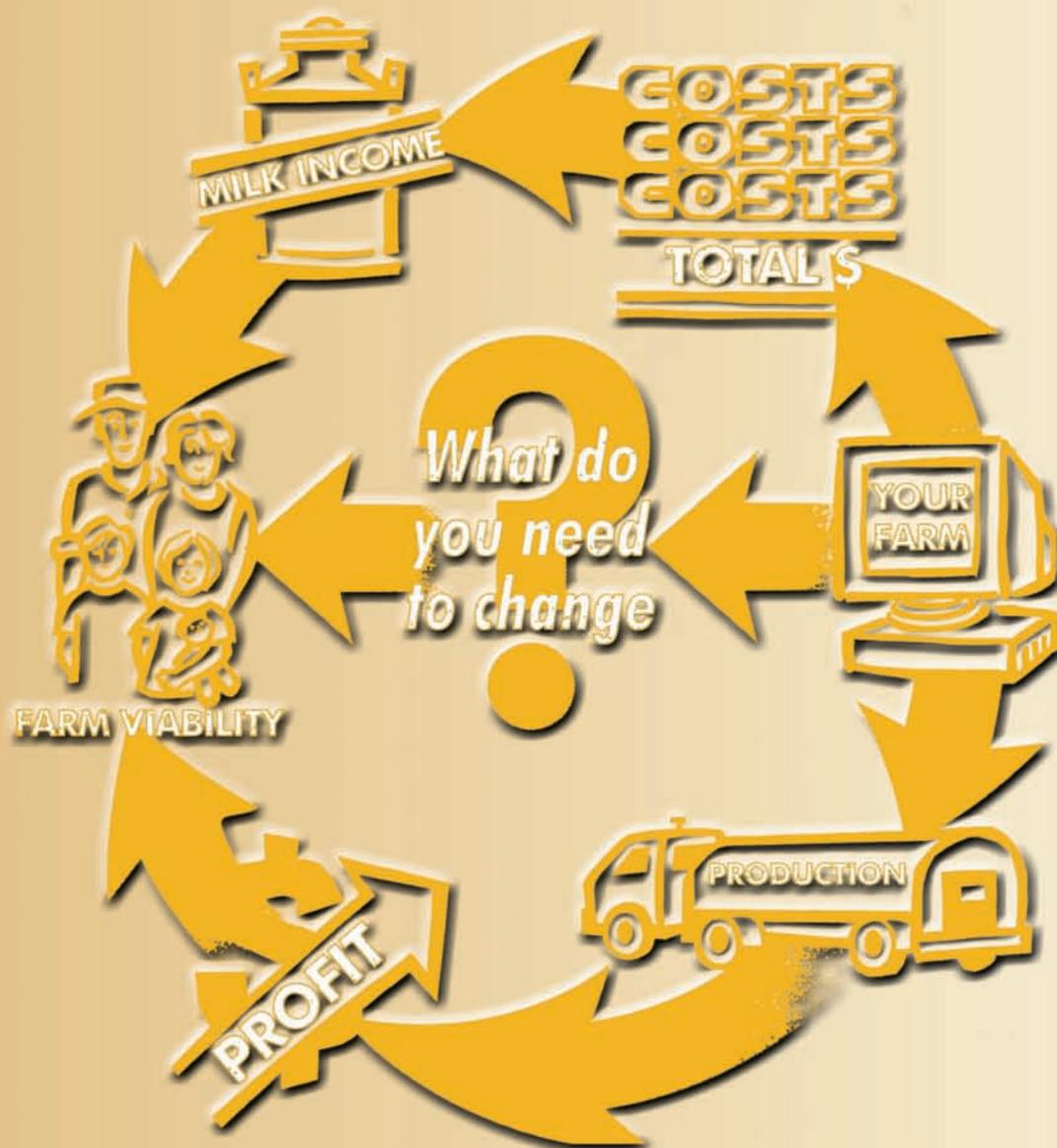


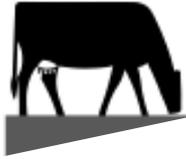
# FARM BUSINESS MANAGEMENT

## *Analysis Manual*



**Assisting farmers to identify areas of farm business management which will help improve profits**





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## *Foreword*

Change is occurring at a rapid rate in the NSW dairy industry due to the cost-price squeeze associated with reduced milk prices and increasing input costs.

Many farmers, wishing to stay in the industry are at the crossroads, having to make decisions on the adoption of cost effective technology and how to enlarge their business.

It is difficult to speculate on future milk prices but the cost of production and living expenses suggest that we will need to continually challenge existing herd sizes and levels of production per hectare and per farm.

Lower prices suggest that gradual increases will not be the complete answer and productivity gains will have to be made at even faster rates and greater amounts than in the past.

It is estimated that we will have a shrinking industry when it comes to the number of farms but in terms of the production per farm and the adoption of new technology, dairying in NSW will be a growth industry.

Change will no doubt continue and there will be the need to increase the effectiveness of existing operations to reduce costs. It will also be necessary to consider ways to graze and milk larger herds to improve total farm income. This will involve close examination of the key drivers of profit ie. herd, shed, feed, labour and farm management.

**Alex Ashwood**  
**DairyCHECK Coordinator.**

### **Acknowledgements:**

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We also thank Bega Cooperative and Dairy Farmers for providing benchmark information and Bird Cameron (Rural Management Services) for their guidance in analysing farm performance.

Most importantly, much appreciation is shown towards farmers and service providers who have helped the development and implementation of DairyCHECK.



## WHAT IS DAIRYCHECK?

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DairyCHECK is about farmers selecting the most appropriate technology and management to improve the overall profitability of their farm.

