

Dairy Outlook: May 2020

March U.S. milk production was 1.3 million pounds above February, but is lower than the typical increase due to spring flush. Current Class III and Class IV futures appear to have stabilized for the moment.

March Production Boils Over

It is not surprising that March had an increase in milk production compared to February. This occurs every spring. What doesn't happen is an oversupply met with sudden reductions and shifts in demand. Despite this imbalance, both Pennsylvania and U.S. all milk price were down \$0.50/cwt and \$0.90/cwt, respectively, from the previous month. The reported price data hasn't caught up with the major market changes just yet. The next few months will indicate how severe the disruption has been and will be for the foreseeable future. Despite a whirlwind of negativity right now, there is some potential good news. Class III and Class IV futures (Figure 3) summarized for this publication (April 29th to May 6th) were similar or slightly better than those reported in the last article (April 15th to April 21st). If this stabilization holds, the average Class III price for 2020 would be roughly \$15/cwt and Class IV \$13/cwt. There are still numerous external pressures (both positive and negative) that could have an impact. Feed costs have also been fluctuating, resulting in lower income over feed costs (Figure 2). The projected income over feed cost for April and May (and most likely June) indicate major stresses on monthly cash flow for the near future.



"Boiling over Milk" by Myriam Zilles. pixabay.com

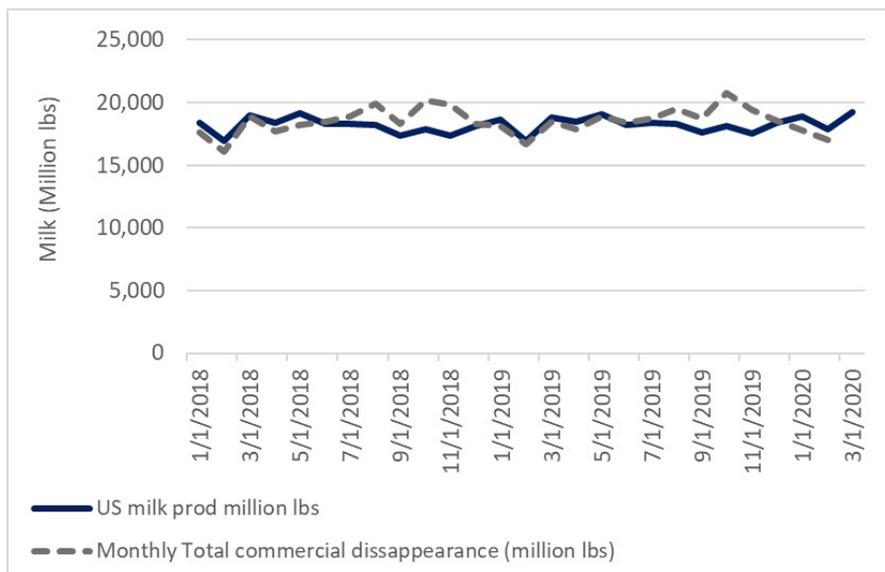
New Feature: Monthly U.S. Milk Production and Disappearance

For the next few months, a graph depicting monthly U.S. milk production and total disappearance will be featured (Figure 1). There is a monthly lag in reported disappearance to total production. Figure 1 currently demonstrates the 1.3 million pound milk increase in March over February 2020. However, examining the same two month period last year, there was a 1.8 million pound difference. Even before the abrupt change caused by the pandemic, milk production started outpacing disappearance in January 2020. Given the market responses and sudden shift in production consumption discussed last month, it is unknown just how wide a gap this becomes in March and April of 2020, followed by how quickly it will correct itself.

Figure 1: Month U.S. Milk Production and Total Disappearance



PennState Extension



USDA Economic Research Service and USDA National Agricultural Statistics Service, 2020.

Income Over Feed Cost, Margin, and All Milk Price Trends

Table 1: 12 month Pennsylvania and U.S. All Milk Income, Feed Cost, Income over Feed Cost (\$/milk cow/day)

