

## THE MANAGER

## PROFIT MANAGEMENT

By John Hanchar

Budgeting is a valuable dairy farm financial management practice to project future performance associated with a proposed change

# Budget for better decision making

**You have identified areas of your dairy** for improvement. Next you ID a few changes to your business that you hope will lead to improved results. Now, how will you decide upon the best change, or set of possible changes, to implement?

Budgeting is how. It can project future performance to help you answer: Is a proposed change profitable and will it allow my business to better meet cash obligations?

For dairy farm business owners, most budgeting work focuses on estimating expected effects on profit and on projecting the business' ability to meet cash obligations in a timely manner.

"Farmers who use written calculations or a computer spreadsheet to make a cash flow budget had a much greater ROA (rate of return on assets with appreciation) than those who did not use these techniques," wrote Brent Gloy and others from the Cornell University Charles H. Dyson School of Applied Economics and Management in 2002. "The same relationship holds for profitability analyses. This provides evidence that there are positive returns to detailed financial analyses."

## Characteristics of budgets

Budgets can help dairy producers:

- Evaluate the financial feasibility and attractiveness of proposed changes to a dairy business. When considering a change, it's important to understand the amount of funds required, whether the change will be profitable and if funds invested can be repaid.

- Provide insight into future financial performance for planning purposes. A budget allows a manager to project cash flow shortages, plan borrowings and determine the ability to repay borrowings.

- Assess how well the dairy is meeting projections and to identify and correct potential problems.

- Communicate to others where your dairy is headed financially.

Developing budgets for all these purposes was important to dairy producers going into 2009

when milk price was expected to – and did – decline dramatically.

## Budget types

There are several budget tools useful for farm financial management. They include partial, enterprise and whole farm budgets, as well as capital budgeting tools associated with investment analysis. Income statements or cash flow statements that report a past period's performance are not budgets. They do not project or estimate future financial performance.

Let's look at two of these budget types – partial and whole farm.

**1. Partial budgets** are projections or estimates of the expected change in a financial measure compared to the current farm business. They're a type of marginal analysis that considers only the items that are expected to change and the amounts by which they're expected to change. Total values are not reflected. Profitability and the ability to meet cash obligations in a timely manner receive more emphasis.

Partial budgeting often uses an average future year as the basis for comparison. Sometimes, however, partial budgets for transition years are valuable. For example, a dairy producer who is considering

## FYI

- John Hanchar is a farm business management educator with Cornell Cooperative Extension in western New York. Email him at [jjh6@cornell.edu](mailto:jjh6@cornell.edu)

Resources include:

- Brent A. Gloy, Eddy L. LaDue, and Kevin Youngblood. 2002. *Financial Management Practices of New York Dairy Farms*. R.B. 2002-09. July. Ithaca, N.Y. Charles H. Dyson School of Applied Economics and Management, Cornell University. Page 20.

- Eddy L. LaDue, Jacob Schuelke and Virgil Mensah-Dartey. 2000. *CASHPRO: A Computer Spreadsheet for Projecting Annual Cash Flows and Pro Forma Income Statements*. E.B. 2000-18. December 2000. Ithaca, N.Y. Charles H. Dyson School of Applied Economics and Management, Cornell University.



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transitioning from conventional to certified organic milk production can benefit from constructing partial budgets for the transition years.

A partial budget for profit answers four questions:

1. What new or additional income will the dairy receive?
2. What current costs will be reduced or eliminated?
3. What current income will be lost or reduced?
4. What new or additional costs will be incurred?

Answers to the first two questions yield items that increase profit; answers to the third and fourth questions yield items that decrease profit.

The analyst answers these questions by going item to item in the receipt and expense sections of the income statement. Doing so will further answer these questions: Do I expect the item to change? If yes, by how much? If no, then move to the next item.

In the example provided in **Table 1**, not all cells in the partial budget have entries. For example, no reduced income is associated with the proposed change. Only the items expected to change and the magnitude of the expected changes are included. The analysis estimates the expected change in profit, not the actual level of profit expected.

Sensitivity analysis of the Table 1 illustration shows that if the expected purchased feed and crop expense per additional pound of milk sold is \$0.07, then expected changes in profit differ depending upon the increase in milk per cow due to improved cow comfort. The change ranges from negative \$19,657 for a 5% change in milk sold per cow to a positive \$4,496 for the 18% change in milk sold per cow.

Where a large number of items are expected to change, a partial budget can get pretty busy. In that case, a whole farm budget can be used to develop projections.

**2. Whole farm budgets** are valuable planning and monitoring tools for seeing what things might look like in the future. This type of budget is also helpful in making decisions about proposed changes that are expected to affect many items of projected income or cash flow statements.

