

OPERATING THE DAIRY FARM BUSINESS FOR PROFIT

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Background

The New Zealand dairy industry remains reliant on the sale of commodity products to sustain it and although there is considerable effort being directed to adding value to dairy output, the commodity markets are likely to provide the industry's bread and butter for some time yet.

Commodity markets tend to follow cyclical patterns characterised by periods of high and low prices and rarely tracking a middle course for any length of time. Although perhaps not as true today for New Zealand dairy farmers as it once was, sellers to commodity markets tend to be "price takers" not "price makers". The growing influence of the Australasian region and Fonterra in the world dairy products market are two factors that might in the long-term provide dairy farmers in our region with a greater ability to negotiate on price.

However, as at today, dairy farmer incomes remain at the mercy of the market, which just now it must be said, is serving us well. Those of you who have been in this industry for a decade or two will be only too aware that the good times don't last forever and dairy farmers are likely in the future to have to weather periods of low market returns.

Within the farm gate dairy farmers have some control over the quantity and the quality of the milk they supply to the world, but invariably we must take the price the market will pay.

How then does a dairy farmer maintain a financially viable (profitable) farming business in the face of fluctuating market returns?

Generating greater output from the dairy farm has been, and remains, an important mechanism in maintaining and/or improving financial viability. Managing the input costs and the capital structure of the business (interest expense) are also important mechanisms used by dairy farmers to achieve the same result.

The relationship between these various aspects of the business can be summarised as follows:

$$\text{Gross Farm Revenue} - \text{Farm Operating Expenses and Interest and Rent Expenses} = \text{Farm Trading Profit}$$

My observation from working with dairy farmers in Canterbury over the last 12 years is that most have significantly increased milksolids output by either expanding or intensifying their farming businesses. Unfortunately it appears that the increase in output has come at a

significant cost (of inputs and interest) and many farmers have failed to maintain their profitability. Some dairy farmers have even lost ground to the extent that the viability of their dairy farming businesses as currently structured, are under threat.

The situation is highlighted in Table 1. The information has been drawn from the statistical analysis of the client databases of the farm accounting practices of PS Alexander and Associates Ltd. and Brown Glassford and Company Ltd. and covers the five-year period 2001-05. The information is drawn specifically from the survey group 'Dairy Owner-Operator - Irrigated'.

Table 1: Dairy Owner-Operator -Irrigated - Five-year Summary of Financial Data

Financial Year	2001	2002	2003	2004	2005	% Change 05 v 01
Milksolids Production (kg)	211,000	238,000	249,000	283,000	301,000	43%
Milk Price (Av. for Financial Year)	\$4.84	\$5.09	\$3.93	\$3.98	\$4.32	-11%
Gross Farm Income	\$1,119,000	\$1,347,000	\$1,081,000	\$1,208,000	\$1,423,000	27%
Cost of Production (c/kgMS)	\$3.04	\$3.46	\$3.14	\$2.77	\$2.97	-2%
Interest & Rent	\$156,000	\$209,000	\$249,000	\$280,000	\$306,000	96%
Net Farm Profit	\$323,365	\$335,241	\$87,200	\$162,415	\$246,493	-24%
"Misery Index"	64%	69%	85%	82%	78%	22%

The survey results confirm an increase in milksolids output over the period of 43%, which has driven an increase in gross farm income of 27%.

The blame for poor financial results is most often attributed to a low milk price and although over the period the milk price has fluctuated, the difference between 2001 and 2005 was a decline of only 11%.

Cost of production over the period has declined by 2%. On the face of it this might seem like a reasonable situation, given large increases in input costs in areas such as feed and grazing, energy and labour. However, one of the key drivers for increasing scale is to capture the economies of greater scale. Given the large increase in scale of dairy farming businesses over the period the economies do not appear to have been captured.

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This is further highlighted by the increase in the cost of interest and rent of 96% over the period (reflecting an almost 150% increase in term debt over the period). The increased borrowing has obviously been key to the expansion of farm businesses but appears to have had very little impact on reducing input costs.

