



# **Dairy Outlook**

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## **Market Psychology**

The Class III price in October was \$1.57 less than September, while the Class IV price was down \$0.59. These changes brought the two markets closer together. After a period when both the cheese and butter prices fell sharply, since late October, both have risen sharply, with cheese up by 15.8% and butter up by 4.0%, having fallen after a brief spike. The cheese market is exceptionally vigorous, with block prices at two-year highs. This enthusiasm is not consistent with the fundamentals, with lots of cheese in storage, exports not impressive, and the dollar still strong. Butter is up 3.7% since last month and skim-milk powder prices has fallen 3.7%, and dry whey is up 4.5%. Powder exports are improving, which is important for dairy prices. The dollar is up against the Australian and New Zealand dollar, although it is down against the Euro by 1.5%. Internationally, the markets have improved somewhat. Australia, New Zealand, and the European Union have had lower milk production and China has begun to buy again, increasing imports in tons compared to last year, although the value is less with the lower milk prices. Except for skim milk powder, Chinese purchases by volume for the year to date are well above 2015 levels, although for some categories, the dollar value decreases because prices are lower.

Table 1 shows recent dairy class prices, plus the futures prices for the remainder of 2016 and first half of 2017. Class III prices are expected to be lower over the remainder of 2016, and all of 2017. My estimates for the Pennsylvania All Milk Price for the rest of 2016 show it above January-June. The latest Drought Monitor has drought continuing in most of the Northeast, although it is less severe in upstate New York. Southern New Hampshire continues to have serious drought. Nationally, California continues to experience extreme drought in the Central Valley. Besides the Northeast and the continuing extreme drought in California,



the nation's crop weather is generally okay. The long-term issues depressing dairy prices are still the strong dollar, the Russian embargo on EU dairy imports, and to some extent China's economy. Overall the outlook for milk prices for the rest of 2016 and 2017 is much better. Table 1 shows that the latest dairy futures prices imply a Pennsylvania all-milk averaging \$2.33/cwt. above 2016. Since feed prices will remain low, this would be a marked improvement over this year.

### **Corn and Soybean Markets**

Corn and soybean meal prices are essentially the same as last month, with corn up 0.3% and meal up 0.9% respectively in the past month, with soybean prices up 2.6%. The U.S. corn crop and soybean crop will be record yields and production. Exports of corn and beans are large.

### **Income over Feed Costs (IOFC)**

Penn State's measure of income over feed costs rose by 0.6% in October from its September value, as lower milk prices combined with somewhat lower feed prices. Figure 1 shows how these values compare to recent years. October's income over feed cost is the highest since November 2014. 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 18 months.

The allocation of the 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 September PA milk margin was 0.6% higher than in August.

The Pennsylvania drought is easing, although any change now will have little effect on 2016 production.

### **Milk Production**

The latest U.S. milk production report showed September milk production up 2.1% from a year earlier on a 30-day month basis (Figure 2). This milk production increase is problematic in the current dairy environment, since the export market is

tight, and, the strong dollar will limit exports. The increase is highest in Michigan, Texas, South Dakota, and New York. Pennsylvania’s milk production increased by only 1.3%. As is seen in Figure 3, cow numbers continue to grow very slowly and increased by only 0.22% over last year. Although this increase is very small, more milk production nationally will inhibit reaching higher milk prices.

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

(Based on futures prices of November 4, 2016)

