Hearing Background Resource

Dairy Industry Statistics Related to Hearing Issues and the California Milk Pricing and Pooling Program

The intent of this document is to assist in the understanding of the issues raised at a public hearing, within the context of the economic regulation of the dairy industry. It applies specifically to the California Milk Pricing and Pooling programs and is also useful in understanding the operation of federal milk marketing orders.

THE CALL OF THE HEARING

The California Department of Food and Agriculture (Department) has scheduled a public hearing to consider amendments to the Stabilization and Marketing Plans for Market Milk for the Northern and Southern California Marketing Areas (Stab Plans). The hearing will be held on June 30 and July 1, 2011, at 9:00 a.m., at the Department of Food and Agriculture Auditorium, 1220 N Street, Sacramento.

The Secretary of Food and Agriculture called a public hearing in response to petitions received from California Dairies, Inc. and Land O'Lakes, Inc. to consider amendments to the Class 4a and 4b pricing formulas. In addition, the Department's Dairy Marketing Branch proposed to make administrative changes to the Class 4a and 4b pricing formulas. The hearing will also consider the factual basis, evidence and the legal authority upon which to make any and/or all of the proposed amendments to the Plans.

DEPARTMENT EXHIBITS

This document utilizes informational resources including the Departmental Exhibits. These exhibits will be made public on June 23, 2011, and will be entered into the hearing record on June 30, 2011.

ECONOMIC DAIRY REGULATIONS

California Food and Agricultural Code Section 61801, et seq., provides the authority, procedures, and standards for establishing minimum farm prices by the Department for the various classes of milk that processors (handlers) must pay for milk purchased from dairy farmers (producers). These statutes provide for the formulation and adoption of Milk Stabilization and Marketing Plans for Market Milk (Stabilization Plans).

The Gonsalves Milk Pooling Act, California Food and Agricultural Code Section 62700, et seq., authorizes the Secretary to operate a statewide pooling system under specified guidelines. These statutes provide for the formulation and adoption of Milk Pooling Plans for Market Milk (Pool Plan).

These statutes identify legal requirements and public policies that the Department is charged with implementing and enforcing. The determinations resulting from any hearing are made pursuant to the authority vested in the Department by statute and in furtherance of the important State purposes embodied in the governing statutes.

California is not part of the federal milk-marketing order system; it has its own state-specific, milk marketing program. Currently there are two marketing areas: Northern California and Southern California. Each marketing area has a separate but essentially identical Stabilization and Marketing Plan. Each plan provides formulas for pricing five classes of milk (as detailed at the end of this document). Both marketing areas are covered by the single Pooling Plan.

CALIFORNIA DAIRY INDUSTRY

In 2010, California was the largest milk producing state in the U.S. California dairy farmers marketed 40.4 billion pounds of milk, which represented 21 percent of the nation's marketings, up from 19 percent in 2000. California has also seen increases in cow numbers. In 2010, California had more cows than any other state in the U.S.: 1.86 million adult milk cows representing 20 percent of the nation's total herd, up from 17 percent in 2000.

INDUSTRY CONDITIONS RELATIVE TO THE STATUTORY CRITERIA

Legislative Declarations — The following are declarations made by the statutes under which the Pooling Plan and the Stabilization Plans are promulgated regarding the dairy industry's effects on the public's health and welfare. The pertinent Food and Agricultural Code sections follow each declaration.

1. The production and distribution of milk is a business affected with a public interest. Thus, the police powers of this state may be used for protection of the public health and welfare (§61801 and §62700).
2. The production and maintenance of an adequate supply of milk is vital to the public health and welfare (§61802(b) and §62701).
3. Health regulations alone are insufficient to prevent economic disturbances in the production of milk. Thus in the absence of economic regulation, the potential exists for economic disruption which may constitute a menace to the public health and welfare (§61802(c) and §61802(d)).
4. By threatening industry stability, unfair, unjust, destructive and demoralizing trade practices constitute a menace to the public health and welfare. Thus, the regulatory provisions should promote intelligent production and orderly marketing, and should eliminate economic waste, destructive trade practices, and improper accounting (§61802(e) and §61701).
5. To promote the public health and welfare, it is essential to establish minimum producer prices at fair and reasonable levels (§61802(h)).
6. The regulatory provisions should result in uniformity of cost to handlers and should not restrict the free movement of fluid milk (§61805(b) and §62720).
7. The regulatory provisions should help develop and maintain satisfactory marketing conditions, and bring about and maintain a reasonable amount of stability and prosperity (§61805(d)).

The relevant statutes recognize that conditions affecting the California dairy industry are subject to change over time. As such, the Department's regulation of the California dairy industry in accordance with the governing statutes and the public interest must be modified as appropriate, as necessary, to address issues created by changing conditions. In addition, a dynamic industry, such as the California dairy industry, requires that the Department ensure that economic regulations are modified when necessary to ensure that the Pooling Plan and the Stabilization Plans continue to implement state policies and promote the public health and welfare. Since the beginning of economic regulation in 1935, much has changed:

- Dramatic increases in total milk production have been matched by equally dramatic decreases in numbers of dairy farms and dairy processing plants. From 1936 to 2010, there has been a ten-fold increase in milk production from 4.2 billion pounds to 40.4 billion pounds. Data on numbers of producers and processors is not as extensive. However, from 1940 to 2010 there was a 91 percent decline in number of dairy farmers from 19,428 to 1,715. From 1960 to 2010, the number of dairy processors declined about 80 percent from 600 to 123. In addition to the decline in numbers, dairy processors have become more specialized. In 1960, many of the 600 processors made multiple class products. In 2010, most of the 123 processors specialized in only one or two classes.

- As a percent of total milk fat production, the fluid milk product share declined from 65 percent in 1952 to 9 percent in 2010 attributed to: increased milk production, decreased consumption of fluid products, and introduction of lowfat milk.
- The declining importance of milk fat has resulted in changes in producer pricing. Pricing was fat-based until 1955; fat/skim-based from 1955 to 1962; mixed fat/skim and fat/solids-not-fat-based from 1962 to 1969; and fat/solids-not-fat-based since 1969.
- The number of classes of milk has changed with changes in production and the marketing of dairy products: four classes prior to 1950; three classes from 1950 to 1968; four classes from 1968 to 1982; and five classes since 1982.
- Technology has improved the ability to ship bulk and packaged milk greater distances. Marketing areas were consolidated to reflect this technology. In the mid-1950's, there were 37 marketing areas in California; currently, there are only two.

SUPPLY, DEMAND, AND PRICES TO CONSUMERS

Many factors ultimately determine milk production. However, the most obvious ones are the number of milk cows and milk production per cow. More complex factors (output prices, input costs, weather, and environment) all affect cow numbers and production per cow.

