Dairy Growth Coming Back to Upper Midwest

2005 vs. 2015

Source: The McCully Group
Major US Plant Investments – 2013-17 + Outlook

Legend
Red = Milk Powder
Blue = Cheese/Whey
Black = Other

Potential New Plant 2018-2020

Source: The McCully Group
# Milkfat Demand Surging Across All Products

## 2016 YTD (thru 12/25)

<table>
<thead>
<tr>
<th>Product</th>
<th>Volume % Chg.</th>
<th>Vol. Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Fat</td>
<td>+5.0%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Reduced Fat</td>
<td>-3.0%</td>
<td>37.0%</td>
</tr>
<tr>
<td>Low Fat</td>
<td>-5.6%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Fat Free</td>
<td>-13.5%</td>
<td>10.0%</td>
</tr>
</tbody>
</table>

## 2016 YTD (thru 11/27)

<table>
<thead>
<tr>
<th>Product</th>
<th>Volume % Chg.</th>
<th>Volume Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Fat</td>
<td>3.2%</td>
<td>90.3%</td>
</tr>
<tr>
<td>Low/No/Reduced Fat</td>
<td>-6.2%</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

## Volume Share

- Whole Fat: 48.4%
- Low/No/Reduced Fat: 39.9%
- Other: 11.0%
U.S. Dairy Herd Stabilized when Dairy Exports Took Off

- **Average number of milk cows in the U.S.**
- **Exports as % of U.S. Milk Solids**
USDA projects US milk production to grow +2.1% in 2017
NZ 2-3% contraction; EU 2H growth offsets 1H contraction
Milk Production Trends in Selected Midwest States

### 2015 Milk Production

- **MN**: 10,000
- **IA**: 8,000
- **KS**: 6,000
- **SD**: 4,000
- **IL**: 2,000
- **MO**: 0
- **NE**: 0
- **OK**: -3.3%
- **ND**: 3.6%
- **AR**: -14.1%

### Sep-16 Year-to-Date Growth/Contraction

- **MN**: 2.3%
- **IA**: 2.7%
- **KS**: 2.9%
- **SD**: 9.0%
- **IL**: 0.5%
- **MO**: 0.1%
- **NE**: 8.3%
- **OK**: -3.3%
- **ND**: 3.6%
- **AR**: -14.1%
2017 Milk Production Forecasts for Selected Midwest States

**2016 Midwest Milk Production**
- MN
- IA
- KS
- SD
- IL
- NE
- MO
- OK
- ND
- AK

**2017 Midwest Milk Growth Projection**
- MN: 1.5%
- IA: 1.8%
- KS: 2.5%
- SD: 6.7%
- IL: 0.1%
- NE: 1.0%
- MO: -1.1%
- OK: -1.6%
- ND: -3.9%
- AK: -7.7%

**Graph Details**
- Y-axis: 2016 Midwest Milk Production (Mil Lbs.)
- X-axis: 2017 Midwest Milk Growth Projection (Mil Lbs.)
Minnesota Dairy Sector By Numbers

Licensed Dairy Farms in 2015: 3,470

Number of plants by products:
- Cheese: 15
- Milk Powder: 4
- Butter: 6
- Fluid Milk: 17
- Soft Products: 11
- Dairy Ingredients: 22
### Total Economic Impact of Minnesota Dairy Production and Processing Industry

<table>
<thead>
<tr>
<th>Effect Type</th>
<th>Output, Millions of 2016 Dollars</th>
<th>Employment</th>
<th>Labor Income, Millions of 2016 Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td>4,928</td>
<td>5,751</td>
<td>411</td>
</tr>
<tr>
<td>Indirect</td>
<td>4,483</td>
<td>15,376</td>
<td>1,197</td>
</tr>
<tr>
<td>Induced</td>
<td>1,471</td>
<td>10,600</td>
<td>492</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,882</strong></td>
<td><strong>31,727</strong></td>
<td><strong>2,099</strong></td>
</tr>
</tbody>
</table>

Estimates by University of Minnesota Extension, Preliminary

Total economic activity generated by a single dairy cow is $23,656 with value added of $7,803 per cow.
Minnesota: Land Of Dairy Sustainability & Innovation

2017
Jer-Lindy Farms LLC
Innovative Dairy Farm of the Year

Three-year in a row Minnesota Dairies winning U.S. Dairy Sustainability Awards:
2014: Marshik Dairy, Pierz, Minnesota
2015: Dorrich Dairy, Glenwood, Minnesota
2016: Jer-Lindy Farms LLC, Brooten, Minnesota
Results from a 2016 study on processing opportunities to capture higher butterfat prices

• Lack of regional balancing capacity limits producer growth opportunities as long-distance milk hauling can lead to premium erosion in the marketplace.

• Key challenge: comparative regional milk costs.

• Not just about cream. Diverting milk away from cheese plants to butter churns does not necessarily translate to higher returns for producers... unless the skim is diverted into a higher paying use than cheese.

• Producer involvement – through cooperative investment or producers themselves – may be necessary maintain current growth trajectory. Stringing together a few investments in low-volume, high-value-added segment could help to support further growth in the region.