Select Milk Producers, Inc.

Testimony of Chris Allen

In Support of Proposal 12

1. Introduction

My name is Chris Allen. I serve as the Senior Director for Industry Relations and Analytics at Select Milk Producers, Inc. I hold a Bachelor's Degree and Master's Degree in Economics from The University of Texas at Arlington. I have worked in the dairy industry since 2008. Among my responsibilities are market analysis and economic policy. In conjunction with Select's staff, I have analyzed and developed the three proposals submitted by Select and noticed for consideration at this hearing. My testimony today addresses Proposal 12 related to the yield of nonfat dry milk ("NFDM") and the inclusion of the value of the nonfat solids in dry buttermilk powder ("BMP").

2. Overview of the Proposal

Select's Proposal 12 changes the yield factor for NFDM to properly account for the value of milk solids utilized in the manufacturing of BMP. If adopted, Proposal 12 would change the yield for NFDM from 0.99 to 1.03.

3. Philosophy and Rationale

Select's Proposal 12, and in fact, all of Select's proposals and its evaluation of the other proposals under consideration at this hearing are governed by one overriding principle. The formulas establishing the minimum prices paid to producers should reflect the current economic realities of processing, transporting, processing, and marketing milk and dairy products. All aspects of the formulas should be reviewed rather than limiting consideration to a small subset of factors. Achievable efficiencies should be promoted rather than discouraged.

As I explain in greater detail later in my testimony, we expect that the adoption of Proposal 12 will increase the Class IV price, thereby increasing Class I and Class II prices in turn. I want to point out that increased minimum prices are the result of, and not the impetus for, offering Proposal 12—or Proposals 10 and 11. All three proposals aim to ensure that the formulas reflect market conditions and achievable efficiencies. As representatives of Dairy Programs have occasionally said, the role of federal orders is not to enhance producer income. Rather, the end product pricing system is intended to construct a series of formulas that allow USDA to ascertain the value of producer milk used to manufacture defined commodities, taking into account the costs to convert milk into finished products and the yields of the products produced.

I would add that while Select's proposals would increase producer income, the same proposals would increase the cost of milk to Select's processing facilities. That is part of the deal, so to speak. Every proposed change to the product formulas will have an impact. Make allowance increases will decrease minimum prices. But if make costs have increased, those factors should be adjusted. USDA's decision to hold a hearing on make allowances is prudent. Utilizing manufacturing cost factors set in 2008 based on even older data calls into question the validity and accuracy of those formula elements. In the same vein, the yield factors in the formulas incorporate assumptions regarding farm-to-plant shrink that are at least as stale as the underpinnings for manufacturing costs. It is time for them to be made current, and we thank USDA for noticing Proposal 12 to address these assumptions.

Precision and accuracy are paramount. Producers and handlers deserve to know that the calculation of the minimum class and component prices utilized the best available data and inherent assumptions for each of the three principal formula elements—commodity prices, manufacturing allowances, and yields.

To accomplish that goal, it is incumbent on USDA to adopt those changes that most closely tie the price discovery mechanisms to the actual conditions of the market for commodities and the processes used to convert raw milk into those commodities.

4. Discussion of Past USDA Decisions

The current yield factor for nonfat solids of 0.99 was set as part of USDA's 2002 Final Decision on the Class III and IV price formulas. The 2002 Final Decision "eliminates the consideration of nonfat solids that end up in buttermilk powder from the Class IV nonfat solids pricing formula."[1] USDA concluded then that the elimination of these nonfat solids from the Class IV formulas was appropriate because:

