

# **National Dairy Situation and Outlook**

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# **We need to first review how we ended 2007:**

- Producers respond to recent past as well as anticipated prices.
- Consumers and users of milk and dairy products respond to past or anticipated prices.
- Factors that existed in 2007 may be different in 2008

# 2007 was a year of record prices

| Price          | 2007<br>(\$/Cwt.) | 2006<br>(\$/Cwt.) | Previous record<br>(\$/Cwt & year) |
|----------------|-------------------|-------------------|------------------------------------|
| Class III      | \$18.04           | \$11.89           | \$15.39 in 2004                    |
| Class IV       | \$18.36           | \$11.06           | \$14.85 in 1998                    |
| Class II       | \$18.36           | \$11.76           | \$14.53 in 2001                    |
| Class I mover  | \$18.75           | \$11.90           | \$15.38 in 2004                    |
| All Milk Price | \$19.15           | \$12.90           | \$16.05 in 2004                    |

# **Factors contributing to record milk prices were:**

- Depressed milk prices coupled with high feed and energy prices in 2006 held milk production growth to about 1% first half of the year.
- Lower production of cheddar cheese—the only cheese traded on the CME
- Favorable commercial sales of dairy products
- Record commercial dairy exports
- Tight stocks of nonfat dry milk and cheddar cheese

# Milk Supply and Demand

| Factor                                  | 2006   | 2007              | Percent Change |
|---|--------|-------------------|----------------|
| Milk cows<br>(1,000 head)               | 9,112  | 9,153             | +0.45          |
| Milk per cow<br>(pounds)                | 19,951 | 20,277            | +1.63          |
| Total milk<br>(Bill. Lbs.)              | 181.8  | 185.6             | +2.09          |
| Commercial<br>disapp. (Bill.<br>Lbs.)   | 184.3  | 188.6             | +2.3           |
| Exports (Bill.<br>Lbs. total<br>solids) | 2.092  | 2.7<br>(Estimate) | +28.0          |

# 100 Percent probability for lower prices in 2008.

- **Question:** *How much lower?????*
- **Why lower?**
  - Higher milk production*
  - Higher dairy product production*
  - Possibly slower growth in domestic consumption*
  - Possibly slower growth in dairy exports*
- **Let's look at trends entering into 2008**