DairyCHECK is based on a series of integrated technical packages and activities (eg. tutorials and workshops) to help farmers make better decisions during a period of rapid change.

*The project comprises of three stages:*



**Stage 1 – Farm Management Audit - using a “Checklist” to determine management opportunities for your farm by:**

- Calculating the impact of deregulation on farm income
- Knowing the strengths and opportunities of your farm
- Identifying financial and physical key performance indicators
- Examining ways to improve profits.



**Stage 2 – Farm Business Management - using various tools and packages to determine the best ways to optimise the use of resources by:**

- Understanding the financial and physical performance of your farm
- Identifying your goals and needs
- Considering ways to be profitable
- Analysing farm profits and performance.



**Stage 3 – Profitable Production System - using the most up-to-date knowledge and skills to develop and introduce new technology and different production systems by:**

- Examining different production scenarios
- Identifying and analysing cost effective technology
- Planning the implementation of different systems
- Analysing future options and alternatives to improve profits.



## **FARM BUSINESS MANAGEMENT MANUAL**

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Farm Business Management analysis helps you to understand how your business is performing and looks at ways to improve the “profitability” of the business.

**Stage 1 of DairyCHECK** - Farm Audit examined:-

- the impact of deregulation on the price of milk and farm income
- the key drivers of profit ie. feed, herd, farm, shed and labour management
- the management strengths and opportunities of your farm
- the management areas that needed change

**Stage 2 of DairyCHECK** - builds on Stage 1 by:-

### **STEP ONE** Linking physical and financial indicators

- Taking the complexity out of comparing performance indicators
- Recognising that each farm and its management are unique
- Using performance indicators to improve your business

### **STEP TWO** Identifying ways to improve farm profitability

- Determining the strengths and opportunities of your business
- Explaining what indicators mean to your business
- Examining why certain indicators need to change

### **STEP THREE** Analysing the present and future viability of your farm

- Determining the capacity of your farm to meet financial requirements
- Identifying if your business provides sufficient funds to meet your family needs
- Examining ways your business can generate additional income

### **STEP FOUR** Using tools to improve farm decisions

- Partial Budgets
- Cash Flow Budgets
- Comparative analysis

This self help manual is part of Stage 2 ie. Farm Business Management Analysis by:

Andrew Alford  
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## INTRODUCTION

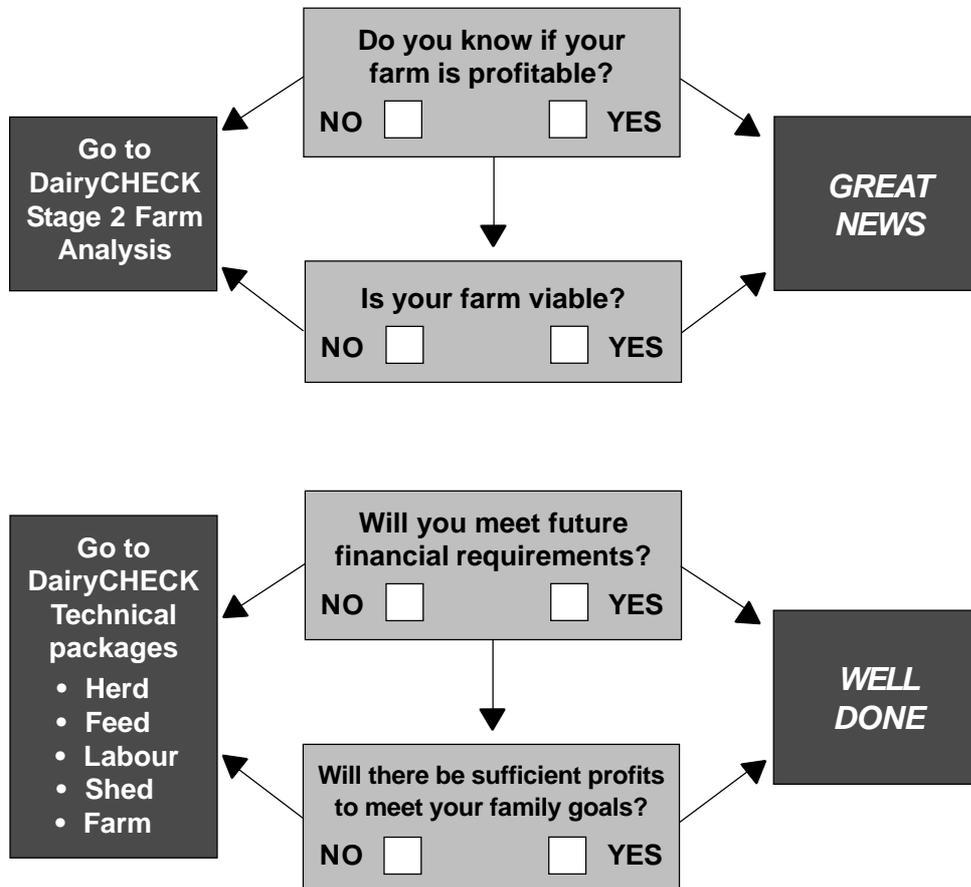
Analysing your business can be complex due to the number of factors involved and the individuality of enterprises.

Nevertheless, key performance indicators and financial tools can assist you to identify management strengths and opportunities of your farm.

Farm analysis helps you to examine ways to consider the combination of physical and financial inputs to improve farm profitability and liquidity.

Most importantly, farm analysis must fully consider your farm and family goals.

**Knowing how your business is performing allows you to make better decisions to reach your family goals.**



## KEY PERFORMANCE INDICATORS

As shown in DairyCHECK – Farm Audit (Stage 1) Key Performance Indicators can help you determine the influence of technical and financial factors on your profits. The various financial and technical indicators used in DairyCHECK Farm Analysis (Stage 2) can help identify the challenges and opportunities for your farm business. These performance indicators may help to provide a better knowledge of your business. Table 1 provides some typical values based upon cash flow, to compare your dairy farm business performance with. They are based upon historical data up to 1999/2000.

