating MID dairy farmers every ten days. Data was collected directly from the milk company (milk production, cell count) and from the farmer by the completion of a standard electronic form with follow up telephone contact.

Farmer participants provided data on milker numbers, milk fed to calves, supplements fed (purchased and own, quantity, quality, price, waste estimate and fodder conserved), change in body condition and stage of pregnancy, and grazing area and grazing rest time.

All of this information was presented back to farmers within three days in table form as well as being presented graphically for ease of interpretation of the main drivers of feeding profitability. The graphs show trends and, over subsequent years, yearly comparisons. Data was assessed for integrity before entry into the graphing software. A sample report provided to participating farmers is included in Appendix 1.

The data of all farms was consolidated and group graphs showed the group average, group top 5 %, group bottom 5%. The Macalister Demonstration Farm graphs were also shown in the consolidated district graphs. All individual data was kept confidential with no individuals identified in the consolidated data that was released publicly.

Consolidated data and graphs were made available to the broader industry through the MDF Newsletter and regular media articles, providing a comprehensive picture of the physical feed and milk production of the district's dairy farms.

The Project Manager, Frank Tyndall, was available by telephone to each participant to interpret graphs and performance indicators, and discuss results as they are released.

Despite some reservations about the complexity that comes from adding finances into the calculation, the opportunity to record price data was provided, so that not only physical comparisons could be made but the financial impact of differences in productivity could be identified. Financial comparisons were only possible by standardizing the milk price and price of irrigation water for each farm

However, as the project moved to higher level indicators/ratios (say MOAF) it became more difficult to ascertain what practices had caused the result. MOAF was not necessarily helpful to identify which feed production/feeding practice might be done differently for a better result.

The extension model being used involved initial training of farmers to first standardize and then to interpret the data. Participant farmers were also able to join a facilitated discussion of the results that met four times in the first year and three times in the second year to interrogate and analyse management approaches with other farmers in the project. The success of the discussion group relied on the participant farmers actively reviewing and acting on their own results as they are received. It was expected that this extension model would prove to be effective in delivering a positive change in management practice.

Two further workshops were provided for non-participant farmers and industry people to analyse the consolidated data to support their work.

The industry (all farmers, milk companies, service providers, development agencies, policy makers, etc) will benefit from aggregated data that was made available to support the work of extension officers and consultants in their work with farmers.



Key Outcomes

There are two key elements of the project that will be discussed in this report:

- What does the MID Tracker tell us about dairy farming in the MID?
- What do farmers think of this enhanced level of current information for their farm and what difference has it made to their management and farm performance?

Dairying in the MID – A snapshot

A summary of the annual performance for 2009-10 and 2010-11 of the twenty farms can be found in Appendix 1. The range in feeding profitability measured as Margin Over all Feed (MOAF)/ha/day in 2009-10 was \$7,208 down to \$387 with an average of \$4,831/ha/day and in 2010-11 from \$9,682 to \$5,928 with an average of \$7,941/ha/day.

All of the farms in the project (where data is complete) improved their feeding performance with the largest rise in performance of any farm was \$7,970 MOAF/ha/day while the least improvement was \$712 MOAF/ha/day. The average improvement for all twenty farms was \$3,110 MOAF/ha/day. The largest contributor to this improvement was the milk price but most had tuned their system in some way, mainly by increasing purchased feed or by increasing herd numbers, in response to an anticipated better return.

The farms that had a MOAF/ha/day above the group average in both years returned an average improved performance from 2009-10 to 2010-11 of \$3,090, very close to the group average improvement. Those farms that had a MOAF/ha/day below the group average in both years returned an average improved performance from 2009-10 to 2010-11 of \$3,981, 27% higher than the average improvement.

A summary of the two seasons can be seen in Table 1. This describes both the range and averages for key profit drivers over the two seasons

Table 1: MID Tracker farm performance comparison

	2009-10			2010-11			Variation Av 2010 vs 2011
	High	Low	Average	High	Low	Average	
No of cows (305 day lactations)	1,091	14	267	1,094	149	290	+23
Stocking rate (cows/ha)	4.5	3.0	4.0	5.1	1.8	4.0	-
Factory FAT%	5.24	3.58	4.35	5.31	3.62	4.28	-0.07
Factory PROT%	3.84	3.17	3.42	3.91	3.15	3.43	+0.01
Litres /cow	8,607	3,575	6,233	11,583	4,268	6,824	+591
MS /cow	711	295	481	832	323	523	+41
MILK PRICE (\$/kgMS)	4.92	4.18	4.45	6.00	3.04	5.35	+0.90
Total purch feed as fed (kg/cow)	2,325	46	482	2,361	69	546	+64
Grazed grass, crop, consvd (kg consumed/ milk ha/dy)	15.7	9.8	12.9	14.6	11.2	12.8	-0.1
Anticip Margin over all Feed/cow/day	2,145	140	1,448	2,829	1,753	2,327	+879
Anticip MOAF /ha /day	7,208	387	4,831	9,682	5,928	7,941	+3,110

Over the term of the project, Project Manager, Frank Tyndall, provided analysis of the Tracker data in articles that appeared in the MDF Newsletter. These are reproduced below.



From Newsletter 41: October 25th 2010

A high feeding margin has many drivers, not the least the price of inputs, and the price of milk. However, any connection between the financial margin and production indicators, such as pasture consumption per hectare and milk production per cow, can be examined in the following table of individual farm information for the ten days to October 10th 2010.

Looking at the table from left to right, the table is ranked with the highest margins on the left. In this case, the “per cow” and “per hectare” margins are considered equally important to get the ranking.

Moving from top to bottom of the table, the inputs build to grass consumption, milk per cow, and finally, the margins.