Table 1 - COWS ON FARM

	Calif.	Other Western [1/]	Other U.S.	U.S.	Calif. Share	Other Western Share
	Milk Cows in Thousands				Percent	
2000	1,523	1,316	6,376	9,214	16.5%	14.3%
2001	1,573	1,364	6,211	9,148	17.2%	14.9%
2002	1,648	1,445	6,046	9,139	18.0%	15.8%
2003	1,688	1,487	5,909	9,084	18.6%	16.4%
2004	1,725	1,511	5,776	9,012	19.1%	16.8%
2005	1,755	1,556	5,730	9,041	19.4%	17.2%
2006	1,785	1,625	5,702	9,112	19.6%	17.8%
2007	1,813	1,648	5,697	9,158	19.8%	18.0%
2008	1,844	1,698	5,773	9,315	19.8%	18.2%
2009	1,796	1,664	5,743	9,203	19.5%	18.1%
2010	1,754	1,686	5,677	9,117	19.2%	18.5%
Percent Change						
10 year average [2/]	1.4%	2.5%	-1.2%	-0.1%		
Current [3/]	-2.3%	1.3%	-1.1%	-0.9%		

[1/] Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

[2/] 2000 to 2010

[3/] 2010 compared to 2009

Source: NASS-USDA

Table 1 shows that through 2007, California and other Western States were increasing their milk cow numbers, while in the rest of the nation, cow numbers were declining. From 2000 to 2010, California dairy cow numbers increased at a 1.4 percent annualized rate, with a 2.3 percent decrease when comparing 2010 to 2009. The year 2008 showed an increase in cow numbers for California, Western States, and the U.S., only to show a decline in 2009. In 2010, California's share of U.S. total cow numbers was 19.2 percent.

Table 2 - MILK PER COW

	Calif.	Other Western [1/]	Other U.S.	U.S.	Calif. Relative to Other U.S.	Other West Relative to Other U.S.
	Milk Per Cow In Pounds Per Year				Percent	
2000	21,169	20,805	16,992	18,227	125%	122%
2001	20,890	20,496	16,821	18,069	124%	122%
2002	21,277	21,079	17,291	18,608	123%	122%
2003	20,993	21,142	17,505	18,749	120%	121%
2004	21,139	21,140	17,728	18,953	119%	119%
2005	21,404	21,739	18,429	19,576	116%	118%
2006	21,754	21,897	18,833	19,951	116%	116%
2007	22,440	22,042	19,061	20,267	118%	116%
2008	22,344	22,511	19,150	20,395	117%	118%
2009	22,000	22,588	19,543	20,573	113%	116%
2010	23,025	23,017	20,016	21,149	115%	115%
Percent Change						
10 year average [2/]	0.8%	1.0%	1.7%	1.5%		
Current [3/]	4.7%	1.9%	2.4%	2.8%		

[1/] Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

[2/] 2000 to 2010

[3/] 2010 compared to 2009

Source: NASS-USDA

In 2000, California production per cow was 25 percent higher than the average of the rest of the nation, while in 2010, it was 15 percent higher. Comparing 2010 to 2009, California production per cow was up 4.7 percent, while U.S. milk per cow was up 2.8 percent.

Table 3 - MILK PRODUCTION

	Calif.	Other Western [1/]	Other U.S.	U.S.	Calif. Share	Other Western Share
	Milk Production in Million Pounds Per Year				Percent	
2000	32,240	27,371	108,341	167,952	19.2%	16.3%
2001	32,855	27,961	104,476	165,291	19.9%	16.9%
2002	35,065	30,459	104,539	170,063	20.6%	17.9%
2003	35,437	31,438	103,437	170,312	20.8%	18.5%
2004	36,465	31,943	102,397	170,805	21.3%	18.7%
2005	37,564	33,826	105,599	176,989	21.2%	19.1%
2006	38,830	35,582	107,386	181,798	21.4%	19.6%
2007	40,683	36,326	108,593	185,602	21.9%	19.6%
2008	41,203	38,224	110,555	189,982	21.7%	20.1%
2009	39,512	37,587	112,235	189,334	20.9%	19.9%
2010	40,385	38,806	113,628	192,819	20.9%	20.1%
Percent Change						
10 year average [2/]	2.3%	3.6%	0.5%	1.4%		
Current [3/]	2.2%	3.2%	1.2%	1.8%		

[1/] Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

[2/] 2000 to 2010

[3/] 2010 compared to 2009

Source: NASS-USDA

Table 3 shows that for 2010, milk production showed across-the-board increases compared to 2009. The net result was a 1.8 percent increase in milk production for the nation as a whole. From 2000 to 2010, California milk production increased at a 2.3 percent annualized rate, with a 2.2 percent increase when comparing 2010 to 2009. From 2000 to 2010, California's share of U.S. milk production increased from 19.2 percent to 20.9 percent. For 2010, California and the Western States accounted for 41.0 percent of the nation's milk production.

Table 4 - POOL UTILIZATION
Market Share Based on Total Solids Utilization

	Class 1	Class 2	Class 3	Class 4a	Class 4b	Total
2000	19.5%	4.5%	5.4%	31.1%	39.4%	100%
2001	18.6%	4.2%	5.2%	28.6%	43.4%	100%
2002	17.8%	4.0%	4.5%	29.8%	43.9%	100%
2003	17.7%	4.3%	4.6%	28.2%	45.2%	100%
2004	15.7%	4.2%	4.4%	29.4%	46.2%	100%
2005	14.7%	4.3%	4.1%	28.7%	48.3%	100%
2006	14.5%	4.4%	3.8%	28.8%	48.5%	100%
2007	14.3%	4.5%	3.8%	30.0%	47.4%	100%
2008	14.3%	4.5%	3.7%	34.3%	43.2%	100%
2009	15.3%	5.3%	3.9%	35.2%	40.2%	100%
2010	15.0%	5.4%	3.8%	34.8%	41.0%	100%
Percent Change						
10 year average[1/]	-2.6%	1.9%	-3.6%	1.1%	0.4%	0.0%
Current[2/]	-2.0%	2.3%	-4.2%	-1.1%	1.9%	0.0%

