California Dairy Information

Packaged Fluid Milk in California

Percentage of Total Fluid Milk Products Sold, by Size of Container
October of Selected Years: 2002, 2003, and 2004

<table>
<thead>
<tr>
<th>Year</th>
<th>3, 5, 6 Gallon</th>
<th>1 Gallon</th>
<th>1/2 Gallon</th>
<th>Quart</th>
<th>1/3 Quart (10 oz.)</th>
<th>Pint</th>
<th>1/2 Pint &amp; (8 oz. Pouch)</th>
<th>4 oz. (Pouch)</th>
<th>12, 14 oz.</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1.16%</td>
<td>68.80%</td>
<td>14.74%</td>
<td>2.45%</td>
<td>0.68%</td>
<td>2.16%</td>
<td>9.80%</td>
<td>0.06%</td>
<td>0.13%</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>1.15%</td>
<td>68.15%</td>
<td>16.18%</td>
<td>2.87%</td>
<td>0.63%</td>
<td>2.19%</td>
<td>8.75%</td>
<td>0.06%</td>
<td>0.23%</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>1.02%</td>
<td>69.49%</td>
<td>15.08%</td>
<td>2.52%</td>
<td>0.41%</td>
<td>1.97%</td>
<td>8.82%</td>
<td>0.09%</td>
<td>0.35%</td>
<td>0.26%</td>
</tr>
</tbody>
</table>

Percentage of Total Fluid Milk Products Sold, by Type of Container
October of Selected Years: 2002, 2003, and 2004

<table>
<thead>
<tr>
<th>Year</th>
<th>Glass</th>
<th>Paper</th>
<th>Plastic</th>
<th>Bag</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>0.07%</td>
<td>21.12%</td>
<td>77.66%</td>
<td>1.15%</td>
</tr>
<tr>
<td>2003</td>
<td>0.04%</td>
<td>19.11%</td>
<td>80.11%</td>
<td>0.96%</td>
</tr>
<tr>
<td>2004</td>
<td>0.06%</td>
<td>17.17%</td>
<td>82.28%</td>
<td>0.47%</td>
</tr>
</tbody>
</table>

- The top three containers of fluid milk sold in California were: gallon plastic containers (69%); half gallon paper containers (8%); and half gallon plastic containers (7%)
- The container showing the largest growth in sales was the 14-ounce container, increasing from 27,680 in October 2003, to 1.9 million containers sold in October 2004
- Sales of fluid milk in paper containers continued to decrease, down 4% over the last three years
- The proportion of fluid milk products sold in plastic containers increased, continuing a long-term trend of growth
- The gallon size container continued to be the most utilized size container for fluid milk products, followed by the half gallon and half pint containers, respectively

(See Page 28 for details on this report)

2004 California Cheese Production Sets Record . . .
Approaches Two Billion Pounds

California Cheese Production, by Type of Cheese

Mozzarella cheese continues to dominate overall cheese production. Annual total cheese production has grown 15.8% since 2002.

California Cheese Production, 1944 - 2004

1944: 13.0 Million
1954: 15.6 Million
1964: 19.6 Million
1974: 66.4 Million
1984: 304.8 Million
1994: 972.8 Million
2004: 1,994.7 Million

2004 Class 4b Production Percent of Total, by Type of Cheese

- Provolone: 44%
- Parmesan: 15%
- Monterey: 5%
- Cheddar: 4%
- Mozzarella: 3%
- Hispanic: 2%
- Other Cheese: 2%
The dairy landscape in California is changing, dairies continue to relocate or shut down at an increasing rate. In 2004, nine counties recorded a net loss of 57 dairies, with San Bernardino and Riverside counties accounting for 34 of those dairies, possibly contributing to the shift in dairy growth to the north. The majority of the increases in dairy operations were recorded in the Central and Northern California valley counties. The numbers represent the changes in the number of dairies in comparison to 2003.

Changes in Number of Dairies, 2003 to 2004:

- **Counties recording an increase**
  - Merced, Madera, Fresno, Kings, Tulare, and Kern counties added 36 dairies and now account for 49% of all California dairies in 2004.
- **Counties recording a decrease**
  - Contra Costa, Placer, San Luis Obispo, Santa Cruz, Sutter, Los Angeles, Mendocino, Santa Barbara, and Santa Clara counties now have only 1 or 2 operating dairies in their counties.
- **Counties recording no change**
- **Counties recording no operating dairies**
  - In the past four years, these five counties have recorded a net gain of 75 dairies.
  - In the past four years, these two counties have recorded a net loss of 77 dairies.
California’s share of U.S. production for all dairy products listed above, with the exception of Cheddar cheese, exceeded the twelve Other West States’ share of U.S. production for those products in 2004.