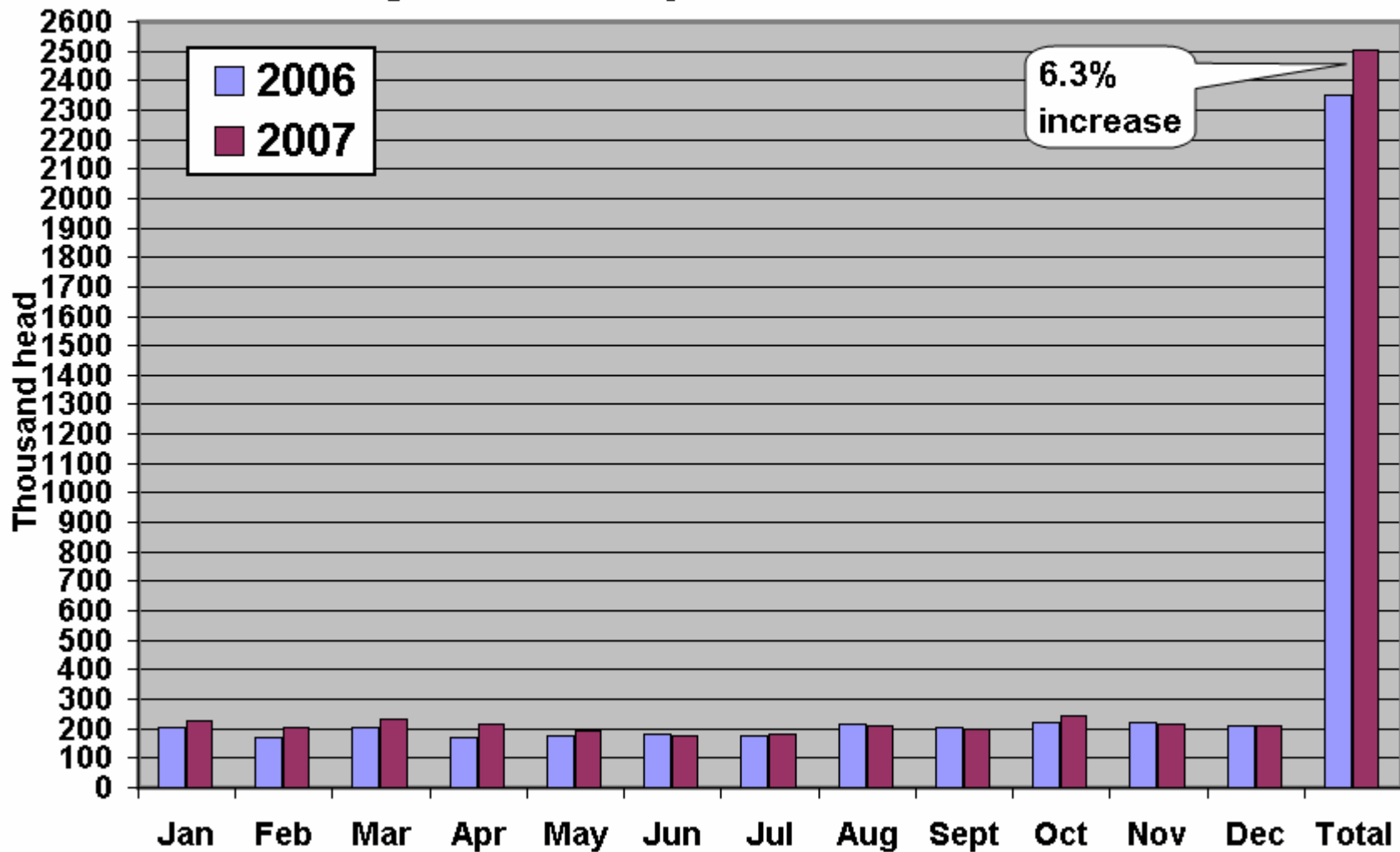
## U.S. milk production, 2006 -2007

| <b>Month</b> | <b><i>2006 production<br/>(Mill. Lbs.)</i></b> | <b><i>2007 production<br/>(Mill. Lbs.)</i></b> | <b><i>Percent<br/>Change</i></b> |
|--------------|--|--|----------------------------------|
| January      | 15,343   | 15,585   | +1.58                            |
| February     | 14,238   | 14,298   | +0.42                            |
| March        | 15,966   | 16,123   | +0.98                            |
| April        | 15,538   | 15,764   | +1.45                            |
| May          | 16,068   | 16,205   | +0.85                            |
| June         | 15,324   | 15,460   | +0.89                            |
| <b>July</b>  | 15,168   | 15,713   | <b>+3.59</b>                     |
| August       | 15,061   | 15,535   | +3.15                            |
| September    | 14,481   | 14,871   | +2.69                            |
| October      | 14,857   | 15,391   | +3.59                            |
| November     | 14,523   | 15,018   | +3.41                            |
| December     | 15,231   | 15,636   | +2.66                            |
| <b>Total</b> | <b>181,798</b>                                 | <b>185, 599</b>                                | <b>+2.09</b>                     |

