



Dairy Outlook

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Market Psychology

The Class III price in December was \$0.53 higher than in November, while the Class IV price was up \$1.29. Following the pattern of recent months, Class III continues to be well ahead of Class IV. Since peaking in early November, cheese prices have been falling, dropping 28 cents/lb. during that period. The cheese market peaked in mid-December, and then dropped about 10¢ per pound. Of course, the holiday entertaining season is now over, so seasonal cheese demand in the next few months will be lackluster. Added to these seasonal demand doldrums, the dollar is still strong, with the value of the Euro, Australian, and New Zealand dollars all falling by 2 to 3% in December relative to our dollar. The butter and skim-milk powder prices are down 1% in the last month, while the cheese price is up 1.9%, and dry whey is up 4.8%. Dairy exports have improved, in part because milk production is dropping in Europe, Australia, and New Zealand, probably in response to low milk prices. Butter and skim milk powder futures are stronger for most of 2017, no doubt in response to decreasing milk production by the other dairy exporters. Mexico continues to be our largest dairy product customer, although its purchases through October were 7% lower than 2015. Canada is our third largest customer and the value of Canadian purchases were up 11% through October. Export tonnage is greater than last year for almost all dairy product categories, although the lower prices mean revenue is less.

Table 1 shows recent dairy class prices, plus the futures prices for the first half of 2017. Class III and class IV prices are expected to be higher for all of 2017 than in 2016. My estimated average for the Pennsylvania All Milk Price for 2017 is \$3.38 higher than the average of 2016. Nationally, California continues to experience extreme drought in the Central Valley and the Southeast has drought as well. The long-term issues depressing dairy prices are the strong dollar, the Russian embargo



on EU dairy imports, and to some extent the struggling Chinese economy. Overall the outlook for milk prices for 2017 is much better. Since feed prices will remain low, there should be a marked improvement in dairy profitability this year.

Corn and Soybean Markets

Corn and soybean meal prices are essentially the same as last month, with the corn price down 0.4% and soybean meal price down 1.7%. The South American corn and soybean crops will have record yields and production. U.S. exports of corn and beans are large despite the strong dollar.

Income over Feed Costs (IOFC)

Penn State's measure of income over feed costs rose by 5% in December from its November value, as higher milk prices and lower feed prices. Figure 1 shows how these values compare to recent years. December's income over feed cost is \$1.01 higher than November, and the highest value of 2016. Income over feed cost reflects daily gross milk income less feed costs for an average cow producing 65 pounds of milk per day. Table 2 shows the monthly data for the past two years.

The net revenue per hundred pounds of milk (milk margin) is shown in Table 3. The milk margin is the estimated amount of the Pennsylvania all milk price that remains after the feed costs per hundredweight of milk production are paid. Like income over feed cost, this measure shows that the December PA milk margin was 5% higher than in November.

The Pennsylvania drought continues, with much of the state and the region still abnormally dry.

Milk Production

The latest U.S. milk production report showed November milk production up 2.4% from a year earlier on a 30-day month basis (Figure 2). This milk production increase is inconsistent with the current dairy economics environment, since the export market is tight, and, the strong dollar is limiting exports. Luckily, the other dairy exporters are decreasing milk production. Pennsylvania's milk production in November increased by 2.5% over the 2015 level. As is seen in Figure 3, cow

numbers grew slightly from October and increased by only 0.18% over November of last year. Although this increase is very small, more milk production nationally will inhibit attaining higher milk prices, although the recovering dairy exports are helping.