California continued to capture a significant share of total U.S. production of farm milk (21.4%); total cheese (22.5%); Mozzarella cheese (30.5%); Cheddar cheese (19.4%); whey protein concentrate (39.0%); nonfat dry milk (53.2%); butter (32.3%); and ice cream (13.6%).

For all of the listed dairy products, California’s share of the nation’s production exceeds its population share (12%), enabling California to be self-sufficient in these products.

Sources: Preliminary 2004 data from CDFA, USDA/NASS; U.S. Census Bureau
The year 2004 showed a 8.9 percent increase in total cheese production to a record setting 1.99 billion pounds as compared to 2003.
2004 U.S. Dairy Product Exports - Where Did They Go?

Total U.S. Dairy Exports were valued at $1.49 billion in 2004, up 39% from last year’s total value.

- Skim Milk Powder: 75% increase
- Fluid Milk & Cream: 7% decrease
- Butter: 76% decrease
- Cheese: 18% increase

U.S. Dairy Exports
- Mexico: 35%
- Far East: 34%
- Canada: 13%
- Caribbean: 9%
- Middle East: 8%
- Central America: 6%
- Europe: 4%

Asia
- Total U.S. Dairy Exports were valued at $1.49 billion in 2004, up 39% from last year’s total value.
- Export Tidbits:
  - On an aggregate volume basis, exports reached 1.6 billion lbs. of total milk solids in 2004, up 31% from 2003; representing 7.4% of U.S. milk solids production, compared with 5.6% in 2003.
  - For the last five years, milk solids exports have increased by 560 million lbs, while U.S. production of milk solids has increased 1.1 billion lbs, hence more than half of the milk solids growth over the last five years has been sold to overseas markets.
  - Skim Milk Powder exports showed the largest gain, up 75% over 2003: shipments to Mexico were up 56% and Southeast Asia receive three times their previous year’s shipments. Nearly 28.4 million lbs. were sold to Cuba, the first significant dairy sales to this nation in more than 40 years.
  - Cheese exports were up 18% over 2003 (one-third of the increase can be attributed to the Cooperatives Working Together Program). Sales to Mexico and Japan increased 32% and 19%, respectively.
  - Combined, Canada and Mexico accounted for 94% of U.S. fluid milk and cream exports.

Sources: U.S. Dairy Export Council
### Dairy Product Production in The West Continues Climb...

**U.S. Regional Production of Butter, Cheese, Milk, Nonfat Dry Milk, and Ice Cream**

**Percent Change in Production from 1999 to 2004**

<table>
<thead>
<tr>
<th>Region</th>
<th>Fluid Milk</th>
<th>Ice Cream</th>
<th>Nonfat Dry Milk</th>
<th>Butter</th>
<th>Cheese</th>
</tr>
</thead>
<tbody>
<tr>
<td>West</td>
<td>+22%</td>
<td>-6%</td>
<td>+7%</td>
<td>+17%</td>
<td>+35%</td>
</tr>
<tr>
<td>West North Central</td>
<td>-7%</td>
<td>+22%</td>
<td>-7%</td>
<td>-38%</td>
<td>-20%</td>
</tr>
<tr>
<td>East North Central</td>
<td>+2%</td>
<td>+16%</td>
<td>-3%</td>
<td>-39%</td>
<td>+9%</td>
</tr>
<tr>
<td>South Central</td>
<td>-9%</td>
<td>-12%</td>
<td>+9%</td>
<td>+8%</td>
<td>+80%</td>
</tr>
<tr>
<td>Atlantic</td>
<td>-7%</td>
<td>-17%</td>
<td>-32%</td>
<td>-28%</td>
<td>+2%</td>
</tr>
</tbody>
</table>

Comparing 1999 to 2004:
- The West region showed increased production in all categories except ice cream.
- The West North Central region continues to grow in ice cream production, but posted declines in the other four categories.
- The production of nonfat dry milk and butter continues to post sharp declines in the West North Central, East North Central, and Atlantic regions.
- None of the regions reported growth in all five product categories.
- In 2004, the West accounted for major percentages of the U.S. production: 40% fluid milk; 23% ice cream; 78% nonfat dry milk, 44% butter, and 41% cheese.

Sources: NASS Dairy Product and Milk Production Reports
Under both California and federal milk marketing orders, minimum farmgate prices are regulated, but retail prices are not. Consumers often assume that most of their milk dollar goes to dairy farmers. The chart below shows that farmers receive less than half of the retail price of milk.