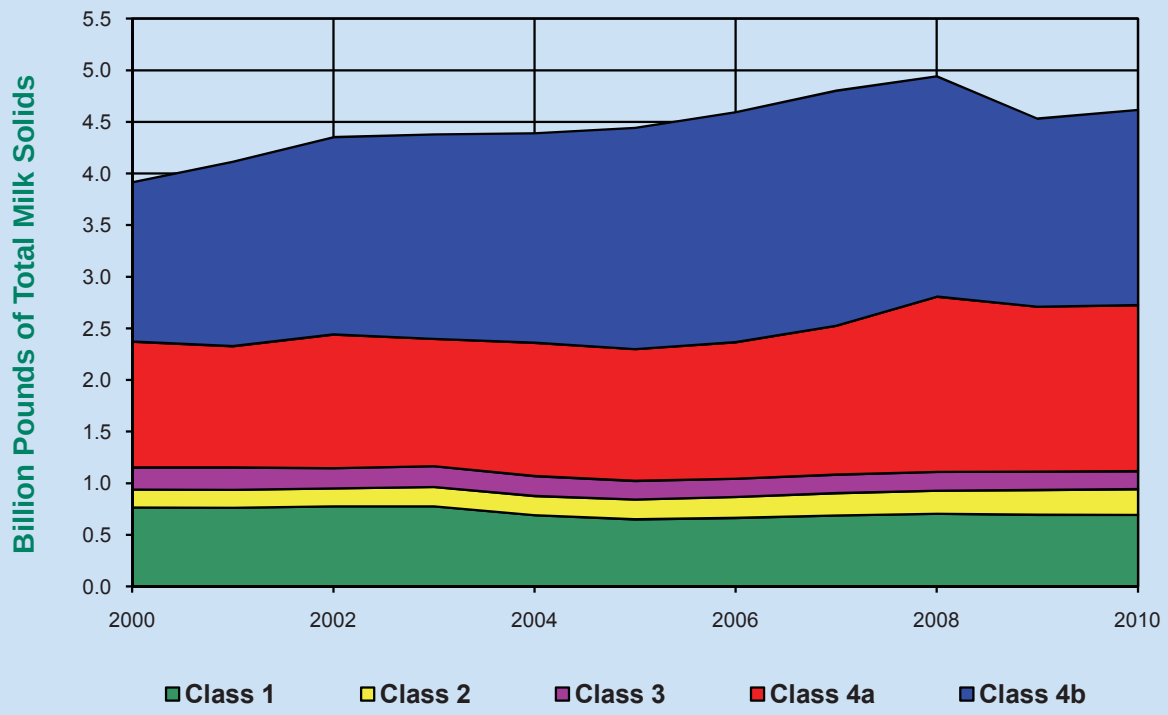
1/ 2000 to 2010

2/ 2010 to 2009

Source: CDFA

Table 4 shows the relative change in pooled milk utilization. Figure 1 shows the absolute change in utilization. Classes 4a and 4b continue to show the largest share of milk utilization.

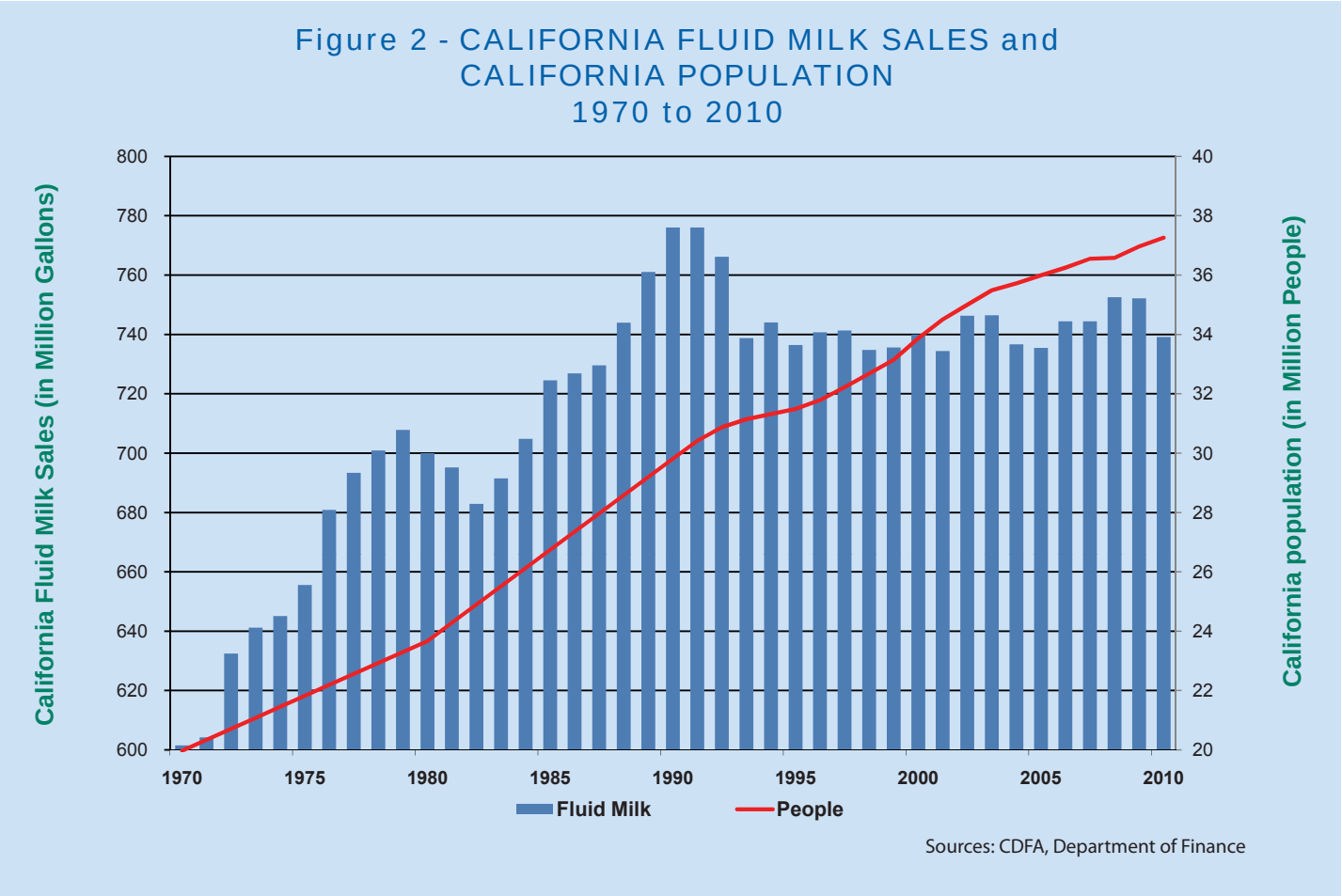
Figure 1 - HOW MILK IS UTILIZED
California, 2000 to 2010