It should be noted that some of the assets purchased with the additional borrowings will have appreciated in value over the period, contributing to an increase in the net worth of the dairy farming business, at least on paper. Some dairy farmers have focused almost solely on achieving capital gain, which has worked well for them in recent years but with increasing interest rates and a less buoyant land market some of these businesses will now be requiring higher profitability just to stay afloat.

The data reinforces my observation that profitability has deteriorated over the years with net farm profit for the survey participants declining by 24%.

The "misery index" is a phrase coined by prominent farm account Pita Alexander. The index is calculated by combining the farm operating expenses to gross farm income ratio and the interest (and/or rent) to gross farm income ratio. Pita has found that the ratio, monitored over time, is a very good gauge of the financial "health" of a farming business. In his experience a family farming business of normal viable scale requires about 25% of their gross farm income to cover key areas of expenditure such as personal expenditure and allowances, education, income taxes, plant replacement and debt reduction

The "misery index" results for the survey group then, when assessed by Pita's standard, must be concerning, with the index exceeding 75% in the three years 2003-2005.

A reasonable criticism of the survey results is that they are specific to irrigated dairy farms (most likely Canterbury, North Otago and Marlborough) and as such may not reflect the wider South Island situation.

An enquiry to the recently developed Dairy Base financial monitoring database for South Island dairy farmers (67 sets of data) for the 2006 year confirmed the survey results. Average gross cash revenue from farming was \$4.27/kgMS, cash farm operating expenses were \$2.70/kgMS (63% of gross income). Interest and rent expenses were \$1.05/kgMS (24.5% of gross income). This gave a misery index of 87.5%.

These survey results highlight that although dairy farmers in the South Island have significantly increased milksolids output over recent years, the profitability of some businesses is likely to have declined, even to the point where the viability of a number may be at some risk.

The playing field today

The sound of the sigh of relief expressed by dairy farmers when the dairy companies announced increases to the milk price for the current season earlier this year was almost deafening. A large number of dairy farmers need a milk price well above \$4.00/kgMS just to survive let alone be sustainable.

The higher milk price for the current season and the indication of a milk price next season with "a five in front of it" has certainly provided dairy farmers with greater confidence in the future. However, there is a flip side to this positive news with some significant risks facing dairy farmers that will manifest in further increases in costs and potentially lower output.

To name a few:

- Increasing interest costs, especially where long term fixed interest loans are rolling over
- Compliance costs and local body charges escalating
- increasing employment costs - increased minimum wage rates, 4 weeks holiday pay
- Higher fertilizer costs
- ongoing increases in the cost of electricity and fuel
- risks associated with continued access to irrigation water, especially in Canterbury.

In my view many dairy farmers cannot rely on price alone to provide them with a viable business over the long term, they need to structure and manage their farming businesses more efficiently so that they are profitable, even at relatively low milk prices.

Why is business profitability so important?

The answer is simply that profits provide choices. Choices that will enable the farmer to reduce debt, expand the business more rapidly and pay themselves a higher salary. I don't think I've ever met a farmer or business person who didn't want to have choice or flexibility.

Profitability doesn't usually happen by accident. It is most likely the result of a sound understanding of the business and good planning and monitoring. Some dairy farmers do this extraordinarily well while most could do better.

It concerns me that some of the basic "tools" available to farmers are not being utilised in the management of their businesses. Some of these "tools" are new and are the result of computer technology, but most have been around a long time but haven't been taken up by farmers to the extent that they might have.

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Tools to better manage the dairy farm business

Planning

The starting point for improving business performance is a plan.

This need not be a sophisticated document and an A4 handwritten sheet might suffice. It should however reflect the input of all key stakeholders (husband and wife, equity partners, company directors).

The plan will be more relevant if it contains some key aims for the business. These might be physical or financial but must be realistic and achievable, be quantifiable and measurable and be time set.

The physical plan provides the basis for the development of a financial plan, more commonly referred to as a budget.

Financial planning

A computer can be useful in the preparation of a financial plan. Most computer accounting

software packages that are used to prepare GST returns also have a budgeting capability. Often these systems can be a little restrictive and a simple alternative is to use a spreadsheeting programme. Most computers are sold with a basic spreadsheeting programme. Common options are MSWorks and Excel.

