

Understanding the Basics of Dairy Farm Financial Performance



FARM CREDIT EAST



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What will we cover?

- ❖ Overview of New York Dairy Industry/Milk Supply Management
- ❖ Dairy Challenge Financials
- ❖ Risk Management Considerations
- ❖ How to Incorporate Financials into Your Presentation
 - ❖ Key Profit Indicators
 - ❖ Partial Budgets
 - ❖ Other financial metrics



New York Dairy Industry

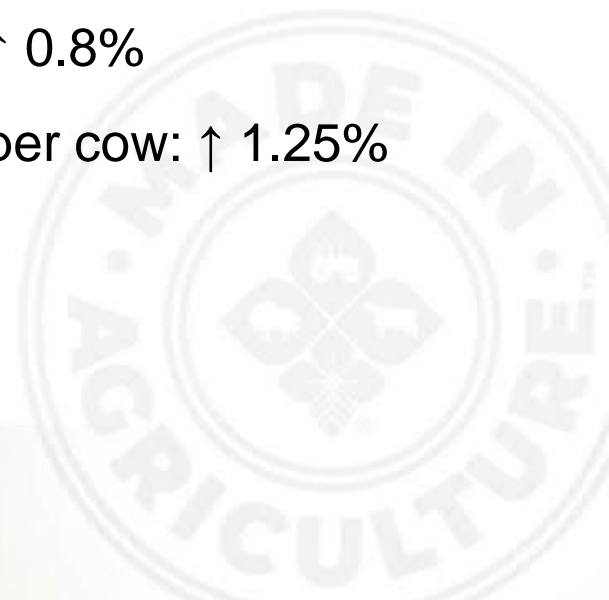
❖ 2022 Stats:

- ❖ Number of Farms: 3,210
- ❖ Cows: 624,000
- ❖ Production: 15,660,000,000 lbs
- ❖ Production per cow: 25,096 lbs

❖ Attrition 2021 - 2022:

- ❖ Farms: ↓ 6.4%
- ❖ Cows: ↓ 0.6%
- ❖ Production ↑ 0.8%
- ❖ Production per cow: ↑ 1.25%

Source: <https://downloads.usda.library.cornell.edu/usda-esmis/files/h989r321c/jh345531b/n8711359j/mkpr0223.pdf>



What's on producers' minds in New York?

- ❖ Minimum Wage & Overtime

 - ❖ \$14.20/hr as of 12.31.22

 - ❖ Overtime pay threshold will gradually be reduced to 40 hours by 2032. Starting on Jan. 1, 2024, farm workers will be eligible for overtime pay after 56 hours worked per week.

- ❖ Milk Supply Management

- ❖ Rising Costs (input costs, interest rates, etc.)

- ❖ Finding & Retaining Talent



Northeast Milk Supply Management

- “Base”
 - A set production limit on monthly milk shipped
 - Penalties are assessed by the co-op on the milk check for any pounds shipped over the base
 - Varies month to month and by co-op
 - Crucial to determine base allowance on farm and how that may impact your recommendations
 - Farms can purchase a retiring farm’s base to gain more market access
 - *Not a balance sheet asset – the farm does not “own” base
 - *More and more stipulations on base purchases



Dairy Challenge Financials

- ❖ What information will you be receiving?
 - ❖ Balance Sheet
 - ❖ Accrual Income Statement
 - ❖ Includes Capital Purchases
 - ❖ Scheduled Debt Payments
 - ❖ Milk Check Data
 - ❖ Labor & Forage Info
 - ❖ Worker Equivalents
 - ❖ Grown forage cost per ton as fed
 - ❖ Dairy Farm Business Summary (Benchmark)



Financial Analysis

- Change in net worth (Equity) – **THE BALANCE SHEET**
 - Is equity increasing or decreasing over time?
- Profitability (Net Income, Net Margin) – **THE INCOME STATEMENT**
 - Did the farm make a profit?
 - NOT Schedule F tax income
- Cash Flow – (Net change in cash) – **STATEMENT OF CASH FLOWS**
 - Did the farm have money left over in the checkbook?



