Keys to Profitable Dairy Grazing Operations

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Keys to Profitable “Organic” Dairy Grazing Operations

- Exposure to limited performance data for organic grazing dairies, mostly in the Northeast
- More information from conventional grazing dairies.
- Will share with you observations and information from interactions with these conventional producers, with influence from the limited organic exposure.
Keys to Profitability

Overall Management
- Analysis
- Decision Making
- Attitude
- Business Balance

Specific Management Areas
- Milk Production
- Supplementation
- Labor Efficiency
- Capital Investment
- Cost Control
- Stocking Rate
Analysis

- Consolidated financial statements
  - Balance sheets
  - Income statements
  - Statement of cashflow

- Performance is
  - Calculated
  - Tracked over time
  - Discussed
Analysis

- What are the key ratio’s doing within the business?
- Did decisions work?
- Is progress being made?
Key Profit Questions

- Are we generating rates of return:
  - Sufficient to meet family goals
  - Making a Return on Equity (market value) 10% and greater over time
  - Meet family goals and desires
- Is net worth increasing faster than inflation?
- Is Return on All Capital (market value) greater than the cost of borrowed capital?
Decision Making

- Use analysis to help in decision making
- Go through formal decision making process
- Prepare budgets
- Analyze more than one option
- Implement decisions
Decision Making

- Review past decisions
- Did they work
- If so, why
- If not, why
- If didn’t work
  - How fast will you know?
  - What will you do next?
Attitude

- What is the overall outlook
- Excited about challenges
- Excited about opportunities
- Willing to change
- Surround yourself with people of similar attitude
- Ask questions
Attitude

- Share information
- Learn from
  - Your mistakes
  - From others
- Be willing to change
- Never stop problem solving
Attitude

“We do what we do because that is what we do”
Grazing Profits

- Large range of performance among organic grazing dairies
- No golden pill to farm profitability – even with the organic price
- Management decisions regarding use of resources impact profits
Management Strategies

Different ways grazing farms are trying to make a profit
- Annual production, high input
- Annual production, lower input
- Seasonal production, high input
- Seasonal production, low input
Management Strategies

- All have made farm profits
- What fits the management style?
- How well decisions are made and implemented impact profits?
- How does it impact the profit equation?
Profit Equation

Profit = Volume \times (Price - Cost) \quad \text{Investment}

\begin{itemize}
  \item Only four ways to impact profit
    \begin{itemize}
      \item Volume
      \item Price
      \item Cost
      \item Investment
    \end{itemize}
\end{itemize}
Organic Markets may lead towards supply management pricing systems

Price for base versus price versus over base will impact decisions

Profit Equation Key
Business Balance

Targeted Goal for Business

- All resources used at economic capacity with 100% of milk sold at organic price

How to meet goal

- Increase contract amount, base, etc
- Change the production side
If can’t meet goal

- Do we leave resources idle?
- Do we sell resources?
- Do we produce milk over base for lower price?
- Do we milk less cows with higher production?
- Do we milk more cows with lower production?
Business Balance

- New area for management focus
- No set or easy answer
- Key process
  - Ask questions
  - Prepare analysis
  - Compare alternatives
Key Production Management Areas

- What is happening day to day, month to month, and one year to the next
- Areas that have correlated to profits over time in the grazing arena
- Appear to have value on the organic side also
Milk Production

1. What milk is being generated from the resources that are being utilized
2. Is it being maximized for the set of resources being utilized
   - Per cow
   - Per acre
   - Per farm
<table>
<thead>
<tr>
<th>Year</th>
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<td>(10) 17,492</td>
<td>(23) 17,099</td>
<td>393</td>
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<td>2007</td>
<td>(13) 17,367</td>
<td>(36) 16,112</td>
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Milk Production

- Large range
- Not a target level
- Getting the most for inputs utilized
- Making enough to cover other costs
- Not just milk, also components
Milk Sold per Cow

- 2007 top 20% all grazing farms sorted by ROA
  - Ranged from 11,000 to 24,500
- 2008 top 20% all grazing farms sorted by ROA
  - Ranged from 10,500 to 17,500
Milk Production

- Production can be too low
- Income drops faster than expenses
- Fixed costs not changing
Supplementation

- How is the pastures supplemented?
- What is used?
- What is being generated for components?
- How does it impact stocking rates?
### Average Pounds of Grain Fed/Cow/Day
(During Grazing Season) – New York Grazing Dairies

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<tr>
<th>Year</th>
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<td>(17) 15.92</td>
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<td>(13) 13.77 (D.M.)</td>
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<td>2007</td>
<td>(11) 15.67 (D.M.)</td>
<td>(11) 8.95 (D.M.)</td>
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## Net Milk Income over purchased grain and concentrates per cow per year – New York

<table>
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<tr>
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<th>Difference</th>
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<td>1998</td>
<td>(17) $2,189</td>
<td>(14) $1,877</td>
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<td>1999</td>
<td>(13) $2,043</td>
<td>(16) $1,918</td>
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<td>2000</td>
<td>(17) $1,767</td>
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<td>(11) $1,226</td>
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<td>2003</td>
<td>(10) $1,655</td>
<td>(10) $1,244</td>
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<td>2004</td>
<td>(Top 9) $2,114</td>
<td>(30) $2,079</td>
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<td>2005</td>
<td>(Top 13) $1,868</td>
<td>(42) $1,927</td>
<td>-$59</td>
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<td>2006</td>
<td>(Top 13) $1,625</td>
<td>(42) $1,540</td>
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<td>2007</td>
<td>(Top 18) $2,607</td>
<td>(36) $2,567</td>
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Supplementation