If you are not into computer technology your farm consultant or accountant can probably assist you. If that is not an option a pencil, paper and an eraser will still do the job.

The budget may not include every small item of income and expenditure but there should be some basis for the figure that is entered for each cost centre e.g. Animal health - may comprise the subheadings, mastitis treatment, dry cow treatment, CIDR, induction, other drugs, vet visits, drenches and vaccines, minerals.

This exercise can take some time particularly where the recording of income and expenditure in the past has been sparse, but in my experience is well worth the effort and often highlights areas of concern on which to focus. A particular income or cost centre should reflect the physical plan for the farm but it is often useful to work in the opposite way. Start from zero and build up the budget/plan with how you might operate the farm and not how you currently operate it. Having someone from outside the business included in this process questioning your assumptions can be very useful.

The alternative is to use previous actual business information either from the annual accounts or from the accounting software programme. If these aren't available industry benchmarks or survey results can provide a guideline for budget parameters. The concern with this approach is that the industry figures probably won't reflect the structure on an individual

farm. The figures are usually averages and an individual farmer may strive to be better than average.

Ideally the budget should include a cashflow. Usually this is a monthly breakdown of when cash will be received (income) and when it will go out (expenditure). The bottom line of a cashflow budget should be a forecast of the cash the business will have in the bank at the end of each month. For the cashflow to be accurate it needs to consider items below the net profit line, such as personal expenditure, income tax and GST, capital expenditure and term loan repayments.

Where a farm business comprises more than one dairy farm or a dairy farm and a run-off I find it useful to treat the farms as separate entities or business units. This requires a little more work to set up the budget and the accounting system but the output allows a much more transparent view of the relative profitability of the dairy farm(s) and the runoff.

Once finalised a budget can provide a focus for discussion with the farm Accountant, Bank Manager and Consultant. The feed back from rural professionals may lead to improvements in the forecasts.

Without a plan or a budget it is difficult for the manager of a business to be proactive and as a consequence they tend to react to situations, which is often too late. A financial plan can be modified as events unfold to provide a manager with a clearer view of the future and the ability to make a more informed decision to mitigate risk or enhance opportunities.

The budget should also include some key ratios that will provide an easy comparison with actual performance and allow the business to be benchmarked against other similar businesses.

These might include:

- Physical performance - milksolids per hectare and per cow.
- Income - % from milk, % other, \$/kgMS, \$/cow, \$/ha.
- Farm operating expenditure - \$/kgMS, \$/cow, \$/ha, % of gross income.
- Operating surplus - \$/kgMS, \$/cow, \$/ha, % of gross income.
- Interest - \$/kgMS, \$/cow, \$/ha, % of gross income.
- Trading profit - \$/kgMS, \$/cow, \$/ha, % of gross income.
- Misery index.

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Once finalised, the budget can be loaded into the computer based accounting package (your accountant may be able to assist with this task) if this is an option.

Performance monitoring

The real benefit from preparing a budget for the dairy farm business is the information that is generated from monitoring actual performance and comparing this against what was planned.

In my experience this is where the process breaks down for many farm businesses. The budget is completed, but is not loaded into the accounting system, or is filed away.

Most computer based accounting systems have a huge array of reporting options, which can be extremely useful in updating the performance of the business. Unfortunately many farmers either don't realise these reporting options are available, or lack the training to use them.

In the event that a farmer has not got the time or the skills to undertake the accounts processing and reporting tasks, many accountancy firms now offer this service at very reasonable rates. There are also rural secretaries, who work with farmers and who are adept at this type of work.

There are various ways to monitor performance of the business. Through the course of the financial year monitoring the cash position and variance reporting are useful tools. Once the financial accounts for the business are finalised there is more of an opportunity to have an overview of the business performance and compare it not only to the plan but also to the performance of other similar farming businesses.

Cash is king

An easy and effective measure of performance is to compare the actual bank balance at month end (off the bank statement) with the bank balance forecast in the cashflow budget.