TRACKER GROUP RANKINGS													10-Oct 2010		
RANK-based on margins	1 st	2nd	3rd	4 th	5th	8th	10th	12 th	13th	14 th	16 th	17th			
FARM NUMBER	43	83	12	MDF	56	37	13	9	31	45	42	71			
Stocking rate (cows/ha)	3.8	4.3	3.5	4.1	4.2	3.6	3.2	3.6	2.7	3.8	3.8	3.5			
Grazing rest time (dys)	29	35	38	38	40	38	20	40	45	25	33	32			
N element (kg/ha/dy)	1.2	1.0	0.8	1.2	0.6	1.2	0.0	1.0	0.5	1.1	1.5	1.0			
Irrigation water (mm/ha/dy)	4.0	2.0	3.0	2.0	3.0	2.3	3.0	2.0	2.0	2.0	2.0	3.0			
Grass consumption (kg DM/ha/dy)	60	56	51	53	54	52	47	49	40	49	47	41			
Grass consumed (kg/cow/dy)	15.6	13.0	14.5	12.7	12.7	14.5	15.0	13.6	14.7	12.9	12.4	11.6			
Daily spend (\$/ milking ha)	\$4.03	\$3.15	\$4.59	\$3.20	\$3.20	\$4.15	\$2.78	\$2.84	\$2.26	\$2.74	\$3.49	\$3.36			
Pasture price (\$/t DM)	\$67	\$57	\$90	\$61	\$59	\$79	\$59	\$58	\$57	\$56	\$75	\$82			
Supplements (kg DM/cow/dy)	2.9	5.6	5.4	5.8	6.3	4.5	1.8	2.7	5.4	2.7	2.7	5.3			
Purchased feed price (\$/t DM fed)	\$258	\$376	\$343	\$371	\$432	\$338	\$289	\$294	\$439	\$344	\$422	\$278			
Total Intake (kg DM/cow/dy)	18.4	18.5	19.7	18.4	18.8	18.9	16.8	16.2	19.9	15.5	15.1	16.8			
Body Condition Change (kg LWT/cow/dy)	-0.20	0.00	-0.30	-0.30	-0.20	0.00	-0.30	-0.20	-0.20	0.00	-0.20	0.00			
Litres /cow/dy (incl calf)	28.4	27.7	32.9	30.1	29.2	31.4	26.6	25.5	35.4	22.7	23.4	24.4			
Milk Solids (kg/cow/dy)	2.17	2.14	2.45	2.20	2.25	2.20	2.10	1.89	2.48	1.74	1.75	1.79			
Milk price (\$/kg MS)	\$4.66	\$4.64	\$4.63	\$4.60	\$4.56	\$4.66	\$4.53	\$4.61	\$4.76	\$4.61	\$4.64	\$4.64			
Milk price (\$/litre)	\$0.36	\$0.36	\$0.34	\$0.34	\$0.35	\$0.33	\$0.36	\$0.34	\$0.33	\$0.35	\$0.35	\$0.34			
Milk income/cow (\$/cow/dy)	\$10.1 1	\$9.93	\$11.3 4	\$10.1 1	\$10.2 5	\$10.2 7	\$9.52	\$8.71	\$11.8 1	\$8.02	\$8.12	\$8.30			
All feed cost(\$/cow/day)	\$1.80	\$2.83	\$3.16	\$2.93	\$3.47	\$2.67	\$1.40	\$1.58	\$3.20	\$1.65	\$2.07	\$2.42			
Margin over all Feed(\$/cow/dy)	\$8.31	\$7.10	\$8.18	\$7.18	\$6.78	\$7.60	\$8.12	\$7.13	\$8.61	\$6.36	\$6.05	\$5.88			
Anticipated MOAF (\$/ha /day)	\$31.9 7	\$30.2 5	\$28.8 3	\$29.6 2	\$28.5 4	\$27.3 5	\$25.5 8	\$25.6 5	\$23.2 9	\$24.1 8	\$22.7 2	\$20.5 9			

All farms warrant an examination, and the drivers of the margin can be looked for. Three farms are discussed here:

- *Farm 43 is ranked 1st. It is applying relatively high irrigation water and nitrogen. It is achieving the highest pasture consumption, resulting in a pasture price of \$67. It is not feeding high levels of supplements. Milk per cow is not the highest, but a relatively low price of purchased feed, is helping the margin.*
- *Farm 71 is ranked 17th. It is applying reasonable amount of water and nitrogen but for some reason not getting high pasture consumption, and grass per cow is the lowest. Fairly low milk per cow does not help the margin either.*
- *Farm 31 is ranked 13th. It has a relatively low stocking rate, very high milk production per cow, has a high price of purchased feed, but relatively low pasture consumption.*

Any farm can consider what it might do to lift its margin. For the MDF it seems more grass per cow, and therefore more grass consumption per hectare is required. That may mean better use of N, water, or grazing. It may mean reducing supplements. However, none of the graphs or figures above



tell us exactly which way to move. Any farm, with its particular circumstances at the time, may already be in its best position possible. By far the best place to make feeding decisions is in the paddock, observing the cows, what grass is on offer, and what is being left behind after grazing, and using the best principles of how things work.

From Newsletter 45: January 31st 2011

The Tracker gathers a mountain of data about feeding performance and profitability. This article tries to make sense of a comparison between the ten days to January 20th **this year** (2011) and the same period **last year** (2010).

The first two tables show a lot of detail, the range of inputs and feeding performances and profitabilities from all the farms. The ranking is based on Margin Over All Feed (MOAF), with the MOAF **per hectare** given more weight. Keep in mind that the farmers contributing their data need to estimate some of the inputs, particularly the daily pasture growing inputs. And because of the complexity of feeding profitability, a fully meaningful comparison of years and farms is not really possible. This is only a guide to what is happening in the district.