The Balance Sheet

- Tells Us...
 - Financial position at a point in time
 - Equity or Net Worth
 - 3 parts of the equation
 - $ASSETS = LIABILITIES + OWNER\ EQUITY$
- Contains...
 - Items owned and owed
 - Current and Non-Current class or category



The Balance Sheet

- It may not tell us...
 - WHY or HOW the Equity Changed
 - Examples:
 - Feed Inventory – More feed or adjusted value?
 - Livestock Inventory – More cows or higher price per cow?
 - Was the equity change due to:
 - Earnings
 - Asset Values
- ^ These changes affect profitability



Cash is King! It Allows:

- Cash reserves
 - Leaving funds in business for future investment or emergency
- Capital purchases
 - Expansion and/or Replacements
- Income taxes
- Additional compensation
- Retirement funding
- Alternative investments
 - Outside of business
- Extra debt reduction
- Give some away



The Income Statement

- Determines the net income – true profit – of the business
 - Shows the income and expenses of the business.
 - Includes the non-cash accrual adjustments
 - Depreciation
 - Accounts Payable
 - Accounts Receivable

Total Expenses / Cwt
= Cost of Production



The Income Statement

Cash Income

less

Cash Expenses

NET CASH FARM INCOME

(+ OR -) Inventory Adjustments

(feed, supplies, livestock, grain, accts receivable/payable)

NET OPERATING PROFIT

(+ or -) Depreciation & Capital Adjustments (purch/sales)

NET FARM INCOME (True Profit)



Cash Accounting: Why a poor profit indicator?

- Inventory
 - Which Schedule F line(s) indicate(s) a change in inventory?
- Accounts Payable/Receivable
 - Which line(s) shows accounts receivable or payable?
- Capital
- Depreciation
 - Which line reports a cost for depreciation?
- **These have a big impact on profit and credit decisions**



Net COP vs. Breakeven Milk Price

Cost to maintain net worth:

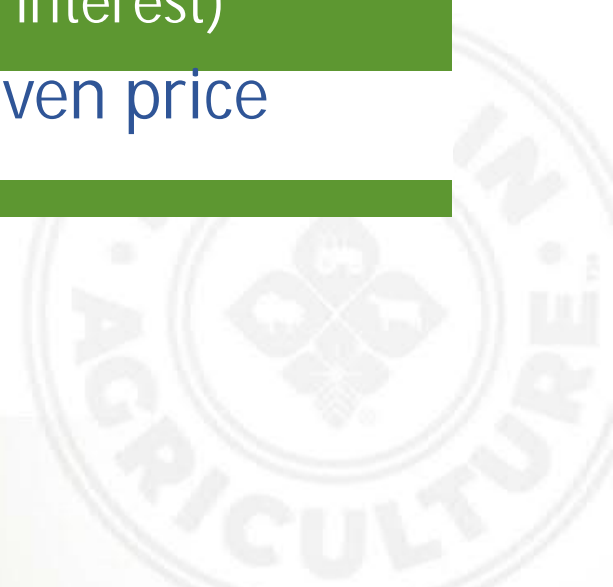
- uses depreciation + interest

Cost of Production (COP)

Cost to cash flow:

- uses total debt payments (principal + interest)

Breakeven price



Milk Check Data

- ❖ Yearend data:
 - ❖ Shows component levels
 - ❖ Quality and/or other Premiums received
 - ❖ Marketing & Coop Fees
 - ❖ Forward Contracts



Risk Management for Dairy Farms

- Key part of:
 - Management
 - Controlling the controllables
 - Meeting budgets

**CONTROL THE
CONTROLLABLES**
>>>>

- Control the controllables
 - What can be controlled?
 - What does our business plan say?
 - What does our budget allow us to control? To what extent?