- Individual farm experience with low to minimal input appears to have limitations.
- Questions still being asked?
  - What to supplement with?
  - How much to do?
  - How to modify during the grazing season?
  - How to modify from year to year?
  - Cost of the supplementation vs Milk price
Labor Efficiency

- With cows doing more of the work, less labor needed on the farm
- More cows managed with one worker
- Increased profit per worker
Labor Efficiency

- Not just milking the cows
- Taking care of replacements
- Winter feed production
- Managing the pastures and the cattle
- Growing Grain
<table>
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<td>(16) 26</td>
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<td>1998</td>
<td>(17) 33</td>
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<td>(19) 35</td>
<td>(13) 38</td>
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<td>(11) 52</td>
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<td>(10) 26</td>
<td>(10) 49</td>
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<td>2004</td>
<td>(Top 9) 42</td>
<td>(30) 36</td>
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<td>2005</td>
<td>(Top 13) 44</td>
<td>(42) 35</td>
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<tr>
<td>2006</td>
<td>(Top 13) 43</td>
<td>(42) 36</td>
</tr>
<tr>
<td>2007</td>
<td>(Top 18) 41</td>
<td>(42) 41</td>
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<tr>
<td>Year</td>
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<tr>
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<tr>
<td>1996</td>
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<td>(13) 489,431 lbs.</td>
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<td>(19) 587,869 lbs.</td>
<td>(13) 519,903 lbs.</td>
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<td>(10) 485,904 lbs.</td>
<td>(10) 675,822 lbs.</td>
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<td>2004</td>
<td>(Top 9) 716,852 lbs.</td>
<td>(30) 611,862 lbs.</td>
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<td>(Top 13) 709,106 lbs.</td>
<td>(42) 587,165 lbs.</td>
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<td>2006</td>
<td>(Top 13) 711,600 lbs.</td>
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<td>2007</td>
<td>(Top 18) 688,300 lbs.</td>
<td>(36) 675,657 lbs</td>
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</table>
Milk Sold Per Worker

Top 20% of all grazing farms sorted by labor efficiency
- 2007, averaged 1,086,771
- 2008, averaged 1,097,526
Capital Investment

- The bottom number in the profit equation
- How much money is invested for the dollars generated.
- Moving towards having less machinery and buildings so less total investment in the business
- Can be to low
Investment Balance

Is every area of the business operating at economic capacity

- Land base
- Milking center
- Equipment
- Family management
- Family labor
- Etc
<table>
<thead>
<tr>
<th>Year</th>
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<td>.52</td>
<td>(42)</td>
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<tr>
<td>2006</td>
<td>(Top 13)</td>
<td>.45</td>
<td>(42)</td>
</tr>
<tr>
<td>2007</td>
<td>(Top 18)</td>
<td>.57</td>
<td>(36)</td>
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</table>
Asset Turnover – All Grazing Farms, Sorted by ROA

- **Top 20% of farms, ratio range**
  - 2007 = .72
  - 2008 = .54

- **Bottom 20% of farms**
  - 2007 = .54
  - 2008 = .34
Cost Control

- By utilizing pasture, try to lower costs of producing milk during the grazing season
- Spending only on those things that return revenue or save costs
- Worst case scenario – grazing milk production and conventional costs
## Cost Control

<table>
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<td>13.79</td>
<td>16.49</td>
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<tr>
<td>2007</td>
<td>17.71</td>
<td>19.64</td>
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Cost Control

Total Cost to Produce Milk
All Grazing Dairies, 2007

R² = 0.202
Cost Control

Total Cost to Produce Milk vs ROA
All Grazing Dairies, 2008

Percent Rate of Return on Capital

Total Cost to Produce Milk per Cwt

$R^2 = 0.6265$
Stocking Rate

- Acres needed per cow
- All acres utilized by the farm for pasture and winter forage production
- Impacted by investment levels, forage production, supplementation, winter forage production
Stocking Rate
All Grazing Dairies

- Top 20% of Farms, sorted by ROA
  - 2007 = 2.36 acres per cow
  - 2008 = 2.32

- Bottom 20% of farms, sorted by ROA
  - 2007 = 4.94 acres per cow
  - 2008 = 4.04
Take Home Points

- Grazing can be quite profitable
- So far, no one way seems to be the best
- How well the resources are utilized is key to success
Take Home Points

- **Overall Management**
  - Analysis
  - Decision Making
  - Attitude
  - Business Balance

- **Specific Management Areas**
  - Milk Production
  - Supplementation
  - Labor Efficiency
  - Capital Investment
  - Cost Control
  - Stocking Rate
Still Asking Questions

- Stocking rates
- Fertilizer programs
- Grass varieties
- Cross breeding
- Components per acre
- Growing vs buying organic feed
Numbers of Farms

- Very interesting to look at data each year
- Limited number of farms makes it difficult to conclude anything
- Individual farms can move averages
Resources

1 Dairy Farm Business Summary Program
   - www.dfbs.cornell.edu

2 Grazing DFBS Publication
   - Linda Putnam
     Cornell University
     305 Warren Hall
     Ithaca, NY 14853-7801
     ldp2@cornell.edu
     607-255-8429
     http://aem.cornell.edu/order/pub_order_farom.pdf