	PA All Milk Income	PA Feed Cost ¹	PA IOFC	3 yr avg. breakeven IOFC ²	US All Milk Income	US Feed Cost ¹	US IOFC
Apr-19	\$ 13.73	\$ 5.32	\$ 8.41	\$ 9.00	\$ 13.28	\$ 4.57	\$ 8.71
May-19	\$ 13.95	\$ 5.30	\$ 8.65	\$ 9.00	\$ 13.50	\$ 4.68	\$ 8.82
Jun-19	\$ 14.10	\$ 5.46	\$ 8.64	\$ 9.00	\$ 13.58	\$ 4.71	\$ 8.86
Jul-19	\$ 14.33	\$ 5.72	\$ 8.61	\$ 9.00	\$ 14.03	\$ 4.64	\$ 9.39
Aug-19	\$ 14.55	\$ 5.00	\$ 9.55	\$ 9.00	\$ 14.18	\$ 4.47	\$ 9.71
Sep-19	\$ 14.70	\$ 4.82	\$ 9.88	\$ 9.00	\$ 14.48	\$ 4.44	\$ 10.04
Oct-19	\$ 15.08	\$ 5.26	\$ 9.81	\$ 9.00	\$ 14.93	\$ 4.44	\$ 10.48
Nov-19	\$ 15.75	\$ 5.43	\$ 10.32	\$ 9.00	\$ 15.75	\$ 4.28	\$ 11.47
Dec-19	\$ 15.68	\$ 5.34	\$ 10.34	\$ 9.00	\$ 15.53	\$ 4.32	\$ 11.20
Jan-20	\$ 15.15	\$ 5.32	\$ 9.83	\$ 9.00	\$ 14.70	\$ 4.30	\$ 10.40
Feb-20	\$ 14.55	\$ 5.40	\$ 9.15	\$ 9.00	\$ 14.18	\$ 4.29	\$ 9.88
Mar-20	\$ 14.18	\$ 5.75	\$ 8.43	\$ 9.00	\$ 13.50	\$ 4.33	\$ 9.17
Apr-20	\$ 11.31	\$ 5.61	\$ 5.71	\$ 9.00	\$ 10.36	\$ 4.38	\$ 5.98
May-20	\$ 10.23	\$ 5.63	\$ 4.61	\$ 9.00	\$ 9.24	\$ 4.40	\$ 4.84
12 mo. Avg.	\$ 14.64	\$ 5.34	\$ 9.30		\$ 14.30	\$ 4.46	\$ 9.84
12 mo. change	\$ 1.67	\$ 0.49	\$ 1.18		\$ 1.93	\$ 0.10	\$ 1.83
% change	12.9%	10.0%	14.6%		15.6%	2.3%	22.8%

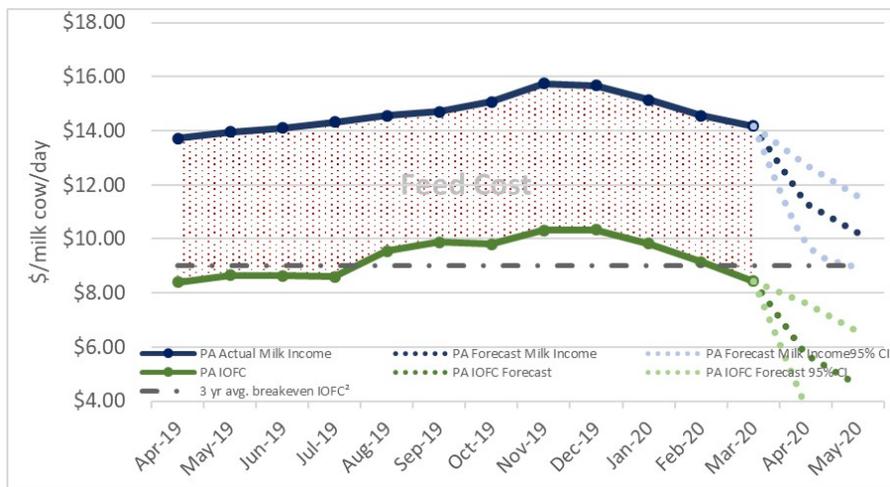
¹Based on corn, alfalfa hay, and soybean meal equivalents to produce 75 lbs. of milk (Bailey & Ishler, 2007) ²The 3 year average actual IOFC breakeven in Pennsylvania from 2015-2017 was \$9.00 ± \$1.67 (\$/milk cow/day) (Beck, Ishler, Goodling, 2018).