Risk Management for Dairy Farms

- Identify the risks
 - Commodity prices
 - Land availability
 - Input costs
 - Neighbor relations
 - Facility limitations
 - Natural disaster
 - Livestock health
 - Government intrusion/regulation
 - Labor availability

Dairy farmers
are risk
managers.



Milk Price - Controllable or Not?

- National price is not controllable
- The price a farm receives may be controllable
- What tools do dairy farms have?
 - Dairy Margin Coverage (DMC)
 - Dairy Revenue Protection (DRP)
 - Livestock Gross Margin-Dairy (LGM-Dairy)
 - Plant or Broker Tools
 - Hedging
 - Forward contracting
- These tools can help them predict/control their prices



Risk Management for Dairy Farms

- Producers need to know the tools available and understand what is best for their operation.
 - What should be protected? What is the operation comfortable protecting?
 - Cost vs. Benefit
 - Producers ought to work with their trusted advisors to best understand options available.



Presentation Considerations

- ❖ Evaluate the farm's performance in 2022 as compared to 2021
 - ❖ Calculate out several key ratios
- ❖ Compare the farm to benchmark data
- ❖ Determine areas of opportunities that will increase profitability and efficiency
 - ❖ **Always tie your recommendations to overall financial impact**
 - ❖ Investment Costs
 - ❖ Anticipated Returns



Key Profit Indicators

- ❖ Financial Performance Measures
- ❖ Gross Revenue
- ❖ Production Efficiency
- ❖ Capacity
- ❖ Cost Control
- ❖ Liquidity Measurements
- ❖ Industry Skills



Financial Performance Measures

- ❖ Net Margin/Cwt
- ❖ Return on Assets
- ❖ Return on Equity
- ❖ Assets/Cow
- ❖ Debt/Cow
- ❖ Percent Net Worth
- ❖ Breakeven Milk Price/Cwt



Gross Revenue

- ❖ Milk Income/Cow
- ❖ Lbs. of Milk Sold/Cow
- ❖ Net Milk Price
- ❖ Butterfat & Protein Lbs./Cow



Production Efficiency

- ❖ Lbs. Milk Sold/Worker
- ❖ Purchased Feed as a % of Milk Income
- ❖ Feed & Crop Exp. as a % of Milk Income



Capacity

- ❖ Percent Milking Cow Stocking Density
- ❖ Equipment Investment/Cow
- ❖ Tillable Acres/Cow
- ❖ Percent of Parlor Capacity



Cost Control

- ❖ Net Cost of Production/Cwt
- ❖ Net Margin as a Percent of Sales
- ❖ Total Labor Exp/Cwt
- ❖ Purchased Commodities/Cow
- ❖ Crop Expense/Acre
- ❖ Livestock Exp/Cwt
- ❖ Overhead Exp/Cwt



Liquidity Measurements

❖ Liquidity - a measure of how easily a farm can meet its short-term financial obligations.

- ❖ Current Ratio
- ❖ Working Capital/Cow
- ❖ Credit Available for Disbursement



Industry Skills

- ❖ Percent Internal Herd Growth
- ❖ Cull Rate
- ❖ Percent Death Rate in Herd
- ❖ Age First Calf Heifer
- ❖ Annual Heifer Non-Completion Rate
- ❖ 21 Day Pregnancy Rate
- ❖ Calving Interval



Incorporating Financial Impacts: Partial Budgeting

❖ What is it?

- Partial budgeting is a planning and decision-making framework used to compare the costs and benefits of alternatives faced by a farm business.
- It focuses only on the changes in income and expenses that would result from implementing a specific alternative.



Why do we use?

A partial budget is used to calculate the financial effect of a proposed change to one aspect of your business.