**Table 1: Dairy Cash Flow Analysis Guidelines**

Category	TFR % <sup>1</sup>	Cents/L	\$/calver <sup>2</sup>	\$/ha <sup>3</sup>
Herd	3-8%	1.5 - 3.0	70 - 180	—
Shed	2-3%	1.0 - 1.5	—	—
Feed	30-35%	< 12.0	650 - 800	< 770
Total Variable Costs	45%	< 17.0	< 1030	—
Gross Margin	55%	20.0	> 1250	> 1210
Common Fixed Costs	4-6%	< 3.0	—	—
Labour	Up to 8%	< 7.0	—	—
Repairs & Maintenance	4-6%	3.0	—	—
Total Fixed Costs	15-20%	—	—	—
Farm Operating Surplus	35+%	—	—	—

1 TFR% = costs are expressed as a % of Total Farm Receipts;

2 Calver = number of cows calved in the year;

3 ha = the total dairy area (milking area and dry runs etc.).

Performance indicators must **not** be used in isolation. Used in a whole-farm context they will help you to determine:

- the possible reason for high or low figures;
- areas that if changed would improve your profits;
- performance levels needed to improve profits.

It is important to ask **why** a particular figure or ratio for your farm is high or low. Performance indicators can be misleading if:

- the farm has undergone major development;
- excessive inventory is carried over from one year;
- seasonal or price variations in any one year;
- no one indicator gives the complete story;
- scale of operation is not taken into account.

The following Farm Checklist tries to help you compare your farm's costs with typical figures identified from various benchmarking sources.



They are based on cash flow as in Table 1.

## FARM CHECKLIST

CATEGORY	KPI	MyFarm	Things to consider	Action	
				OK <input checked="" type="checkbox"/>	Check(?)
Herd costs	5-7% TFR < 2 cents/L		<ul style="list-style-type: none"> <li>• Herd recording</li> <li>• Artificial breeding</li> <li>• Reproduction</li> <li>• Herd health</li> <li>• % replacements</li> </ul>		
Shed costs	2-3% TFR 1 cent/L		<ul style="list-style-type: none"> <li>• Electricity use (eg milk cooling system)</li> <li>• Equipment repairs</li> </ul>		
Feed costs	< 35% TFR < 10 cents/L		<ul style="list-style-type: none"> <li>• Cost of supplements</li> <li>• Level of supplements</li> <li>• Pasture utilisation</li> <li>• Pasture production</li> <li>• Cost of pasture</li> <li>• Stocking rate</li> <li>• Milk/ha from pastures</li> <li>• R&amp;M on plant &amp; equipment</li> <li>• Purchased feed as % of total feed</li> <li>• Purchased feed per calver</li> <li>• Fertiliser program</li> </ul>		
Labour costs	6-8% TFR < 7 cents/L		<ul style="list-style-type: none"> <li>• No. of employees</li> <li>• Milk/labour unit</li> <li>• Calvers/labour unit</li> <li>• Job skills</li> <li>• Shed design</li> <li>• Unpaid family labour</li> <li>• Cows milked per milker per hour</li> </ul>		
Repairs & Maintenance costs on Fixtures	< 6% TFR		<ul style="list-style-type: none"> <li>• Stage of development</li> <li>• Age of equipment</li> <li>• Amount of equipment</li> <li>• Contractors</li> </ul>		
Common fixed costs	4-6% TFR		<ul style="list-style-type: none"> <li>• Scale of operation</li> <li>• Insurance</li> <li>• Vehicles</li> <li>• Rates</li> <li>• Administration</li> </ul>		
Total fixed costs	20-25% TFR < 1ML 15-17% TFR > 1ML		<ul style="list-style-type: none"> <li>• Scale of operation</li> </ul>		
Milk income	% TFR \$ calver \$/ha		<ul style="list-style-type: none"> <li>• Size of business</li> <li>• Economies of scale</li> <li>• Milk quality</li> <li>• Composition of milk</li> </ul>		

The “Things to consider” provide some factors that may help in understanding why your farm’s figures may differ from the KPI’s.



**FARM CHECKLIST (cont.)**

CATEGORY	KPI	MyFarm	Things to consider	Action	
				OK <input checked="" type="checkbox"/>	Check(?)
Gross margin			<ul style="list-style-type: none"> <li>• Milk price</li> <li>• Total costs</li> </ul>		
Farm operating surplus	> 35% TFR		<ul style="list-style-type: none"> <li>• Stage of development</li> <li>• Milk price</li> <li>• Level of debt</li> <li>• Production costs</li> </ul>		

**DAIRYCHECK – FARM BUSINESS MANAGEMENT ANALYSIS – SUMMARY SHEET**

Category	%TFR		CL		\$/calver		\$/ha		\$/kg		Comments
	OK	Check	OK	Check	OK	Check	OK	Check	OK	Check	
Herd costs											
Shed costs											
Feed costs											
Labour costs											
Repair & Maint. costs											
Total variable costs											
Common fixed costs											
Total fixed costs											
Gross margins											
Farm operating surplus											



As a result of the previous review what are the main issues on your farm? (The Farm Checklist - "Things to consider" may help!)

Herd costs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Shed costs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Feed costs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Labour costs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Repairs & Maintenance costs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Total Fixed costs \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Milk income \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Gross Margin \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Farm Operating Surplus \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What are the main financial issues limiting the performance of your farm?

