The Components of Grazing – Profitability

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Percent Change in Per Capita Milk Production
(2007 vs 2002)

Source: USDA, AMS, Milk Marketing Administrator, Central Order
2007 Per Capita Milk Production

Per Capita Milk Production
U.S. Average = 615 Lbs.

- Less Than 300 Lbs. (23)
- 300 To 600 Lbs. (8)
- Greater Than 600 Lbs. (17)

Source: USDA, AMS, Milk Marketing Administrator, Central Order
“The entrepreneur always searches for change, responds to it and exploits it as an opportunity.”

Peter F. Drucker
MU Dairy Grazing Efforts

- Core groups formed, monthly workshops, collection of economic data
- Southwest Center Dairy Begins Operation
- Outreach and Development grant starts
- Teach workshops on pasture, financial, and business management to core groups
- Early adopters scale up
- Dairy grazing manual published
- Develop Grazing Wedge Software and Database
- Missouri Dairy Grazing Conference
- New Zealand Dairy Systems Study-Trip
- Exploration of dairying options by New Zealand farmers
- Australia/NZ Pasture Systems Study-Trip
- $100 million invested in infrastructure of pasture-based dairying

“No institution can possibly survive if it needs geniuses or supermen to manage it.”

“It must be organized in such a way as to be able to get along under a leadership composed of average human beings.”

Peter F. Drucker

**Moral: Create Simple Systems**
Facilities
• Labor efficient
• 2 to 2.5 hours/milking

Cows
• Crossbreeding
• Seasonal production

Forage
• Simple forage system
• Monitored & managed

Dairy Career Path
• Desirable lifestyle
• Competitive income

Profitability
Cash Generation
Wealth
Accumulation
4 Keys to Profitability

1.) A simple forage system managed for quality

2.) Cows that calve in large seasonal batches

3.) High speed and low investment parlors

4.) A balance of volume, margin and overhead that creates attractive returns and a desirable lifestyle
A Simple Forage System
Managed for Quality

Paddocks are shown in order of greatest to least pasture cover. Based on your minimum and maximum cover levels, colors are shown for too mature, in line with grazing wedge or overgrazed.

Growth rates are calculated (growth rate is only calculated if a prior wedge was completed within 30 days.

Average pasture cover calculated
Cows that Calve in Seasonal Batches
High Speed - Low Investment Parlors
MU Southwest Center Dairy

- Started in 1999
- 100% seasonal calving
- Operation started with 46 heifers
- In 2009 will calve 110 cows and heifers
- Stocked at 1.25 cows per acre
- Current research effort
  - Perennial ryegrass versus improved fescues
MU Southwest Center Dairy
Production costs excluding heifer raising ($/CWT)
MU Southwest Center Dairy

Operating margins ($/Cow)

Note: Operating margin reflects income above expenses available to pay principal and interest payments, family living, new capital purchases, and replacements.
Missouri Grazing Group
Production Costs Including Heifer Raising ($/CWT)

- Feed Conc & Hay
- Non-Feed Operating Expenses
Missouri Grazing Group
Operating Margins ($/Cow)

Note: Operating margin reflects income above expenses available to pay principal and interest payments, family living, new capital purchases, and replacements
A Balance of Volume, Margin and Overhead that creates Attractive Returns and a Desirable Lifestyle

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Conventional Dairy</th>
<th>Grazing Dairy</th>
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</thead>
<tbody>
<tr>
<td>Income/Cow</td>
<td>$4,000</td>
<td>$2,250</td>
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<tr>
<td>Operation costs as % income</td>
<td>80%</td>
<td>65%</td>
</tr>
<tr>
<td>Milk sold per cow (lbs.)</td>
<td>24,000</td>
<td>12,250</td>
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<tr>
<td>Ownership equity (%)</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Debt per cow</td>
<td>$5,000</td>
<td>$3,000</td>
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<tr>
<td>Asset turnover</td>
<td>2.5</td>
<td>2.5</td>
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<tr>
<td>Investment per cow</td>
<td>$7,500 to $15,000</td>
<td>$5,000 to $7,000</td>
</tr>
<tr>
<td>Return on assets</td>
<td>8%</td>
<td>10%</td>
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</tbody>
</table>

Conventional Source: The Dairy Dozen, 12 Key Financial Indicators, Gary Sipiorski, Hoards Dairyman, January 25, 2009

Grazing Dairy Source: Personal experience in Missouri, working with dairy grazing operations
600-Cow Model Dairy
(Included in Handout)

• Demonstrates ability to scale up
• Demonstrates start-up issues
• Demonstrates whole farm analysis
  – 600 Cow dairy
  – Crossbred cows
  – Swing parlor
  – Investment ($4,813/cow)
  – Cost of production ($14.05/cwt)
# 600 Cow Grazing Dairy Model

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
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</thead>
<tbody>
<tr>
<td>Cull rate</td>
<td>29 %</td>
<td>26 %</td>
<td>24 %</td>
<td>22 %</td>
<td>22 %</td>
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<tr>
<td>Calving interval</td>
<td>14.0</td>
<td>13.5</td>
<td>13.0</td>
<td>12.8</td>
<td>12.8</td>
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<tr>
<td>Milk sold per cow</td>
<td>10,741</td>
<td>12,285</td>
<td>12,447</td>
<td>12,385</td>
<td>12,385</td>
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<tr>
<td>Concentrate fed (lbs/cow/day)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Milk Shipped (Lbs. per FTE)</td>
<td>1,265,563</td>
<td>1,474,147</td>
<td>1,493,619</td>
<td>1,486,191</td>
<td>1,486,191</td>
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<tr>
<td>Return on assets</td>
<td>4.8%</td>
<td>10.4%</td>
<td>11.0%</td>
<td>11.2%</td>
<td>11.3%</td>
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You are welcome to follow along with us as grazing evolves in Missouri

http://agebb.missouri.edu/dairy/grazing/
Missouri Dairy Grazing Conference
July 8-10, 2009
Joplin, Missouri
Learn more by visiting us at:
http://agebb.missouri.edu/dairy/grazing/conference
600 Cow Model vs USDA Dec. Cost of Milk Production

The chart shows the cost of milk production in various states, categorized into operating costs (except labor), allocated overhead, and labor. The states included are Missouri Grazing 600-cow, California, Texas, Wisconsin, Georgia, Idaho, Missouri, and Kentucky.