	THIS YEAR														
	20-Jan 2011														
RANK-based on margins	1st	2nd	3rd	4 th	5th	6th	7th	8th	9th	10th	11th	12 th	13th	14th	15th
FARM NUMBER	59	67	MDF	18	66	39	33	87	89	77	99	78	21	17	34
Stocking rate Cows/ha	5.0	3.7	4.1	3.5	3.4	3.9	3.5	3.9	3.5	3.7	3.5	4.0	3.0	3.1	2.6
Grazing rest time Days	30	27	30	24	30	30	30	27	28	30	30	20	30	29	28
Kg N element Kg element/ha/dy	0.0	1.2	1.4	1.0	0.3	1.0	1.0	0.2	1.0	1.1	1.0	0.0	0.0	0.0	0.6
Irrigation water Mm/ha/dy	0.0	0.0	2.0	3.0	3.0	2.0	1.5	0.0	2.0	2.0	2.0	0.0	0.0	3.1	2.0
Grass consmpt'n Kg DM/ha/dy	44	37	40	36	37	44	40	40	39	34	38	38	30	33	24
Grass /cow Kg DM/cow/dy	8.9	9.9	9.9	10.2	10.9	11.4	11.5	10.3	11.0	9.3	10.7	9.7	10.1	10.6	9.1
Daily spend /ha \$/ha/dy	\$0.08	\$2.10	\$3.22	\$3.62	\$2.50	\$3.59	\$3.68	\$1.04	\$3.55	\$4.12	\$3.77	\$0.00	\$1.13	\$2.94	\$2.13
Pasture price \$/tonne DM	\$2	\$57	\$81	\$101	\$68	\$81	\$92	\$26	\$91	\$121	\$100	\$0	\$37	\$88	\$89
Supplements Kg DM/cow/dy	4.3	7.2	7.1	6.7	5.5	5.3	5.4	2.7	4.6	10.4	4.5	2.5	5.0	5.1	6.9
Purch feed price \$/tonne DM	\$400	\$272	\$340	\$331	\$417	\$367	\$384	\$383	\$278	\$417	\$291		\$351	\$379	\$294
Tot DM Intake Kg DM/cow/dy	13.0	16.7	16.7	16.9	16.3	16.5	16.7	12.9	15.3	19.2	15.1	12.0	14.9	15.6	15.4
Body Cond'n Chnge Kg LWY/cow/dy	0.00	0.10	0.05	0.00	0.00	0.10	0.00	0.00	0.00	0.20	0.10	0.00	0.20	0.20	0.00
Litres (incl calf) l/cow/dy	15.5	22.3	22.8	22.8	23.4	21.6	24.0	15.9	18.8	26.8	20.0	12.3	16.7	20.4	19.7
Milk Solids/cow Kg MS/cow/dy	1.41	1.62	1.69	1.78	1.71	1.57	1.71	1.23	1.43	1.93	1.44	0.91	1.33	1.41	1.41
Milk price \$/kg MS	\$4.81	\$4.85	\$4.88	\$4.86	\$4.84	\$4.73	\$4.73	\$4.74	\$4.76	\$4.82	\$4.70	\$4.64	\$4.80	\$4.75	\$4.82
Milk income/cow \$/cow/dy	\$6.78	\$7.87	\$8.23	\$8.66	\$8.30	\$7.41	\$8.09	\$5.82	\$6.82	\$9.30	\$6.76	\$4.23	\$6.40	\$6.71	\$6.81
All feed cost/cow \$/cow/dy	\$1.74	\$2.24	\$3.10	\$3.26	\$3.05	\$2.67	\$3.13	\$1.30	\$2.13	\$4.91	\$2.38	\$0.52	\$2.12	\$2.73	\$2.85
Margin over all Feed/cow \$/cow/dy	\$5.04	\$5.63	\$5.13	\$5.41	\$5.25	\$4.75	\$4.96	\$4.51	\$4.69	\$4.39	\$4.37	\$3.71	\$4.28	\$3.98	\$3.96
MOAF /ha \$/ha/dy	\$25.19	\$20.92	\$20.81	\$18.97	\$17.60	\$18.52	\$17.25	\$17.45	\$16.64	\$16.07	\$15.35	\$14.75	\$12.85	\$12.45	\$10.42



LAST YEAR		20-Jan 2010															
RANK-based on margins	1st	2nd	3rd	4 th	5th	6th	7th	8th	10th	11th	12th	13 th	14th	16th	18th		
FARM NUMBER	67	18	33	MDF	39	3	21	17	77	51	49	2	89	78	87		
Stocking rate Cows/ha	4.0	3.6	3.6	3.9	3.8	3.3	2.8	3.4	3.8	3.7	3.3	3.2	3.4	3.0	3.9		
Grazing rest time Days	30	30	28	29	27	32	30	22	30	27	27	25	28	30	26		
Kg N element Kg element/ha/dy	1.2	1.5	0.6	1.8	1.3	1.0	0.0	1.6	1.7	0.2	1.0	1.6	1.0		0.5		
Irrigation water Mm/ha/dy	5.0	5.0	3.0	5.0	6.0	5.0	0.0	4.6	5.0	6.0	5.0	4.0	4.0	4.0	3.0		
Grass consmpt'n KgDM/ha/dy	40	47	47	48	48	45	34	44	44	45	27	35	35	30	35		
Grass /cow KgDM/cow/dy	10.1	12.8	13.1	12.3	12.7	13.5	12.1	13.1	11.7	12.3	8.4	10.8	10.3	10.2	9.0		
Daily spend /ha \$/ha/dy	\$6.04	\$6.10	\$3.89	\$5.84	\$5.38	\$5.23	\$0.00	\$4.71	\$7.05	\$5.17	\$5.78	\$4.77	\$4.85	\$2.59	\$4.13		
Pasture price \$/tonne DM	\$151	\$130	\$83	\$123	\$112	\$116	\$0	\$107	\$160	\$114	\$211	\$138	\$139	\$85	\$116		
Supplements Kg DM/cow/dy	7.4	4.9	5.0	6.8	5.4	4.5	4.1	4.9	8.1	6.8	10.8	4.5	6.3	4.1	3.6		
Purch feed price \$/tonne DM	\$219	\$286	\$322	\$287	\$328	\$283	\$348	\$317	\$325	\$379	\$304	\$293	\$278	\$344	\$253		
Tot DM Intake Kg DM/cow/dy	17.3	17.6	17.9	18.8	18.0	17.8	16.0	17.8	19.2	18.9	18.8	15.2	15.9	14.1	12.5		
Body Cond'n Chnge Kg LWY/cow/dy	0.10	0.10	0.20	0.30	0.10	0.20	0.10	0.20	0.21	0.30	0.00	0.00	0.20	0.00	0.00		
Litres (incl calf) l/cow/dy	22.0	22.4	23.9	24.1	23.7	25.1	19.1	23.8	25.8	25.6	27.7	19.9	17.6	16.9	14.3		
Milk Solids/cow KgMS/cow/dy	1.70	1.80	1.70	1.81	1.76	1.71	1.50	1.71	1.95	1.78	1.99	1.55	1.36	1.29	1.05		
Milk price \$/kg MS	\$4.50	\$4.33	\$4.36	\$4.37	\$4.33	\$4.42	\$4.36	\$4.35	\$4.25	\$4.29	\$4.25	\$4.31	\$4.28	\$4.18	\$4.25		
Milk income/cow \$/cow/dy	\$7.66	\$7.81	\$7.44	\$7.93	\$7.63	\$7.58	\$6.55	\$7.44	\$8.30	\$7.63	\$8.46	\$6.68	\$5.83	\$5.38	\$4.47		
All feed cost/cow \$/cow/dy	\$3.15	\$3.06	\$2.69	\$3.45	\$3.06	\$2.84	\$1.41	\$2.94	\$4.50	\$3.96	\$4.59	\$2.81	\$2.86	\$2.27	\$1.97		
Margin over all Feed/cow \$/cow/dy	\$4.51	\$4.75	\$4.75	\$4.48	\$4.57	\$4.74	\$5.14	\$4.50	\$3.80	\$3.67	\$3.86	\$3.87	\$2.97	\$3.11	\$2.50		
MOAF /ha \$/ha/dy	\$17.87	\$17.32	\$16.94	\$17.37	\$17.15	\$15.86	\$14.40	\$15.16	\$14.35	\$13.56	\$12.58	\$12.38	\$10.06	\$9.27	\$9.80		

The following two tables show the averages of the group, comparing last year with this year, and discussing what might be happening. This first table are the actual averages.

