

Overview

2022 ended with U.S. dairy exports setting a second consecutive record for percent of domestic production exported during an entire calendar year, with 17.8 percent of U.S. milk solids production exported. That helped temper sluggish domestic consumption; while the year's final quarter saw the strongest quarterly annual growth of domestic American-type cheese consumption since the first half of 2021, even as overall domestic use of all dairy products was below year-ago levels on a milk equivalent basis. U.S. dairy cow numbers were up over year-ago levels by just under 30,000 cows each month during the fourth quarter, while U.S. milk production growth, which resumed last July, has done so at a steadily diminishing rate from August onward.

The December DMC margin was \$9.76/cwt, down \$1.13/cwt from the month before, driven mostly by a \$0.90/cwt fall in the U.S. average all-milk price, to \$24.70/cwt. For all of 2022, the DMC margin fell below the highest coverage level of \$9.50/cwt during just two months, as record high feed costs were generally topped by record high milk prices. U.S. average retail prices for fluid milk, both whole and lowfat, and for natural cheddar cheese dropped in January from a month earlier. DMC margins are expected to be lower in 2023.

Commercial Use of Dairy Products

Total domestic use of American-type cheese increased over a year earlier each month during the fourth quarter of 2022, but at steadily diminishing rates each of those months. Nevertheless, it was the strongest quarter for year-over-year growth since the first half of 2021. By contrast, domestic use all other types of cheese was virtually flat during the quarter. Domestic butter use continued to suffer from its high retail price inflation. Domestic use of all dairy products

was below a year ago during the last quarter of 2022, by all three measures of milk equivalent.

U.S. Dairy Trade

U.S. dairy exports set a second consecutive record in 2022 for percent of domestic production exported during an entire calendar year. The domestic industry exported 17.8 percent of domestically-produced milk solids last year, handily exceeding the previous record of 17.3 percent exported in 2021. U.S.

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Domestic Commercial Use	Oct–Dec 2022	Oct–Dec 2021	2021–2022 Change	Percent Change
		(million pounds)		
Total Fluid Milk Products (Oct–Nov only)	7,367	7,560	-193	-2.6%
Yogurt	1,106	1,113	-7	-0.7%
Butter	558	627	-69	-11.0%
American-type Cheese	1,380	1,337	43	3.2%
All Other Cheese	2,013	2,010	3	0.2%
Total Cheese	3,393	3,347	46	1.4%
Dry Skim Milk	163	211	-48	-22.8%
All Products (milk equiv., milkfat basis)	56,585	57,699	-1,115	-1.9%
All Products (milk equiv., skim solids basis)	44,985	45,142	-158	-0.3%
All Products (milk equiv., total solids basis)	48,651	49,070	-419	-0.9%

U.S. Dairy Trade *from page 1*

cheese exports eked out a similar new calendar year record, with the 7.13 percent of U.S. cheese production exported in 2022 just barely improving on the 7.05 percent exported in 2014. Total cheese export volume itself achieved a new calendar year record of 995 million pounds, well above 2021's 892 million pounds. Both years constitute a volume breakout from the slump that followed 2014's previous record volume of 812 million pounds.

Cheese is a key to further expansion of U.S. dairy exports. During calendar year 2022, 78 percent of the milk solids exported was in the form of dry skim milk ingredient products, while 11 percent was in the form of cheese.

Although still a very small part of U.S. domestic dairy product use, dairy imports rose in December above the equivalent of 4 percent of domestic milk solids production for the first time in more than six years. Except for one month in 2016, with imports at 4.2 percent by this measure, last December's

4.1 percent was last previously exceeded in 2009. The key products that contributed to this increase were casein, milk protein concentrate, butter and anhydrous milkfat; i.e., products at both ends of the high protein-high milkfat spectrum.

Milk Production

The number of cows in the nation's milking cow herd was lower than a year earlier for eleven months from October 2021 through August 2022. This was just about the average duration of the nine such herd decline episodes that occurred during the past quarter-century, with the average monthly drop in cow numbers during this most recent one a bit greater than the average over all nine. Having returned to growth last fall, U.S. cow numbers were up over a year ago by steady rate of just under 30,000 cows each month during last year's fourth quarter. U.S. milk production resumed annual growth last July, but at a steadily diminishing rate after August, driven by corresponding changes in production per cow.