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## FARM LIQUIDITY AND PROFITABILITY

It is essential to determine the current liquidity and profitability of your business and opportunities for improvement. This involves examining the farm's Cash flow and its Profit and Loss statements or budgets<sup>1</sup>. The major differences between the two systems are highlighted in Table 2.

<sup>1</sup>Statements are based on historical data while budgets are based on future production, incomes and costs and are therefore only estimates.

**Table 2:** The major differences between Cash flow and Profit and Loss statements or budgets.

CASHFLOW	PROFIT & LOSS
<b>Income:</b> Stock sales, asset & commodity sales are entered as the monies received from the sale.	<b>Income:</b> Trading schedules used for stock, assets, feed and commodities.
<b>Finance Costs:</b> Principal, interest, lease and hire purchase included.	<b>Finance Costs:</b> Interest and finance leases entered after E.B.I.T. *
<b>Capital Costs:</b> Purchase of land, improvements, machinery, stock, compulsory shares included.	<b>Capital Costs:</b> None. Entered as depreciation.
<b>Personal Costs:</b> Drawings, superannuation and tax included.	<b>Personal Costs:</b> None. Drawings entered as imputed labour before E.B.I.T.. Tax entered after E.B.I.T..
⇒ Farm Cash Surplus	⇒ Business Net Profit After Tax

\* Earnings Before Interest and Tax

As demonstrated in the Stage 1 DairyCHECK manual, cashbook and tax records can be used to determine:

- the cash position of the business;
- the costs of production;
- examine options and alternatives;
- various budgets;
- if the business can generate enough income for:
  - a) Your needs and goals,
  - b) Cover major purchases and loan repayments.

### A Note About GST

When examining your farm business consideration must be given to the Goods and Services Tax (GST). When developing a Profit and Loss statement or budget GST can be ignored because in a business the net effect of GST is zero. That is,

$$\text{collections + rebates from Australian Taxation Office (ATO) = GST payments plus payments to ATO.}$$

Therefore it is recommended that GST exclusive prices (prices less GST) be used when preparing a Profit & Loss. However when using GST inclusive prices (price plus GST) for a



Profit & Loss statement or budget any pending rebates or payments to the ATO should be recorded as “Sundry debtors” or “Sundry creditors” and brought to account.

However when examining a farm business’ cash flow GST is important, since the timing of GST payments and rebates differ. Hence it must be recorded in the cash flow.

### Year-In, Year-Out Budgets

Year-in Year-out budget analysis provides a projected cash flow summary and a profit analysis for your farm.

Note: in these calculations it is assumed that:

- the best estimates of prices and costs are available;
- principal repayment and repair costs are set for a realistic time period;
- depreciation is incorporated to allow for capital item replacement.

Several key business management ratios can be calculated from the information supplied in Year-In Year-Out budgets or statements. These ratios provide a simple method of identifying whether a farm business can service the business’ debt from expected cash flow.

### Cash Flow Indicators

**Debt to Farm Receipts Ratio** – provides a measure of the size of debt relative to the income generating capacity of the farm business.

$$\frac{\text{Total Liabilities}}{\text{Total Farm Receipts}}$$

If debt to cash income ratio is:	> 3	Highly Critical
	2 to 3	Critical
	0 to 2	At Risk

**Finance Costs to Farm Receipts Ratio** – provides a “rule of thumb” to measure the safety margin or “buffer” that the farm business has to meet debt servicing requirements.

$$\frac{\text{Interest + Principal + Lease}}{\text{Cash Income}} \times \frac{100}{1}$$

If finance costs to cash income ratio is:

> 25%	Highly Vulnerable
15 to 25%	Vulnerable
< 15%	Acceptable



### Profitability Indicators

**Return to Capital** – provides a measure of the level of profit achieved by the business expressed as an earnings rate on all funds invested in the farm.

$$\frac{\text{Operating Profit}}{\text{Total Assets}} \times \frac{100}{1}$$

If return to capital is:	< 1%	Poor
	1 to 5%	Low
	5 to 10%	Satisfactory
	> 10%	Good

**Return to Equity** – provides an earnings rate on the farmer's funds invested in the business.

$$\frac{\text{Operating Profit} - \text{Interest}}{\text{Equity}} \times \frac{100}{1}$$

If return to capital is:	< 1%	Poor
	1 to 5%	Low
	5 to 10%	Satisfactory
	> 10%	Good

**Change in Net Assets (Net Worth)** – provides a measure of the change in value of farmer's funds invested in the farm business over a year.

= Net Assets (end of year) - Net Assets (start of year)

### Gearing Indicator

**Owners Equity** - provides a measure of the farmer's level of ownership of the business.

$$\frac{\text{Total Assets} - \text{Total Liabilities}}{\text{Total Assets}} \times \frac{100}{1}$$

If Owners Equity is:	< 40%	Critical
	40–60%	At considerable risk
	60 to 90%	At risk
	> 90%	Strong

The following two tables provide a possible structure of Cash flow (Table 3) and Profit and Loss (Table 4) summaries. Appendix 1 provides the worksheets to determine Cash flow and Profit & Loss Statements (or budgets) along with a Livestock Inventory, a Feeds and Commodity Inventory and a Balance Sheet.