> [R]ecognizing a minimum value for buttermilk powder does not materially affect the Class IV skim milk price. Record evidence indicates that the price of buttermilk powder can be a low of 70 percent of the nonfat dry milk price for the same period. In addition, according to the record, the make allowance of buttermilk powder is an additional 2 cents per pound higher than the nonfat dry milk make allowance. Official notice of weekly Dairy Product Prices published by the National Agricultural Statistics Service for January 2000 through May 2002 is hereby taken. [dead weblink deleted]
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> Using the 2-cent higher make allowance for buttermilk and prices for nonfat dry milk and buttermilk powder for the period of January 2000 through May 2002 it was determined that the effect of including buttermilk powder in the nonfat solids price and the Class IV skim milk price was negligible. Therefore, this decision eliminates the consideration of nonfat solids that end up in buttermilk powder from the Class IV nonfat solids pricing formula.[2]

However, the effect of buttermilk powder on the formulas was not then, nor is it now "negligible." The 2002 Final Decision did not set forth the mathematics to support its conclusion

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[1] Milk in the Northeast and Other Milk Marketing Areas, 67 Fed. Reg. 67906, 67,921-22 (November 7, 2002) (referred to throughout as "2002 Final Decision").

[2] 2002 Final Decision, 67 Fed. Reg. at 67,921-22.

then. As further explained in this testimony, had the 2002 Final Decision properly analyzed the impacts of removing buttermilk powder, it should have arrived at a yield of 1.02.

The situation twenty years later is even more pronounced. Current data demonstrate that the spread between the prices of nonfat dry milk and buttermilk powder is minimal and not uniformly negative. USDA reported dry buttermilk prices and nonfat dry milk low/medium heat prices establish a much tighter price alignment than assumed by the 2002 Final Decision. Accordingly, the proper yield for NFDM should be increased to 1.03 to reflect the current state of the industry.

Select's Proposal 12 recognizes that the current yield factor wholly fails to compensate producers for the value of milk solids used in the manufacturing of buttermilk powder.

5. Calculation of the Proper Yield

a. The 2002 Final Decision Improperly Accounted for the Value of Buttermilk Powder

In developing Select's Proposal 12, we partially accepted USDA's reasoning in setting the NFDM yield described in the 2002 Final Decision. Specifically, we accepted that the portion of milk solids in Class IV milk used to manufacture buttermilk powder should reflect the proper value of the end product and the cost to manufacture it. We did not accept, however, USDA's conclusion "that the effect of including buttermilk powder in the nonfat solids price and the Class IV skim milk price was negligible." Our starting point was to determine what the proper yield of NFDM would be, assuming that the yield was adjusted for the value of buttermilk powder rather than its wholesale removal from the yield formula.

The relevant analysis and calculation of the NFDM yield factor from the 2002 Finals Decision states:

> According to the Economic Research Services publication Weights, Measures, and Conversion Factors for Agricultural Commodities and Their Products, nonfat milk

solids in dry buttermilk are 0.0479 pounds per pound of nonfat milk solids and are calculated as follows:

For every pound of dry buttermilk there are 0.919 pounds of nonfat milk solids.

Assuming a dry buttermilk yield of 0.0521, the nonfat milk solids that end up in dry buttermilk are 0.0479 pounds per pound of nonfat dry milk solids (0.919 x 0.0521 = 0.0479).

The Class IV nonfat milk solids price can therefore be calculated as follows:

For every pound of nonfat milk solids (nfms), 0.0025 pounds is lost in the farm-to-plant transfer.[3]

One pound of nfms minus the farm-to-plant loss of 0.0025 equals 0.9975 pounds of nfms at the plant.

• For every pound of nfms, 0.0479 pounds of these solids end up in dry buttermilk powder.

• 0.9975 pounds of nfms minus the 0.0479 pounds of solids in dry buttermilk equals 0.9496 pounds of nfms in the form of nonfat dry milk.