## U.S. milk cows and milk per cow, 2006 – 2007

| Month            | Cow numbers (1,000 head) |              |              | Milk per cow (pounds) |               |              |
|------------------|--------------------------|--------------|--------------|-----------------------|---------------|--------------|
|                  | 2006                     | 2007         | % Change     | 2006                  | 2007          | % Change     |
| January          | 9,081                    | 9,130        | +0.54        | 1,690                 | 1,707         | +1.01        |
| February         | 9,088                    | 9,126        | +0.42        | 1,567                 | 1,567         | +0.00        |
| March            | 9,106                    | 9,134        | +0.31        | 1,753                 | 1,765         | +0.68        |
| April            | 9,116                    | 9,122        | +0.07        | 1,705                 | 1,728         | +1.35        |
| May              | 9,129                    | 9,128        | -0.01        | 1,760                 | 1,775         | +0.85        |
| June             | 9,139                    | 9,136        | -0.03        | 1,676                 | 1,692         | +0.95        |
| July             | 9,119                    | 9,150        | +0.42        | 1,663                 | 1,717         | +3.25        |
| August           | 9,114                    | 9,157        | +0.47        | 1,653                 | 1,697         | +2.66        |
| September        | 9,107                    | 9,161        | +0.59        | 1,590                 | 1,623         | +2.08        |
| October          | 9,107                    | 9,177        | +0.77        | 1,631                 | 1,677         | +2.82        |
| November         | 9,111                    | 9,196        | +0.93        | 1,594                 | 1,633         | +2.45        |
| December         | 9,126                    | 9,211        | +0.93        | 1,669                 | 1,698         | +1.74        |
| <b>Ann. Avg.</b> | <b>9,112</b>             | <b>9,153</b> | <b>+0.45</b> | <b>19,951</b>         | <b>20,277</b> | <b>+1.63</b> |

## Slaughter of dairy cows: 2006 & 2007



# Higher feed prices

*Change from 2006*

- December Alfalfa Hay:

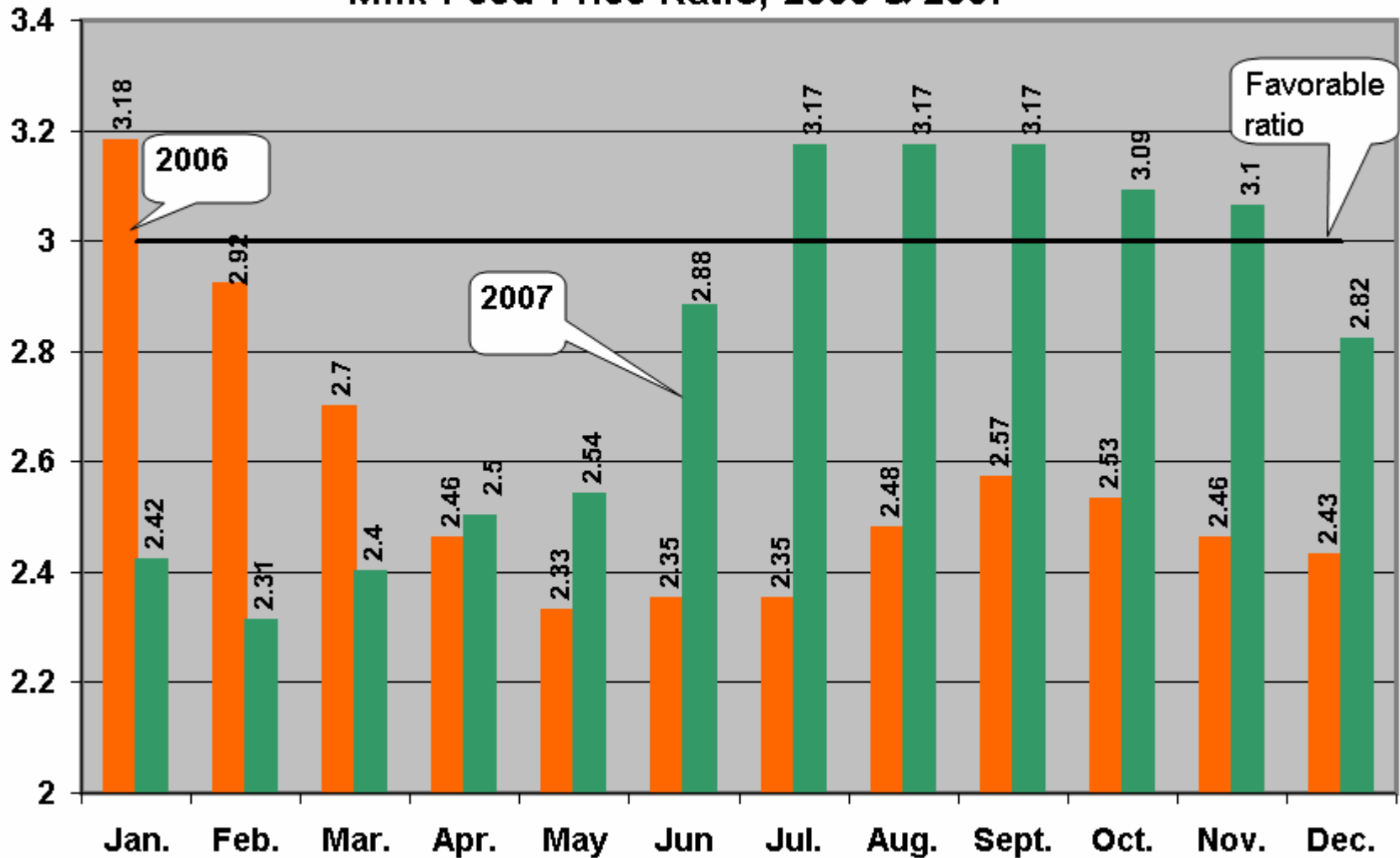
|           |             |             |             |
|-----------|-------------|-------------|-------------|
| <i>CA</i> | <i>+44%</i> | <i>PA</i>   | <i>+35%</i> |
| <i>ID</i> | <i>+22%</i> | <i>TX</i>   | <i>+0%</i>  |
| <i>MN</i> | <i>+68%</i> | <i>WI</i>   | <i>+66%</i> |
| <i>NY</i> | <i>+6%</i>  | <i>U.S.</i> | <i>+23%</i> |

