US & Kansas Dairy Industry Trends

Southwest Extension Update

November 13, 2012

Mike Brouk

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Changes in the Number of US Dairy Cows and Total Milk Production from 1925 to 2011

Compiled from: NASS Quick Stats

<table>
<thead>
<tr>
<th>Year</th>
<th>Cows</th>
<th>Total Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>25 million</td>
<td>119,828 million lbs</td>
</tr>
<tr>
<td>2011</td>
<td>9.2 million</td>
<td>196,245 million lbs</td>
</tr>
</tbody>
</table>

36.8% of cows = 164% of milk

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Average US Milk Production per Cow and Milk Fat Percent from 1925 to 2011

Compiled from: USDA Statistical Bulletin 303, 430


<table>
<thead>
<tr>
<th>Year</th>
<th>Milk Fat (%), lb/cow</th>
<th>Milk Fat, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1945</td>
<td>3.5</td>
<td>4,000</td>
</tr>
<tr>
<td>2011</td>
<td>3.9</td>
<td>16,000</td>
</tr>
</tbody>
</table>

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Changes in US Dairy Farm Numbers and Cows per Farm from 1965 to 2011

Compiled from: NAIS Quick Stats

<table>
<thead>
<tr>
<th>Year</th>
<th>Operations</th>
<th>Cows/Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>60,000 dairy farms</td>
<td>153 cows/farm</td>
</tr>
</tbody>
</table>
**Trends in Dairy Farm Size**

Data Source: NASS – Quick Stats

**Trends in Cattle Ownership by Dairy Farm Size**

Data Source: NASS – Quick Stats

**Trends in Milk Production by Dairy Farm Size**

Data Source: NASS – Quick Stats

**Summary of Operation Size**

- **500 - 1,000 Milking Cows**
  - 1,650 farms or 2.8% of operations
  - 12.3% of cattle & 12.6% of milk production

- **1,000 – 2,000 Milking Cows**
  - 950 farms or 1.6% of operations
  - 13.7% of cattle & 15.7% of milk production

- **Over 2,000 Milking Cows**
  - 800 farms or 1.3% of operations
  - 32.5% of cattle & 34.6% of production

5.7% of operations own 58.5% of cattle and produce 62.9% of the milk
Changes in KS Milk Cow Numbers

Cows, 1,000's

2011 – 123,000 cows

Changes in KS Milk Production per Cow

Annual Pounds of Milk per Cow

2011 – 21,057 lb per cow

Changes in KS Milk Production

Annual Pounds of Milk, millions

2011 - 2,590 million pounds
KS Dairy Industry Trends

50% Increase in Dairy Cattle Since 1996

Data Source: NASS Quick Stats

KS Dairy Industry Trends

44% Increase in Production Per Cow

Data Source: NASS Quick Stats

KS Dairy Industry Trends

More Than Doubled Milk Production

Data Source: NASS Quick Stats

KS Dairy Industry Trends

57% Decrease in Total Dairy Farm Numbers

Data Source: Kansas Department of Agriculture
Milk-Feed Ratio

- Feed Value (FV) ($/cwt) is the sum of:
  - $51/56 \times$ corn price ($/bu)
  - $8/60 \times$ Soybean price ($/bu)
  - $41/2000 \times$ Price of Alfalfa Hay ($/ton)

- Milk-feed ratio = $P_{\text{milk}}/FV$
  - $P_{\text{milk}}$ = milk price ($/cwt$)
Current Ratio for KS

- Prices
  - Corn = $7.50/bu
  - Soybean = $15.00
  - Alfalfa Hay = $250/ton
  - Milk = $20.50/cwt

- Calculations
  - FV = 51/56 x $7.50 + 8/60 x $15.00 + 41/2000 x $250 = $13.96/cwt
  - Milk-Feed = $20.50 / $13.96 = 1.47

Why Dairy in Western KS

- Community Interest and Acceptance
- Resources
  - Land
  - Forages
  - By-products
  - Labor
- Environment
- Workable Nutrient Management Regulations
### Annual Economic Impact of a Dairy Cow

- **Direct**
  - Milk Sales: $4,600
  - Calf: $200
  - Cull: $300
  - **Total Direct**: $5,100
- **Indirect**
  - Wages, Services: $2,907
- **Induced**
  - Employee Purchases, Supply Purchases: $1,075
- **Total**: $9,082

### Annual Feed Requirements

- 7.5 tons Corn Silage
- 1.5 tons Alfalfa Hay
- 1.5 tons corn or sorghum
- 0.60 ton of byproducts
- 0.75 ton protein supplements
- 0.4 tons of mineral and vitamins

### Impact of 70,000 Cows

- **Direct**: $357,000,000
- **Indirect**: $203,490,000
- **Induced**: $75,250,000
- **Total**: $635,740,000

### Potential Challenges

- Water
- Milk Marketing
- Labor Sources
- Technical Services
Potential Future Growth

- Increased number of dairy units
- Expansion of current dairies
- Calf and heifer development
- Improved milk production
- Service industries

Opportunities

Farm to Table
- Large Scale
  - McCarty – Dannon
  - Forget-Me-Not – Dean Foods
  - Milk Concentration
- Medium Scale
  - On-farm Processing
    - Hildebrand, Iwig, Wiebe
- Small Scale
  - Home Delivery
  - Emrich

Summary

- Positive Growth in KS Dairy Industry
- Challenges
  - Labor
  - Economics
  - Water
  - Marketing Options
  - Feed/Forage
  - Co-Products