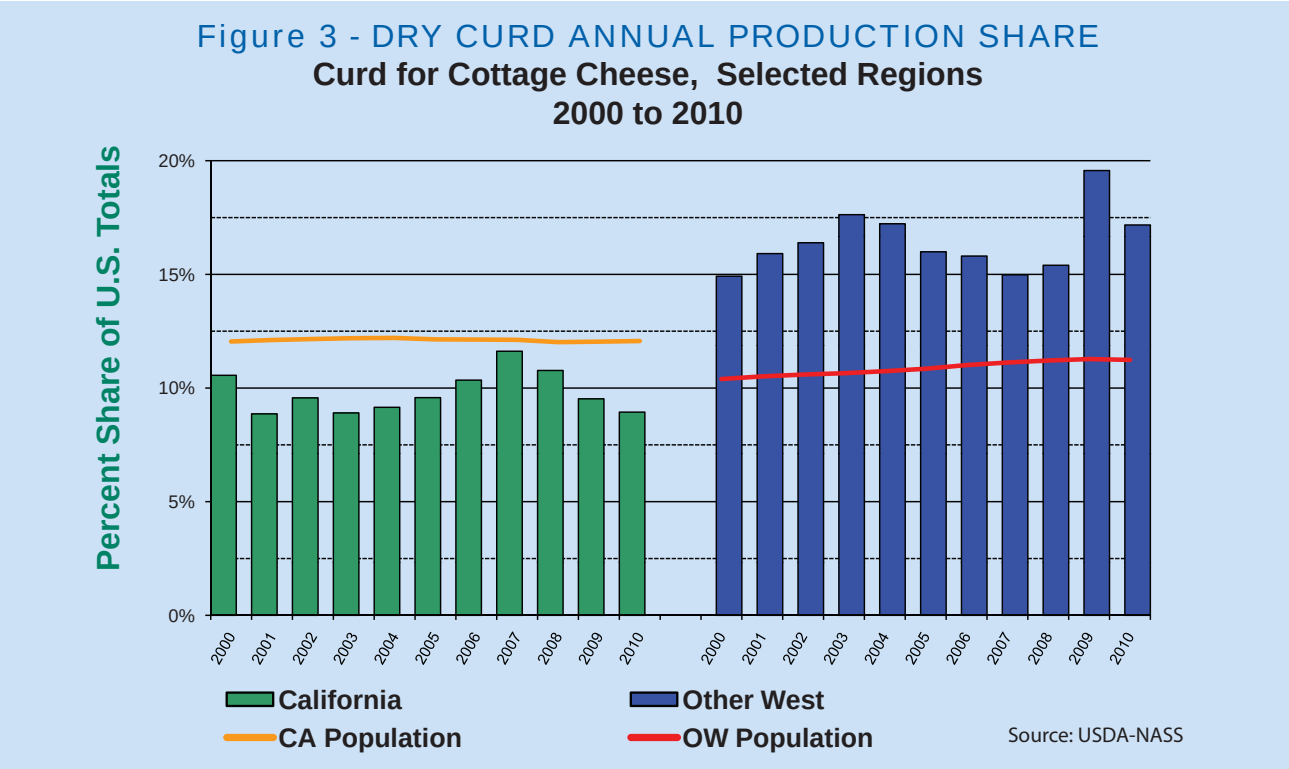
Source: CDFA

From 1970 to 2010, California's share of national milk production increased from 8.1 percent to 20.9 percent. Over that same period, California's share of U.S. population increased from 9.8 percent to 12.1 percent. California's share of various dairy products has also changed over time. Some have tracked the increases in milk production; others have been more associated with population trends (see Figures 2 through 7). These figures represent all five classes of milk, showing California's production share of six selected dairy products, and, in some instances, compare that share to the total production share of the other twelve western states. As defined by USDA, these states are Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

California's share of the nation's milk production greatly exceeds its population share. Therefore, for almost all dairy products, California should be at least self-sufficient, with the potential for exports.



From 1970 to the beginning of the 1990's, California fluid milk sales and the state population followed an increasing trend. However, in 1993, sales dipped and stayed fairly constant over the following 15 years, whereas population kept increasing (see Figure 2).



Historic data indicates that before 1989, California's share of the nation's dry curd cottage cheese production greatly exceeded California's share of the nation's population. As seen in Figure 3, California's national share of production has consistently been less than its population share. Currently, the Western States' share of the nation's dry curd cottage cheese production exceeds their national population share.