**Table 3:** Cash Flow Budget Summary

	For:			Fin year		
	Total \$	%TFR	c/L	\$/calver	\$/ha	\$/kgMS
Total \$						
Net Milk Sales						
Cattle Sales						
Fuel Rebate						
Other						
<b>Total Farm Receipts (excl. GST)</b>						
GST collections						
GST (ATO rebates)						
<b>Total Farm Receipts (incl. GST)</b>						
Herd Costs						
Shed Costs						
Feed Costs (incl. plant & equip. R&M)						
Other Variable Costs						
<b>Total Variable Costs (VC)</b>						
<b>Farm Gross Margin (TFR-VC)</b>						
Common Fixed Costs						
Labour Costs						
R & M Costs on fixtures						
<b>Total Fixed Costs (FC)</b>						
<b>Total Operating Costs (OC=VC + FC + GST)</b>						
Farm Operating Surplus (TFR - OC)						
Lease Resources						
Financing Costs						
Principal Repayments						
Capital: Plant/Improvements						
Personal Drawings						
Tax						
<b>Total Costs (TC) (excl. GST)</b>						
GST payments						
GST payments to ATO						
<b>Total Costs (TC) (incl. GST)</b>						
<b>Farm Cash Surplus (Deficit) Estimate (TFR-TC)</b>						
<b>Plus: Off-farm receipts</b>						
<b>Surplus (Deficit) after off-farm receipts</b>						

**SOLVENCY AND LIQUIDITY RATIOS**

Debt to Total Farm Receipts Ratio

[Total Liabilities/ Total Farm Receipts]

Finance Costs to Total Farm Receipts Ratio

[(Interest &amp; Principal + Lease) / (Total Farm Receipts)]



**Table 4: Profit Analysis Summary**

	For:		Fin year			
	Total \$	%TFR	c/L	\$/calver	\$/ha	\$/kg MS
<b>Total Farm Income</b>						
Less Variable Costs:						
Herd Costs						
Shed Costs						
Feed Costs						
Other Variable Costs						
<b>Total Variable Costs (VC)</b>						
<b>Farm Gross Margin (TFI-VC)</b>						
less fixed costs:						
<b>Common Fixed Costs</b>						
Repairs & maintenance - improvements						
Depreciation - improvements						
Repairs & maintenance - plant						
Depreciation - plant						
<b>Total Depreciation/R&amp;M</b>						
Paid labour						
Imputed management & family labour						
<b>Total Labour costs</b>						
<b>Total Fixed Costs</b>						
<b>* E.B.I.T. (Operating Profit)</b>						
less financing costs:						
Financing payments						
<b>Net Profit</b>						
<b>PROFITABILITY RATIOS</b>						
<b>% Return to Capital</b>						
[EBIT/Total Farm Assets]						
<b>% Return to Equity</b>						
[(EBIT - Interest)/Equity]						

\*E.B.I.T. Earnings before Interest and Tax

Disclaimer – The above assumes no movement in stock numbers and inventory items such as grain.



## PARTIAL BUDGETS

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Partial budgets are a quick simple method to assess proposed farm changes. They are designed to look at only the net effect of a change with minimal information required. They are generally used as a first step in analysing a proposed change to the farm while more complex changes requiring more detailed analyses such as whole farm and cash flow and development budgeting.

Partial budgets can be used to determine the viability of proposed changes such as:

- Modifying a current activity eg. contract rearing heifers;
- Expanding an activity eg. increasing herd size;
- Introducing a new activity eg. conserved feed versus grain purchases;
- Evaluating a capital investment eg. a shed conversion.

Partial budgets comprise of a number of steps:

**STEP 1-** Calculate LOSSES due to the proposed change - this includes extra costs and revenue foregone. Additional depreciation of capital equipment is included here.

**STEP 2-** Calculate GAINS due to the proposed change - this includes cost savings and additional revenue.

**STEP 3-** Calculate “NET GAIN” = GAINS minus LOSSES

If the proposed change requires additional capital then it is appropriate to determine the likely return on capital of the proposed change.

**STEP 4-** Calculate CAPITAL COSTS due to the proposed change -

Total new-capital outlay (A)

Total of capital items sold (B)

Net capital cost (C) = A - B

**STEP 5-** Calculate the return on additional capital:

% rate of return on extra capital =  $\text{Net Gain} \div C \times 100$

**STEP 6-** List “NON-DOLLAR” factors due to the proposed change - increased management skills, time, risk etc.



## PARTIAL BUDGETS – Case Study 1

### Scenario

A farmer considers the option of buying a second hand round-baler instead of using contractors to make surplus spring and summer feed into hay. Currently the farmer uses a contractor to make 200 round bales who charges \$12 / bale. The contractor wants to get out of the business and offers the baler for \$10,000. The estimated value in 5 years is \$5,000.

### Assumptions:

- Annual depreciation is  $\frac{\$10,000 - \$5,000}{5} = \$1,000/\text{annum}$
- The cost of making the hay is \$5/bale (including diesel, oil, R&M, string and labour).
- There is an opportunity to make contract hay involving two neighbours with 100 bales each at a profit of \$7/bale (ie. \$12 less \$5)

LOSSES		GAINS	
<b>Extracosts</b>		<b>Costs saved</b>	
1. Annual depreciation		Cost of contractor	<b>\$2,400</b>
$\frac{\$10,000 - \$5,000}{5}$	<b>\$1,000</b>		
2. Costs of hay making			
400 bales x \$5/bale	<b>\$2,000</b>		
<b>Total</b>	<b>\$3,000</b>		
<b>Revenue foregone</b>	<b>0</b>	<b>Additional Revenue</b>	
		Contracting 200 bales	<b>\$2,400</b>
		@ a \$12/bale	
<b>Total Losses (A)</b>	<b>\$3,000</b>	<b>Total Gains (B)</b>	<b>\$4,800</b>

**NET GAIN** (B-A) = (\$4,800 - \$3000) = \$1,800 per annum in favour of purchasing the baler.

### CAPITAL COSTS

Additional capital required is \$10,000 to purchase baler (C).

