

Overview

Looking back at 2017, the U.S. Department of Agriculture (USDA) estimates an average U.S. all-milk price of \$17.65/cwt for all of last year. As context, in terms of the extremes of the past 10 years, this will be \$4.85 higher than the average price in 2009 and \$6.35 lower than during 2014. It will be the third year in a row during which the all-milk price will have averaged less than \$18/cwt, the first time that's happened since 2006 when feed costs began to rise. Taking into account the effects of such costs, the current Margin Protection Program (MPP) margin calculation should average about \$9.70 in 2017, which would be the second-highest annual MPP margin over the past 10 years. It would be \$3.60 below the highest, during 2014, and \$5.12 above the lowest, during 2009. Monthly milk prices and margins both improved fairly steadily since last April, but federal order prices took a sharp drop at the end of the year, presaging a likely more difficult year ahead in 2018.

Commercial Use of Dairy Products

Domestic commercial use of skim solids in all dairy products outpaced the corresponding use of milkfat by the greatest difference in more than a year during August through October. Contributing to this difference was a large gain in the use of nonfat dry milk, coupled with essentially no change in butter use. Sales of fluid milk products during August through October experienced a somewhat greater year-over-year fall-off than the average drop of 1.8 percent through the first 10 months of the year.

U.S. Dairy Trade

U.S. exports of skim milk powder (SMP) were roughly the same in November as they were in November 2016, but large year-over-year losses in September and October put the total loss for the September through November period at more than 40,000 tons. The world market is heavily oversupplied at present, and world prices are back down to where they were during the troughs of 2009 and 2015-2016. Export losses for SMP were partly offset during September–November by gains in cheese and dry whey exports, which have been on the rise

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Domestic Commercial Use	Aug–Oct 2017	Aug–Oct 2016	2016–2017 Change	Percent Change
	(million pounds)			
Total Fluid Milk Products	12,171	12,436	-265	-2.1%
Butter	503	504	-1	-0.3%
American-type Cheese	1,268	1,189	79	6.7%
All Other Cheese	1,832	1,839	-7	-0.4%
Nonfat Dry Milk / Skim Milk Powders	177	133	44	32.8%
All Products (milk equiv., milkfat basis)	55,467	55,195	271	0.5%
All Products (milk equiv., skim solids basis)	44,324	43,563	761	1.7%

U.S. Dairy Trade from page 1

during most of 2017. However, total exports, as a percent of total U.S. milk solids production, were still down slightly during the recent period.

U.S. dairy imports followed the basic pattern of recent months during September–November, namely lower than a year ago in all major categories except butter. However, the drop in casein imports appears to be accelerating and approaching the level by which milk protein concentrate imports have been down since last spring.

Milk Production

U.S. milk production during September through November increased by just 1.1 percent from the same period a year ago. Compared with a year earlier, U.S. average production per cow was up just 0.4 percent, and the average number of milking

cows was 63,000 head higher. This was the smallest quarterly increase in the nation's dairy cow herd since Spring 2017.

Among all states, only Pennsylvania, Indiana, Illinois, Virginia, Kentucky and Oklahoma showed signs of accelerating their rates of production growth during November.

Dairy Products

During November, production of Cheddar cheese was essentially unchanged, and American-type cheese production rose just over 0.5 percent from November 2016. This followed two months during which both rose more than 4 percent from a year earlier. This provides some indication that attenuating milk production growth is slowly translating into a better supply-demand balance for this type of cheese. The market situation and outlook for Cheddar cheese is the largest wild card in the outlook for milk prices over the next several months. Butter production grew modestly, while combined nonfat dry milk and skim milk powder

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U.S. Dairy Exports	Sept–Nov 2017	Sept–Nov 2016	2016–2017 Change	Percent Change
		(metric tons)		
Butter	5,658	6,435	-777	-12%
Anhydrous Milk Fat/Butteroil	2,513	626	1,888	302%
Cheddar Cheese	10,031	5,506	4,524	82%
American-type Cheese	10,160	5,602	4,558	81%
Total Cheese	83,152	71,699	11,453	16%
Nonfat Dry Milk/Skim Milk Powder	146,247	187,698	-41,451	-22%
Whole Milk Powder	8,045	9,018	-974	-11%
Dry Whey	98,663	86,860	11,803	14%
Whey Protein Concentrate/Isolate	46,386	47,350	-964	-2%
Lactose	92,908	93,160	-252	0%
Percent of Milk Solids Exported	15.2%	15.4%	-0.3%	-2%

U.S. Dairy Imports	Sept–Nov 2017	Sept–Nov 2016	2016–2017 Change	Percent Change
		(metric tons)		
Butter	7,431	4,795	2,636	55%
Cheese	49,768	52,544	-2,776	-5%
Nonfat Dry Milk/Skim Milk Powder	323	61	263	434%
MPC (all protein levels)	8,998	10,984	-1,985	-18%
Casein	14,699	16,498	-1,799	-11%
Percent of Milk Solids Imported	3.3%	3.7%	-0.4%	-10%

Dairy Products from page 2

production was down by 2.5 percent from a year earlier during September–November.

Dairy Product Inventories

Stocks of American-type cheese at the end of November were down by more than 100 million pounds since last spring, equivalent to a drop of about 10 days of commercial use. Stocks of other cheese have dropped by much less over the same time, but end-of-November stocks of both types of cheese were reasonably consistent with their appropriate stocks-to-use ratios. November-ending butter stocks were half their level from last

spring, but still slightly excessive for November, given their highly seasonal nature, while manufacturers' stocks of nonfat dry milk remain excessive.

