New Ways to Look at What’s Driving the Financial Bottom Line

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Concepts

- Dairy is a commodity manufacturing business
  - The lowest cost/cwt typically wins
  - A Cow is an income-generating asset
- Most Dairies have 3 enterprises
  - Replacement, Farming, Milking Cows
- Benchmarking is dangerous
  - Goal Setting and tracking makes a lot of sense
- Margins matter, ratios don’t
Relevant Questions in 2013 Dairy Economy

- Should we continue to get more cows pregnant?
- Should we cull at 50%?
- Should I be 2x or 3x?
- Should we raise all these heifers?
- Are Jerseys or crosses better than Holsteins?
- Can we invest in better facilities?
- Do we have too much debt?
- Should I be hedging?
Most of the important questions can’t be answered without a properly constructed P&L.
Is your business strategy to outguess the market?
What is the best strategy?
Annuual Class III price, $/cwt

IOFC by Year

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<th>Year</th>
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<td>2013</td>
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Milk Price Change from Prior Year 1980-2013
(Change by Year Frequency)

Black Swan?

Black Swan?
Missing the Best Years vs. Eliminating the Worst

$/cwt

<table>
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<tr>
<th>Period</th>
<th>Best</th>
<th>Worst</th>
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<td>$0.20</td>
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<td>2000's</td>
<td>$0.30</td>
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<td>2007-2012</td>
<td>$0.50</td>
<td>$0.45</td>
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Exports

• August 2013 Exports:
  – 17.5% of US Milk Solids

• Jan – August 2013 Exports:
  – 15.4% of US Milk Solids
  – Same period 2012: 13.6%
U.S. EXPORTS

5-Year Trend

U.S. EXPORTS

VOLUME AND VALUE

AGGREGATE VOLUME, SELECTED PRODUCTS

TOTAL DOLLAR VALUE

* Volume includes SMP, WMP, food preps, whey, cheese, butterfat, lactose
Three Rules of Dairy Economics

1. Maximize total Income Over Feed Cost (IOFC) per day
2. Minimize all other costs that do not violate rule #1
3. Margin x volume = profit or loss
Top 10 Keys to making money in the dairy business

1. The solution to pollution is dilution
   - Ship a lot of Money Corrected Milk™
   - keep a “full” barn
   - stay at “100%” every day

2. Healthy fresh cows

3. Minimize Replacement Costs
   - Offer a career change to unprofitable cows
   - Replace broken or inefficient cows with new ones
   - Don’t create broken cows
   - Sell high-value beef

4. Realize quality and component premiums
Top 10 Keys to making money in the dairy business

5. Maximize Income Over Feed Cost
6. Procure High Quality Forages
7. Generate Pregnancies (Cow and Heifer)
8. Cut costs intelligently
9. Control Labor Costs/liter
10. Minimize Shrink

Goal – Make Low Cost Milk!!
Top Three Costs of Producing Milk

1. Feed cost/cwt
2. Replacement Cost/cwt
3. Labor cost/cwt

Do you know your cost per cwt??
Does your accounting system put expenses in the proper buckets?
Do You Know…

• Cost to Raise a Heifer?
• Accrual Feed cost/cwt each month?
• Feed Shrinkage?
• Cost to raise a ton of corn silage?
• Breakeven Milk Price?
• Projected margin for next 6 months?
What are the Three Enterprises on most Dairies?

1. Selling Milk (Milking Cows)
2. Supplying Feed (Farming)
3. Supplying Replacements

• Dairy P&L needs to focus on the Milking enterprise
Problem with Cost/cwt

• Ignores income
  – Holstein versus Jersey
  – Premiums
• Is cull cow income part of income?
  – should be part of replacement cost
• Is milk hauling a cost?
• **Best Single Number?**  Breakeven milk price
Financial Goals

• Grow IOFC and Total Margin
• These can be confused when focusing too heavily on cost/cwt or cost/cow

• Most important Cow Metric:
  – Static IOFC
2 Key Drivers of Financial Success.....

- **Money Corrected Milk™ Cwt Milk Sold**
  - Marginal milk sold each day trumps marginal milk per cow
- **Herd Health**
  - Drives milk, pregnancies, replacement costs, cow flow, etc
How Many Pounds Should a Dairy Ship?

- Pounds sold/parlor stalls/24
- **Example 1** (Double 60, 6050 cows, 75 lbs)
  - 450,000/120/24 = 156
- **Example 2** (60 rotary, 4200 cows, 70 lbs)
  - 294,000/60/24 = 204

- What is the #1 sign of not enough milk? - Labor cost/cwt
Volume of Milk Shipped

• What is the barrier to selling more milk on your dairy?
• More cows?
• More milk/cow?
• How much milk can you sell given your resources?
If it is not the parlor, what is next?

- Permit?
  - Can heifers or dry cows be moved off site?
- Feed?
  - Does a 60% forage ration make sense?
  - Does BMR make sense?
  - Can heifers or dry cows be moved off site?
- Capital?
  - Internal Growth?
  - Overcrowding?
What are the 3 Financial Statements?

