

## Overview

*The worst of the coronavirus-induced plunge in the dairy economy may be over.*

*The sharp drop in dairy product prices in April, prompted by the pandemic, has been followed by a strong recovery in cash market prices in May that's continuing into June. Cash cheese prices rebounded dramatically from \$1.00 a pound in the first half of April to record levels in less than eight weeks. Cash butter prices, to a lesser extent, have also rebounded from April lows.*

*This market turnaround has been caused by actions and developments that have reduced milk supply and strengthened dairy product demand. Dairy cooperatives widely implemented temporary base-excess price plans, while dairy farmers changed their feeding and milking practices and culled some additional cows. Government purchases of dairy products expanded substantially as Congress provided billions of dollars in emergency relief to the Department of Agriculture. More recently, food service establishments resumed significant dairy purchases to replenish empty stocks in anticipation of staged reopenings. And retail sales of key dairy products have been above year-earlier levels throughout the pandemic episode, as consumers largely went back to the basics of grocery shopping and home cooking. Dairy-farmer income will also be boosted by federal direct payments of \$6.20 per cwt. for first quarter milk production. These developments together have improved the financial outlook for the nation's dairy farmers markedly from how it first appeared during March's collapse driven by the COVID-19 pandemic.*

## Commercial Use of Dairy Products

Significant effects of the coronavirus pandemic on domestic consumption of dairy products became visible in USDA data for April. Domestic commercial use of American-type and of other varieties of cheese were both down by about 10.5 percent that month from April 2019, while butter use

was about 3.5 percent higher. This reflected the different proportions of these two basic dairy products in food-service versus retail purchases. Domestic use of milk in all products was 5.0 and 6.2 percent lower, respectively, on a milkfat and a skim solids milk equivalent basis in April, compared with a year earlier.

Domestic Commercial Use	Feb–Apr 2020	Feb–Apr 2019	2019–2020 Change	Percent Change*
	(million pounds)			
Total Fluid Milk Products	NA	11,414	NA	NA
Yogurt	1,156	1,131	25	1.1%
Butter	483	454	28	5.1%
American–type Cheese	1,221	1,244	-23	-2.9%
All Other Cheese	1,732	1,779	-47	-3.7%
Total Cheese	2,953	3,023	-70	-3.4%
Dry Skim Milk	116	256	-140	-55.2%
All Products (milk equiv., milkfat basis)	51,059	50,594	465	-0.2%
All Products (milk equiv., skim solids basis)	44,061	44,890	-829	-2.9%
All Products (milk equiv., total solids basis)	46,209	46,640	-431	-2.0%

\*adjusted for leap year

## U.S. Dairy Trade

The United States exported more than one-half of one percent more of its production of total milk solids during February–April than it did during the same period a year earlier. The increase was due to gains in overseas sales of milk powders, dry whey products and other dairy ingredients, which outweighed declines in cheese, milkfat and other food product exports.

During the February–April period, imports of milk protein concentrate and casein were up substantially above year-ago levels in March but below the previous year’s level in April. Imports of whole milk powder were well above last year’s levels in both March and April, while imports of the major cheese categories were well below a year ago in those two months.

## Milk Production

The crisis conditions in the U.S. dairy industry over the past few months have significantly affected milk production. Revised data show U.S. cow numbers in March were 52 thousand head more than in March 2019. With this number, this past March witnessed by far the most aggressive dairy herd expansion during the third month of a herd expansion cycle in more than 20 years. But preliminary numbers for April were 49 thousand more than April 2019, making this past April the first time since early 2005 that the fourth month of a dairy herd expansion cycle showed a smaller annual increase than the third month. Milk production itself increased in April at a slower year-over-year rate, or dropped at a faster one, compared to March in every one of the 24 monthly-reporting states except for two with very slightly faster April increases. April U.S. milk production was up

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U.S. Dairy Exports	Feb–Apr 2020	Feb–Apr 2019	2019–2020 Change	Percent Change*
		(metric tons)		
Butter	4,276	5,003	-726	-15%
Anhydrous Milk Fat / Butteroil	876	1,834	-958	-53%
Cheddar Cheese	10,578	16,739	-6,162	-38%
American–type Cheese	10,643	16,812	-6,169	-37%
All Other Cheese	80,362	85,327	-4,965	-7%
Total Cheese	91,005	102,139	-11,134	-12%
Nonfat Dry Milk / Skim Milk Powder	184,747	171,985	12,762	6%
Whole Milk Powder	10,230	6,952	3,278	46%
Dry Whey	49,415	41,959	7,456	16%
Whey Protein Concentrate / Isolate	47,443	38,694	8,749	21%
Lactose	96,861	93,732	3,129	2%
Percent of U.S. Milk Solids Exported	15.2%	14.6%	0.6%	3%
	*adjusted for leap year			

