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Department of Agricultural Economics and Rural Sociology   Fax: (814) 865-3746

College of Agricultural Sciences
The Pennsylvania State University
Armsby Building
University Park, PA 16802-5600

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February 2, 2001

Hearing Clerk
Room 1081 South Building
Washington, DC 20250

To Whom It May Concern::

I am writing regarding the USDA tentative final decision on Class III & IV prices.

I am an Associate Professor of Dairy Markets and Policy with Penn State University. I work with dairy producers, cooperatives, processors and trade associations in Pennsylvania and the Northeast.
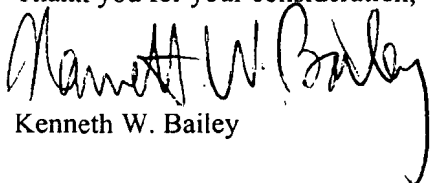
I developed an economic analysis of the tentative final decision (see enclosed staff report). This analysis is based on an economic simulation model developed to compute class prices from weekly dairy commodity prices (see http://www.aers.psu.edu/dairyoutlook/FedOrderData/MilkPriceModel.htm). This model should be useful for additional studies of changes in federal order price formulas.

It is my understanding that a federal injunction has been issued against the USDA regarding this decision. However, I understand from a recent USDA press release (Release No. AMS-43-01, Feb. 2) that USDA is still soliciting comments.

It is my opinion that dairy producers will react negatively to any effort by USDA to lower the formula value for protein. The protein price is a very visible price on the milk check. Any effort to explain that there was an offset somewhere deep in some economic formula will likely be met with distrust. It was hard enough to explain the switch from crude to true protein.

Another point is that it does not seem realistic to create two prices for butterfat: one for Class III and another for Class IV. Cream is an important by-product of milk processing and is used in both Class III and IV processing. Having two cream prices in the marketplace will create an accounting nightmare for processors. Also, the new formulas will create an incentive for processors to use Class III protein and Class IV butterfat to make nonstandard cheeses. That will lower pool values.

Thank you for your consideration,

Kenneth W. Bailey

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The Pennsylvania State University
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Impact of USDA's Class III & IV Hearing on Milk Prices in the Northeast

By Kenneth W. Bailey

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Department of Agricultural Economics and Rural Sociology
College of Agricultural Sciences
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University Park, PA 16802-5600

Impact of USDA's Class III & IV Hearing
on Milk Prices in the Northeast

By Kenneth W. Bailey[1]

Introduction

USDA announced on December 21, 2000 that dairy producers had approved an amendment to federal milk marketing orders. This amendment will significantly change some of the pricing formulas USDA uses to determine class prices, particularly Class III and Class IV prices. These changes became effective January 1, 2001.

USDA had responded to a Congressional mandate to revisit the formulas used to calculate Class III and Class IV prices under federal order reform. Some in Congress were concerned that these new formulas, which were implemented under federal order reform on January 1, 2000, may not accurately reflect the true "market value" of milk used to produce cheese (Class III) and butter and nonfat dry milk (Class IV). As a result, USDA held a hearing May 8-12, 2000, in Alexandria, Va., to consider proposals submitted by the industry to change the formulas. A tentative final decision on these amendments was announced on December 7. See the following URL for more information on the testimony: http://www.ams.usda.gov/dairy/hearing-III_IV.htm

At issue was whether the Class III and IV prices announced January 1, 2000 under federal order reform accurately represents a balance between dairy producers and processors.

The purpose of this article is two fold. First, I will explain the changes to milk pricing formulas announced by the USDA. Understanding USDA's interim amendment is important since it reflects what processors will pay for milk and what dairy producers will receive for their milk. Second, I will analyze the economic implications of this change for 2001 with special emphasis on the Northeast. I developed a spreadsheet model as a way to calculate the difference between class prices before and after the interim amendment. Third, I will compare the results of my analysis with other studies.

The Problem: Protein Price and Butterfat

A cornerstone of the hearing was that the Class III pricing formula adopted by USDA in the final rule needed mending. It wasn't the level of the Class III price that was the problem, so much as the direction of change. The Class III price rose with the cheese price, as expected. But it also decreased when butter prices rose.

For example, the Class III price for November 2000 was $8.57 per cwt at 3.5 percent butterfat. It fell to this level in part because the NASS survey average cheese price fell from $1.16 per pound in October to $1.04 in November. The NASS survey butter price actually rose during

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[1] You can reach me at (814) 863-8649 or via email at: baileyk@psu.edu. For weekly market information, go to my website at: www.aers.psu.edu/dairyoutlook.

this period, from $1.13 per pound in October to $1.41 in November. This had the impact of further lowering the Class III price by about $0.11 per cwt. In effect, it made a bad situation worse.