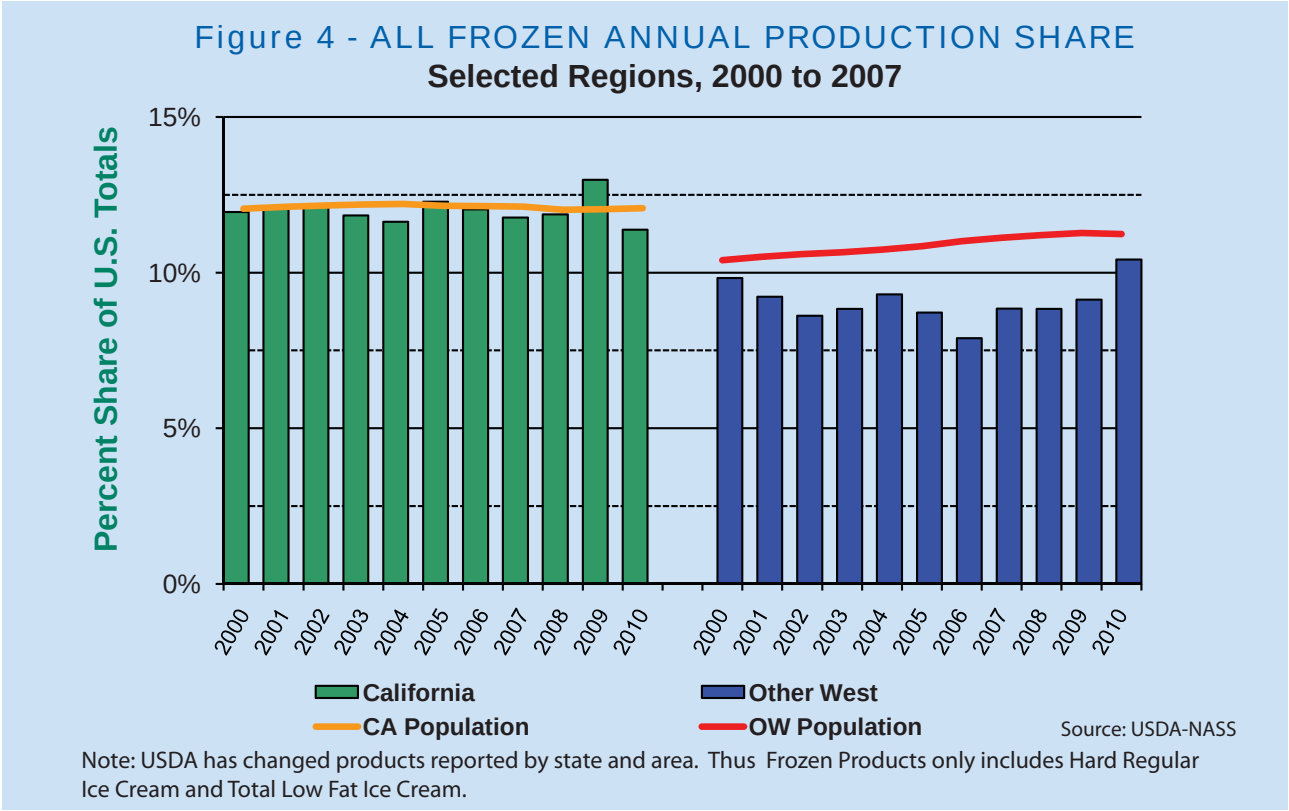
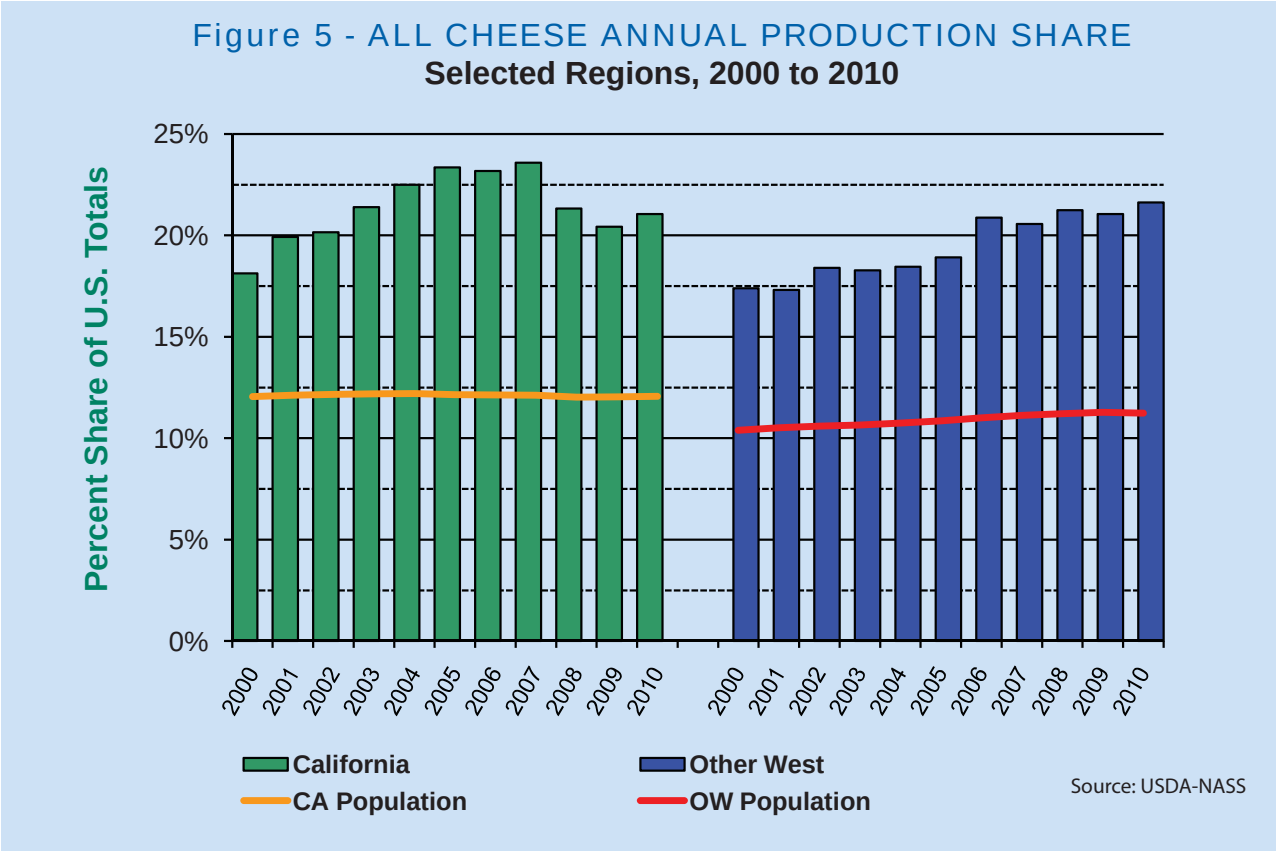
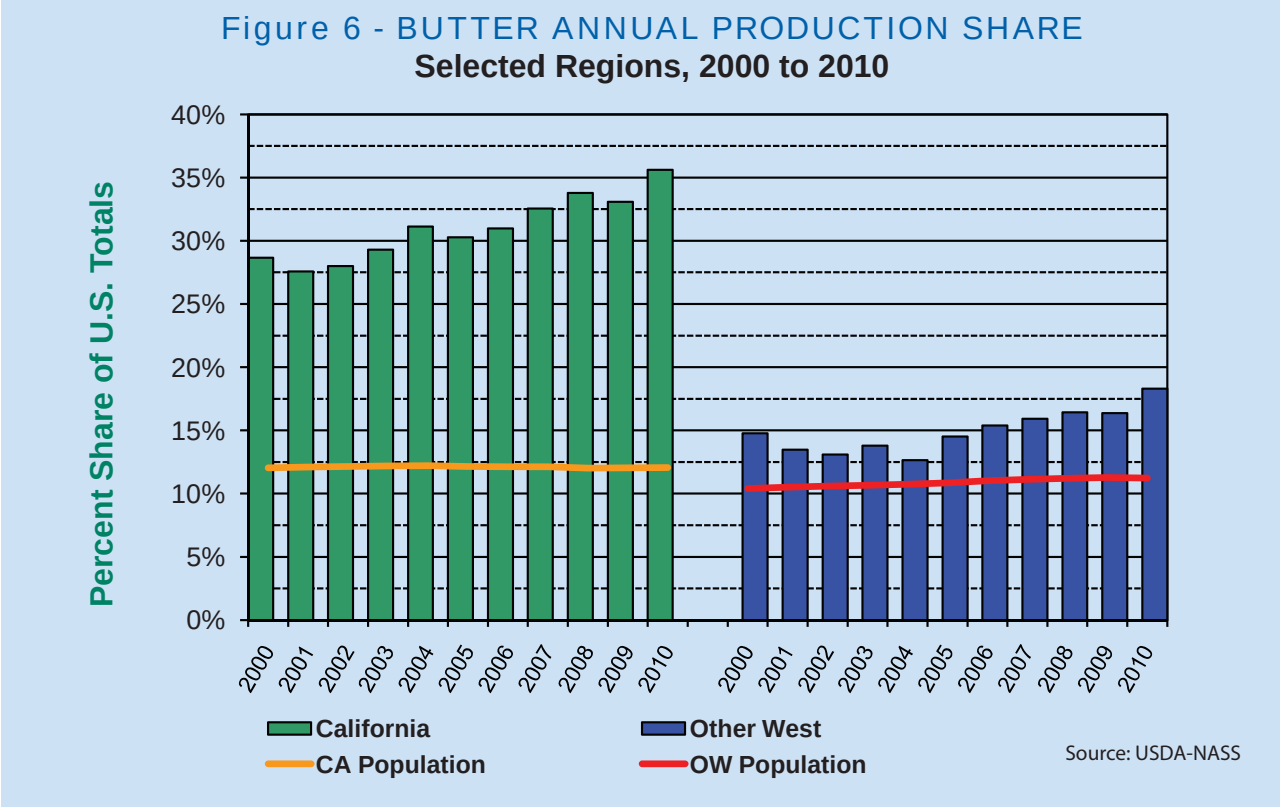