U.S. Dairy Imports	Feb–Apr 2020	Feb–Apr 2019	2019–2020 Change	Percent Change*
		(metric tons)		
Butter	7,241	8,925	-1,684	-20%
Cheese	39,131	40,593	-1,463	-5%
Nonfat Dry Milk / Skim Milk Powder	154	117	38	31%
MPC (all protein levels)	13,732	10,650	3,082	28%
Casein	14,369	13,089	1,279	9%
Percent of U.S. Milk Solids Imported	3.2%	3.0%	0.2%	4%
	*adjusted for leap year			

### Milk Production *from page 2*

over a year ago by 1.4 percent, compared with 2.8 percent in March and 1.8 percent in February (adjusted for leap year).

Significantly, U.S. average daily milk production per cow dropped from March to April for the first time since at least 1998. The pandemic's impacts caused U.S. dairy farmers to take actions that universally halted, at least temporarily, one of the most energetic dairy herd and milk production expansions in at least two decades. That's one of several key factors currently strengthening the milk price outlook for the second half this year.

## Dairy Products

Cheddar cheese production in April was almost 8 percent higher than in April 2019, while mozzarella production was down by about 5.5 percent at the same time. These major changes affected the three-month, February–April results as well, as shown. Butter sales at retail are up by almost 33 percent over a year ago during the first five months of 2020. Reflecting this, reported butter production was up over a year ago by 5.4 percent in February, 8.4 percent in March and by 25.1 percent (preliminary) in April. Nonfat dry

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Milk and Dairy Products Production	Feb–Apr 2020	Feb–Apr 2019	2019–2020 Change	Percent Change*
<b>Milk Production</b>				
Cows (1,000 head)	9,380	9,339	42	0.4%
Per Cow (pounds)	5,965	5,808	157	1.6%
Total Milk (million pounds)	55,961	54,244	1,717	2.0%
Total Milk Solids (million pounds)	7,237	7,015	222	2.0%
<b>Dairy Products Production</b>		(million pounds)		
<b>Cheese</b>				
American Types	1,315	1,272	42	2.2%
Cheddar	951	911	40	3.2%
Italian Types	1,387	1,409	-22	-2.7%
Mozzarella	1,094	1,110	-16	-2.6%
Total Cheese	3,222	3,211	11	-0.8%
Butter	600	525	74	12.9%
<b>Dry Milk Products</b>				
Nonfat Dry Milk	515	483	32	5.4%
Skim Milk Powder	120	128	-9	-7.8%
Dry Whey	236	229	8	2.3%
Whey Protein Concentrate	113	121	-8	-7.9%

\*adjusted for leap year

Dairy Product Inventories	Apr 2020	Mar 2020	Apr 2019	2019–2020 Change
		(million pounds)		
Butter	369	310	291	27%
American Cheese	836	776	783	7%
Other Cheese	647	598	615	5%
Nonfat Dry Milk	393	349	278	41%
Dry Whey	76	73	76	0%

**Dairy Products** *from page 3*

milk production was 9.3 percent higher than a year earlier, likely stimulated by increased demand for milk fortification in cheese production.

## Dairy Product Inventories

Stocks of many of the key dairy products reached long-time or record-high levels at the end of April. This was not unexpected given the pandemic-related disruptions the dairy industry has experienced beginning in March. April-ending cold storage

stocks of butter were the highest since the fall of 1993. American-type cheese stocks were last above April-ending levels in the fall of 1985. April stocks were the highest on record for other than American-type cheese and for nonfat dry milk.