• Since each pound of nonfat dry milk contains 96.2 percent nfms (3.8 percent moisture) then, 0.9496/0.962 = 0.9871 (rounded to 0.99)[4]

I sought to restore the proper value of the buttermilk solids in dry buttermilk. To do so, I took the calculated quantity of buttermilk solids and multiplied it by 70%, reflecting USDA's conclusion regarding the value of dry buttermilk. Next, I multiplied that result by 87.5% to account for the higher make costs for buttermilk powder recited by USDA. ($0.14/$0.16 = 0.875). That calculation is as follows:

0.0479 * 0.70 = 0.0335

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[3] For purposes of Proposal 12, we have retained the adjustments for farm-to-plant losses. The calculations and testimony with respect to Proposal 12 are independent of Select's Proposal 11. At the conclusion of Select's testimony in support of Proposals 10, 11, and 12, regulatory language reflecting the adoption of Proposals 10, 11, and 12 in concert will be offered.

[4] 2002 Final Decision, 67 Fed. Reg. at 67,922.

0.0335 * 0.875 = 0.0293

Next, I took the 0.9975 pounds of NFMS and subtracted the 0.0479 pounds of solids in dry buttermilk and restored 0.0293 pounds of those solids based on the calculation above. That calculation is as follows:

0.9975 – 0.0479 = 0.9496

0.9496 + 0.0293 = 0.9789

Finally, I adjusted the pounds of NFMS to the presumed moisture content of 3.8%. That calculation is as follows:

0.9789/(1-0.038) = 1.0176 (rounded to 1.02)

This establishes that the Department's conclusion that the value of buttermilk powder in the nonfat solids price is not "negligible." It has a real impact on the stated yield.

b. The price relationship between NFDM and Buttermilk Powder is closely aligned.

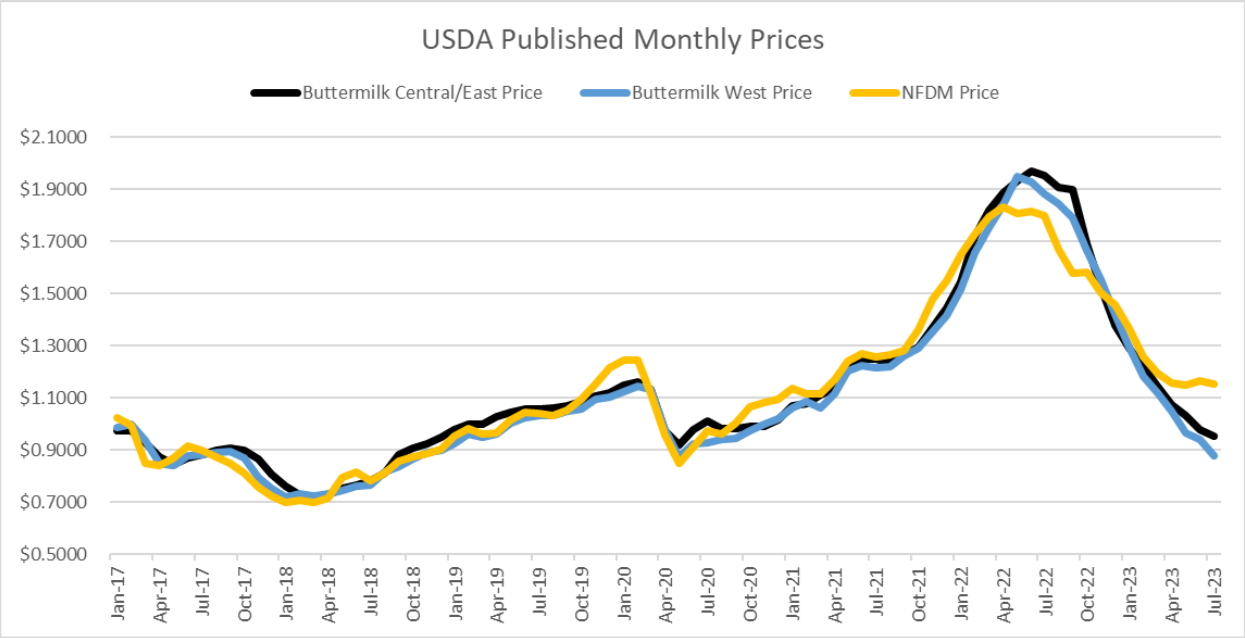
Consistent with Select's approach and philosophy that all the elements of the minimum price formulas should reflect current realities, I next revisited the price relationship of NFDM and buttermilk powder. For this analysis, I compared the reported prices for NFDM and buttermilk powder reported by Dairy Market News ("DMN"). I utilized the DMN monthly average of the mostly price series for West and Eastern/Central dry buttermilk and for Western and Eastern/Central NFDM. I utilized prices from January 2021 through June 2023. We selected January 2021 to provide the longest contiguous representative window possible while attempting to avoid the pricing impacts triggered by the COVID-19 pandemic. The following table provides the full scope of these comparisons and analyses.