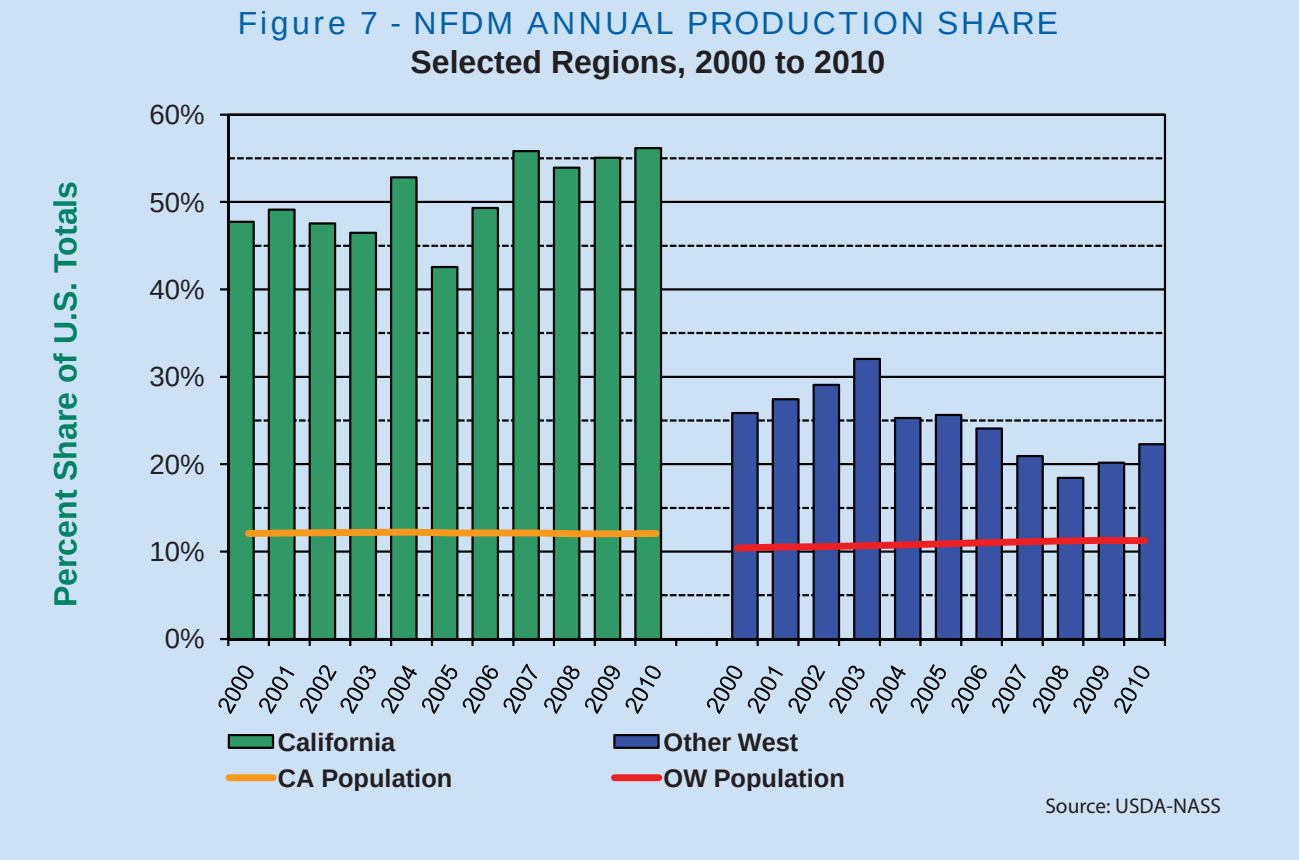
Figure 4 shows frozen annual production shares data. Since 2000, California's share of the nation's ice cream production has been below California's population share. Other Western States' share of the nation's ice cream production has been well below their population share. For 2010, California and the Western States accounted for 21.8 percent of the nation's ice cream production.



California became self sufficient in total cheese production in the early 1990's. In 2010, California and the other western states accounted for 42.7 percent of the U.S. cheese production (see Figure 5).



Historic data indicates that since 1970, California's share of the nation's butter and NFDM production has exceeded California's share of the nation's population. The other western states share of the nation's butter production is similar to their population share while their NFDM share is well above their population share (see Figures 6 and 7). In 2010, California and the other Western States acounted for 53.9 percent of the nation's butter production and 78.5 percent of the nation's NFDM production.



Nationally, volatile farm prices in the last few years stemmed from the marketplace balancing supply and demand. Level farm production in 2009 and 2010 resulted in increasingly high prices. Currently, national production has remained strong and above previous year levels with the prices remaining steady. Table 5 details how butter, block Cheddar cheese, NFDM, and dry whey prices changed, when comparing 2009 to 2010: butter was up 40 percent, block Cheddar cheese was up 15 percent, NFDM was up 25 percent, and Western Dry Whey up 41 percent. Because farm prices are tied directly to commodity prices, increasing commodity prices most often translate into increasing farm prices. California and federal prices for milk used to manufacture cheese products were up 19 percent and up 27 percent respectively. Average producer prices were up as well. Changes in producer farm prices should be compared to changes in the on-farm cost of producing milk. Comparing 2009 to 2010, California overall production costs decreased by 10 percent.