- December corn and soybeans:

*Corn \$3.88/bu. +29%*

*Soybeans \$10.40/Bu. +68%*

## Milk-Feed-Price Ratio, 2006 & 2007



Source: USDA, AMS

## Dairy Product Production: November 2006 - 2007

| Product         | Change from 2006 | Year-to-date change |
|-----------------|------------------|---------------------|
| Butter          | +11.7%           | +6.0%               |
| Cheddar cheese  | +2.2%            | -2.2%               |
| Mozzarella      | +4.6%            | +4.6%               |
| Total cheese    | +1.2%            | +1.4%               |
| Nonfat dry milk | +27.9%           | +7.7%               |
| Dry whey        | +9.0%            | +2.8%               |

## Retail Prices: November 2007

| Product            | Percent change from 2006 |
|--------------------|--------------------------|
| All Food           | +4.8%                    |
| All Dairy Products | +14.0%                   |
| Fresh Whole Milk   | +22.9%                   |
| Cheese             | +13.0%                   |
| Butter             | +2.5%                    |

# Commercial Disappearance: Jan. – Oct., 2007

*Percent change from 2006*

| Product            | Percent Change |
|--------------------|----------------|
| All Dairy Products | +2.2%          |
| Butter             | +6.8%          |
| American Cheese    | -0.9%          |
| Other Cheese       | +4.2%          |
| Nonfat Dry Milk    | +0.7%          |
| Fluid              | 0.0%           |

## Dairy Exports:

2006 = \$2.335 Billion

*2.092 Billion Pounds Total Solids*

*9.3% of U.S. Milk Supply*

2007 = \$3 Billion (+28%)

*2.7 Billion Pounds Total Solids (+20%)*

*11.2% of U.S. Milk Supply*

# Dairy Stocks

(million pounds)

| Product         | Dec. 31 <sup>st</sup> stocks | Percent Change from 2006 |
|-----------------|------------------------------|--------------------------|
| Butter          | 155.597                      | +43.3%                   |
| American cheese | 519.12                       | -2.82%                   |
| Total cheese    | 794.881                      | -2.76%                   |
| Dry whey        | 52.628                       | +51.0%                   |
| WPC             | 26.056                       | +2.2%                    |
| NFD milk        | 150.00 (est.)                | +107%                    |

