



# B.C. DAIRY TALK

Editor: Annette Moore

## Measure the Success of Your Dairy Enterprise

Lawrence Hurd  
Business Management Specialist, BCMAF

### Introduction

Management is concerned with profit. To increase profit implies that current practices must be adjusted and decisions must be made. This whole process starts with knowing where you are today... therefore, a good set of production and financial records is essential. These records must be analyzed to identify strong and weak points in the dairy and forage components of your business. Opportunities are identified by comparing your business performance to similar farms in the area, research standards, rules of thumb and experience, past farm records and budgeted plans. In some areas of the province, dairy business clubs have been organized to generate group averages of data for comparison purposes.

Before you get too excited about opportunities to increase income or decrease costs, you must test them on paper with a partial budget and weigh them against your goals and objectives. Also, you must assess the risk and uncertainty associated with proposed changes.

A good set of business records should include:

- a list of assets and liabilities (balance sheet) updated to current market values;
- monthly receipts and expenses summarized into an annual profit and loss statement (Income Statement) and allocated to individual enterprises;
- a depreciation schedule for buildings, equipment and quota;

- a business and personal cash inflow and cash outflow on a monthly or quarterly basis, and,
- DHIA records.

The analysis of the farm business should be conducted on two levels:

- financial analysis of the whole farm, and,
- detailed analysis of major enterprises such as milk production and forage production.

The enterprise analysis should be approached in two stages:

- look for symptoms of low profitability, and,
- identify the causes.

From the Balance Sheet which has been updated to current market values we can assess whether the following are adequate:

- Net Farm Income  
= revenue - operating costs - depreciation
- Liquidity  
= current ratio =  $\frac{\text{current assets}}{\text{current liabilities}}$
- Solvency
  - (i) Equity (Net Worth) = assets - liabilities
  - (ii) Net Capital Ratio =  $\frac{\text{total assets}}{\text{total liabilities}}$
  - (iii) Debt Equity Ratio =  $\frac{\text{liabilities}}{\text{equity}}$



- Percent Return on Equity  
=  $\frac{(\text{net farm income} - \text{operator and family labour})}{\text{Equity}}$
- Percent Return on Total Capital at market value  
=  $\frac{(\text{net farm income} - \text{operator \& family labour} + \text{interest paid})}{\text{total market value of farm assets}}$
- Size  
= number of cows, acres of land, kg's of milk quota (TPQ)

A series of balance sheets covering successive years will indicate the direction in which the business is going and therefore management performance. From the Income Statement you can analyze the components of Net Farm Income (returns, costs, and depreciation). Net Farm Income is the return to the operator and his family for their management, labour and equity investment. It has been determined by the accrual method of accounting where revenue is included as it is earned (but not necessarily received) and costs included as they are incurred (but not necessarily paid). Adjustments are also made for inventory changes and depreciation.

Since a large number of variables affect Net Farm Income it is important to concentrate on those items which have the biggest impact. For example, the dairy grain ration can comprise 20% to 30% of your variable costs while purchased hay might add another 15% to 25%. This would suggest that your feeding program and home-grown forage require special attention.

Symptoms of low profitability need to be traced. Problems could arise from the size of the operation but more likely they are associated with the feed ration, fertilizer program, herd health, calving interval, somatic cell count, etc.

The cash flow statement or sources and applications of funds provides a summary of all cash receipts and all cash flowing out of the business. It includes operating revenue, operating costs, capital expenditures, family expenditures, and loan payments (both interest and principal). When such information is summarized monthly or quarterly, the timing of anticipated returns and expenses is brought into focus, revealing the availability of loan repayment funds in each period. A farm business with a good Net Farm Income can still be financially unhealthy as revealed by the Balance Sheet and Cash Flow Statement.

The following table suggest targets you can compare to your farm. Even though you might exceed my target levels, perhaps there is still room to do better. In all cases, it is imperative that you prepare partial budgets and seek out competent advice before making major changes to your present production practices.

Financial Analysis			
Balance Sheet (at market value)		Target	Your Farm
Assets (at market value)	less than	\$30,000 / cow	_____
Liabilites (debt)	less than	\$10,000 / cow	_____
Equity (Net Worth)	greater than	\$20,000 / cow	_____
Percent Equity	greater than	67%	_____
Percent Debt	less than	33%	_____
Liquidity (current) ratio	greater than	1.5	_____
Net Capital ratio	greater than	3	_____
Debt Equity ratio	less than	0.5	_____
Percent Return on Equity	greater than	4%	_____
Percent Return on all Capital	greater than	6%	_____

Income Statement	Target \$ / Cow	Your Farm
<b>Revenue</b>		
Milk	4,900	_____
Livestock	275	_____
<b>Total Revenue</b>	<b>5,175</b>	_____
<b>Variable Costs</b>		
Grain ration and supplements	875	_____
Forage purchases	740	_____
Vet, medicine, breeding	170	_____
Dairy supplies and bedding	75	_____
Registration and DHIA	35	_____
Freight, promotion, administration	215	_____
Seed, fertilizer, pesticides	125	_____
Fuel, oil, lubrication	100	_____
Repairs and maintenance	275	_____
Hired labour	550	_____
Custom/contract	25	_____
Miscellaneous	<u>90</u>	_____
<b>Total Variable Costs</b>	<b>3,275</b>	_____
<b>Contribution Margin</b>		
	<b>1,900</b>	_____
Insurance, taxes, water	100	_____
Utilities	75	_____
Other overhead	25	_____
Term loan interest	less than 700	_____
Depreciation	less than <u>700</u>	_____
<b>Total Other Costs</b>	<b>1,600</b>	_____
<b>Net Farm Income</b>	greater than <b>300</b>	_____

Dairy Enterprise Analysis		
Target Parameter	Example Farm Target	Your Farm
No. of cows (milking & dry)	greater than 200	_____
Annual litres of milk sold	greater than*	_____
litres milk/cow	8,740	_____
kg milk/cow	9,000	_____
lbs milk/cow	19,800	_____
Calving interval (days)	384	_____
Average days in milk	160	_____
BCA herd average	greater than 200	_____
Somatic cell count	less than 150,000	_____
Culling rate (milking herd)	Total < 30%	_____
	Voluntary < 15%	_____

\* This may not be the optimum or most economical milk yield for your dairy enterprise. It will depend upon producer milk prices and the cost of inputs. Production should be increased if the added revenue exceeds the added cost for each additional dollar spent on variable inputs such as feed, veterinary, medicine, and fertilizer.

Forage Enterprise Analysis			
Variable	Example Farm Target		Your Farm
<b>Acres</b> acre/cow	greater than	1	_____
<b>Corn Silage</b>			
Tons dry matter per acre*			
Western Fraser Valley	greater than	6	_____
Central Fraser Valley	greater than	7	_____
Eastern Fraser Valley	greater than	8	_____
Total Digestible Nutrients (dry basis)		65%	_____
Crude Protein (dry basis)		8%	_____
<b>Grass Legume Forage</b>			
Tons dry matter per acre*	greater than	6	_____
Total Digestible Nutrients (dry basis)		65%	_____
Crude Protein (dry basis)		17%	_____

\* This may not be the optimum or most economical forage yield for your dairy enterprise. It will depend upon producer milk prices and the cost of inputs. Production should be increased if the added revenue exceeds the added cost for each additional dollar spent on variable inputs such as feed, veterinary, medicine, and fertilizer.