It evaluates the proposed change's effect through:

Added Returns

Reduced Costs

Reduced Returns

Added Costs

Determines the change in net income

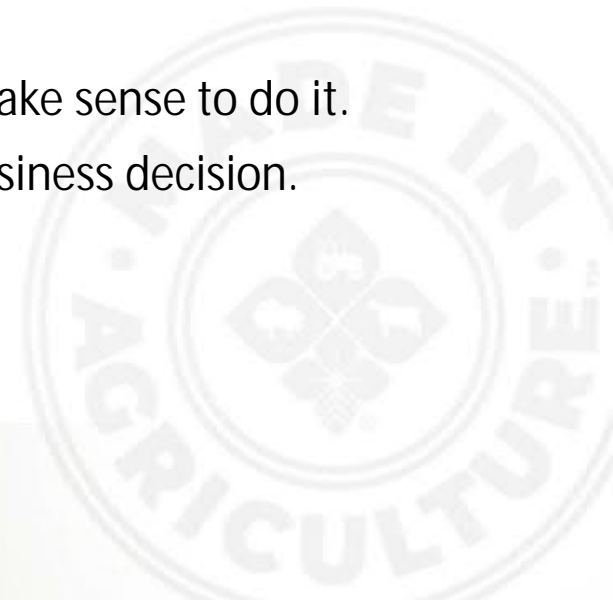
Total Added Returns & Reduced Costs - Total Reduced Returns & Added Costs



Types of Partial Budgets

- Profitability Partial Budgets
 - Added costs include economic depreciation and interest on investment
- Cashflow Partial Budgets
 - Added costs include actual annual debt repayments if utilizing borrowed funds

Begin with evaluating profitability. If it's not profitable it wouldn't make sense to do it. Also, just because it may cash flow, that doesn't mean it's a good business decision.





PROFITABILITY PARTIAL BUDGET ANALYSIS OF

[] VS []

Assumptions

ITEMS THAT ADD TO NET INCOME

Added Returns:

1		\$0
2		\$0
3		\$0
4		\$0
5		\$0
6		\$0
7		\$0
8		\$0

Total [] \$0

Reduced Costs:

1		\$0
2		\$0
3		\$0
4		\$0
5		\$0
6		\$0
7		\$0
8		\$0

Total [] \$0

TOTAL ADDED RETURNS & REDUCED COSTS [] \$0

ITEMS THAT REDUCE NET INCOME

Reduced Returns:

1		\$0
2		\$0
3		\$0
4		\$0
5		\$0
6		\$0
7		\$0
8		\$0

Total [] \$0

Added Costs:

1	Depreciation	\$0
2	Interest	\$0
3		\$0
4		\$0
5		\$0
6		\$0
7		\$0
8		\$0

Total [] \$0

TOTAL REDUCED RETURNS & ADDED COSTS [] \$0

CHANGE IN NET INCOME [] \$0

[] \$0

Added Returns

- ❖ Identify any possible means of generating new revenue streams or increasing existing streams.
- ❖ Use the farm's specific data if available (not just benchmark averages)
- ❖ Many partial budgets show an increase in milk production (either by increase in milk per cow or increasing herd size)
 - ❖ Use realistic yields and prices
 - ❖ Use a 3- or 5-year average prices – making decisions solely off current milk prices would be a mistake!



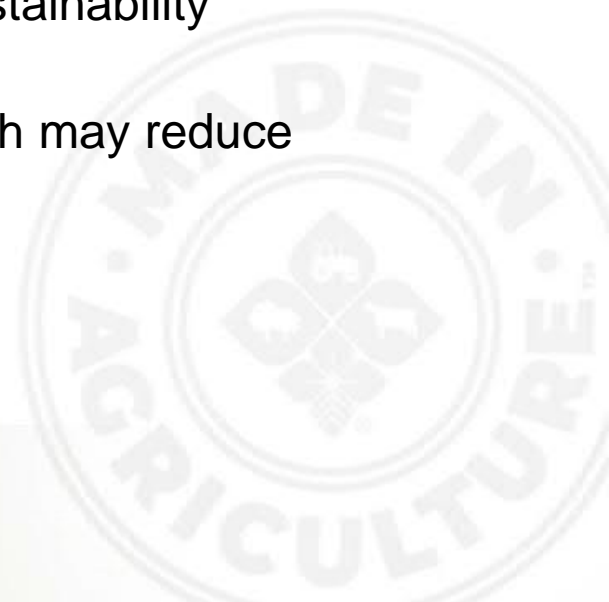
Reduced Costs

- ❖ Begin by identifying general areas where the choice might lower expenses
 - ❖ Many partial budgets show labor savings
 - ❖ Identify how many hours of labor will be saved then multiply that figure by the hourly wage