Table 2: 12 month Pennsylvania and U.S. All Milk Price, Feed Cost, Milk Margin (\$/cwt for lactating cows)

	PA All Milk Price	PA Feed Cost ¹	PA Milk Margin	3 yr avg. breakeven Milk Margin ²	US All Milk Price	US Feed Cost ¹	US Milk Margin
Apr-19	\$ 18.30	\$ 7.09	\$ 11.21	\$ 12.33	\$ 17.70	\$ 6.09	\$ 11.61
May-19	\$ 18.60	\$ 7.06	\$ 11.54	\$ 12.33	\$ 18.00	\$ 6.24	\$ 11.76
Jun-19	\$ 18.80	\$ 7.28	\$ 11.52	\$ 12.33	\$ 18.10	\$ 6.28	\$ 11.82
Jul-19	\$ 19.10	\$ 7.62	\$ 11.48	\$ 12.33	\$ 18.70	\$ 6.18	\$ 12.52
Aug-19	\$ 19.40	\$ 6.67	\$ 12.73	\$ 12.33	\$ 18.90	\$ 5.96	\$ 12.94
Sep-19	\$ 19.60	\$ 6.43	\$ 13.17	\$ 12.33	\$ 19.30	\$ 5.91	\$ 13.39
Oct-19	\$ 20.10	\$ 7.01	\$ 13.09	\$ 12.33	\$ 19.90	\$ 5.92	\$ 13.98
Nov-19	\$ 21.00	\$ 7.24	\$ 13.76	\$ 12.33	\$ 21.00	\$ 5.71	\$ 15.29
Dec-19	\$ 20.90	\$ 7.12	\$ 13.78	\$ 12.33	\$ 20.70	\$ 5.76	\$ 14.94
Jan-20	\$ 20.20	\$ 7.10	\$ 13.10	\$ 12.33	\$ 19.60	\$ 5.74	\$ 13.86
Feb-20	\$ 19.40	\$ 7.20	\$ 12.20	\$ 12.33	\$ 18.90	\$ 5.72	\$ 13.18
Mar-20	\$ 18.90	\$ 7.66	\$ 11.24	\$ 12.33	\$ 18.00	\$ 5.77	\$ 12.23
Apr-20	\$ 15.09	\$ 7.48	\$ 7.61	\$ 12.33	\$ 13.81	\$ 5.84	\$ 7.98
May-20	\$ 13.64	\$ 7.50	\$ 6.14	\$ 12.33	\$ 12.32	\$ 5.86	\$ 6.46
12 mo. Avg.	\$ 19.53	\$ 7.12	\$ 12.40		\$ 19.07	\$ 5.94	\$ 13.13
12 mo. change	\$ 2.23	\$ 0.65	\$ 1.58		\$ 2.57	\$ 0.13	\$ 2.44
% change	12.9%	10.0%	14.6%		15.6%	2.3%	22.8%

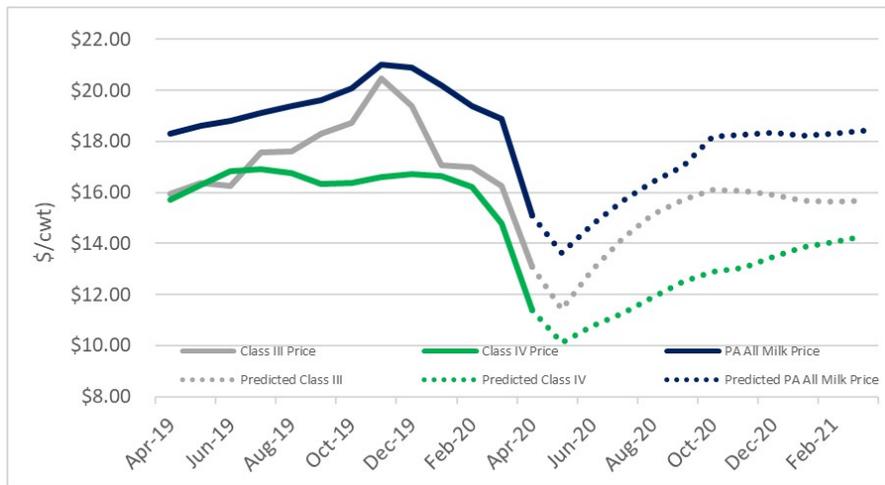
¹Based on corn, alfalfa hay, and soybean meal equivalents to produce 75 lbs. of milk (Bailey & Ishler, 2007) ²The 3 year average actual Milk Margin breakeven in Pennsylvania from 2015-2017 was \$12.33 ± \$2.29 (\$/cwt) (Beck, Ishler, Goodling, 2018).

Figure 3: Twelve month Pennsylvania Milk Income and Income Over Feed Cost (\$/milk cow/day)



²The 3 year average actual IOFC breakeven in Pennsylvania from 2015-2017 was \$9.00 ± \$1.67 (\$/milk cow/day) (Beck, Ishler, Goodling, 2018).