A large number of factors affect this comparison but if the business is incurring expenditure as broadly detailed in the cashflow budget and is paying its bills in a timely way (with no substantial unpaid creditors) then the comparison is very relevant. If the cash position is stronger than that budgeted it indicates performance is better than that budgeted.

Variance reporting

Most computer accounting packages will include a variance reporting option. Generally these allow analysis of a particular period e.g. a two monthly GST period, and also a year to date option.

These reports simply compare actual performance against the budget and calculate the difference or variance for a range of income and cost centres. Some systems will also provide an updated forecast to year-end by adding the remaining budget to actual expenditure.

It is important that the output from variance reporting is not overwhelming. Too often I find clients trying to wade through a forest of paper. My recommendation to clients is that the variance report should not exceed one A4 page. Our own farming business operates four business units and our accountant has developed a single A4 sheet that comprises the year to date variances for each business.

The report will highlight areas of actual income and expenditure that varies from the amounts budgeted and will also update profitability compared to budget. Timing of the receipt of income and payment of expenses will cause variance, but once this is explained the person in control of making expenditure decisions needs to explain the remaining variance. This task may require some further analysis of the particular income or cost centre.

Regular variance reporting through the year can enable the manager of the business to adjust aspects of the management of the business through the year to achieve the budget target. This analysis also provides useful information for future budgeting.

Annual accounts

The annual accounts that your accountant generally prepares can be much more use than just calculating the income tax position of the business.

A well-prepared set of annual accounts provides a huge amount of information about the business. The accounts will also clearly and accurately detail the profitability of the business for the financial year under review.

A review of performance with the accountant can be a very useful exercise and may highlight structural issues within a business that need to be addressed to improve the profitability and viability of the business.

Benchmarking

Many accounting firms now compile statistical information on various sectors of their practice, which enables individual farmers to compare their performance to a particular sector or sub sector of the accountant's client base.

This process is called benchmarking.

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Benchmarking can be a very useful exercise for farmers and can again highlight areas of their business on which they need to focus to improve profitability. However the exercise is not as simple as using the benchmark figures for budgeting. There needs to be some understanding of how dairy farmers with similar businesses are achieving higher income and/or lower costs. Using the example of animal health expenditure it may be necessary to understand the detailed animal health program on a farm that delivers a lower cost outcome. In some cases there may be a feature of an individual farm that prevents low cost operation e.g. a small milking shed with limited technology that requires more labour. Such a situation might prompt the construction of a new milking shed, which includes significant use of new labour saving technology.

My experience is that dairy farmers are; in general, often slow to adopt simple innovative ideas, particularly relating to the cost of operating the business. I continue to be amazed and impressed with how low cost dairy farmers operate their businesses. They tend to spend in the important areas and manage these areas well to often deliver above average output. Too many farmers believe that if they don't follow convention in a certain area it will result in lower output.

One of the problems with statistics prepared by an accounting firm is that the sample size being analyzed is relatively small. The dairy industry is now addressing this issue with an industry wide database called Dairy Base.

Dairy base

Dairy Base is a dairy industry initiative to allow all dairy farmers to access industry benchmarking information. Access to Dairy Base is through rural professionals, mainly accountants and farm consultants and is achieved by providing your financial data to the database.

It is a web based dairy industry initiative funded by Dairy Insight and managed by Dexcel. It is supported by the NZ Institute of Chartered Accountants and the NZ Institute of Primary Industry Management.

Conclusions

- Increasing milksolids output is no guarantee of improved profitability, and although milksolids output on Canterbury dairy farms has increased significantly in recent years, profitability has declined, not all of it due to lower milk prices.
- Being profitable provides the farm business with greater choice and flexibility.
- Profitable dairy farming is the result of a sound understanding of the business and good planning and monitoring.
- Tools to improve the profitability of the dairy farm business include:
- Physical and financial budgeting
- Monitoring

- Cash
- Variance reporting
- Annual accounts
- Benchmarking

Dairy Base looks set to provide the industry with a comprehensive benchmarking tool.

References

Brown Glassford & Co. Ltd. 2005 Farm Statistical Survey.

PS Alexander & Associates. Farming Newsletter March 2007.

Dairy Base. Dairy Industry Financial Database.

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