ACTUAL			
Indicator	20-Jan 2010 AVERAGE	20-Jan 2011 AVERAGE	Discussion
Stocking rate Cows/ha	3.50	3.62	Slightly higher stocking rate this year.
Grazing rest time Days	28	28	Same grazing rotation.
Kg N element Kg element/ha/dy	1.0	0.7	Less nitrogen use this year.
Irrigation water Mm/ha/dy	4.3	1.5	Very much less water use this year.
Grass consmpt'n KgDM/ha/dy	40.2	36.9	3.4 kg DM per hectare per day less grass grown this year. Possibly because less N is being used or maybe not enough water is being applied, or plenty of other reasons.
Grass /cow KgDM/cow/dy	11.5	10.2	With the stocking rate per hectare a bit higher, and less grass being consumed per hectare, the grass per cow is down 1.3 kg DM per cow.
Daily spend /ha \$/ha/dy	\$4.77	\$2.50	The expenditure on growing pasture is lower this year because of less inputs and lower N price.
Pasture price \$/tonne DM	\$119	\$69	Although there is less pasture, pasture is very much cheaper this year.
Supplements Kg DM/cow/dy	5.8	5.6	Even though grass intake is down by 1.3 kg, 0.2 kg less supplement is being fed.
Purch feed price \$/tonne DM	\$304	\$350	Purchased feed is more expensive this year, a bit surprising. Maybe because no PKE is being used and I think fancier and more expensive mixes are being used.
Tot DM Intake Kg DM/cow/dy	17.1	15.5	Total dry matter intake per cow down by 1.6 kg per cow per day. This is a significant amount.
Body Cond'n Chnge Kg LWY/cow/dy	0.13	0.06	The farmers on average are reporting that less body condition is going on.



Litres (incl calf) /cow/dy	22.1	20.2	Milk production per cow per day down by 1.9 litres.
Milk Solids/cow KgMS/cow/dy	1.65	1.51	And down by 0.14 kg milk solids per cow per day.

Indicator	20-Jan 2010 AVERAGE	20-Jan 2011 AVERAGE	Discussion
Milk price \$/kg MS	\$4.32	\$4.78	This year's milk price is higher than last year's.
Milk income/cow \$/cow/dy	\$0.32	\$0.36	
All feed cost/cow \$/cow/dy	\$7.11	\$7.20	Although milk per cow is down, the higher milk price has lifted the milk income per cow a bit higher this year.
Margin over all Feed/cow \$/cow/dy	\$3.13	\$2.65	Cows are eating less feed, and with the pasture price down as well, it costs less to feed each cow.
MOAF /ha \$/ha/dy	\$3.98	\$4.55	When it's all combined, a higher margin per cow this year.
Stocking rate Cows/ha	\$13.94	\$16.49	And higher margin per hectare, helped by the slightly more cows carried per hectare.

HOWEVER, the different prices each year can confuse the comparison. So, the next table shows the averages, but with the prices of pasture, purchased feed, and milk equalised to this year's prices.

PRICES EQUALISED			
Indicator	20-Jan 2010 AVERAGE	20-Jan 2011 AVERAGE	Discussion
Stocking rate Cows/ha	3.50	3.62	
Grazing rest time Days	28	28	
Kg N element Kg element/ha/dy	1.0	0.7	
Irrigation water Mm/ha/dy	4.3	1.5	
Grass consmpt'n KgDM/ha/dy	40.2	36.9	
Grass /cow KgDM/cow/dy	11.5	10.2	
Daily spend /ha \$/ha/dy	\$2.50	\$2.50	
Pasture price \$/tonne DM	\$69	\$69	Both years' pasture prices have been set to this year's price.
Supplements Kg DM/cow/dy	5.8	5.6	
Purch feed price \$/tonne DM	\$350	\$350	Purchased feed price has been set to this year price.
Tot DM Intake Kg DM/cow/dy	17.1	15.5	
Body Cond'n Chnge Kg LWY/cow/dy	0.13	0.06	
Litres (incl calf) /cow/dy	22.1	20.2	
Milk Solids/cow KgMS/cow/dy	1.65	1.51	
Milk price \$/kg MS	\$4.78	\$4.78	Milk price is set the same as this year's price.
Milk income/cow \$/cow/dy	\$0.36	\$0.36	
All feed cost/cow \$/cow/dy	\$7.87	\$7.20	
Margin over all	\$2.82	\$2.65	



Feed/cow \$/cow/dy			
MOAF /ha \$/ha/dy	\$5.05	\$4.55	Now, with prices equalised, this year's margin per cow is lower than last year
Stocking rate Cows/ha	\$17.68	\$16.49	With prices equalised, this year's margin per hectare is lower than last year.

The conclusion, once prices are equalised:

- **Two differences between the years are lower total intake per cow, and lower grass intake per cow.**
- Lower total intake per cow means less efficient use of food because a higher proportion of the feed is lost to cow maintenance.
- Grass consumption per cow needs to be kept high because it's one way to keep the total intake up, and grass is relatively cheap.
- Grass consumption per hectare, delivered by good management and a high level of grass growing inputs, associated with an appropriate stocking rate, delivers a high amount of cheaper grass per cow.