Table 1. Milk Prices and Milk Futures Prices for 2016 and 2017

(Based on futures prices of December 30, 2016)

2016	Class III \$/cwt	Class IV \$/cwt	PA All Milk \$/cwt	2017	Class III \$/cwt	Class IV \$/cwt	PA All Milk \$/cwt
Jan	\$13.72	\$13.31	\$17.40	Jan	\$16.47	\$16.43	\$19.77
Feb	\$13.80	\$13.49	\$17.10	Feb	\$16.95	\$16.70	\$20.14
Mar	\$13.74	\$12.74	\$16.30	Mar	\$17.30	\$16.91	\$20.41
Apr	\$13.63	\$12.68	\$16.20	Apr	\$17.48	\$17.12	\$20.60
May	\$12.76	\$13.09	\$15.90	May	\$17.56	\$17.34	\$20.75
Jun	\$13.22	\$13.77	\$15.80	Jun	\$17.67	\$17.50	\$20.88
Jul	\$15.24	\$14.84	\$16.90	Jul	\$17.82	\$17.71	\$21.05
Aug	\$16.91	\$14.65	\$18.76	Aug	\$17.84	\$17.84	\$21.12
Sep	\$16.39	\$14.25	\$17.90	Sep	\$17.90	\$17.90	\$21.18
Oct	\$14.82	\$13.66	\$17.70	Oct	\$17.80	\$17.85	\$21.11
Nov	\$16.76	\$13.76	\$18.65	Nov	\$17.64	\$17.73	\$20.97
Dec	\$17.39	\$15.05	\$19.57	Dec	\$17.35	\$17.49	\$20.71
Annual	\$14.87	\$13.77	\$17.35	Annual	\$17.48	\$17.38	\$20.72
Annual change	-\$ 0.90	-\$ 0.51	-\$ 1.13	Annual change	\$ 2.62	\$ 3.60	\$ 3.38
% change	-5.7%	-3.6%	-6.1%	% change	17.6%	26.2%	19.5%

Table 2: PA Income over Feed Costs

Month	All Milk Price	Feed Cost per 65 lbs. Milk	Income over feed cost
Jan-15	\$19.20	\$5.24	\$7.24
Feb-15	\$18.30	\$5.12	\$6.78
Mar-15	\$17.70	\$5.17	\$6.34
Apr-15	\$17.60	\$5.15	\$6.29
May-15	\$17.80	\$4.90	\$6.67

Jun-15	18.100	\$5.10	\$6.67
Jul-15	\$17.60	\$5.14	\$6.30
Aug-15	\$17.60	\$4.67	\$6.77
Sep-15	\$18.90	\$4.77	\$7.52
Oct-15	\$19.40	\$5.09	\$7.52
Nov-15	\$20.30	\$5.11	\$8.09
Dec-15	\$19.20	\$4.85	\$7.63
Jan-16	\$17.40	\$4.53	\$6.68
Feb-16	\$17.10	\$4.57	\$6.55
Mar-16	\$16.30	\$4.55	\$6.05
Apr-16	\$16.20	\$4.39	\$6.14
May-16	\$15.90	\$4.65	\$5.69
Jun-16	\$15.80	\$4.28	\$5.99
Jul-16	\$16.90	\$4.23	\$6.75
Aug-16	\$17.50	\$4.34	\$7.04
Sep-16	\$17.90	\$4.38	\$7.26
Oct-16	\$17.70	\$4.50	\$7.00
Nov-16	\$18.65	\$4.59	\$7.53
Dec-16	\$19.57	\$4.18	\$8.54

Table 3: PA Milk Margin

	All milk price per cwt.	Feed cost per cwt.	Milk margin per cwt.
Jan-15	\$19.20	\$8.20	\$11.00
Feb-15	\$18.30	\$7.88	\$10.42
Mar-15	\$17.70	\$8.23	\$9.47
Apr-15	\$17.60	\$7.93	\$9.67
May-15	\$17.80	\$7.53	\$10.27
Jun-15	\$18.10	\$7.84	\$10.26
Jul-15	\$17.60	\$7.90	\$9.70
Aug-15	\$17.60	\$7.18	\$10.42
Sep-15	\$18.90	\$7.34	\$11.56
Oct-15	\$19.40	\$7.84	\$11.56
Nov-15	\$20.30	\$7.86	\$12.44
Dec-15	\$19.20	\$7.46	\$11.74
Jan-16	\$17.40	\$7.12	\$10.28
Feb-16	\$17.10	\$7.03	\$10.07
Mar-16	\$16.30	\$7.00	\$9.30
Apr-16	\$16.20	\$6.76	\$9.44
May-16	\$15.90	\$7.15	\$8.75
Jun-16	\$15.80	\$6.58	\$9.22

