

Overview

May and June saw both highs and lows in the coronavirus-buffed roller-coaster of dairy's second quarter of 2020. But with exports and prices rising, the highs hold the momentum heading into the year's third quarter, raising hopes that spring's severe disruptions have been effectively offset by producer production cutbacks and federal government assistance.

The USDA-reported U.S. average all-milk price reached an almost eleven-year low in May, while the daily price of 40# block cheese on the CME cash market reached a record high in June – a record topped in July. Sharp reductions in milk and milk solids production, major government purchases of dairy products for food assistance programs, increased retail sales of dairy products, and a temporary spike in food service restocking purchases rapidly flipped a switch from severe oversupply to substantial market tightness within a span of weeks, dramatically raising milk and dairy-product prices.

Among the most noteworthy of these was an \$8.90 per cwt. jump in the federal order Class III price from May to June. The previous largest one-month Class III price increase was \$5.17 per cwt., reached in April 2004. Trade also has experienced rising momentum. U.S. dairy exports in May represented 17.7 percent of the nation's milk solids production, the largest ever for the month of May.

Commercial Use of Dairy Products

Domestic commercial use of milk in all products in all markets, including food service and retail, continued to lag behind a year earlier, particularly when measured on a skim solids basis. This partly reflects a substantial increase in dry skim ingredient exports during period, which has pulled skim

solids from domestic uses, as well as increased domestic sales of retail butter. Domestic use of dry skim milk to fortify cheese milk with lower-priced protein increased significantly in May, but domestic use of all whey complex products was down sharply over a year earlier that month. Domestic commercial use of cheese continued lower than last year during the period as food-service use has remained weak.

Domestic Commercial Use	Mar–May 2020	Mar–May 2019	2019–2020 Change	Percent Change
	(million pounds)			
Total Fluid Milk Products	NA	11,668	NA	NA
Yogurt	1,168	1,113	55	4.9%
Butter	524	466	58	12.4%
American-type Cheese	1,255	1,269	-14	-1.1%
All Other Cheese	1,781	1,869	-88	-4.7%
Total Cheese	3,036	3,138	-102	-3.3%
Dry Skim Milk	167	258	-90	-35.1%
All Products (milk equiv., milkfat basis)	52,701	52,821	-121	-0.2%
All Products (milk equiv., skim solids basis)	45,019	46,674	-1,655	-3.5%
All Products (milk equiv., total solids basis)	47,361	48,543	-1,182	-2.4%

U.S. Dairy Trade

U.S. exports of skim milk powder surged in May, raising total U.S. dairy exports to 17.7 percent of total domestic milk solids production that month and to 16.2 percent for the three-month March–May period. The May percentage, a record for that month, was boosted by the drop in U.S. milk and milk solids production. Exports of other major dairy ingredient products were up over a year earlier by mostly double-digit percentages. Cheese exports, which had been mostly below year-ago levels in all major categories during the first four months of 2020, switched to year-over-year gains in all major categories in May.

Imports of milk protein concentrate and casein were both up strongly over a year ago in March but then both down sharply in April. MPC imports continued down in May, but casein imports surged again that month. The net result,

for the March–May period, was that concentrated milk protein ingredient imports, namely MPC and casein, have switched places from recent periods, with casein now showing the stronger growth.

Milk Production

Milk production and production per cow in the United States both increased by less than one percent during the March–May period compared with a year ago. But milk production slowed remarkably within that time frame, going from 2.8 higher than a year earlier in March to 1.1 percent below a year ago in May. It took market forces almost 30 months to accomplish a similar decline between November 2016 and March 2019. U.S. average production per cow was down by 1.5 percent in May. This was the second-largest annual drop in per cow productivity during a single month since 1999.