*Dry whey, WPC and NFD milk as of November 30<sup>th</sup>.*

# 2008 Forecast

- Continue expansion of dairy herd first half of the year—normal cow slaughter; adequate dairy replacements
- Near normal increases in milk per cow
- Milk-feed-price ratio below 3.0 will dampen milk production increase
- Increased cheddar cheese, nonfat fat dry milk, dry whey and whey protein concentrate production
- Favorable growth in commercial disappearance
- Smaller growth in volume of dairy exports (some in NFDM, dry whey, WPC; more in cheese and butter)
- Heavier stocks of cheese, nonfat dry milk and dry whey; improved butter stocks

# Milk cows and dairy replacements July 1<sup>st</sup>: 2005 - 2007

|                             | 2005  | 2006  | 2007  | 2007 vs<br>2006 |
|-----------------------------|-------|-------|-------|-----------------|
| Milk cows<br>(1,000)        | 9,050 | 9,150 | 9,150 | +0.0%           |
| Replacem<br>ents<br>(1,000) | 3,700 | 3,800 | 3,900 | +2.6%           |
| Ratio per<br>100 cows       | 40.9  | 41.5  | 42.6  | +2.7%           |

About 30 to 32% of replacements enter the herd within 12 months.

# 2008 forecast

|                                    | 2007   | 2008   | Percent Change |
|------------------------------------|--------|--------|----------------|
| Cows (1,000 head)                  | 9,153  | 9,199  | +0.5%          |
| Milk per cow (pounds)              | 20,277 | 20,642 | +1.8%          |
| Total milk production (Bill. Lbs.) | 185.6  | 189.9  | +2.3%          |
| Comm. Disappearance (Bill. Lbs.)   | 188.6  | 193.3  | +2.5%          |

## 2008 Dairy Product and Milk Price Forecast

| <b>Qtr.</b>           | <b>Cheese</b> | <b>Butter</b> | <b>Dry<br/>Whey</b> | <b>Nonfat<br/>Dry</b> | <b>Class<br/>III</b> | <b>Class<br/>IV</b> | <b>All<br/>Milk</b> |
|-----------------------|---------------|---------------|---------------------|-----------------------|----------------------|---------------------|---------------------|
| <b>1<sup>st</sup></b> | \$1.75        | \$1.25        | \$0.40              | \$1.60                | \$16.92              | \$17.16             | \$18.12             |
|                       | \$1.58        | \$1.25        | \$0.40              | \$1.50                | \$15.28              | \$16.30             | \$16.48             |
| <b>2<sup>nd</sup></b> | \$1.55        | \$1.28        | \$0.42              | \$1.50                | \$15.12              | \$16.42             | \$16.32             |
|                       | \$1.52        | \$1.40        | \$0.43              | \$1.55                | \$14.94              | \$17.35             | \$16.14             |
| <b>3<sup>rd</sup></b> | \$1.55        | \$1.40        | \$0.44              | \$1.55                | \$15.31              | \$17.35             | \$16.51             |
|                       | \$1.70        | \$1.45        | \$0.48              | \$1.60                | \$16.99              | \$18.00             | \$18.15             |
| <b>4<sup>th</sup></b> | \$1.60        | \$1.40        | \$0.50              | \$1.60                | \$16.09              | \$17.83             | \$17.29             |
|                       | \$1.50        | \$1.35        | \$0.45              | \$1.50                | \$14.84              | \$17.14             | \$15.56             |
| <b>Aver.</b>          | <b>\$1.58</b> | <b>\$1.35</b> | <b>\$0.44</b>       | <b>\$1.55</b>         | <b>\$15.59</b>       | <b>\$17.16</b>      | <b>\$16.75</b>      |

# Summary

- 2008 milk prices will decline from 2007 record.
- Yet 2008 milk prices could still be the second highest on record.
- High feed and energy prices will shrink net margins for dairy producers.
- Any major change in milk production, sales of milk and dairy products or exports may significantly change this outlook