Reduced Returns

- ❖ Not as commonly seen on partial budgets (so don't be surprised if you don't have anything to put in this category)
- ❖ Can be seen on budgets for farms considering going from 3x to 2x
 - ❖ This was common during the pandemic when base restrictions came into play
- ❖ This may become a bigger factor as farms look towards sustainability initiatives
 - ❖ An example: adopting no-till in your crop production which may reduce crop yield



Added Costs

- ❖ Annual cost of the new investment
 - ❖ Annual Depreciation & Interest on Investment (Profitability)
OR Principal & Interest (Cash)
 - ❖ Depreciation = $(\text{Purchase Value of Item} - \text{Salvage Value}) / \text{Years of Useful Life}$
 - ❖ Interest on Investment (Opportunity Cost) =
 $(\text{Purchase Value of Item} + \text{Salvage Value}) / 2 \times \text{Interest Rate}$
- ❖ Additional costs on the investment
 - ❖ Repairs & Maintenance, Utilities, Insurance
- ❖ Added feed costs if budgeting for an increase in milk production



Sources of Data

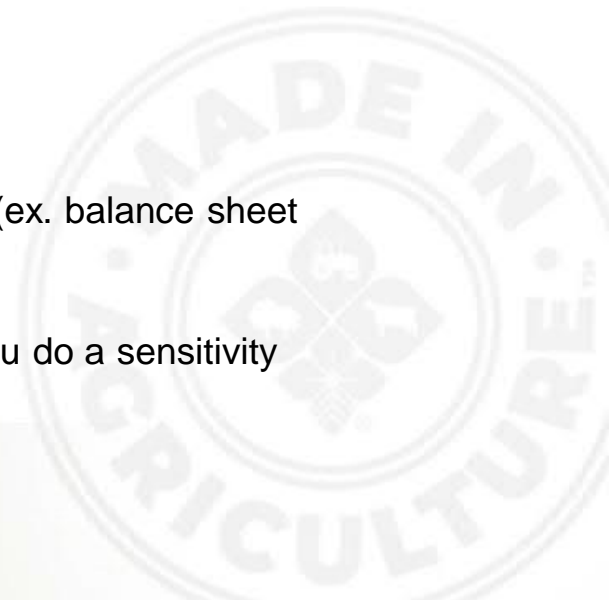
- ❖ Actual Farm Records (milk checks, financial software, herd information)
- ❖ Benchmark Reports – to look at a farm’s historical trend and view their data in comparison to the benchmark for size, region, etc.
- ❖ Literature – many studies/resources are available through colleges & universities as well as extension
 - ❖ Cite your evidence in your presentation