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U.S. Dairy Exports	Mar–May 2020	Mar–May 2019	2019–2020 Change	Percent Change
		(metric tons)		
Butter	4,143	4,354	-212	-5%
Anhydrous Milk Fat / Butteroil	1,398	1,901	-503	-26%
Cheddar Cheese	12,191	16,064	-3,873	-24%
American–type Cheese	12,239	16,163	-3,924	-24%
All Other Cheese	83,458	86,584	-3,126	-4%
Total Cheese	95,697	102,747	-7,050	-7%
Nonfat Dry Milk / Skim Milk Powder	209,446	180,428	29,017	16%
Whole Milk Powder	11,514	6,645	4,870	73%
Dry Whey	50,662	43,146	7,516	17%
Whey Protein Concentrate / Isolate	48,524	42,413	6,111	14%
Lactose	101,962	96,698	5,263	5%
Percent of U.S. Milk Solids Exported	16.2%	14.7%	1.5%	10%

U.S. Dairy Imports	Mar–May 2020	Mar–May 2019	2019–2020 Change	Percent Change
		(metric tons)		
Butter	10,187	10,518	-331	-3%
Cheese	34,563	42,827	-8,263	-19%
Nonfat Dry Milk / Skim Milk Powder	269	68	201	293%
MPC (all protein levels)	12,902	13,172	-270	-2%
Casein	16,106	14,223	1,883	13%
Percent of U.S. Milk Solids Imported	3.2%	3.2%	0.0%	-1%

Milk Production *from page 2*

Still, cow numbers are still ahead of last year. Producers are cutting production, many in response to the base-excess plans established by many cooperatives to improve the supply-demand balance. Given the size of the national dairy herd, it appears many of these cutbacks were made through changes in feeding, milking frequency, and other areas of management, as it appears producers are holding onto cows in anticipation of the currently favorable price outlook for the second half of 2020, making resumed production growth a likely possibility.

Dairy Products

The dairy product production mix shifted in the spring. A bigger portion of milk and milk solids were dedicated to the production of American-type cheese during the March–May period, but a smaller part went to production of other type cheese and to cheese overall. But for the month of May itself, production of all types of cheese fell less than that for total milk and milk solids production. Butter production claimed a significantly larger share of total U.S. milkfat production during each month of the March–May period. The same was true of nonfat dry milk

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Milk and Dairy Products Production	Mar–May 2020	Mar–May 2019	2019–2020 Change	Percent Change
Milk Production				
Cows (1,000 head)	9,379	9,333	46	0.5%
Per Cow (pounds)	6,063	6,036	27	0.4%
Total Milk (million pounds)	56,868	56,336	532	0.9%
Total Milk Solids (million pounds)	7,315	7,239	76	1.1%
Dairy Products Production				
		(million pounds)		
Cheese				
American Types	1,340	1,317	23	1.7%
Cheddar	969	943	26	2.7%
Italian Types	1,420	1,443	-24	-1.6%
Mozzarella	1,118	1,139	-20	-1.8%
Total Cheese	3,286	3,313	-27	-0.8%
Butter	592	523	69	13.1%
Dry Milk Products				
Nonfat Dry Milk	525	503	22	4.4%
Skim Milk Powder	128	121	7	5.9%
Dry Whey	246	231	15	6.3%
Whey Protein Concentrate	118	125	-6	-5.0%

Dairy Product Inventories	May 2020	Apr 2020	May 2019	2019–2020 Change
		(million pounds)		
Butter	380	373	314	21%
American Cheese	820	834	787	4%
Other Cheese	634	644	599	6%
Nonfat Dry Milk	345	393	290	19%
Dry Whey	85	75	66	29%

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and skim milk powder relative to total skim solids production during April and May.

Dairy Product Inventories

Cold storage stocks of both American-type and other cheese receded slightly at the end of May from their long-time and all-time high levels of a month earlier, but butter stocks increased further in May, to the highest level since a brief period in the early 1990s when milkfat was in heavy surplus, and unusually high levels of butter stocks accumulated.

The slight fall in cheese stocks reflected increased government purchases and the start up of food service supply restocking, but these forces have not increased butter use to the same extent. Butter supply has, however, been affected by increased cream use in the production of ice cream other frozen dairy products.