From Newsletter 52: June 27th 2011-11-23

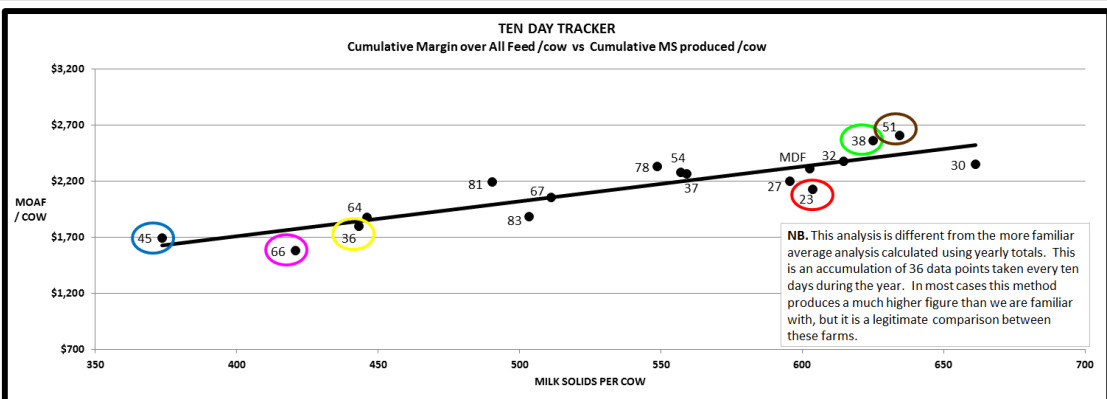
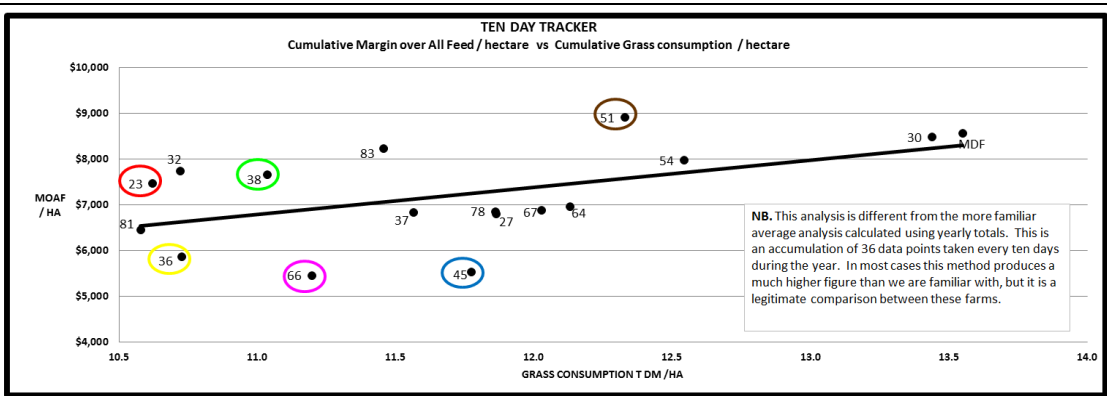
On our grass based farms, the two production issues that have the major effect on feeding profitability are:

1. Grass produced per hectare, because this indicator is a major controller of the **feed price** and the dilution of the cost of the hectare.
2. Milk produced per cow, because this indicator is a major controller of **feed conversion efficiency** and the dilution of the cost of the herd.

Is it worth spending more money on inputs to get higher grass production per hectare, and higher milk per cow? Does spending more money achieve a higher financial margin? The answer for the Tracker group seems to be, "yes.... usually".

The Tracker calculates grass consumption per hectare, milk solids per cow, and the feed financial margins for each farm every ten days. The cumulative margins, shown in the graphs, add up all of these 36 margins for the year. In this analysis, the production per hectare and per cow seem high because they are calculated on only the hectares being grazed by milkers, and only on cows being milked at the time, with no dry-cow period included. However, the method is applied to all farms so the comparison is a reasonable one.

The lines in the two graphs clearly show a general trend, that more grass consumption per hectare AND more milk per cow, achieve greater margins.



To get the range of margins in perspective, if farm 51 and farm 66 were both milking 300 cows, farm 51 would have \$782,400 left over after paying for all feed (including all costs to grow grass and buying supplements), while farm 66 would have \$473,700 – same number of cows, but a \$308,700 difference.

Although the graphs show the trend that higher production delivers a higher margin, **it doesn't work for all farmers**. To illustrate, in the top graph, compare farm 64 and farm 38. Farm 64 has higher grass consumption than farm 38, but gets a lower margin. There are many possible reasons, but some could be:

- Farm 64 may not be set up as well, for example, it needs to apply a lot more Phosphorus.
- Farm 64 may be paying higher prices for fertiliser or irrigation water.
- Farm 64 may be getting a lower price for milk, because it's a smaller farm, or its milk solids are relatively low in protein.
- Maybe farm 64 is wasting more feed or fertiliser –for example, with poor ration balance or not applying fertiliser uniformly.

As well as the above reasons for the varying margins, the two graphs show another interesting relationship (which was also apparent last year) on most, but not all farms, between milk production per cow and grass consumed per hectare.

- In the top graph, Farms 23, 38 and 51 (red, green and brown circles) are well **above** the trend line, that is, they achieve very good margins in relation to their pasture consumptions. Note that these farms are well to the right in the bottom graph, that is, having high milk per cow. It seems to be showing that they are using their amount of grass consumed very efficiently with high producing cows.
- In the top graph, Farms 36, 66 and 45 (yellow, purple and blue circles) are well **below** the trend line, that is, getting low margins in relation to their pasture consumptions. Note that these farms are well to **left** in the bottom graph, that is, having low milk per cow. It seems to



be showing that they are not using their amount of grass consumed very efficiently, with low producing cows.

Farm 51, the farm with the highest margin per cow and per hectare (which happens to be the farm that had the highest margins last year), shows what high milk production per cow, coupled with good grass consumption per hectare, can do.

The standard format of data collection used in this project resulted in a set of widespread, regularly collected and current physical data such as pasture consumption per hectare, levels of purchased feed use, and milk production per cow but also enabled individual farm data to be aggregated to establish district benchmarks for physical performance. Extension and support staff have been provided with real physical production targets to work towards with greater confidence in what is achievable.

Farmer perceptions of the MID Tracker

In the design of this project it was anticipated that participant farmers would become more aware of the key productivity drivers and that the comparison of performance may generate a momentum towards improved pasture consumption and feeding profitability in both participant and non-participant farmers.

For a project of this relatively short duration and modest scale it is very difficult to make the link between participation in the project and improved feeding profitability. It was decided that the simplest and most reliable way to measure the impact of the project on farmer management was to ask them. All participant farmers were interviewed at the beginning of the project in order to confirm their production system and identify their key profit drivers and performance measures. A follow-up interview was conducted at the end of the project that asked them how they used the information from the Tracker reports and to identify any management decision that had been the direct result of their participation in the project.