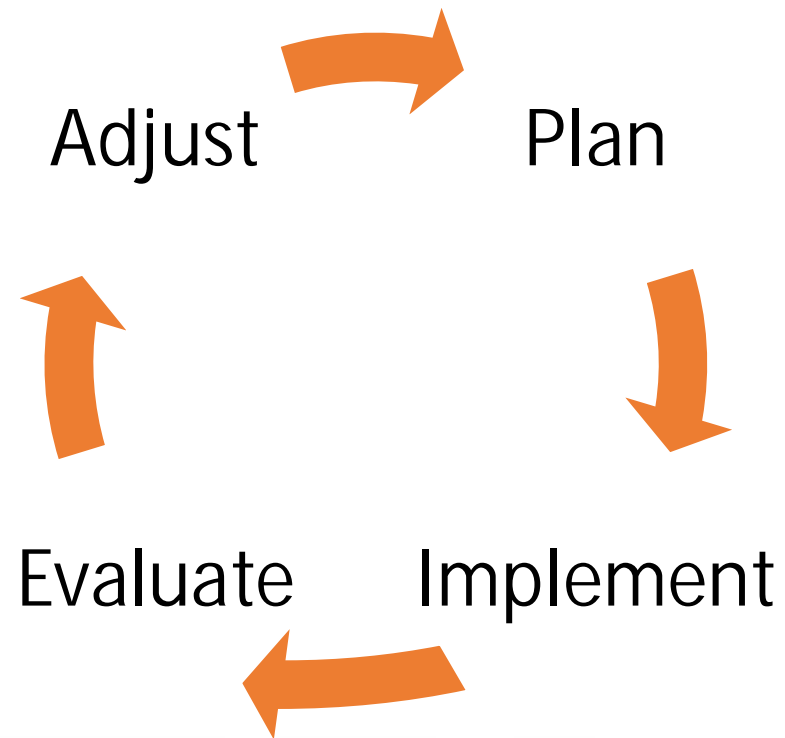
Partial Budgets Limitations/Errors

- ❖ Estimation Errors – used wrong numbers
 - ❖ A note of caution: the value of the analysis using partial budgeting is only as accurate as the input data.
- ❖ Structural Errors – **using total investment cost instead of annual numbers**, using depreciation AND loan payments
- ❖ Calculation Errors
- ❖ Didn't account for all impacts
 - ❖ Budgeting increased milk production without additional feed costs
 - ❖ Keep in mind milk cooperative when making suggestions on expansion
- ❖ Tax Consequences
- ❖ Time Value of Money
- ❖ For large investments it's often good to look at impact on the overall business (ex. balance sheet impact)

Predicting the Future – your best estimates don't always come to fruition – did you do a sensitivity analysis?



Keys to Success



Using Partial Budgets in Dairy Challenge

- ❖ Not always necessary to complete a partial budget for every opportunity on a farm
 - ❖ Most often utilized when looking at a potential investment
- ❖ Can utilize other metrics to get at additional revenue
 - ❖ Income over Feed Cost
 - ❖ Cost-Savings (reduced carrying costs)



Income over Feed Cost (IOFC)

❖ Evaluate additional cwts to be produced and use the farm's IOFC which can be calculated out

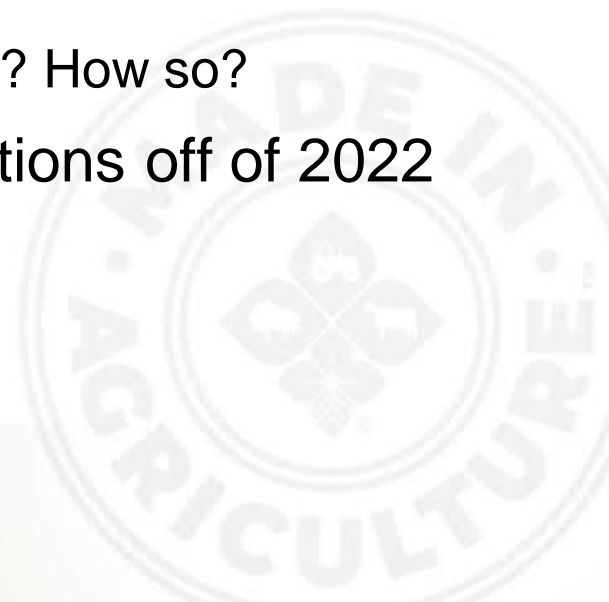
❖ Example – you determine that a change will result in 900 additional cwts per year on a farm

= 900 cwts x \$15 IOFC = \$13,500 additional revenue



Tying it all Together!

- ❖ Make sure you show the financial impact of your recommendations:
 - ❖ How will this affect the farm's equity position, debt per cow, NCOP, etc.?
 - ❖ Will your recommendations improve the farm's KPIs? How so?
- ❖ Remember: DO NOT base future recommendations off of 2022 prices!





Questions?

Thank you & good luck!



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