

# DAIRY CATTLE

## Timeline of Events

### 1960's

- Artificial insemination takes hold and transforms the industry
- Refrigerated on-farm bulk tanks and separate “milk houses” began to be required by states
- Exodus to suburbs by consumers meant supermarkets now beginning to distribute milk more than local bottlers<sup>1</sup>
- Change from local bottlers to large, regional processors. Dairy co-ops consolidated
- Nearly half of the dairy farms lost in three years in mid-60's
- More than 80% of farms with cows had fewer than 20 cows
- Number of farms reporting dairy cows approximately 2 million (1959)

### 1970's

- Large dairy cooperatives rise in political influence - able to bolster price supports at or near 80% parity

### 1980's

- FDA ruled milk and meat from cows given rbST were safe for consumption<sup>2</sup>
- Animal Welfare Act - stricter guidelines affect production of veal
- Numbers of farms with cows with less than 20 cows reduced to 33% by 1987<sup>3</sup>
- Number of farms reporting dairy cows just over 200,000 (1987)<sup>3</sup>

### 1990's

- E. coli and BSE outbreaks receive front page attention - heightened awareness of food safety
- Large (300-500 cow) operations start cropping up regularly in traditional dairy areas NE and Midwest - large dairies specialize in milk production with labor and capital separate from management. Large dairies can take advantage of the efficiencies of size and scale and have highly specialized labor and management.
- Product market change - Fluid-milk prices no longer drive the industry. Cheese markets now control 90% of the Basic Formula Price, - the price driver for the industry.
- Market structure change - improved interstate highway system and consolidation of milk buyers has led to “WalMart syndrome” of buying - rather than having many suppliers selling to national milk distributors, strategic alliances are being formed between a buyer and a few selected sellers.
- Center of milk production has shifted to the West - better able to adapt to the “industrialized” model of specialized milk production.
- Shift to the west mean that the Federal Milk Marketing Orders also are obsolete -

since the upper Midwest is no longer the center of surplus milk to fill Southern needs in times of shortage

- Shift to lower California prices. California prices have averaged 80 cents/cwt less to producers than the MW/BFP price. This trend will probably continue as West Coast products dominate national product pricing <sup>1</sup>
- 1996 Federal Agriculture Improvement and Reform Act - phases out dairy price supports and reforms the Federal milk marketing order system.
- Number of dairy cows in the US declined about 40% from 1959 - 90, while milk production in this time period doubled <sup>3</sup>
- Quality assurance programs in place to increase production standards and decrease possibility of drug/toxin residues - (Milk and Dairy Beef Residue Prevention Protocol)
- NAFTA/GATT Agreement. NAFTA - eliminates restrictions to US exports and gives US preferred access to Mexican markets. GATT will reduce border protection over time.

## Trends

- Total milk production 91-96 (*graph 1.14*)  
US dairy cow population 91-96 (*graph 1.15*)  
Average milk production/cow/year 91-96 (*graph 1.16*)  
Herd size 91-96 (*graph 1.17*)  
Per capita consumption of dairy products; fluid milk and cream (*graph 4.4*)  
individual dairy products (*graph 4.5*)
- As research improves productivity there will be a need for fewer cows to meet the milk demand (if this doesn't increase) and fewer producers resulting in a decline in herd numbers (unless demand increases)
- **Larger herds**
- **More milk per cow**; The average milk/cow has increased 59% from 1975-1995 <sup>5</sup>
- **Fewer, larger dairy cooperatives**
- **Marketplace is becoming increasingly consumer driven** with major concerns being safe and nutritious food
  - More educated consumers** aware of potential problems associated with drugs, and toxic substances in the milk, and with the use of growth hormones
  - Larger population with suppressed immune systems (due to increased age, drugs, disease) - increased risk of serious complications associated with food-borne disease.
- **Concern for healthy food** - consumption of dairy products (total) has been stable since 1970 but the specific product has changed, with consumption of cheese products increasing rapidly. (*graph 4.5*) There has also been an increase in demand for dairy products with a lower fat content. (*graph 4.7*)
- Increased public awareness of how much agricultural policies cost - increasingly criticized for favoring a small segment of the population - uncertainty - may result