### RETURN ON ADDITIONAL CAPITAL

Net Gain ÷ (C) x 100 = \$1,800 ÷ \$10,000 x 100 = 18%

### NON-DOLLAR FACTORS

- Extra labour and time by farmer not factored in budget.
- Assumes farmer is skilled in hay making
- May allow more timely hay making for own farm (ie., better quality feed).
- Risk that neighbouring farmers may not use this hay making service at some time in the future.



## PARTIAL BUDGETS – Case Study 2

### Scenario

A farmer considers the option of contracting maize silage off farm rather than growing his own as has been done in the past.

#### Assumptions:

- A contractor in both scenarios undertakes harvesting.
- Calculations are on a per hectare basis.
- Maize silage yield is 40 tonnes wet matter /hectare.
- Soil preparation includes an allowance for R&M and depreciation on plant and equipment.
- 2 kg DM pasture = 1 litre milk
- The freed up land on the home farm is used to produce pasture for milk production.
- Pasture production on land available by not growing maize.
- No allowance has been made for any price differential for cartage between the home farm and the distance to the silage source.

LOSSES		GAINS	
<b>Extra costs</b>		<b>Costs saved</b>	
40 tonnes silage @ \$27/t	\$ 1080.00	By not growing maize/ha	
Fertiliser per ha on freed up pasture		Soil preparation	\$ 90.00
Urea, @ 125kg/ha/mth for		Contract planting	\$ 30.00
5 months @ \$450/t	\$ 281.25	Seed (25kg @ \$5.40/kg)	\$ 135.00
		Fertiliser	
		Urea, 500kg @ \$450/t	\$ 225.00
		Super, 150kg @ \$250/t	\$ 37.50
		Potash, 125kg @ \$450/t	\$ 56.25
		Weed control	\$ 60.00
<b>Total</b>	<b>\$ 1361.25</b>	<b>Total</b>	<b>\$ 633.75</b>
<b>Revenue foregone</b>		<b>Additional Revenue</b>	
	<b>0</b>	Extra milk income per ha from	
		freed up land by not growing maize	
		8,000 kgDM = 4,000 L	
		4,000 @ 25c/L	\$ 1,000
<b>Total Losses (A)</b>	<b>\$ 1,361.25</b>	<b>Total Gains (B)</b>	<b>\$ 1,633.75</b>

**NET GAIN (B-A) = (\$1,633.75 – \$1,361.25) = \$272.50/ha per year in favour of contracting maize silage off farm.**

### CAPITAL COSTS

There are no additional capital requirements as the additional pastures freed up are consumed by the current milking herd.

### NON-DOLLAR FACTORS

- Time saving as farmer does not have to manage/monitor their own maize crop.
- Assumes additional pasture can be used on farm



## CASH FLOW BUDGETS

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Cash flow budgets are based on transactions in which cash is transferred. They provide an opportunity to examine cash inflows and outflows from the farm business.

Cash flow budgets are useful when: -

- monitoring cash flows into and out of the farm on a monthly, quarterly or annual basis;
- borrowing money;
- estimating the time required to pay off the capital invested in a change;
- examining decisions on financial management and repayments, eg.
  - when does peak debt occur,
  - are there sufficient finances available,
  - availability of cash in development period,
  - when will net cash flow be positive,
  - when can the loan be paid off.

In cash flow budgets all cash income and expenses are included. Income includes sales of produce and capital items, non-farm income, personal income and GST rebates. Expenses include farm expenses, personal expenses, capital expenses such as machinery purchases, income tax, interest charges, loan repayments and GST payments (for more details see Total Home Study Course “Cash flow budgeting”).

Non-cash items such as depreciation and non paid family labour are not included.

All cash flow budgets are set out in the same general way as shown in Table 5. Detailed cash flow items are shown in Appendix 1.

The budget in Table 5 has some of the income and cost categories compressed so you can quickly grasp the workings. It shows:

- A total income projection for each month.
- Total expenditure for each month.
- Surplus/deficit for each month. This is calculated by subtracting the month’s expenses from the month’s income. Sometimes the result will be a surplus and sometimes there will be a deficit as in March in the example.
- Bank balance. This is sometimes called the progressive balance as each month’s surplus or deficit occurs. For example, in Table 5, the bank balance at the end of January is projected to be -\$940 (opening balance + surplus/deficit or -\$10000 + \$9060) but at the end of February the bank balance is expected to be \$1615 (-\$940 + \$2555).

The bank balance is truly the bottom line, the most informative part of the cash flow.



**Table 5:** General form of cash flow budget with example figures

	January	February	March
<b>Income</b>			
Milk	15000	15300	16000
Cattle Sales	800	650	300
Other		425	
<b>TOTAL INCOME</b>	<b>15800</b>	<b>16375</b>	<b>16300</b>
<b>Expenditure</b>			
Herd costs	300	500	100
Shed costs	150	220	300
Feed costs	2500	250	12000
Other variable costs	90	200	320
Overhead costs	3200	6800	6200
Capital costs		5000	
Personal costs	500	500	500
Other non-farm costs		350	
<b>TOTAL EXPENDITURE</b>	<b>6740</b>	<b>13820</b>	<b>19420</b>
<b>SURPLUS/DEFICIT</b>	<b>9060</b>	<b>2555</b>	<b>-3120</b>
<b>BANK BALANCE</b>	<b>-940</b>	<b>1615</b>	<b>-1505</b>

Opening bank balance = -\$10,000

Usually a cash flow is done on a monthly basis but you can do it on a quarterly or annual basis depending upon your purpose.

### Cash Flow Statement vs Cash Flow Budget

A cash flow statement is the actual cash flow of your business over a previous period. A budget is a projection into the future. It is useful to prepare a cash flow statement from your cashbook (manual or computer based) before you prepare a cash flow budget. This is because some of the expenditures such as rates and insurances occur at the same time each year so the statement can serve as a prompt to the types of expenses that are likely to occur during the year. Preparation of a cash flow statement can be easier if the column headings in your cash book match the row headings in the cash flow statement.