The reason for this odd behavior in the Class III price was because USDA based their formula on the classic Van Slyke cheese yield formula. That formula calculates the change in cheddar cheese yields when protein and butterfat levels are altered. Coefficients from this formula were used in determining the Class III protein and butterfat prices.

This quirk in the pricing formula was discussed in detail by Dr. David Barbano, Professor of Food Science at Cornell University in his testimony at the USDA hearing. (see http://www.cpdmp.cornell.edu/CPDMP/Pages/FMMO/Barbano/)

According to Professor Barbano, "the fundamental problem (in the current Class III price calculation) is that when the value of milk fat goes up (driven by increasing butter price), the calculated true protein value in dollars per pound of protein goes down, and it decreases at a faster rate than the value of milk fat increases." His fundamental argument was that changes in the milk price in relation to changes in the milk fat price do not give sensible economic signals to milk producers.

Changes Implemented by USDA

USDA announced an interim rule that "amends, on an emergency basis, the Class III and IV pricing formulas used in federal milk orders, effective for milk marketed on or after January 1, 2001." The interim rule was announced in the Federal Register (URL: http://www.ams.usda.gov/dairy/ClassIII&IVInterimFinal.pdf).

In a nutshell, here are the major changes announced in the decision:

- **Class III & Class IV Butterfat Price**: the butterfat formula was separated into two formulas for Class III and Class IV butterfat. Effectively this separated the value of butterfat used to make cheese from the value of butterfat used to make butter. Class III butterfat now moves with the market price of cheese and Class IV butterfat moves with the market price of butter.
- **Cheese Moisture Content**: a minor, but significant change. The NASS survey cheese price is computed from both 40-pound blocks and 500-pound barrels. The survey price reported for barrel cheese in 2000 was for 39% moisture. The new method will quote a price with a moisture level of 38%. This will effectively raise barrel cheese prices used to compute protein prices.
- **Component Prices**:
  - Protein: the butterfat portion of the formula is now removed.
  - Other Nonfat Solids: the manufacturing allowance for dry whey was raised from 13.7 cents to 14 cents per pound of dry whey. This was done to reflect the changes in the price formula for nonfat solids.

o Nonfat Solids: the make allowance for nonfat solids was raised from 13.7 cents to 14 cents per pound of nonfat dry milk. In addition, the 1.02 divisor in the original formula was reduced to 1.0.

- **Classification**: the classification of anhydrous milkfat, butteroil, and plastic cream is changed from Class III to Class IV.

Example Calculation for January 2001

The recent changes in milk pricing under the amended orders will become more transparent once an example is provided. Let's look at January 2001. I developed a spreadsheet model to calculate component values and class prices for federal milk marketing orders. The model starts with weekly NASS survey prices for dairy commodities, and then computes component values and class prices. I revised this model for 2001 to reflect USDA's interim amendment. The revised formulas used to compute component values and class prices are provided in the appendix below. You can download my spreadsheet model at: http://www.aers.psu.edu/dairyoutlook/FedOrderData/MilkPriceModel.htm

Step 1. Compute Advanced Pricing Factors

USDA already announced the advanced prices for January 2001 on December 22, 2000. You can view this announcement at: http://www.ams.usda.gov/dairy/mib/advanprc.pdf

The first step requires the computation of the advanced Class III and IV pricing factors at 3.5 percent butterfat. Note that these advance pricing factors use separate skim and butter pricing formulas that depend on product price averages. The data used for the product prices is for the two weeks prior to the 24th of the prior month. For January advance prices, USDA used the weeks of December 9 and 16 to compute the following product prices in dollars per pound: butter--$1.6110, nonfat dry milk--$1.0159, cheese--$1.0930, and dry whey--$0.2194.

The advanced Class III pricing factor (3.5%) for January was $9.51 per cwt. That formula used a skim milk price of $4.53 per cwt and a butterfat price of $1.4681 per pound. The advanced Class IV pricing factor (3.5%) for January was $13.99 per cwt. That formula used a skim milk price of $7.88 per cwt and a butterfat price of $1.8244 per pound.

You can take the two-week product price averages provided above and the formulas in the appendix below and compute these prices yourself.