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U.S. Dairy Exports	Oct–Dec 2022	Oct–Dec 2021	2021–2022 Change	Percent Change
		(metric tons)		
Butter	18,975	11,209	7,766	69%
Anhydrous Milk Fat/Butteroil	3,705	3,431	274	8%
American–type Cheese	20,684	16,329	4,355	27%
Cheddar Cheese	20,543	16,157	4,385	27%
All Other Cheese	89,551	83,829	5,722	7%
Total Cheese	110,235	100,158	10,077	10%
Dry Skim Milk	206,930	200,884	6,046	3%
Whole Milk Powder	8,005	8,643	-638	-7%
Dry Whey	60,818	51,312	9,506	19%
Whey Protein Concentrate/Isolate	55,815	42,739	13,076	31%
Lactose	110,936	100,525	10,411	10%
Percent of U.S. Milk Solids Exported	17.5%	16.2%	1.3%	8%
U.S. Dairy Imports	Oct–Dec 2022	Oct–Dec 2021	2021–2022 Change	Percent Change
		(metric tons)		
Butter	13,252	11,879	1,373	12%
Cheese	51,009	51,369	-359	-1%
Dry Skim Milk	211	77	133	173%
MPC (all protein levels)	21,821	10,536	11,285	107%
Casein	24,618	16,914	7,704	46%
Percent of U.S. Milk Solids Imported	3.9%	3.3%	0.6%	17%

Milk Production *from page 2*

It's still too early to predict confidently where calendar year 2023 milk production will eventually end up. Milk solids production growth outpaced the same for liquid milk production by 0.8 percent during the last quarter of 2022.

Dairy Products

Production of the two major types and varieties of cheese each posted annual gains in excess of two percent during the fourth quarter of 2022. Growth in total use of American-type cheese, domestic and exports, outpaced its production growth during the period, but total use of other types of cheese did not

similarly keep pace with their production. Butter production also outstripped use during 2022's final quarter, as did dry skim milk and dry whey production.

Dairy Product Inventories

Stocks of both American-type and other cheese, and hence total cheese, rebounded slightly in December after having receded from the three-decade highs they each reached in July 2022. Butter did the same from the shorter-term high it achieved a month earlier. Manufacturers' stocks of dry skim milk and stocks of all the major whey and whey protein products have all continued to rise in recent months.

Milk and Dairy Products Production	Oct–Dec 2022	Oct–Dec 2021	2021–2022 Change	Percent Change
Milk Production				
Cows (1,000 head)	9,408	9,381	27	0.3%
Per Cow (pounds)	5,950	5,909	41	0.7%
Total Milk (million pounds)	55,978	55,428	550	1.0%
Total Milk Solids (million pounds)	7,456	7,322	134	1.8%
Dairy Products Production				
Cheese		(million pounds)		
American Types	1,414	1,380	34	2.5%
Cheddar	995	972	23	2.3%
Italian Types	1,499	1,467	32	2.2%
Mozzarella	1,179	1,143	36	3.1%
Total Cheese	3,527	3,459	68	2.0%
Butter	520	500	20	3.9%
Dry Milk Products				
Nonfat Dry Milk	461	450	12	2.6%
Skim Milk Powder	145	186	-40	-21.7%
Dry Whey	225	227	-2	-0.7%
Whey Protein Concentrate	130	137	-7	-5.3%

Dairy Product Inventories	Dec 2022	Nov 2022	Dec 2021	2021–2022 Change
		(million pounds)		
Butter	216	200	199	9%
American Cheese	825	816	843	-2%
Other Cheese	620	615	599	4%
Dry Skim Milk	272	266	259	5%
Dry Whey	79	73	57	38%

Dairy Product and Federal Order Class Prices

Monthly survey prices for the four major dairy products have all declined significantly from the highs they reached in 2022, mostly during the spring. January cheddar cheese prices are

down by 18 percent from their peak, the smallest such decline, while dry whey prices have dropped the most in this sense, by 46 percent. January butter and nonfat dry milk prices were off in similar fashion by 23 percent and 25 percent, respectively. January federal order class prices