Fourteen participants were available for the follow-up interview and their responses are summarised in Table 2.

Table 2: Impact of Tracker project

Question	Yes	No	No response
Was your farm performance goal different from one year to the next?	8	6	
Was your farm performance measure different from one year to the next?	1	13	
Was your farm profit driver different from one year to the next?	2	12	
Has your profit driver performance improved from one year to the next?	8	5	1
Has the Tracker project improved profit driver performance?	11	1	2
Did the Tracker project stimulate a change in your feeding management?	9	5	
Would the Tracker data be as useful to you without the group results?	8	6	

While some farms had changed their performance goals this was most likely in response to the end of a development phase or an improved milk price. Most farms maintained an emphasis on the same profit drivers and how farm performance was measured. These measures are summarised in Table 3.



Eleven of the fourteen farmers interviewed said that the Tracker project had improved profit driver performance with nine of the fourteen identifying the Tracker project as responsible for a change in feeding management.

Table 3: Key profit drivers

	Litres/ha	Litres/cow	MS/ha	MS/cow	Kg DM/ha
Key profit driver	5	3	1	4	4

Those who identified the Tracker project as responsible for an improved performance were asked how it had contributed. The responses summarized in Table 4 can be formed into three groupings: motivation to do better, greater focus on pasture management and more active management with current data. All of these were anticipated in the project design.

Table 4: Impact of Tracker project on profit driver performance

Question	Comments
How did the Tracker project improve the performance of your profit drivers?	<ul style="list-style-type: none"> • Comparing to others to see what's possible was a motivator • Increased pasture intake to lift margins • Greater focus on growing and feeding pasture • You can see issues and correct them as you go along • Greater focus on margin/ha and moved away from margin/cow • Information is so current it gives a clearer picture through the season • Increased supplement level to maximise margin/ha • Better understanding of impact of profit drivers on profit • Highlighted seasonal differences • Helped me think through what I was doing – I made better grazing decisions • Lets me see a response to management decisions and actions • It was a benchmarking thing – I realised my stocking rate was too low; I need to lift MS/ha while maintaining MS/cow • Seeing what others can do makes me strive harder

Farmers were asked specifically about the importance of discussion groups to any change they made to their feeding management as shown in Table 5 (some had more than one response). While expert analysis and the opinion of other farmers were important, the overriding influence was in seeing farm performance below expectation when compared to others. This is supported by the part that the farmers looked at first when the Tracker report came in (Table 6) with over 60% checking their ranking first before moving to the graphs for their own farm. Clearly, measuring performance against others was a motivator to action.



Table 5: Discussion group impact on change

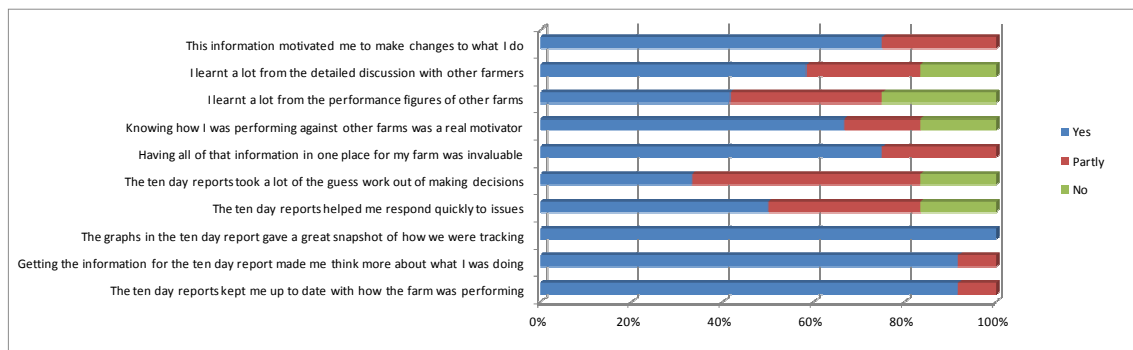
Question	Expert analysis of my farm performance	My farm comparison to group figures	A respected farmer's opinion	I heard a new idea to try
If you made a change following a discussion group what was it that stimulated the change?	4	10	6	0

Table 6: Most important sections of Tracker report

Question	My ranking	My farm graphs	Group graphs	Group figures
When the Tracker report arrived what was the first thing you looked at?	9	3	1	1
When the Tracker report arrived what was the second thing you looked at?	3	7	2	1

Farmers were then asked to respond to some general statements about their impressions of the Tracker as an aid to managing their farms (Fig.1). The responses were overwhelmingly positive towards the currency and comprehensive nature of the information and their motivating effect, and were less positive towards the detailed figures of other farms and the role of the information in making decisions easier.

Fig 1: Overall impression of the Tracker project



Nine of the fourteen participants indicated that they would seek to purchase the Tracker service in future (Table 7).

Table 7: Post-Tracker

Question	Go back to what I used to do	Try and keep the information I need for myself	Try and purchase the service so I can keep getting the information	Undecided
What will you do when the Tracker finishes?	2	1	9	2

During the interviews the farmers made a number of unsolicited comments that really summarized the impact of the project:

- “The Tracker pushed me to work on the business rather than just in the business.”



- “The Tracker makes you a little less lazy about analysing performance. I usually react to feed shortage whereas the Tracker stimulated the development of a feeding strategy.”
- “I’m infinitely better with computers as a result of Tracker. Not just email, I’m starting to understand spreadsheets”
- “The Tracker didn’t improve performance but it would definitely have been worse without it.”
- “There is more to gain for dairy extension in this data than an individual farmer might gain.”
- “Measuring my performance against others gave me confidence. The Tracker is one of the best things the industry has spent its money on.”
- “The Tracker gives me confidence that I can do the job.”
- “The Tracker captures everything we lose in our diary.”
- “The Tracker made us aware we hadn’t improved but it was heartening when we saw we weren’t the only ones. It gave us perspective.”
- “The power was in the group data - the group data was everything.”

Key findings

- High margins per cow and per hectare result from high milk production per cow coupled with good grass consumption per hectare.
- Grass consumption per hectare, delivered by good management and a high level of grass growing inputs, associated with an appropriate stocking rate, delivers a high amount of cheaper grass per cow.
- Improved feeding margins and the expressed perceptions of the farmer participants indicates that the Tracker project has resulted in changes in feeding management that have had a positive impact on farm performance.
- Farmers can benefit from complex data if they are trained to manage it, if it is current and they have respect for its integrity.
- The Tracker project resulted in a much greater focus on pasture management to maximize pasture consumed and raised the importance of feed margins/hectare as an important profit driver.
- Benchmarking or comparison to other like farms can have a positive motivating effect on dairy farmers.
- While talking to other farmers was important to the success of the project, it was less significant as a motivator to act than was expected.
- Projects like the Tracker project may play a positive role in raising the computer skills of farmers.