Figure 2: Twenty-four month Actual and Predicted* Class III, Class IV, and Pennsylvania All Milk Price (\$/cwt)



*Predicted values based on Class III and Class IV futures regression (Goodling, 2020).

Table 3: Twenty-four month Actual and Predicted* Class III, Class IV, and Pennsylvania All Milk Price (\$/cwt)

Month	Class III Price	Class IV Price	PA All Milk Price
Apr-19	\$15.96	\$15.72	\$18.30
May-19	\$16.38	\$16.29	\$18.60
Jun-19	\$16.27	\$16.83	\$18.80
Jul-19	\$17.55	\$16.90	\$19.10
Aug-19	\$17.60	\$16.74	\$19.40
Sep-19	\$18.31	\$16.35	\$19.60
Oct-19	\$18.72	\$16.39	\$20.10
Nov-19	\$20.45	\$16.60	\$21.00
Dec-19	\$19.37	\$16.70	\$20.90
Jan-20	\$17.05	\$16.65	\$20.20
Feb-20	\$17.00	\$16.20	\$19.40
Mar-20	\$16.25	\$14.80	\$18.90
Apr-20	\$13.07	\$11.40	\$15.09
May-20	\$11.43	\$10.12	\$13.64
Jun-20	\$12.96	\$10.77	\$14.74
Jul-20	\$14.22	\$11.25	\$15.66
Aug-20	\$15.13	\$11.90	\$16.43
Sep-20	\$15.71	\$12.51	\$17.01
Oct-20	\$16.12	\$12.88	\$18.19
Nov-20	\$16.08	\$13.06	\$18.26
Dec-20	\$15.91	\$13.47	\$18.36
Jan-21	\$15.66	\$13.85	\$18.24
Feb-21	\$15.64	\$14.04	\$18.32
Mar-21	\$15.66	\$14.27	\$18.44
Apr-21	\$15.55	\$14.59	\$17.85

To look at feed costs and estimated income over feed costs at varying production levels by zip code, check out the Penn State Extension Dairy Team's [DairyCents](#) or [DairyCents Pro](#) apps today.

Data sources for price data

- All Milk Price: Pennsylvania and U.S. All Milk Price (USDA National Ag Statistics Service, 2020)
- Current Class III and Class IV Price (USDA Ag Marketing Services, 2020)
- Predicted Class III, Class IV Price (CME Group, 2020)
- Alfalfa Hay: Pennsylvania and U.S. monthly Alfalfa Hay Price (USDA National Ag Statistics Service, 2020)
- Corn Grain: Pennsylvania and U.S. monthly Corn Grain Price (USDA National Ag Statistics Service, 2020)
- Soybean Meal: Feed Price List (Ishler, 2020) and average of Decatur, Illinois Rail and Truck Soybean Meal, High Protein prices, National Feedstuffs (USDA Ag Marketing Services, 2020)

References

- Bailey, K. and V. Ishler. "[Dairy Risk-Management Education: Tracking Milk Prices and Feed Costs](#)". Penn State Extension. Accessed 9/20/2017.
- Beck, T.J., Ishler, V.A., & Goodling, R. C. 2018. "*Dairy Enterprise Crops to Cow to Cash Project*," the Pennsylvania State University. Unpublished raw data.
- CME Group. "[Class III Milk Futures Settlements](#)". Accessed 5/7/2020.
- CME Group. "[Class IV Milk Futures Settlements](#)". Accessed 5/7/2020.
- [Dairy Records Management Systems](#). "DairyMetrics Online Data Report system". Accessed 9/14/2017.
- Ishler, V. "[DairyCents Mobile App](#)". Penn State Extension. #App-1010.
- Ishler, V. "[DairyCents Pro Mobile App](#)". Penn State Extension. #App-1009.
- Ishler, V. "Feed Price List". Personal Communication. Accessed 4/20/2020.
- Microsoft 2016. "[Forecast.ets function](#)", Office Help Website.
- USDA Ag Marketing Services, 2020. [Milk Marketing Order Statistics](#). Accessed 5/7/2020.
- USDA Ag Marketing Services, 2020. "[National Feedstuffs: Soybean Meal, High Protein](#)". Summary of USDA AMS Grain Reports. Accessed 5/7/2020.
- USDA Economic Research Service, 2020. "[Dairy Data](#)". Commercial disappearance of milk in all products. Accessed 5/7/2020.
- USDA National Ag Statistics Service, 2020. [Agricultural Prices, Quick Stats version 2.0](#). Accessed 5/7/2020.

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