Table 5 - DAIRY PRICES AND COSTS

Commodity, Processor, and Producer Prices, and Producer Costs

					Change 2009-2010	
	Unit	2008	2009	2010	$/Unit	Percent
Commodity Prices						
CME Cheese	$/lb.	$1.86	$1.30	$1.50	$0.20	15%
CME Butter	$/lb.	$1.46	$1.24	$1.73	$0.49	40%
California NFDM	$/lb.	$1.22	$0.90	$1.13	$0.23	25%
Western Dry Whey (mostly)	$/lb.	$0.25	$0.28	$0.39	$0.11	41%
Processor Prices						
San Francisco California						
Class 1	$/gallon	$1.70	$1.13	$1.46	$0.33	29%
	$/cwt.	$19.79	$13.12	$16.97	$3.85	29%
Class 2	$/cwt.	$16.61	$10.86	$14.93	$4.07	37%
Class 3	$/cwt.	$16.56	$10.81	$14.88	$4.07	38%
Class 4a	$/cwt.	$14.49	$10.77	$14.81	$4.04	38%
Class 4b	$/cwt.	$16.85	$11.05	$13.17	$2.12	19%
Portland Oregon						
Class I	$/cwt.	$19.90	$13.38	$17.25	$3.87	29%
Class II	$/cwt.	$16.24	$11.26	$16.02	$4.76	42%
Class III	$/cwt.	$17.44	$11.36	$14.41	$3.05	27%
Class IV	$/cwt.	$14.65	$10.89	$15.09	$4.20	39%
Milk Mailbox Prices						
California	$/cwt.	$16.17	$11.02	$14.37	$3.35	30%
All Federal Order Average	$/cwt.	$18.40	$12.82	$16.29	$3.47	27%
Producer Costs						
CDFA						
Cost Comparison Summary	$/cwt.	$18.48	$16.86	$15.19	-$1.67	-10%

Sources: AMS-USDA, CDFA

DEPARTMENT PRODUCTION COST DATA

The Cost Comparison Summary is used to monitor the cost of producing milk on dairy farms. A summary is published for each of the four production areas, based on monthly cost of production data. The comparison provides a statewide weighted average of all costs and allowances for each month.

Cost figures for calendar year 2010 decreased $1.46 per hundredweight of milk compared to the same period a year ago. All four areas showed decreases in the cost of producing milk with the statewide cost down 9.6 percent.

The following table summarizes the annual average costs for each of the four production cost areas for the calendar years of 2009 and 2010:

Production Areas	Jan-Dec 2009 Average Cost Per Cwt.	Jan-Dec 2010 Average Cost Per Cwt.	Percent Change 2009 vs. 2010
North Coast	$18.98	$17.80	-6.2%
North Valley	$15.12	$13.86	-8.3%
South Valley	$15.18	$13.57	-10.6%
Southern California	$14.21	$12.88	-9.4%
Statewide Total Cost 1/	$15.16	$13.70	-9.6%
Total Costs & Allowances 2/	$16.86	$15.19	-10.0%

1/ Weighted average computed based on the following 2010 milk volume percentages: North Coast, 2.58 percent; North Valley, 34.34 percent; South Valley, 55.27 percent; Southern California 7.81 percent
2/ Includes Statewide Total Costs and Return on Investment and Return on Management

The California Legislature has established statutes requiring the Secretary to consider relevant economic factors, including the cost of management and a reasonable return on investment, when establishing minimum prices (Food and Agriculture Code, Section 62062). The return on investment is based on the Moody's Baa Corporate Bond Index that is published monthly. The returns on investment and management per hundred pounds of milk for 2009 and 2010 are $1.70 and $1.49, respectively, which are not included in the figures above.

FEDERAL DAIRY INCOME PROTECTION PROGRAMS

In addition to federal and State milk-marketing programs which cover some of the nation's Grade A milk, the federal government also maintains two programs that cover all of the nation's Grade A and Grade B milk: the Commodity Credit Corporation and the Milk Income Loss Contract Program.

Commodity Credit Corporation:

Through the Commodity Credit Corporation (CCC), the federal government stands ready to buy unlimited quantities of butter, NFDM, and Cheddar cheese from processors. These federal purchases of dairy products are a reflection of general supply and demand conditions. The CCC prices are currently $1.05, $0.80, and $1.13 per pound, respectively, for butter, NFDM, and block Cheddar cheese.

Milk Income Loss Contract Program:

The 2008 Farm Bill made numerous revisions to the previous program which is currently in effect through September 2012.

California Milk Pricing Formulas

California's milk marketing program establishes minimum prices that processors must pay for Grade A milk received from dairy farmers. For the purposes of setting prices, there are five classes of milk that are established depending on the type of dairy product. In California's milk pricing system, commercial market prices for dairy product commodities are the most significant factor in determining the minimum price that processors must pay for milk. Milk consists of three basic components: butterfat (fat), solids-not-fat (SNF), and fluid carrier (water). Prices are assigned to all three components in the determination of the Class 1 milk price. Only the fat and SNF components are used to set the Class 2, 3, 4a, and 4b milk prices. Because prices are determined for individual milk components, a simple calculation must be performed to obtain the implied hundredweight price. Class 1, 4a, and 4b prices are adjusted monthly, and Class 2 and 3 prices are adjusted bimonthly.

The Five Classes of Milk

- Class 1: Milk used in fluid products, including whole, reduced fat, lowfat, and nonfat milks.
- Class 2: Milk used in heavy cream, cottage cheese, yogurt, and condensed products.
- Class 3: Milk used in ice cream and other frozen products.
- Class 4a: Milk used in butter and dry milk products, such as nonfat dry milk.
- Class 4b: Milk used in cheese, other than cottage cheese, and whey products.

Class 4a Price Formula (butter and dry milk products)

The difference between the Chicago Mercantile Exchange butter price and the price received by California butter processors.

Butter yield; can produce 1.2 lbs. of butter from one pound of fat.

(1) Price of Class 4a fat = (Butter price – $0.0309 – $0.1560) x 1.2

The average market price per pound of Grade AA butter at the Chicago Mercantile Exchange.

Manufacturing cost allowance; the amount deducted from the product price to compensate for the processor's costs.

The weighted average price received by California processors for Grade A and Extra Grade nonfat powder.

NFDM yield; can produce 1.0 lbs. of nonfat powder from one pound of SNF.

(2) Price for Class 4a SNF = (Nonfat powder - $0.1698) x 1.0

SNF = solids–not–fat

Manufacturing cost allowance; the amount deducted from the product price to compensate for the processor's costs.

(3) Class 4a price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)
= (3.5 x price of Class 4a fat) + (8.7 x price of Class 4a SNF)

For any month in which the Secretary implements the collection of charges for the Milk Producers Security Trust Fund, the minimum Class 4a price shall be increased by:

- $0.0032 per pound of fat, and
- $0.0013 per pound of SNF

Class 4b Price Formula (cheese)

The Class 4b price calculation consists of four steps. The first step sets the fat component price in 4b milk to that of 4a milk. The second step determines the product value of cheese and Grade B butter per hundred pounds of milk. The third step identifies the 4b SNF price. The fourth step converts the component prices to a standardized milk price.