Step 2. Compute Class I Skim and Butterfat Prices, and Class II Skim Prices

Next step is to compute the Class I and II prices. The Class I base price at 3.5 percent butterfat is simply the higher of the advanced Class III or Class IV pricing factors at 3.5 percent butterfat. For January it is the higher of $9.51 per cwt for Class III and $13.99 for Class IV. Remember, the Class I differential is added to the base price in order to determine the location-specific Class I price. For example, add $3.25 to the Class I mover to determine the Boston Class I price.

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Note: a first reading of USDA's announcement seems to suggest that the higher of the Class III or IV skim price, and then the higher of the Class III or IV butterfat price are combined to form the Class I base price at 3.5 % butterfat. *This is incorrect!.*

The other price that is computed from the advance prices is the Class II skim price. The Class II skim price for January was 8.58 per cwt. It is equal to the advanced Class IV skim milk pricing factor plus $0.70.

Step 3. Compute Monthly Average Component Values

The Class II butterfat and Class III and IV prices are computed next using monthly average commodity data. For January 2001 I am predicting that the relevant NASS survey average commodity prices will be as follows: weighted cheese--$1.1175, nonfat dry milk--$1.01, butter--$1.12, and dry whey--$0.1865. Note that the cheese price is a weighted average of block and barrel prices (38% moisture). From these prices I computed the following component values ($/lb) based on the formulas in the appendix:

- Protein: $1.3383
- Other solids: $0.0480
- Nonfat solids: $0.87
- Class III butterfat: $1.5069
- Class IV butterfat: $1.2256

Again, you can compute these commodity values using the monthly average commodity prices provided and the formulas in the appendix. Note that there are now two prices for butterfat: one for Class III and another for Class IV. The Class III butterfat price is a function of the NASS survey cheese price, whereas the Class IV butterfat price is a function of the NASS survey butter price. They are also very different in value.

Step 4. Compute Class II Butterfat and Class III and IV Prices

The final step is to compute the Class II butterfat price and the Class III and IV prices at 3.5 percent butterfat. The Class II butterfat price is simply the Class IV butterfat price plus $0.007. This is combined with the Class II skim price computed earlier using the advance prices to form a Class II price at 3.5% butterfat. The Class III and Class IV prices are computed using the monthly average component values and formulas in the appendix:

- Class II butterfat ($/lb): $1.2326
- Class II price 3.5% bf ($/cwt): $12.59
- Class III price 3.5% bf ($/cwt): $9.55
- Class IV price 3.5% bf ($/cwt): $11.85

Comparison: Before and After the USDA Change

How will these new changes affect milk prices in 2001? That is the question we will address next. The spreadsheet model was developed to produce two forecasts for 2001: one using the old formulas and another using the new formulas. The results are provided in Tables 1-5 below.

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The results are conditioned on weekly price forecasts for cheese (blocks and barrels), butter, nonfat dry milk and dry whey. A summary of these price forecasts is in Table 1. The other major assumption used was to differentiate the price of 500-pound barrel cheese before and after USDA's interim amendment. Prior to the rule change NASS used barrel prices at 39 percent moisture. After the change they will begin to use 500-pound barrel cheese at 38 percent moisture. This by itself will result in an increase in barrel cheese prices!

I compared NASS survey barrel cheese prices for the weeks ending November 25 and December 2, 9, 16, and 23. The price data suggests that barrel cheese at 38 percent moisture is $0.0171 per pound higher than barrel cheese at 39 percent moisture.

NASS computes a weekly cheese price by weighing the block and barrel cheeses with survey volume. This weighted average cheese price is then used in the protein price formula. About 58.6 percent of all the cheese surveyed by NASS in 2000 was barrel cheese. To compute the impact of the moisture change on cheese prices I weighted the price difference of $0.0171 by 58.6 percent to arrive at a price of $0.01. Thus, I expect the weekly weighted average cheese price under USDA's interim rule to be about one penny per pound higher than the formula used in 2000.

Next, I compared the Class III and IV prices before and after USDA's interim amendment (Table 4). The results were striking.

The Class III price for 2001 is expected to average $0.15 per cwt *lower* under the new system. Part of this difference can be accounted for by my assumption of the difference between barrel cheese prices at 38 and 39 percent moisture. The greater this difference, the lower the spread between Class III prices before and after the interim amendment.

The other reason for the change in Class III prices under the interim amendment is that the underlying skim and butterfat values are to change very significantly. Table 4 shows that the Class III skim price is expected to average $1.55 per cwt *lower* and the Class III butterfat price is to average $0.38 per pound *higher* in 2001 under USDA's changes.