### GST and Cash Flow

It is recommended that income and costs are entered in the cash flow budget on a GST exclusive basis. This is because most record keeping systems show income and purchases on a GST exclusive basis and then show GST separately. GST collections should be included as a separate row in the income section and GST paid on purchases should be included in a separate row in the expenses section (see Appendix 1). It will also make it simpler to estimate in your budget whether at the end of a three-month period a GST rebate or payment is likely.



## Planning For A Substantial Change

If you are considering a substantial change on your farm a cash flow budget is important. Invariably a change requires cash outlays upfront and a higher flow of income or reduced costs some time in the future. For example, the installation of a new milking shed, major herd expansion or purchasing additional land.

In these cases cash flow budgets can be extended into **Development budgets**, which provide cash flow budgets over an extended period of time. Typically a development budget would include a monthly budget for the next 12 months and yearly budgets for the following 3 or 4 years.

The progression of a development budget involves several steps:

**STEP 1-** Decide what change you want to undertake.

**STEP 2-** Decide how long it will take to achieve.

**STEP 3-** Identify the physical and financial aspects of the proposed change – for example - the increases in herd numbers, the capital required.

**STEP 4-** Construct cash flow budgets covering the start up period until a “steady state” is reached.

**STEP 5-** Examine and modify the budget and plan if necessary.

## BENCHMARKING AND COMPARATIVE ANALYSIS

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Benchmarking and comparative analysis programs have a number of potential benefits for farm managers. These programs can be used :

- to encourage ‘own-farm’ business management analysis – comparative analyses help farmers to undertake analysis and monitor their cost structure and returns. It allows you to set your own performance targets and measure whether you reach these over time.
- as a diagnostic tool - to identify areas of weakness or opportunities within the farm business. This is done by comparing your farm’s performance ratios in various areas, such as feed or labour management and profit measures with industry benchmarks and the most “profitable” farmers in the benchmarking program.

It is important to identify why the most profitable farmers can achieve a particular efficiency ratio or profit level. For example, it may be due to more fertile soils, higher or more reliable rainfall, or better farm layout or labour management. Once the reasons are identified, take steps to determine how the limitations in your farm business might be overcome.

A number of milk processors provide benchmarking programs for their farmer suppliers; for example, Bega Cooperative, Dairy Farmers and Norco.



## **RISK MANAGEMENT**

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An important area of dairy farm business is risk management. This is particularly so in a deregulated market and as farmers increase production by various strategies such as higher stocking rates and higher levels of supplementary feeding. The budgeting techniques looked at previously can be used to analyse the impact of various risks on the farm business.

The following is a brief introduction to risk management in relation to dairy farm businesses, including an outline of the major categories of risk faced by dairy farm managers.

### **Production risk**

Production risk refers to the potential variation in farm production as a result of factors such as drought or flood conditions and plant and animal diseases.

There are a variety of means by which a farmer can manage these situations to reduce the impact of these challenges on the dairy business. For example, diversification of pasture and crop varieties, fodder conservation, having land or agistment in another area or region.

### **Price risk**

Price risk refers to the variability of output and input prices that the farmer faces. In some other agricultural industries where commodity prices have been unregulated there are quite sophisticated methods of managing the prices received by the farmer for their product. For example, forward selling, futures and options relating to cotton, grain and wool sales.

Various steps can be taken to have some influence on the prices paid by the farmer for various inputs. For example the forward purchasing of grain and fodder. While the management of milk components and milk quality will directly influence the price received for milk. Also, contracts to supply milk at a certain price to processors are a means of handling price risk.

### **Interest rate risk**

Interest rate risk refers to the impact that changes in interest rates charged on debts can have on a farm business. — A number of management strategies can be employed to help manage this risk. For example, fixing some of the loan or the possibly entire loan.

**What are some risk management strategies that you currently use or might consider using on your dairy farm?**

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## APPENDIX 1

### CASH FLOW and PROFIT & LOSS CALCULATIONS

	Cash Flow	Profit & Loss	
Receipts	\$	\$	
Market milk <sup>1</sup>			1
Manufacture milk <sup>1</sup>			2
Dividends, rebates, etc (farm related)			3
Stock sales - dairy			4
Asset sales <sup>2</sup>			5
Other farm receipts - fodder and contracting, etc.			6
Livestock trading - item (G) schedule "X"(*)			7
Feed and Commodity trading - item (E) schedule "Y"(*)			8
Total Farm Receipts excluding GST			9
GST payments for farm produce			10
GST rebates from ATO			11
Total Farm Receipts including GST			12

<sup>1</sup> Milk price may be net of cartage and levies in which case do not include freight and levies in other variable costs.

<sup>2</sup> Include loss or profit on asset sales in Profit & Loss column

(\*) Schedules X and Y are shown on pages 26 & 27

Expenses – Variable Costs	\$	\$	
<b>Feed Costs</b>			
Agistment			13
Chemicals			14
Contracting			15
Fertiliser			16
Fodder conservation materials			17
Fuel & Oil			18
Irrigation costs			19
Other			20
Purchased feed			21
R&M - plant and equipment only			22
Seed			23
<b>Total Feed Costs</b>			24
<b>Herd Costs</b>			
Artificial breeding			25
Calf rearing			26
Herd recording			27
Veterinary & animal health			28
Other			29
<b>Total Herd Costs</b>			30