Whole farm budgets will help project possible cash flow shortages, plan borrowings and determine the ability to repay borrowings, among other uses.

There are basically two types of whole farm budgets. One examines profitability. It's a summary of the expected income, expenses and profit. A second type projects a dairy's ability to meet cash obligations. It summarizes the expected cash inflows (cash farm receipts, money borrowed, capital sales, non-farm income) and outflows (cash farm expenses, principal payments, capital purchases, withdrawals for family living). **Table 2**.

Whole farm budgets consider all items including those that are not expected to change when compared to the present dairy business or the current, or base, period. For example, a whole farm budget for profit projects what the income statement for the business will look like in a future period and reports total values for all receipt and expense items.

The most useful, valid projections are obtained when proper procedures are used. As outlined by Eddy LaDue and others at Cornell University, these procedures include:

- Project cash flows from accrual, or accrual adjusted, receipt and expense values.
- Exclude unusual occurrences from the base year data used for projections.

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**Table 1. Partial budget for profit to analyze cow comfort improvements**

**Current:** 117 cows for 100 stalls

**Proposed change:** 100 cows for 100 stalls, improved parlor efficiencies and other changes leading to improved cow comfort

**Selected assumptions:**

- The dairy's housing has 100 stalls.
- Current production is ~ 21,000 lbs. of milk sold per cow per year at a stocking rate of 117 cows.
- The stocking rate will be reduced to 100 cows.
- The expected change in milk sold per cow in an average future year attributed to cow comfort efforts examined initially is 18%.
- Expected net milk price (gross less marketing expenses) is about \$16 per cwt.
- The expected purchased feed and crop expense per additional pound of milk sold per cow examined initially is \$0.07 (Source: Cornell University Cooperative Extension's Dairy Farm Business Summary Program).
- Whole farm, average future year, before tax, marginal analysis.

ITEMS THAT INCREASE PROFIT		ITEMS THAT DECREASE PROFIT	
<b>Additional Income</b>		<b>Reduced Income</b>	
Expected change in accrual receipts – milk sold, net marketing expenses	\$3,308		
<b>Reduced Costs</b>		<b>Additional Costs</b>	
Expected change in accrual expenses due to decreased cow numbers – select few that are expected to vary with cow numbers, e.g. veterinary & medicine	\$3,383	Expected change in accrual expenses – purchased feed and crop expenses	\$2,195
Total Items that Increase Profit (A)	\$6,691	Total Items that Decrease Profit (B)	\$2,195
		Expected Change in Profit (A minus B)	\$4,496

**Table 2. Projected total inflows and outflows for 2009**

Total Cash Income (based upon normalized accrual receipts projections)	\$1,362,435	
Total Cash Expenses Excluding Interest (based upon accrual expense projections) (-)	\$1,387,503	
Net Cash Farm Income		- \$25,068
Nonfarm Cash Income (+)		\$7,274
Capital Asset Sales (+)		\$12,052
Funds Borrowed (+)		\$215,000
Total Inflows (A)		\$209,258
Scheduled Debt Payments		
Before Refinancing	\$187,139	
After Refinancing (+)		
Total	\$187,139	
Principal Refinanced (and included in funds borrowed) (+)		
Capital Investments (+)	\$215,000	
Family Living Expenses (+)	\$75,000	
Total Outflows (B)		\$477,139
Projected Net Cash Flow Excess or Deficit (A – B)		- \$267,881

*Date of projection is December 2008. Projections based on Dairy Farm Business Summary data for a cooperating farm with roughly 350 cows.*

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■ Use causal logic in estimating each receipt and expense item. LaDue and his colleagues provide some excellent advice: “Do not just mindlessly multiply each item by the percentage change in cows or acres. ... Multiplying all expenses by the change in cow numbers in that case is sure to result in errors in the projections.” Be sure to adjust for inflation.

■ Livestock farms that grow forages or concentrates should carefully assess their forage and concentrate balance whenever there are significant changes in the size or composition of the herd or cropping program.

■ Conduct sensitivity analysis and ask, “Are transition year projections warranted?”

■ Seek critical review of the projections to enhance the usefulness and validity of projections.

Consider the projected cash inflows and outflows in **Table 2**. The purpose of the analysis was to project what flows would look like for the 2009 calendar given expectations for relatively low milk prices and other factors in late 2008. Projections were generated using the CASHPRO tool.

A projected accrual income statement complete with estimates for all receipt and expense items underlies the total cash income and total cash expenses projections. In some cases the projected value is the same as the base value.

With budgeting there’s no need to go blindly into the future. Whether partial or whole farm, you can answer: Is a proposed change profitable and will it help my business better meet cash obligations? □