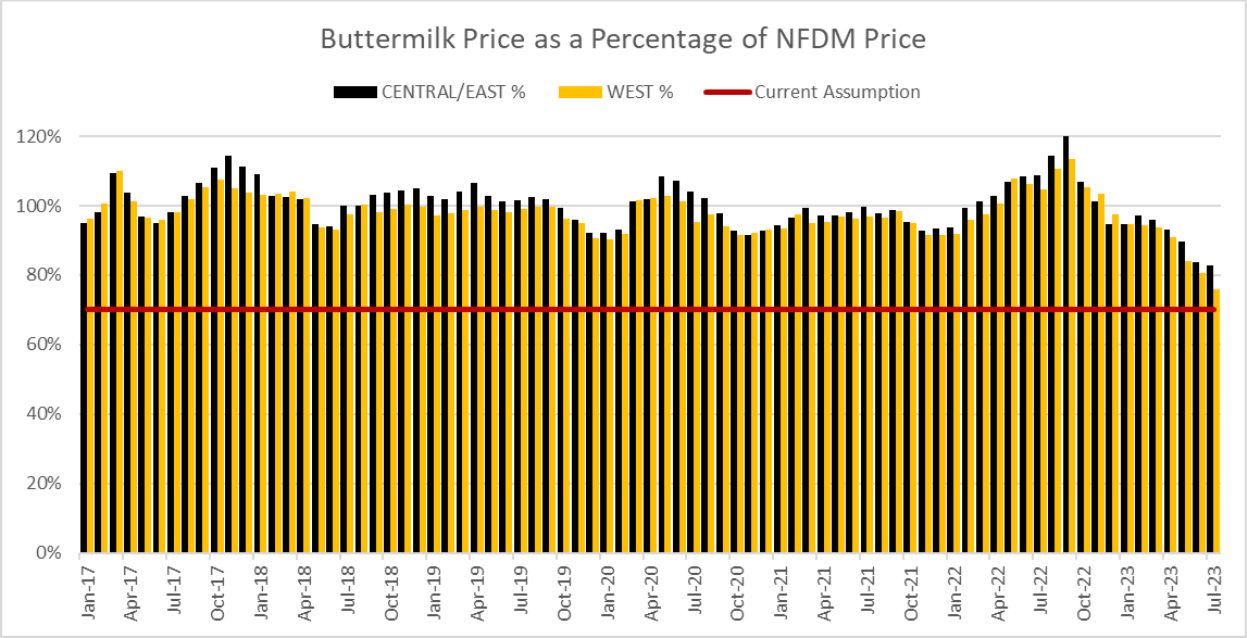
Month	DMN NFDM Western Mostly Average	DMN BMP Western Mostly Average	Buttermilk Powder Price as a Percentage of NFDM Price
Jan-21	1.1632	1.0589	91.03%
Feb-21	1.1389	1.0787	94.71%
Mar-21	1.1572	1.0889	94.10%
Apr-21	1.2010	1.1195	93.21%
May-21	1.3206	1.1963	90.59%
Jun-21	1.2869	1.2236	95.08%
Jul-21	1.2395	1.2155	98.06%
Aug-21	1.2523	1.2167	97.16%
Sep-21	1.3273	1.2535	94.44%
Oct-21	1.4513	1.2939	89.15%
Nov-21	1.5580	1.3470	86.46%
Dec-21	1.5925	1.4063	88.31%
Jan-22	1.7090	1.4946	87.45%
Feb-22	1.8434	1.6595	90.02%
Mar-22	1.8418	1.7417	94.57%
Apr-22	1.8242	1.8314	100.39%
May-22	1.7643	1.9195	108.80%
Jun-22	1.7835	1.9277	108.09%
Jul-22	1.7784	1.8799	105.71%
Aug-22	1.5608	1.8514	118.62%
Sep-22	1.5801	1.8202	115.20%
Oct-22	1.5329	1.7295	112.83%
Nov-22	1.4628	1.6124	110.23%
Dec-22	1.4340	1.4447	100.75%
Jan-23	1.3315	1.3136	98.66%
Feb-23	1.2403	1.1963	96.45%
Mar-23	1.1955	1.1220	93.85%
Apr-23	1.1413	1.0475	91.78%
May-23	1.1666	0.9620	82.46%
Jun-23	1.1568	0.9360	80.92%
		Average	96.97%
		Max	118.62%
		Min	80.92%