## Dairy Product and Federal Order Class Prices

The price of butter reported by USDA's Agricultural Marketing Service in the National Dairy Product Sales Report (NDPSR)

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Dairy Product and Federal Order Prices	May 2020	Apr 2020	May 2019	2019–2020 Change
<b>NDPSR Dairy Product Prices</b>				
		(per pound)		
Butter	\$1.307	\$1.263	\$2.295	-\$0.988
Cheddar Cheese	\$1.299	\$1.403	\$1.697	-\$0.398
40-Pound Blocks	\$1.305	\$1.526	\$1.701	-\$0.396
500-Pound Barrels	\$1.264	\$1.274	\$1.664	-\$0.400
Nonfat Dry Milk	\$0.849	\$0.955	\$1.015	-\$0.166
Dry Whey	\$0.382	\$0.373	\$0.378	\$0.003
<b>Federal Order Class Prices for Milk</b>				
		(per hundredweight)		
Class I Mover	\$12.95	\$16.64	\$16.42	-\$3.47
Class III	\$12.14	\$13.07	\$16.38	-\$4.24
Class IV	\$10.67	\$11.40	\$16.29	-\$5.62
<b>Retail Dairy Product Prices</b>				
Fluid Whole Milk (per gallon)	\$3.210	\$3.267	\$2.963	\$0.247
Lowfat Fluid Milk (per gallon)	\$2.877	\$2.901	\$2.683	\$0.194
Cheddar Cheese (per pound)	\$5.558	\$5.453	\$5.327	\$0.231
Butter (per pound)	\$3.535	\$3.725	\$4.111	-\$0.576

Milk and Feed Prices	Apr 2020	Mar 2020	Apr 2019	2019–2020 Change
<b>Producer Prices</b>				
All Milk (per cwt.)	\$14.40	\$18.00	\$17.70	-\$3.30
<b>Feed Prices</b>				
Corn (per bushel)	\$3.29	\$3.68	\$3.52	-\$0.23
Soybean Meal (per ton)	\$295	\$312	\$304	-\$9
Alfalfa Hay (per ton)	\$195	\$190	\$209	-\$14
DMC Feed Cost (per cwt.)	\$8.37	\$8.85	\$8.88	-\$0.50
DMC Margin (per cwt.)	\$6.03	\$9.15	\$8.82	-\$2.80

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

turned up in May from its April low, but NDPSR cheese and nonfat dry milk prices continued to drop. These price changes reduced all federal order class prices in May from their April levels, presaging a May all-milk price even lower than April's already sharply lower level. Retail prices increased from April to May for natural cheddar cheese, processed cheese and yogurt but were down slightly for fluid milk products and ice cream. These increases reflected stronger retail sales for those products, although butter, which has experienced particularly strong retail sales gains in recent months, showed a continued retail price drop from both a month and a year ago in May, both driven by the steady decline in wholesale butter prices that started in the fall of 2019.

## Milk and Feed Prices

The U.S. average all-milk price strongly reflected the effects of the Covid-19 pandemic on the U.S. dairy industry in April, dropping \$3.60 per cwt., or 20 percent, off the March price. This was the largest one-month drop in the national all-milk price since at least 1980, in both absolute as well as percentage terms. The largest previous one-month price plunges in dollar value was \$2.90 per cwt., in January 2015; the biggest percentage drop was 17 percent, in April 1999. The monthly margin under the Dairy Margin Coverage program fell by \$3.13 per cwt. from March to April, with the drop in the milk price being partially offset by a \$0.48 per cwt. drop in the DMC feed cost formula, due to lower costs of

corn and soybean meal. The April margin will generate a payment for that month to all producers currently enrolled in the program for margin coverage levels from \$6.50 per cwt. up through \$9.50 per cwt.

## Looking Ahead

April and May will be the two worst months of 2020 for dairy farmers for both prices and margins. But beyond these two months, the dairy futures-based outlook has improved significantly since the end of April.

At that time, the outlook was for a very slow and painful recovery for margins throughout the remainder of 2020, with June being as bad as May and DMC margins remaining below \$9.50 per cwt. through the end of the year. But by the end of May, the outlook indicated the margin would be up not far below that level in June, and then remain above \$10 per cwt. for July through December. By mid-June, dairy futures markets indicated that milk prices would remain well above \$18.00 per cwt. every month during the entire second half of 2020, and average during that period about \$18.60 per cwt., which was the average price for all of 2019. And if the total estimated Coronavirus Food Assistance Program (CFAP) direct payment amounts are thought of as supplements to milk prices during the two months of expected very low prices and margins, April and May, together with average DMC payments, those augmented prices would also average about the same \$18.60 per cwt. for those two months.

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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.