Recommendations and future directions

The success of the Tracker project indicates that it may play a significant positive role in improving feeding management skills with an emphasis on pasture production of dairy farmers across the state. The data collection and analysis model is structured for ready transfer to any area for groups of any size at relatively short notice.

Anecdotal evidence suggests that the project has had a benefit to farmers beyond the group of participants as a result of the extension model employed. The success of the project is demonstrated by the high level of buy-in by participants at the end of the project as well as the introduction of a number of other fee for service farms following promotion of the project.

Funding of a Tracker project in other areas may provide the impetus for the development of higher level skills in feeding management leading to higher levels of profitability.

Appendix One: MID Tracker Project Farm Performance Comparisons

TO: June 2011																				
FARM NUMBER																				
No of cows (305 day lactations)																				
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
MDF	458	181	189	289	350	289	243	510	149	213	1094	193	200	224	400	153	400	251	177	121
Factory LITRES	3,426,500	1,061,880	1,071,895	1,346,290	2,030,340	2,024,480	1,049,710	3,707,910	637,770	1,064,130	7,130,480	1,296,600	1,560,040	1,393,610	2,830,915	935,540	1,559,330	1,301,776	1,806,966	1,407,100
Factory FAT%	3.53	4.24	4.09	4.37	4.43	4.15	4.49	3.62	4.20	3.91	4.21	4.31	3.88	4.44	4.30	3.63	4.11	4.36	4.52	4.03
Factory PROT%	3.63	3.29	3.35	3.36	3.43	3.49	3.54	3.25	3.37	3.31	3.46	3.38	3.36	3.40	3.33	3.60	3.28	3.44	3.43	3.15
Factory FAT	85,034	141,412	45,622	45,466	55,229	88,646	84,102	47,134	134,288	26,813	56,458	306,750	54,321	62,695	72,120	121,740	42,334	64,031	56,799	81,646
Factory PROT	71,032	141,483	34,944	35,956	45,292	69,540	70,576	37,189	120,351	21,507	41,574	246,761	43,339	50,695	59,174	94,115	33,653	50,834	44,820	61,936
Litres ton	7,058	6,995	5,982	7,152	5,805	6,779	4,313	7,268	4,268	4,003	6,736	7,783	7,773	7,073	7,073	6,392	5,183	6,392	5,183	10,214
MS ton	547	500	453	522	452	519	346	499	323	481	506	512	564	669	539	407	469	405	612	832
MS ton	547	500	453	522	452	519	346	499	323	481	506	512	564	669	539	407	469	405	612	832
MILK PRICE	\$5.48	\$5.37	\$5.63	\$5.63	\$5.61	\$5.30	\$6.00	\$5.54	\$6.68	\$5.55	\$5.43	\$5.68	\$5.58	\$5.42	\$5.38	\$5.37	\$5.46	\$5.52	\$5.04	\$3.62
OWN CROP/tonne DM/led per year	0	0	0	0	0	0	17	184	0	0	0	0	0	0	0	0	65	37	0	29
OWN SLA/tonne as fed per year	87	60	141	0	156	128	157	59	71	84	71	284	51	58	143	244	0	68	37	0
OWN hay, tonne as fed per year	0	44	0	0	86	14	0	13	33	0	0	0	0	0	0	0	5	2	0	4
Conc 1, tonne as fed per year	509	792	205	326	441	590	321	715	12	378	901	265	434	0	720	186	351	225	148	206
Conc 2, tonne as fed per year	104	191	0	0	0	0	0	358	26	0	846	0	0	0	0	0	0	20	0	0
Other purch, tonne as fed per year	0	33	0	0	0	0	0	0	0	0	573	0	0	0	0	0	0	0	0	0
Purch silage, tonne as fed per year	11	18	6	7	8	16	15	9	1	8	40	8	9	0	17	6	10	9	7	6
Purch hay, tonne as fed per year	23	9	0	145	0	0	30	149	9	36	0	18	6	11	0	11	19	2	0	0
Purch PKE, tonne as fed per year	1	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	4	33	0
Total purch feed as fed	648	1,043	211	269	524	645	360	1,240	69	422	2,351	291	448	510	747	172	384	289	155	212
Max grazing area	73	120	41	55	47	112	90	77	65	110	44	50	290	65	74	55	115	50	65	100
AVERAGE grazing area	63	111	39	51	46	90	77	65	110	44	50	290	65	74	55	115	50	65	100	52
Milker average w/t	550	550	550	550	550	550	550	575	550	390	560	550	550	550	550	471	524	480	500	517
Water ML used	240	326	184	216	166	315	217	357	129	115	948	188	222	171	309	214	198	111	254	45
N/tonne element used	28.9	40.6	10.5	14.8	5.7	33.8	8.3	9.4	2.2	5.9	112.3	10.3	2.6	20.9	33.3	32.7	17.6	9.6	13.1	1.1
P/tonne element used	1.6	2.2	4.1	6.3	0.3	1.8	1.1	2.4	0.2	1.2	12	0.6	0.3	0.3	9.9	0.6	1.2	2.6	3.6	1.0
K/tonne element used	4.1	2.2	2.2	4.1	6.3	0.3	1.8	1.1	2.4	0.2	1.2	0.6	0.3	0.3	9.9	0.6	1.2	2.6	3.6	1.0
Renov spent	\$4,331	\$8,122	\$2,586	\$1,609	\$1,460	\$9,344	\$7,115	\$13,616	\$2,872	\$2,176	\$17,675	\$12,959		\$3,522	\$4,499	\$779	\$410	\$5,239	\$6,486	
Topping spent	\$1,961	\$12,646	\$492	\$1,120	\$2,178	\$4,820	\$1,820	\$4,196	\$1,723	\$1,218	\$33,044	\$120	\$1,398	\$9,341	\$2,412	\$410	\$410	\$2,412	\$12,203	\$1,936