Month	DMN NFDM East-Central Mostly Average	DMN BMP East-Central Mostly Average	Buttermilk Powder Price as a Percentage of NFDM Price
Jan-21	1.1674	1.0697	91.63%
Feb-21	1.1359	1.0768	94.80%
Mar-21	1.1568	1.1113	96.07%
Apr-21	1.2082	1.1348	93.92%
May-21	1.3200	1.2056	91.33%
Jun-21	1.3006	1.2473	95.90%
Jul-21	1.2465	1.2503	100.30%
Aug-21	1.2478	1.2379	99.21%
Sep-21	1.3429	1.2636	94.09%
Oct-21	1.4615	1.2938	88.53%
Nov-21	1.5358	1.3695	89.17%
Dec-21	1.5883	1.4457	91.02%
Jan-22	1.7276	1.5455	89.46%
Feb-22	1.8763	1.7188	91.61%
Mar-22	1.9100	1.8204	95.31%
Apr-22	1.8973	1.8855	99.38%
May-22	1.8121	1.9323	106.63%
Jun-22	1.8657	1.9691	105.54%
Jul-22	1.7760	1.9556	110.11%
Aug-22	1.6013	1.9085	119.18%
Sep-22	1.5729	1.9013	120.88%
Oct-22	1.5290	1.6904	110.56%
Nov-22	1.4454	1.5239	105.43%
Dec-22	1.3957	1.3766	98.63%
Jan-23	1.2896	1.2921	100.19%
Feb-23	1.2217	1.2216	99.99%
Mar-23	1.1961	1.1448	95.71%
Apr-23	1.1566	1.0750	92.94%
May-23	1.1577	1.0313	89.08%
Jun-23	1.1633	0.9762	83.92%
		Average	98.02%
		Max	120.88%
		Min	83.92%

This data demonstrates two important truths. First, there is little difference between Western and Central/Eastern prices of either NFDM or BMP. Second, and more relevant to Proposal 12, BMP prices are aligned very closely to NFDM. BMP as a percentage of NFDM prices, was 97.0% in the West and 98.0% in the Central/East. Steve Cooper from Continental Dairy Facilities will offer additional testimony confirming that its sales of buttermilk powder align with this analysis.

Once this analysis was complete, I looked further back over the period of January 2017-July 2023 period to confirm this price alignment. The following charts demonstrate the longer-term price alignment of NFDM and BMP.





The Department's finding that BMP is sold at 70% of NFDM is not borne out by current realities.

c. Recalculating the NFDM Yield

Recognizing this close price alignment, I performed the same calculation of the NFDM yield performed by USDA in the 2002 Final Decision using the current price alignment. I

maintained the same relationship between the cost of manufacturing BMP and NFDM (i.e., NFDM make costs are 87.5% of BMP make costs). The arithmetic works out as follows.