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Dairy Product and Federal Order Prices	Jan 2023	Dec 2022	Jan 2022	2022–2023 Change
NDPSR Dairy Product Prices				
		(per pound)		
Butter	\$2.460	\$2.776	\$2.613	-\$0.153
Cheddar Cheese	\$1.977	\$2.056	\$1.898	\$0.079
40-Pound Blocks	\$2.115	\$2.159	\$1.979	\$0.136
500-Pound Barrels	\$1.823	\$1.929	\$1.795	\$0.028
Nonfat Dry Milk	\$1.366	\$1.456	\$1.649	-\$0.283
Dry Whey	\$0.427	\$0.457	\$0.709	-\$0.282
Federal Order Class Prices for Milk				
		(per hundredweight)		
Class I Mover	\$22.41	\$22.58	\$19.71	\$2.70
Class II	\$21.61	\$23.11	\$22.83	-\$1.22
Class III	\$19.43	\$20.50	\$20.38	-\$0.95
Class IV	\$20.01	\$22.12	\$23.09	-\$3.08
Retail Dairy Product Prices				
Fluid Whole Milk (per gallon)	\$4.204	\$4.211	\$3.787	\$0.417
Lowfat Fluid Milk (per gallon)	\$3.817	\$3.845	\$3.393	\$0.424
Cheddar Cheese (per pound)	\$5.946	\$5.995	\$5.315	\$0.631
Butter (per pound)	\$4.882	\$4.811	\$3.672	\$1.210
Milk and Feed Prices	Dec 2022	Nov 2022	Dec 2021	2021–2022 Change
Producer Prices				
All Milk (per cwt.)	\$24.70	\$25.60	\$21.70	\$3.00
Feed Prices				
Corn (per bushel)	\$6.58	\$6.49	\$5.47	\$1.11
Soybean Meal (per ton)	\$463	\$437	\$400	\$63
Premium Alfalfa Hay (per ton)	\$327	\$331	\$260	\$67
Feed Prices (per cwt of milk)				
Corn	\$7.06	\$6.96	\$5.87	\$1.19
Soybean Meal	\$3.40	\$3.21	\$2.94	\$0.47
Premium Alfalfa Hay	\$4.48	\$4.53	\$3.56	\$0.92
DMC Feed Cost* (per cwt.)	\$14.94	\$14.71	\$12.27	\$2.67
DMC Margin* (per cwt.)	\$9.76	\$10.89	\$9.53	\$0.23
<i>*DMC calculations are not revised</i>				

Dairy Product and Federal Order Class Prices *from page 4*

are all off from their respective 2022 highs to about the same extent, 20 percent to 25 percent.

U.S. average retail prices for fluid milk, both whole and lowfat, and for natural cheddar cheese dropped in January from a month earlier. The more aggregate measures of retail prices, expressed in the Consumer Price Indices, have yet to fall decisively in absolute terms, although the overall CPI did so in November and December. By the less stringent measure of annual change in the CPIs, inflation overall, as well as for food and beverages, have been declining for several months, as have those for fluid milk and cheese. Annual changes in the monthly CPIs have begun to fall in the last month or two for most other dairy products, including butter.

Milk and Feed Prices

The December DMC margin was \$9.76/cwt, down \$1.13/cwt from the month before. Much of this decline was contributed by a \$0.90/cwt drop in the U.S. average all-milk price, to \$24.70/cwt. The DMC December feed cost rose \$0.23/cwt from November, on higher corn and soybean meal prices.

Looking Ahead

In its February World Agricultural Supply and Demand Estimates (WASDE) report, USDA is forecasting that total domestic use

of milk in all products will increase this year by 1.1 percent over 2022, on a total milk solids equivalent basis. At the same time, the Department expected total U.S. dairy exports to drop this year by 1.1 percent, for a net growth of 0.7 percent in total use, by the same measurements. The Department revised its estimate of 2022 production and its forecast of 2023 production both down slightly, resulting in a 0.8 percent annual growth projection for 2023 that was down from its 1.0 percent growth forecast a month earlier. Reasons cited include “weaker milk prices expected to result in lower cow inventories” and lower output per cow. Given that it’s still early in the year, more revisions to the Department’s forecast of this year’s milk production can be expected.

The weaker milk prices USDA cited referred to a reduction in its forecast of the calendar year 2023 U.S. average all-milk price, from January’s estimate of \$21.60/cwt to \$20.70/cwt in February. Milk price forecasts based on the CME dairy futures on the same dates as these two WASDE releases were \$22.20/cwt and \$21.80/cwt, respectively, both clearly somewhat stronger than the Department’s. While the DMC margin fell below \$9.50/cwt during just two months of 2022, the outlook for 2023 is very different, with the DMC margin currently projected to fall below \$9.50/cwt every month until sometime next fall, averaging around \$8.00/cwt for the year.

Peter Vitaliano
National Milk
Producers Federation
pvitaliano@nmpf.org
www.nmpf.org



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The **National Milk Producers Federation (NMPF)** is a farm commodity organization representing most of the dairy marketing cooperatives serving the U.S.