Jul-16	\$16.90	\$6.51	\$10.39
Aug-16	\$17.50	\$6.67	\$10.83
Sep-16	\$17.90	\$6.73	\$11.17
Oct-16	\$17.70	\$6.38	\$11.24
Nov-16	\$18.65	\$7.07	\$11.58
Dec-16	\$19.57	\$6.43	\$13.14

Figure 1: PA Dairy Income over feed cost

PA Dairy Income over Feed Cost

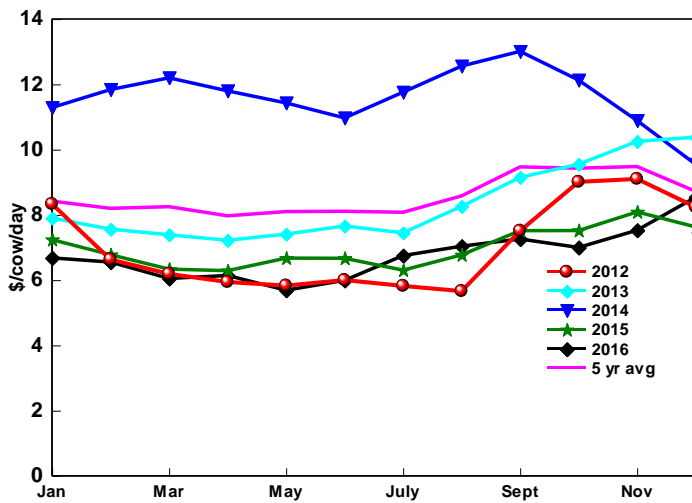


Figure 2: Milk Production

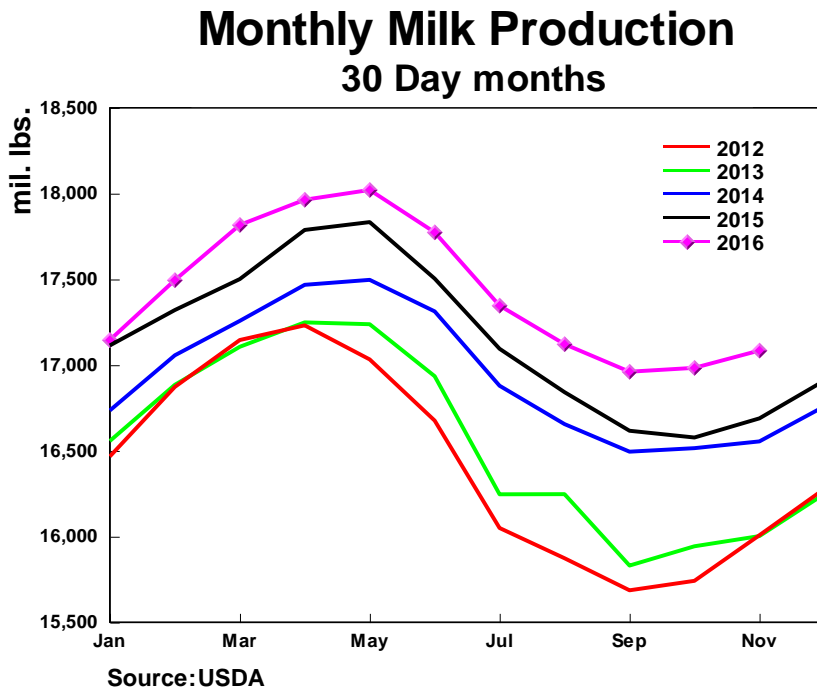


Figure 3: Dairy Cows