2016	Class III	Class IV	PA All Milk	2017	Class III	Class IV	PA All Milk
	\$/cwt	\$/cwt	\$/cwt		\$/cwt	\$/cwt	\$/cwt
Jan	\$13.72	\$13.31	\$17.40	Jan	\$15.93	\$14.53	\$18.59
Feb	\$13.80	\$13.49	\$17.10	Feb	\$15.98	\$14.80	\$18.75
Mar	\$13.74	\$12.74	\$16.30	Mar	\$16.05	\$15.43	\$19.08
Apr	\$13.63	\$12.68	\$16.20	Apr	\$16.10	\$15.69	\$19.23
May	\$12.76	\$13.09	\$15.90	May	\$16.13	\$15.98	\$19.38
Jun	\$13.22	\$13.77	\$15.80	Jun	\$16.29	\$16.24	\$19.59
Jul	\$15.24	\$14.84	\$16.90	Jul	\$16.49	\$16.45	\$19.79
Aug	\$16.91	\$14.65	\$18.76	Aug	\$16.70	\$16.62	\$19.97
Sep	\$16.39	\$14.25	\$17.90	Sep	\$16.85	\$16.80	\$20.13
Oct	\$14.82	\$13.66	\$17.62	Oct	\$16.82	\$16.78	\$20.11
Nov	\$16.80	\$13.69	\$18.63	Nov	\$16.73	\$16.91	\$20.12
Dec	\$16.45	\$13.93	\$18.40	Dec	\$16.64	\$16.92	\$20.08
Annual	\$14.79	\$13.68	\$17.24	Annual	\$16.39	\$16.10	\$19.57
Annual change	-\$ 0.97	-\$ 0.61	-\$ 1.23	Annual change	\$ 1.60	\$ 2.42	\$ 2.33
% change	-6.2%	-4.3%	-6.7%	% change	10.8%	17.7%	13.5%

**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	\$17.62	\$4.15	\$7.30

**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	\$17.62	\$6.38	\$11.24

Figure 1: PA Dairy Income over feed cost

### PA Dairy Income over Feed Cost

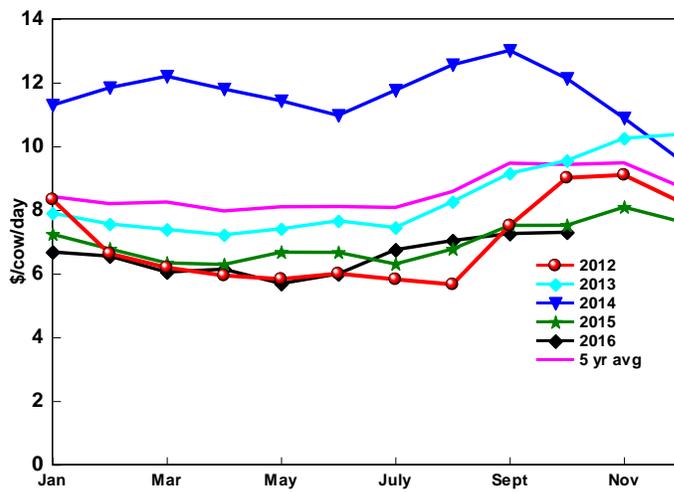


Figure 2: Milk Production

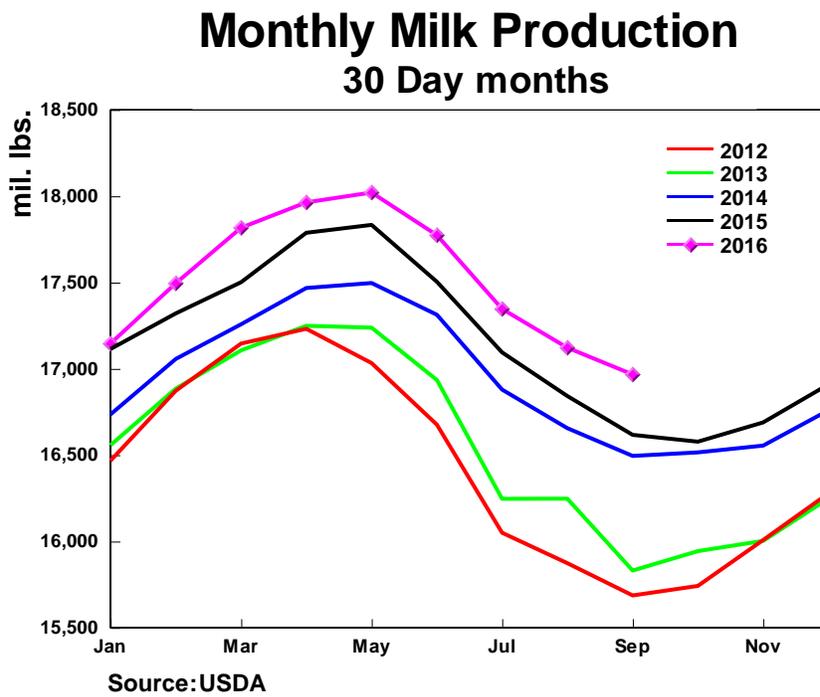


Figure 3: Dairy Cows