### Average Retail Prices per Gallon

<table>
<thead>
<tr>
<th>Milk Type</th>
<th>Typical Retailer Costs Plus Profits</th>
<th>Typical Processor/Distributor Costs Plus Profits</th>
<th>Typical Producer Costs Plus Profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Milk</td>
<td>$0.95</td>
<td>$0.73</td>
<td>$1.41</td>
</tr>
<tr>
<td>Reduced Fat Milk (2%)</td>
<td>$0.96</td>
<td>$0.73</td>
<td>$1.20</td>
</tr>
<tr>
<td>Lowfat Milk (1%)</td>
<td>$1.14</td>
<td>$0.73</td>
<td>$1.05</td>
</tr>
<tr>
<td>Nonfat Milk</td>
<td>$0.79</td>
<td>$0.73</td>
<td>$0.93</td>
</tr>
</tbody>
</table>

Costs to meet California's higher nutritional standards ($0.08 {3%} for reduced fat milk; $0.15 {5%} for lowfat milk)

Retail price data for Sacramento for May 2005 obtained from A.C. Nielson Company

**Sacramento, May 2005**

California Department of Food and Agriculture
A.G. Kawamura, Secretary

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August 2005
California’s San Joaquin Valley Scores Big On Milk Production . . .

What Role Does the Area Temperature and Rainfall Play?

The San Joaquin Valley is home to some of California’s highest milk producing dairy counties. The area consists of eight counties: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Kern, and Tulare. Together, these counties account for 83% of California’s milk production, more than 2.6 billion pounds of milk per month, or approximately 17% of the nation’s monthly milk production.

The graph below shows the effect of temperature on milk production in the San Joaquin Valley. Note that when temperatures are high, milk production is low, but when temperatures begin to fall, milk production increases. Also, the highest rainfall months for this area, November and February, consistently show dips in milk production, even though temperatures are cool/mild and when the rains are beginning to slow in the month of March, milk production climbs.

Comparing Average Mean Temperature with Average Milk Production
San Joaquin Valley Area: July 2003 - June 2005

Sources: USDA California Agricultural Statistics Service, CDFA Dairy Marketing Branch
Temperature and Rainfall data taken from monthly averages of the following areas: Stockton, Fresno, Bakersfield. Average milk production data included the eight San Joaquin Valley counties listed above.
A Glimpse at Transporting Milk in California . . .

In July 2005, there were 684 California dairies producing over 1.5 million pounds of milk per month, a volume of milk approximating one tanker load per day. These tanker loads require only one stop to be at capacity, making them quickly mobile and easily directed to various locations as needed.

- These 684 producers account for 37% of the state’s dairy producers, yet produce 72% of the state's total milk production.
- Of the 684 dairies producing over 1.5 million pounds per month, 251 of those dairies were producing over 3.0 million pounds or the equivalent of two tanker loads per day.
- As a comparison, the Central Federal Milk Order, comprised of 18 milk-producing states, published a document reporting 119 dairies (only 1.8% of the total dairies) in that federal order produced over 1.5 million pounds in October 2003.

### California Farms Producing Over 1.5 Million Lbs. Per Month - By Region, July 2005

<table>
<thead>
<tr>
<th>Region</th>
<th># Farms Producing Over 1.5 Million Lbs (At Least 1 Tanker/Day)</th>
<th>% of Total California Milk Production</th>
<th>% of Total California Dairies</th>
<th>Of the Farms Producing Over 1.5 Million Lbs: # Farms Producing Over 3.0 Million Lbs (At Least 2 Tankers/Day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Coast</td>
<td>12</td>
<td>0.8%</td>
<td>0.6%</td>
<td>0</td>
</tr>
<tr>
<td>North Valley</td>
<td>230</td>
<td>22.5%</td>
<td>12.3%</td>
<td>76</td>
</tr>
<tr>
<td>South Valley</td>
<td>352</td>
<td>41.9%</td>
<td>18.9%</td>
<td>160</td>
</tr>
<tr>
<td>Southern California</td>
<td>90</td>
<td>7.0%</td>
<td>4.8%</td>
<td>15</td>
</tr>
<tr>
<td>Totals</td>
<td>684</td>
<td>72.1%</td>
<td>36.6%</td>
<td>251</td>
</tr>
</tbody>
</table>

Sources: California Department of Food and Agriculture
Milk Pooling and Dairy Marketing Branches
**U.S. Fluid Milk Per Capita Consumption and U.S. Fluid Milk Commercial Processing Plants**

### U.S. Fluid Milk, Per Capita Consumption, 1975-2004

**U.S. Per Capita Consumption**
- From 1950 to 2004, whole milk had the largest decline in per capita consumption.
- At the same time, lowfat milk has remained steady in per capita consumption and at times has been on the increase.
- Since 1990, whole milk and reduced fat milk per capita consumption levels have been relatively the same.

### U.S. Fluid Milk Commercial Processing Plants, 1950-2004

**U.S. Fluid Milk Processing Plants**
- In the U.S. today, the number of operating fluid milk processing plants only represent 4% of the number of fluid milk plants operating in 1950.
- However, the fluid milk processing plants of today are, on average, processing 40 times more fluid milk than the fluid milk plants of 1950.

Sources: Livestock, Dairy and Poultry Outlook; USDA Economic Research Service