The underlying reason for the significant changes in the Class III price is due to the new formulas for Class III protein and butterfat (see Table 3). Class III protein price, for example, is expected to *decline* $0.52 per pound in 2001 under the interim amendment. As stated earlier, the Class III butterfat price is expected to *rise* $0.38 per pound. In affect, USDA is expecting these two price changes to offset each other on a producers milk check.

Class IV prices are expected to change very modestly under USDA's interim amendment. This study suggests Class IV prices will *rise* $0.06 per cwt in 2001.

Table 1. Forecast of NASS Survey Dairy Commodity Prices for 2001, $/lb.

	weighted cheese 1/	NFDM	Butter	Dry Whey
Jan	1.1175	1.0100	1.1200	0.1865
Feb	1.1175	1.0100	1.0900	0.1865
Mar	1.1175	1.0100	1.0000	0.1845
Apr	1.1175	1.0100	1.0240	0.1811
May	1.1250	1.0100	1.1200	0.1760
Jun	1.1475	1.0100	1.1200	0.1790
Jul	1.2075	1.0100	1.1360	0.1836
Aug	1.2475	1.0100	1.2000	0.1865
Sep	1.3475	1.0100	1.2000	0.1865
Oct	1.3600	1.0100	1.1500	0.1865
Nov	1.3225	1.0100	1.1500	0.1865
Dec	1.1475	1.0100	1.1500	0.1865
Annual avg.	1.1979	1.0100	1.1217	0.1841

1/ Reflects fedearal order weighting between 40-lb block prices and 500-lb barrel prices (38% moisture).

Table 2. Comparison of Advanced Component Prices for 2001 Before and After USDA's Interim Final Rule, $/lb. 1/

Month	Before butterfat	After Class III butterfat	After Class IV butterfat	Before protein	After protein	Before other solids	After other solids	Before nonfat solids	After nonfat solids
Jan	1.8256	1.4681	1.8244	0.8284	1.3038	0.0851	0.0820	0.8617	0.8759
Feb	1.2488	1.5069	1.2256	1.6733	1.3383	0.0377	0.0480	0.8529	0.8700
Mar	1.2488	1.5069	1.2256	1.6733	1.3383	0.0377	0.0480	0.8529	0.8700
Apr	1.1024	1.5069	1.0793	1.8607	1.3383	0.0356	0.0460	0.8529	0.8700
May	1.1024	1.5069	1.0793	1.8607	1.3383	0.0310	0.0413	0.8529	0.8700
Jun	1.2488	1.5069	1.2256	1.6733	1.3383	0.0269	0.0372	0.8529	0.8700
Jul	1.2488	1.5543	1.2256	1.7762	1.3804	0.0310	0.0413	0.8529	0.8700
Aug	1.2488	1.6334	1.2256	1.9477	1.4507	0.0356	0.0460	0.8529	0.8700
Sep	1.3463	1.7125	1.3232	1.9944	1.5209	0.0377	0.0480	0.8529	0.8700
Oct	1.3463	1.8707	1.3232	2.3374	1.6614	0.0377	0.0480	0.8529	0.8700
Nov	1.2854	1.8707	1.2622	2.4153	1.6614	0.0377	0.0480	0.8529	0.8700
Dec	1.2854	1.8707	1.2622	2.4153	1.6614	0.0377	0.0480	0.8529	0.8700
Annual avg.	1.2948	1.6262	1.2735	1.8713	1.4443	0.0393	0.0485	0.8536	0.8705

1/ Reflects the two-week average before the 24th of the prior month.
Note: based on commodity price forecasts provided in Table 1.

Table 3. Comparison of Full Month Component Prices for 2001 Before and After USDA's Interim Final Rule, $/lb