Step 1: Price of Class 4b fat = Price of Class 4a fat

The average market price per pound of Cheddar cheese at Chicago Mercantile Exchange.

The difference between the CME block Cheddar cheese price and the price that California processors receive.

Cheese yield; can produce 10.2 lbs. of cheese from 100 pounds of milk.

Step 2: Product value = (Cheddar price – $0.0252 – $0.1988) x 10.2

+ (CME AA butter –$0.10 – $0.1560) x 0.27

+ $0.25

Market price per pound of Grade AA butter at the Chicago Mercantile Exchange.

Fixed Whey Value

Whey butter yield; can produce 0.27 lbs of whey butter from 100 pounds of milk.

Manufacturing cost allowances; the amounts deducted from the product price to compensate for the processor's costs.

Adjustment to reflect the value of whey butter relative to CME Grade AA butter price.

Step 3: Price of Class 4b SNF =

Average percent of fat in milk used in Cheddar cheese plants.

$$\frac{\text{Product value} - (3.72 \times \text{Price of Class 4b fat})}{8.80}$$

Average percent of solids–not–fat in milk used in Cheddar cheese plants.

Step 4: Class 4b price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

= (3.5 x price of Class 4b fat) + (8.7 x price of Class 4b SNF)

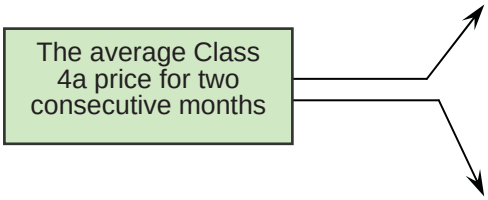
For any month in which the Secretary implements the collection of charges for the Milk Producers Security Trust Fund, the minimum Class 4b price shall be increased by:

- $0.0032 per pound of fat, and
- $0.0013 per pound of SNF

Class 3 Price Formula (frozen dairy products)

Class 3 prices are established on a bi-monthly basis prior to the beginning of each even month. For example, the February–March pricing period for Class 3 milk uses the average Class 4a component prices for December and January.

(1) Class 3 fat price = average Class 4a fat price (throughout California)



(2) Class 3 SNF price = average Class 4a SNF price + ($0.0433 throughout California)

(3) Class 3 price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

= (3.5 x price of Class 3 fat) + (8.7 x price of Class 3 SNF)

For any month in which the Secretary implements the collection of charges for the Milk Producers Security Trust Fund, the minimum Class 3 price shall be increased by:

- $0.0032 per pound of fat, and
- $0.0013 per pound of SNF

Class 2 Price Formula
(sour cream, heavy cream, cottage cheese, and yogurt)

Like the Class 3 prices, Class 2 prices are established on a bi-monthly basis prior to the beginning of each even month. For example, the February–March pricing period for Class 2 milk uses the average Class 4a component prices for December and January.

(1) Class 2 fat price = average Class 4a fat price (throughout California)

(2) Class 2 SNF price = average Class 4a SNF price + ($0.0490 in Northern California) ($0.0757 in Southern California)

(3) Class 2 price per 100 pounds of standardized milk (@3.5% fat and 8.7% SNF)

= (3.5 x price of Class 2 fat) + (8.7 x price of Class 2 SNF)

For any month in which the Secretary implements the collection of charges for the Milk Producers Security Trust Fund, the minimum Class 2 price shall be increased by:

- $0.0032 per pound of fat, and

Class 1 Price Formula for Fluid Milk Products

Determining the price for fluid milk products involves several steps. The Class 1 fat price in the fluid milk pricing formula is set directly and uses the Chicago Mercantile Exchange (CME) butter price with an adjuster. The SNF and carrier prices are calculated as residuals. They rely on a basic price mover called the commodity reference price (CRP) which is based off the higher of the price for CME Cheddar cheese and Mostly Western Dry Whey or the CME Grade AA butter and California weighted average price for nonfat dry milk. The value of the Class 1 fat price is subtracted from the CRP and the remaining residual value is allocated to SNF and carrier. Once the component prices have been assigned to fat, SNF, and fluid carrier portions of milk, these component prices are converted to a standardized hundredweight milk price.

Step 1: Price of Class 1 fat = (CME butter – $0.1315) x 1.2

- Butter adjuster
- Butter yield; can produce 1.2 lbs of butter from one pound of fat
- Market price per pound of Grade AA butter at the Chicago Mercantile Exchange

Step 2: Commodity Reference Price = the **higher of** two price calculations:

(CME Cheddar) x 9.8

- Market price per pound of Cheddar cheese at the Chicago Mercantile Exchange
- Cheese yield; can produce 9.8 lbs of cheese from 100 pounds of milk

+ (CME AA butter – $0.10) x 0.27

- Market price per pound of Grade AA butter at the Chicago Mercantile Exchange
- Adjustment to reflect the value of whey butter relative to CME Grade AA butter price
- Whey butter yield; can produce 0.27 lbs of whey butter from 100 pounds of milk

+ (Dry Whey Price x 5.8) - $0.85

- Market price per pound of Dry Whey using the Western Dry Whey (mostly) prices
- Western Dry Whey yield; can produce 5.8 lbs. of Dry Whey from 100 pounds of milk.
- Dry Whey Adjuster

OR

Market price per pound of butter at the Chicago Mercantile Exchange

Butter yield; can produce 1.2 lbs of butter from 1 pound of fat

(CME butter x 1.2) x 3.5

Fat content of whole milk

+ (CA NFDM x 0.99) x 8.7

California weighted average of prices received by plants for nonfat dry milk.

NFDM yield; can produce 0.99 lbs of NFDM from one pound of SNF

SNF content of whole milk

Commodity Reference Price

CRP Adjuster

Percentage of fat in raw milk

Step 3: Price of Class 1 SNF = [{(CRP - $0.203) – (Class 1 fat price x 3.5)}

Percentage of SNF in raw milk

x 0.76]/8.7

Proportion of residual value assigned to SNF

Step 4: Price of Class 1 fluid = [{(CRP - $0.203) – (Class 1 fat price x 3.5)}

Percentage of fluid in raw milk

x 0.24]/87.8

Proportion of residual value assigned to fluid

For Northern California, subtract an additional $0.0031 from the per pound price of fluid carrier.

Step 5: Class 1 price per 100 pounds of milk (@3.5% fat and 8.7% SNF)

= (3.5 x Class 1 fat) + (8.7 x Class 1 SNF) + (87.8 x Class 1 carrier)

For any month in which the Secretary implements the collection of charges for the Milk Producers Security Trust Fund, the minimum Class 1 price shall be increased by:

- $0.0017 per pound of fat,
- $0.0009 per pound of SNF, and
- $0.0001 per pound of carrier