Greened grass crop, consvd, consum mlt hay	14.3	13.1	14.3	11.5	11.2	12.8	11.7	12.1	13.7	12.7	12.1	13.4	12.9	11.8	14.6	12.6	12.3	13.1	12.3	13.1
DMI grass (cow/day)	3.8	3.8	3.5	3.1	3.8	3.5	3.5	3.2	3.9	3.8	3.8	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.4
Antibp Margin over all Feedstock Day	\$2,462	\$2,450	\$1,938	\$2,287	\$2,287	\$2,956	\$1,783	\$2,193	\$1,681	\$2,067	\$2,448	\$2,602	\$2,783	\$2,546	\$2,387	\$2,414	\$2,414	\$2,070	\$2,387	\$1,944
Anticip MCAF Fla Day	\$8,105	\$9,692	\$8,123	\$7,630	\$7,361	\$8,597	\$6,928	\$9,252	\$6,014	\$8,899	\$8,607	\$9,418	\$8,244	\$8,193	\$7,395	\$7,395	\$7,221	\$7,492	\$7,221	\$7,492
TO: June 2010																				
FARM NUMBER																				
No of cows (305 day lactations)																				
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
MDF	273	371	168	188	286	14	34	464	149	181	1091	187	229	232	411	161	221	230	335	198
Factory LITRES	1,668,436	2,730,485	1,031,096	978,470	1,259,660	12,340	120,850	3,562,365	762,690	767,893	6,186,210	1,226,620	1,773,070	1,738,790	2,799,950	910,150	1,465,450	1,107,984	1,625,540	1,395,140
Factory FAT%	4.26	4.38	4.18	4.01	4.45	4.56	4.72	3.58	4.34	3.84	4.56	4.36	4.17	4.33	4.26	4.64	4.20	4.34	4.45	4.04
Factory PROT%	3.53	3.57	3.36	3.29	3.39	3.70	3.52	3.26	3.38	3.85	3.55	3.35	3.24	3.36	3.35	3.57	3.32	3.25	3.31	3.17
Factory FAT	79,565	119,711	43,141	42,143	50,510	72,882	5,530	5,700	127,022	33,956	40,221	282,592	52,244	74,020	75,755	119,121	42,235	61,129	48,136	72,303
Factory PROT	66,959	97,553	34,615	33,063	41,502	55,505	4,484	4,295	116,899	26,457	29,471	226,030	41,032	57,458	59,753	92,474	48,364	36,060	53,803	44,179
Litres ton	6,843	7,353	6,229	6,687	6,684	6,531	6,607	3,575	6,851	5,237	6,434	6,653	7,743	7,570	6,817	6,642	6,696	4,812	4,845	7,652
MS ton	533	585	470	457	489	434	711	295	523	404	384	466	488	574	578	518	483	386	376	509
MS ton	533	585	470	457	489	434	711	295	523	404	384	466	488	574	578	518	483	386	376	509
MILK PRICE	\$4.46	\$4.43	\$4.43	\$4.43	\$4.45	\$4.45	\$4.62	\$4.92	\$4.62	\$4.92	\$4.55	\$4.53	\$4.41	\$4.42	\$4.42	\$4.18	\$4.34	\$4.39	\$4.23	\$4.31
OWN CROP/tonne DM/led per year	0	0	148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60
OWN SLA/tonne as fed per year	1	39	46	0	78	157	0	25	228	17	152	0	138	44	91	224	47	44	1	0
OWN hay, tonne as fed per year	0	29	2	4	110	0	0	0	0	4	13	0	0	12	0	0	0	0	0	14
Conc 1, tonne as fed per year	457	477	221	176	284	946	30	46	759	59	238	1,747	255	513	0	648	188	301	250	159
Conc 2, tonne as fed per year	51	129	0	0	0	0	0	379	113	0	0	0	0	470	0	0	0	0	0	0
Other purch, tonne as fed per year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Purch silage, tonne as fed per year	11	15	6	7	8	14	1	17	3	7	40	7	11	0	16	6	9	9	14	10
Purch hay, tonne as fed per year	4	6	0	23	32	0	34	179	6	5	0	60	0	0	0	16	0	0	0	24
Purch PKE, tonne as fed per year	96	0	19	3	0	0	0	0	0	0	122	0	11	79	0	5	40	0	0	0
Total purch feed as fed	619	626	245	209	325	402	46	81	1,334	228	241	2,325	323	557	664	180	315	308	174	360
Max grazing area	73	110	41	55	46	95	90	93	110	43	50	280	60	76	55	118	55	75	70	100
AVERAGE grazing area	61	93	41	42	46	88	90	93	107	38	46	298	44	54	104	55	68	64	97	49
Milker average w/t	550	550	550	550	550	550	550	575	550	390	560	550	550	550	471	524	480	500	500	542
Water ML used	468	786	351	288	376	770	550	752	247	272	1,678	328	679	363	816	452	441	486	786	462
N/tonne element used	31.5	44.9	11.1	18.5	32.1	16.5	6.5	1.2	107.5	9.7	21.3	26.8	23.8	23.8	21.3	27.0	13.5	24.3	2.0	2.5
P/tonne element used	3.2	4.5	1.8	2.0	6.4	0.3	0.7	1.6	0.3	0.3	18.2	1.0	1.6	2.7	10.2	1.1	1.8	1.8	10.4	1.1
K/tonne element used	\$4,234	\$6,798	\$3,073	\$1,166	\$1,507	\$5,331	\$891	\$14,116	\$2,015	\$3,141	\$17,751	\$1,625	\$3,694	\$4,515	\$1,961	\$3,323	\$4,442	\$6,323	\$12,280	\$1,678
Renov spent	\$6,149	\$10,007	\$2,667	\$453	\$3,698	\$11,514	\$1,514	\$2,200	\$2,681	\$3,674	\$30,944	\$1,948	\$9,366	\$2,713	\$4,953	\$2,442	\$2,442	\$2,442	\$11.0	\$13.3
Topping spent	14.9	15.7	13.9	14.4	13.8	14.4	0.6	0.7	11.2	12.1	13.4	13.4	11.8	14.6	14.2	14.2	11.0	12.2	11.0	13.3
Greened grass crop, consvd, consum mlt hay	4.2	4.6	4.1	3.1	4.0	3.9	0.4	0.2	3.1	3.7	3.6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
DMI grass (cow/day)	\$2,145	\$1,510	\$1,589	\$1,287	\$3,338	\$1,441	\$1,557	\$3,437	\$1,641	\$1,557	\$4,641	\$1,732	\$1,630	\$1,689	\$1,7					