- **Cash Flow**: Cash in, Cash Out
- **Profit Loss**
  - no principle
  - depreciation and interest included
  - accrual
- **Net Worth**
  - Snapshot
  - Assets and liabilities
- **Borrowing Base**
Terminology...

- **Interest** — cost of obtaining capital
- **Depreciation** — cost of owning capital
- **Principle** — capital *(investment)*
- **Accrual** — as you use it, not as you buy it
- **Profit** — Accrual income over accrual expenses including depreciation
- **Opportunity Cost** — the best use of resources
- **Marginal** — the last cow, the last liter of milk, the last kg of dry matter intake
Good Accounting practices...

- Monthly P&L constructed properly
  - Accrual on the big items (feed and milk)
  - Cash method for Replacement Cost
  - Allocate expense accounts appropriately
- Use MCM™ or ECM cwts
- Monthly feed and cattle inventories
  - Shrink on feeds
- Weigh all feed in and out
If you have equity, you have less risk....

• Build a cushion:
  – Have enough equity to absorb a $3.00/cwt loss for 12 months?
If you have no debt, you have lower returns.

- $10,000,000 in assets
- P&L Net Income = $1,000,000

Example 1: $5,000,000 equity
- ROI = 20%

Example 2: $8,000,000 equity
- ROI = 12.5%
Cost of capital

• Interest is the cost of obtaining capital
• Depreciation is the cost of owning capital
• Principle is a capital *investment*
How does debt and investment fit into the P&L?

• What is the cost of high debt?
  – Interest Costs –
    • Typical: $1.00/cwt
    • Range: $0.50 - $1.50/cwt
  – Depreciation Costs:
    • Typical: $0.75/cwt
    • Range: $0.50 - $1.75/cwt

• Is it investment or operations that make a dairy go broke?
$1000 per cow investment, 20 years at 5%

- 21 cents per day principle and interest
- About 1.5 pounds of marginal milk
Marginal Economics

• The last:
  – pound of milk/cow
  – Cow
  – Cwt milk sold per day
• Is more valuable than the *first* or *average*
Scenario

• **Example 1**
  – Dairy P&L shows that the average cow is losing $1.00/cwt or about $230/year.
  – Should you add more cows?

• **Example 2**
  – Feed Costs are $12.00/cwt
  – Dairy is losing $1.00/cwt
  – Should you try to get more milk?
Scenario

• Example 1
  – Dairy P&L shows that the average cow is losing $1.00/cwt or about $230/year.
  – Should you add more cows?
Dairy is losing $230/cow

• What costs increase with adding 1 more cow?
  – Feed
  – Vaccine/health
  – Breeding
  – Replacement cost

• What does not increase with adding 1 more cow?
  – Labor, facilities, utilities, overhead, repairs, maintenance, fuel/oil, etc
The Average Cow Currently in the dairy…

- Average cow generates 23,000 pounds of milk income ($4600 at $20 milk).
- Feed costs: $12/cwt ($2760).
- Replacement: $1.25/cwt ($288)
- Milk hauling and deducts: $1.00/cwt ($230)
- Labor, utilities, taxes, facility, etc $5.50/liter ($1265)
The Average Cow

Income: +$4600
Feed: -$2760
Variable: -$288
Replacement: -$288
Milk deducts: -$230
“Fixed”” -$1265
Net: -$230
The Marginal Cow…

- Added cow generates 230 cwts milk income ($4600).
- Feed costs: $12/cwt (increase of $2760).
- Vet, Med, Breeding, Interest: 1.25/cwt (increase of $288).
- Replacement: $1.25/cwt (increase of $288).
- Milk deducts: $1.00/cwt (increase of $230).
- What about buying the cow?
The Marginal Cow

Income: +$4600
Feed: -$2760
Variable: -$288
Replacement: -$288
Milk deducts: -$230
“Fixed” -$1265
Net: +$1034
Scenario

• Example 2
  – Feed Costs are $12/cwt
  – Dairy is losing $1.00/cwt
  – Should you try and get more milk?

  – For a dairy milking 600 cows and shipping 50,000 lbs or 500 cwts, losses are $500 per day
What is a marginal liter/cow worth?

- Models (NRC) suggest that conversion of feed to milk is 2.5:1 after maintenance is covered. I assume 2:1.
- So if cows consume another dry matter pound of TMR, they produce another 2 pounds of milk.
- *No other costs increase other than feed*
What is a marginal pound/cow worth?

- 1 pound of milk is worth $0.20
- 0.5 lb TMR is worth $0.075
- So Marginal milk is worth $0.125 per pound
Impact of 5 lbs more milk

- Current scenario
  - $500 loss per day

- More milk
  - 600 cows x 5 lbs = 3000 lbs more milk/d
  - 3000 x $0.125 = $375
  - Net = -$500 + $375 = -$125/d
Marginal Economics

• Milk as many cows every day as you can
• Make as much milk per cow as you can

• *Without harming the cow or dairy structure*
• *Total volume typically trumps milk/cow*
Summary

- Volume of milk sold typically defines the P&L
- Manage and Monitor the Big 3
  - Feed
  - Labor
  - Replacement
Questions?