I took the calculated quantity of buttermilk solids and multiplied it by 97.5%, reflecting the proper price alignment. Next, I multiplied that result by 87.5% to account for the higher make costs for buttermilk powder. That calculation is as follows:

0.0479 * 0.975 = 0.0467

0.0467 * 0.875 = 0.0409

Next, I took the 0.9975 pounds of NFMS and subtracted the 0.0479 pounds of solids in dry buttermilk. I then restored 0.0409 pounds of those solids based on the calculation above. That calculation is as follows:

0.9975 – 0.0479 = 0.9496

0.9496 + 0.0409 = 0.9905

Finally, I adjusted the pounds of NFMS to the presumed moisture content of 3.8%. That calculation is as follows:

0.9905/(1-0.038) = 1.0296 (rounded to 1.03).[5]

6. Analysis of Impacts

Changing the NFDM yield impacts the nonfat solids price, and the Class IV prices. Based on my analysis of the changes, using five and ten-year averages of commodity prices through April 2023, I computed the following component and Class price impacts:

[5] The yield we have arrived at is the same as included in Select's proposal submission, although specific calculations here is slightly different. We believe that the precise methodology outlined in this testimony is the more precise and proper approach to calculating the yield, as it draws upon additional data and more accurately recognizes the Department's previous findings and rationale.

Five Year Average

	Current	Proposal 12 (Nonfat Solids Yield)
Nonfat Solids Price	$1.0219	$1.0632
Class IV Price	$17.26	$17.62

Ten Year Average

	Current	Proposal 12 (Nonfat Solids Yield)
Nonfat Solids Price	$1.0021	$1.0426
Class IV Price	$16.92	$17.27

Because the Class II price is based on the Class IV price, the Class II price would rise commensurately. The precise impacts on the statistical uniform price or blend price will vary by order and could be further impacted by any adjustments the Department elects to make to the Class I mover.

7. Regulatory Language

The adoption of Proposal 12 in full would require the following amendment to 7 C.F.R. Part 1000. Deletions are noted with strikethrough ext. Additions are boldfaced and underlined.

> 7 C.F.R. 1000.50(m): Nonfat solids price. The nonfat solids price per pound, rounded to the nearest one-hundredth cent, shall be the U.S. average NASS nonfat dry milk survey price reported by the Department for the month, less 16.78 cents and multiplying the result by ~~0.99~~ **1.03**.

8. Conclusion

The current yield factor for nonfat dry milk in the Class IV formula is lower than it would be otherwise due to USDA's policy decision to disregard the value of milk solids that are used to

manufacture buttermilk powder. That policy decision was erroneous in its conclusion that the value of those solids was negligible. Even under the assumptions regarding the relationship of NFDM and BMP prices from the 2002 Final Decision, the conclusion was incorrect. When taking into consideration the current price relationship, the error is even more impactful.

If it remains USDA's goal to utilize price discovery mechanisms that establish the true value of producer milk used in the four classes, the value of Class IV milk must be corrected and updated to reflect the values of buttermilk solids.

9. Official Notice

Pursuant to 7. C.F.R. § 15.121 Select asks that official notice be taken of the following official decisions and published scientific or economic statistical data issued by USDA which were referenced in or utilized in the preparation of this testimony:

> Milk in the Northeast and other Marketing Areas, 67 Fed. Reg. 67906 (November 7, 2002) (referred to throughout as the "2002 Final Decision")
>
> Dairy Market News Weekly Reports for January 2017 through July 2023 reporting the prices received for low-heat nonfat dry milk powder and buttermilk powder (Western and Central-Eastern), generally reported in the first weekly report of each month. All reports accessible at:
>
> https://mymarketnews.ams.usda.gov/viewReport/2998