- in less government intervention, dismantling of government programs
- Phase out of price support level for dairy products by 2000
- Higher percentage of Grade A dairies as compared to Grade B dairies
- There has been a decline in dairy numbers in all regions except the West which has seen a moderate growth.<sup>1</sup> The top 10 milk producing states produced 64.5% of the milk in 1975, and 68% in 1995, with production increasing mostly in western states.<sup>4</sup> Will this continue?
- As developing countries become more prosperous, demand for western diet increases.
- Increased interest in hobby farming. How do we monitor these, how much of a problem will animal/public health issues be?
- Increasing interest in quality assurance programs to control zoonotic diseases.

## Uncertainties For The Future

- **Demand for milk**
- **Potential for greatest expansion from exports** - Globalization of markets. Reduction in price support will lead to increased competitiveness. Potential for expansion if US dairy products and animals are viewed as safe. Pacific Rim and China are growing economically with currently low dairy consumption, but an increasing interest in western products and diet. These countries would also be dependant on imports to fill the demand. The United States is the third largest milk producer, yet has only a small share of the world export market. About 98% of annual dairy production is consumed domestically, with only 2% exported as butter, cheese, and dry milk.<sup>6</sup> Impediments to the export market: 1) federal price support caused US prices to be higher than world prices, 2) industry has focused on production and not global consumer demand.
- Foreign dairy firms have bought into US firms to tap huge American consumer market - so far supplying the market with US produced dairy products.<sup>7</sup>
- **Perceived safety of milk** - Food Safety - Drugs, Chemicals, Infections  
Milk consumption has decreased in the past twenty years, and may continue to decline as more people eat away from home more often. If milk is perceived to be unsafe due to zoonotic infections, chemicals, drugs, etc, they may drink even less.  
- Johne's disease - NAHMS Dairy Study in 1996 found that about 22% of US dairies are infected with Mycobacterium paratuberculosis, though this varied between 20% in herds with < 50 cows, and 40% in herds with more than 300 cows. There is some concern that this may be a zoonotic disease. Controlling and reducing the incidence of this disease would not only remove potential consumer concern, and possibly increase export potential for dairy products, but would also increase productivity.  
- There are similar concerns, with regards to export potential of the U.S. dairy industry, with other infections, such as bovine leukosis.

- Although pasteurization kills many bacteria, some of the problem with zoonotic diseases may be due to fecal contamination either at slaughter, or by spillage into ground water supplies, by contact with live animals.

Development of quality assurance program and change in management practices - VS may be able to assist in verification of products. Need to erect multiple barriers - pasteurization, HACCP, milk inspection, to reduce potential for disease spread.

- **Individual farmer marketing?** Organic (non bST) milk, higher percentage of protein, or butterfat. There is a potential for smaller “hobby farm” production or niche marketing to increase. How does one control disease spread in these unsupervised areas?
- **Potential for imported disease** - must reinforce import guidelines for keeping out FADs, and have in place good emergency response

### **Sharing the Resources**

- **Urban sprawl** - the effect of having non-farming neighbors. Complaints about odors, debris on highways, etc., may force municipal governments to increase regulation of farming practices
- **Environmental issues** - spillage from manure ponds into nearby streams, surface or ground water contamination from fertilizers, use of limited water resources. Will probably cause more regulations for waste handling. Fastest growing milk states are in dry areas. May shift where milk is produced, will probably cause an increase in production costs.
- **Animal welfare** - There is some concern with large, dry lot dairies, and conditions which cause animals to become recumbent - ie lameness, metabolic diseases

### **Farmers Economic Benefits**

- How big a part will Federal and State agencies play in industry
- Survival of existing dairy farms - at risk farms are those which are partially specialized and partially integrated. These are farms who own some land, but not enough to be self sufficient and have to buy feed, and pay for outside labor and other services. The farms least at risk are those which don't need outside resources.

### References

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