Dairy Product and Federal Order Class Prices

All four USDA/AMS-reported prices were lower in December than a month earlier. Butter prices retreated closer to the \$2.20-per-pound level they currently seem capable of maintaining. Cheese prices experienced a traditional post-holiday season drop, driven by last fall's concerns about excess production and stocks, and not yet tempered by growing indications that this

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Milk and Dairy Products Production	Sept–Nov 2017	Sept–Nov 2016	2016–2017 Change	Percent Change
Milk Production				
Cows (1,000 head)	9,398	9,336	63	0.7%
Per Cow (pounds)	5,556	5,533	23	0.4%
Total Milk (million pounds)	52,218	51,655	563	1.1%
Dairy Products Production		(million pounds)		
Cheese				
American Types	1,213	1,178	35	3.0%
Cheddar	862	838	24	2.8%
Italian Types	1,346	1,315	30	2.3%
Mozzarella	1,034	1,017	16	1.6%
Total Cheese	3,145	3,061	84	2.7%
Butter	423	418	5	1.3%
Dry Milk Products				
Nonfat Dry Milk	419	394	25	6.3%
Skim Milk Powder	97	127	-30	-23.7%
Dry Whey	254	233	21	9.1%
Whey Protein Concentrate	121	114	7	5.7%

Dairy Product Inventories	Nov 2017	Oct 2017	Nov 2016	2016–2017 Change
		(million pounds)		
Butter	159	218	161	-1%
American Cheese	733	740	713	3%
Other Cheese	526	528	469	12%
Nonfat Dry Milk	302	300	215	40%

Dairy Product and Federal Order Class Prices *from page 3*

market situation may be easing. Nonfat dry milk prices are being weighed down by the anchor of a large surplus, nationally as well as internationally, and are being joined by dry whey in this situation. The last report of USDA's Dairy Market News in 2017 commented that "industry contacts continue to report weak (dry whey) prices and significant competition within international markets." These product price reductions took a heavy toll on the Class III price, dropping it by almost a dollar and a half, while also taking the Class IV price down a half a dollar. Only the lagged Class I mover rose in December, catching a lift from the last price increases of the 2017 holiday season.

Milk and Feed Prices

The monthly margin under the MPP increased by \$0.39/cwt from October to November, driven in almost equal parts by a \$0.20-per-hundredweight increase in the all-milk price and a \$0.19-drop in the MPP feed cost formula. The November monthly MPP margin, at \$10.39/cwt, was the highest since February 2017. The MPP monthly margin has been consistently above \$8.00/cwt since July 2016. The November monthly MPP feed cost of \$7.71/cwt was the lowest since December 2016. The November all-milk price, at \$18.10/cwt, was the highest since February 2017.

U.S. average retail prices for both whole milk and natural Cheddar cheese have been generally trending down for several

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Dairy Product and Federal Order Prices	Dec 2017	Nov 2017	Dec 2016	2016–2017 Change
AMS Commodity Prices		(per pound)		
Butter	\$2.232	\$2.281	\$2.100	\$0.132
Cheese	\$1.648	\$1.762	\$1.799	-\$0.151
Nonfat Dry Milk	\$0.724	\$0.755	\$0.958	-\$0.234
Dry Whey	\$0.303	\$0.359	\$0.399	-\$0.096
Class Prices for Milk		(per hundredweight)		
Class I Mover	\$16.88	\$16.41	\$16.88	\$0.00
Class III	\$15.44	\$16.88	\$17.40	-\$1.96
Class IV	\$13.51	\$13.99	\$14.97	-\$1.46

Milk and Feed Prices	Nov 2017	Oct 2017	Nov 2016	2016–2017 Change
Producer Prices				
All Milk (per cwt.)	\$18.10	\$17.90	\$17.60	\$0.50
Feed Prices				
Corn (per bushel)	\$3.15	\$3.26	\$3.23	-\$0.08
Soybean Meal (per ton)	\$314	\$315	\$322	-\$9
Alfalfa Hay (per ton)	\$148	\$152	\$130	\$18
2014 Farm Bill Feed Cost (per cwt.)	\$7.71	\$7.90	\$7.62	\$0.10
2014 Farm Bill Margin (per cwt.)	\$10.39	\$10.00	\$9.98	\$0.40
Retail Dairy Product Prices				
Fluid Milk (per gallon)	\$3.150	\$3.158	\$3.280	-\$0.130
Cheddar Cheese (per pound)	\$5.006	\$5.028	\$4.914	\$0.092

Milk and Feed Prices *from page 4*

years. The average price of a gallon of whole milk has dropped fairly steadily this year from its most recent high of \$3.32 per gallon in January. Its previous high was \$3.86 per gallon in November 2014, and its all-time high before that was \$3.96 per gallon in July 2008. Natural Cheddar cheese hit its all-time high retail price more recently: \$5.94 per pound in February 2013. It has subsequently given up about a dollar a pound and remained below \$5 per pound for 10 months, beginning in November 2016. It has drifted back up to just above that threshold in recent months. Overall, however, food price inflation has clearly not been an issue in recent years for these two major benchmark dairy products.

Looking Ahead

USDA has steadily reduced its midpoint projections for the 2018 U.S. average all-milk price, from \$18.60/cwt in its projection last June to \$16.20 in its current outlook. At the same time, the CME futures indicated that the all-milk price would be about \$15.95 for 2018, and the MPP margin would average \$7.60/cwt during this year. At the same time, USDA has also been steadily dropping its forecast of U.S. milk production during 2018. This has produced a potentially conflicting picture of steadily improving domestic supply and demand fundamentals, and steadily worsening price and earnings outlooks for U.S. dairy farmers. A continued bleak outlook for world market conditions could square this picture of the domestic dairy market outlook, but it is still hard to escape the nagging feeling that it doesn't all add up.

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