	Cash Flow	Profit & Loss	
Expenses cont'd – Fixed Costs	\$	\$	
<b>Shed Costs</b>			
Dairy requisites			31
Electricity			32
Other			33
<b>Total Shed Costs</b>			34
<b>Other Variable Costs</b>			
Levies (see footnote 1 above)			35
Milk cartage (see footnote 1 above)			36
Other - commissions, general freight, etc.			37
<b>Total Other Variable Costs</b>			38
<b>Total Variable Costs</b> (add lines 24, 30, 34 & 38)			39
<b>Common Fixed Costs</b>			
Accountants, Professional Advice			40
Farm vehicles - rego & insurance			41
Insurance			42
Land rent/lease			43
Office supplies			44
Private vehicles - repairs, rego, insurance, fuel			45
Protective clothing			46
R&M - fixtures			47
Rates			48
Telephone			49
Other			50
<b>Total Common Fixed Costs</b>			51
<b>Labour Costs</b>			
Permanent – wages			52
– superannuation			53
– workers comp., insurance			54
Casual			55
Other			56
<b>Total Labour costs</b>			57
<b>Total Fixed Costs</b> (add lines 51 & 57)			58
<b>Finance Costs</b>			
Principal repayments			59
Interest repayments			60
Lease & HP - stock & machinery			61
Bank charges			62
<b>Total Finance Costs</b>			63
<b>Capital Costs</b>			
Land & Improvements			64
Machinery			65
Stock			66
Compulsory Co-op shares			67
<b>Total Capital Costs</b>			68



	Cash Flow	Profit & Loss	
Expenses cont'd – Fixed Costs	\$	\$	
<b>Personal Costs</b>			
Drawings			69
Superannuation			70
Tax			71
<b>Total Personal Costs</b>			72
<b>Total Operating Costs excl GST</b> (add lines 39, 58, 63, 67 & 71)			73
GST payments for purchases			74
GST payments to ATO			75
<b>Total Operating Costs incl. GST</b> (add lines 73, 74 & 75)			76
<b>Farm Cash Surplus</b> (line 9 less line 73)			77
<b>Imputed Costs</b> – Family labour value <sup>1</sup>			78
– Depreciation <sup>2</sup>			79
<b>EBIT</b> (Earnings Before Interest & Tax) (line 9 less lines 73, 78 & 79)			80
<b>Interest (&amp; Leases (stock &amp; machinery)) &amp; Tax</b>			81
<b>Business Net Profit after Interest &amp; Tax</b> (line 80 less line 81)			82

<sup>1</sup> To estimate imputed labour, multiply total family hours by the appropriate fixed labour costs figure (DRDC, 1999); say \$15/hr.

<sup>2</sup> Depreciation of plant and equipment. A simple method to value items at estimated market (clearing sale) values and depreciate at a standard rate- DRDC suggest 10%..



### Balance Sheet

Current Assets	Value as at 1 July .....	Value as at 30 June .....
Livestock		
Inventories		
Accounts Receivable		
Cash at Bank		
Short Term Investments		
<b>TOTAL CURRENT ASSETS (A)</b>	\$	\$
<b>Non-current Assets</b>		
Land & Improvements		
Plant & Equipment		
Motor Vehicles		
Long Term Investments		
Other Non-current Farm Assets		
<b>TOTAL NON-CURRENT ASSETS (B)</b>	\$	\$
<b>TOTAL ASSETS (A + B)</b>	\$	\$
<b>Current Liabilities</b>		
Bank Overdraft		
Bank Bills		
Accounts Payable		
Short term leases & HP		
Other current liabilities		
Other creditors		
<b>TOTAL CURRENT LIABILITIES (C)</b>	\$	\$
<b>Non-current Liabilities</b>		
Bank loans		
Long term leases & HP		
Other Loans		
Other Non-current Liabilities		
<b>TOTAL NON-CURRENT LIABILITIES (D)</b>	\$	\$
<b>TOTAL LIABILITIES (C+D)</b>	\$	\$
<b>NET ASSETS</b> <b>(= Total Assets - Total Liabilities)</b>	\$	\$



## Income Schedule 'X'

Livestock Inventory						
Year .....	On Hand @ 1 July .....			On Hand @ 1 June .....		
Description	Number	\$/head*	\$	Number	\$/head*	\$
Milking cows						
Dry cows						
Heifers in calf						
Heifers > 15 months						
Heifers 9–15 months						
Heifers 3–9 months						
Heifers < 3 months						
Bulls						
<b>TOTALS</b>			\$.....(A)			\$.....(B)
Net income from Livestock Inventory (B-A) \$.....(C)						
Livestock Sales and Purchases						
	Sales			Purchases		
			\$.....(D)			\$.....(E)
Net income from Livestock sales and purchases (D+E)			\$.....(F)			
<b>Total income from Livestock Trading (C+F)</b>			<b>\$.....(G)†</b>			

\* It is optional to use market values at the start and end of the year, however, many farmers will wish to get an estimate of the effect of change in inventory only (and not a combined effect of inventory and market value changes).

† This figure is used in the Profit and Loss Receipts section – Livestock trading on page 22.



### Income Schedule 'Y'

<b>Feeds &amp; Commodity Inventory</b>						
Year .....	On Hand @ 1 July .....			On Hand @ 1 June .....		
Description eg.	Quantity	\$/unit	\$	Quantity	\$/unit	\$
Hay						
Grain						
Fertilisers						
Fuel						
<b>TOTALS</b>			\$.....(A)			\$.....(B)
Change in value of Feeds & Commodity inventory (B-A) \$.....(C)						
<b>Feeds and Commodity Sales</b>						
	<b>Sales</b>					
	\$.....(D)					
<b>Total Feeds &amp; Commodity Income (C+D) \$.....(E)*</b>						

(\*) This figure is used in the Profit and Loss Receipts section - Livestock Trading on page 22.









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