Dairy Product and Federal Order Class Prices

The monthly price of cheese reported by USDA's Agricultural Marketing Service from the National Dairy Product Sales Report

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Dairy Product and Federal Order Prices	Jun 2020	May 2020	Jun 2019	2019–2020 Change
NDPSR Dairy Product Prices				
		(per pound)		
Butter	\$1.707	\$1.307	\$2.295	-\$0.660
Cheddar Cheese	\$2.215	\$1.299	\$1.697	\$0.524
40-Pound Blocks	\$2.257	\$1.305	\$1.701	\$0.511
500-Pound Barrels	\$2.148	\$1.264	\$1.664	\$0.541
Nonfat Dry Milk	\$0.911	\$0.849	\$1.015	-\$0.133
Dry Whey	\$0.364	\$0.382	\$0.378	-\$0.001
Federal Order Class Prices for Milk				
		(per hundredweight)		
Class I Mover	\$11.42	\$12.95	\$17.07	-\$5.65
Class III	\$21.04	\$12.14	\$16.27	\$4.77
Class IV	\$12.90	\$10.67	\$16.83	-\$3.93
Retail Dairy Product Prices				
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	May 2020	Apr 2020	May 2019	2019–2020 Change
Producer Prices				
All Milk (per cwt.)	\$13.60	\$14.40	\$18.00	-\$4.40
Feed Prices				
Corn (per bushel)	\$3.20	\$3.29	\$3.63	-\$0.43
Soybean Meal (per ton)	\$289	\$295	\$298	-\$9
Alfalfa Hay (per ton)	\$195	\$195	\$213	-\$18
DMC Feed Cost (per cwt.)	\$8.23	\$8.37	\$9.00	-\$0.77
DMC Margin (per cwt.)	\$5.37	\$6.03	\$9.00	-\$3.63

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

(NDPSR) turned up strongly in June from its coronavirus-related low point in May. Nonfat dry milk prices did the same, but with a much smaller rebound, while NDPSR butter prices hit their low point in April. The relationships between the Class III price and the Class I mover, Class IV and Class II prices in June provides a strong indication that producer price differentials (PPDs) in federal orders will be negative and large in June, leading to significant de-pooling of Class III milk.

Milk and Feed Prices

The U.S. average all-milk price for May was reported by USDA at \$13.60 per cwt., the lowest monthly national milk price since September 2009, almost eleven years ago. The monthly Dairy Margin Coverage program margin for May was \$5.37 per cwt., the lowest monthly margin since July 2013, even allowing for the change made to the feed cost factor for alfalfa hay when the program was changed from the Margin Protection Program starting in 2019. These two statistics likely will mark the deepest point of impact on the financial structure of the U.S. dairy industry from the coronavirus pandemic, as the industry's supply-demand balance underwent a fundamental alteration during May. As one indication of this, the daily price of block and barrel cheese both topped \$2.00 a pound before the month ended, a level that has risen even further since.

Looking Ahead

After dropping a by record amount during a single month in April, the U.S. average all-milk price, when finally reported by USDA, is poised to post two record-level increases in June and July. As of mid-July, the dairy futures markets indicate that the June all-milk price will rise by \$3.50 per cwt. from May's almost eleven-year low and by a further \$3.00 per cwt. in July. Prior to June, the largest one-month increase in the national average milk price was \$2.60 per cwt., in April 2004.

These price moves establish a new level of milk price volatility and firmly cement the reputation of 2020 as an unprecedented roller coaster for the dairy industry. The outlook for U.S. average milk prices for all of 2020 continues to rise and is approaching 2019's average of \$18.60 per cwt., not including the substantial CFAP payments for which all dairy operations are eligible this year.

USDA's monthly estimates of the 2020 average all-milk price were about \$2.00 per cwt. below the then-current commodity-based price forecasts in April and May, reflecting an attempt to capture the amount of unpaid and underpaid dumped and distressed milk earlier this year. This differential dropped to about \$1.00 per cwt. under in June, but then virtually disappeared in its most recent estimate released on July 10. The futures continue to indicate that the DMC margins will remain well above \$9.50 per cwt. during the months of the second half of the year, while the June margin will come in at about that level.

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