Month	Before butterfat	After Class III butterfat	After Class IV butterfat	Before protein	After protein	Before other solids	After other solids	Before nonfat solids	After nonfat solids
Jan	1.2488	1.5069	1.2256	1.6953	1.3383	0.0377	0.0480	0.8529	0.8700
Feb	1.2122	1.5069	1.1890	1.7421	1.3383	0.0377	0.0480	0.8529	0.8700
Mar	1.1024	1.5069	1.0793	1.8827	1.3383	0.0356	0.0460	0.8529	0.8700
Apr	1:1317	1.5069	1.1085	1.8452	1.3383	0.0321	0.0425	0.8529	0.8700
May	1.2488	1.5187	1.2256	1.7212	1.3488	0.0269	0.0372	0.8529	0.8700
Jun	1.2488	1.5543	1.2256	1.7989	1.3804	0.0300	0.0403	0.8529	0.8700
Jul	1.2683	1.6492	1.2451	1.9811	1.4647	0.0347	0.0450	0.8529	0.8700
Aug	1.3463	1.7125	1.3232	2.0194	1.5209	0.0377	0.0480	0.8529	0.8700
Sep	1.3463	1.8707	1.3232	2.3647	1.6614	0.0377	0.0480	0.8529	0.8700
Oct	1.2854	1.8905	1.2622	2.4858	1.6790	0.0377	0.0480	0.8529	0.8700
Nov	1.2854	1.8312	1.2622	2.3563	1.6263	0.0377	0.0480	0.8529	0.8700
Dec	1.2854	1.5543	1.2622	1.7520	1.3804	0.0377	0.0480	0.8529	0.8700
Annual avg.	1.2508	1.6341	1.2276	1.9704	1.4513	0.0353	0.0456	0.8529	0.8700

Note: based on commodity price forecasts provided in Table 1.

Table 4. Comparison of Class III & IV for 2001 Before and After USDA's Interim Final Rule

	Class III Prices						Class IV Prices					
	Before			After			Before			After		
	SMP	Butterfat	3.5%	SMP	Butterfat	3.5%	SMP	Butterfat	3.5%	SMP	Butterfat	3.5%
Month	$/cwt	$/lb	$/cwt	$/cwt	$/lb	$/cwt	$/cwt	$/lb	$/cwt	$/cwt	$/lb	$/cwt
Jan	5.48	1.2488	9.66	4.43	1.5069	9.55	7.68	1.2488	11.78	7.83	1.2256	11.85
Feb	5.62	1.2122	9.67	4.43	1.5069	9.55	7.68	1.2122	11.65	7.83	1.1890	11.72
Mar	6.05	1.1024	9.70	4.42	1.5069	9.54	7.68	1.1024	11.27	7.83	1.0793	11.33
Apr	5.91	1.1317	9.66	4.40	1.5069	9.52	7.68	1.1317	11.37	7.83	1.1085	11.44
May	5.49	1.2488	9.67	4.40	1.5187	9.56	7.68	1.2488	11.78	7.83	1.2256	11.85
Jun	5.75	1.2488	9.92	4.52	1.5543	9.80	7.68	1.2488	11.78	7.83	1.2256	11.85
Jul	6.35	1.2683	10.57	4.81	1.6492	10.41	7.68	1.2683	11.85	7.83	1.2451	11.91
Aug	6.48	1.3463	10.97	5.00	1.7125	10.82	7.68	1.3463	12.12	7.83	1.3232	12.19
Sep	7.55	1.3463	12.00	5.43	1.8707	11.79	7.68	1.3463	12.12	7.83	1.3232	12.19
Oct	7.93	1.2854	12.15	5.49	1.8905	11.91	7.68	1.2854	11.91	7.83	1.2622	11.97
Nov	7.53	1.2854	11.77	5.32	1.8312	11.54	7.68	1.2854	11.91	7.83	1.2622	11.97
Dec	5.65	1.2854	9.95	4.56	1.5543	9.84	7.68	1.2854	11.91	7.83	1.2622	11.97
Annual avg.	6.32	1.2508	10.47	4.77	1.6341	10.32	7.68	1.2508	11.79	7.83	1.2276	11.85

Note: based on commodity price forecasts provided in Table 1.

Table 5. Comparison of Class I and II Prices for 2001 Before and After USDA's Interim Rule

	Class I Prices						Class II Prices					
	Before			After			Before			After		
Month	SMP	Butterfat	3.5%	SMP	Butterfat	3.5%	SMP	Butterfat	3.5%	SMP	Butterfat	3.5%
	$/cwt	$/lb	$/cwt	$/cwt	$/lb	$/cwt	$/cwt	$/lb	$/cwt	$/cwt	$/lb	$/cwt
Jan	7.76	1.8256	13.88	7.88	1.8244	13.99	8.46	1.2558	12.56	8.58	1.2326	12.59
Feb	7.68	1.2268	11.71	7.83	1.2256	11.85	8.38	1.2192	12.35	8.53	1.1960	12.42
Mar	7.68	1.2268	11.71	7.83	1.2256	11.85	8.38	1.1094	11.97	8.53	1.0863	12.03
Apr	7.68	1.0805	11.19	7.83	1.0793	11.33	8.38	1.1387	12.07	8.53	1.1155	12.14
May	7.68	1.0805	11.19	7.83	1.0793	11.33	8.38	1.2558	12.48	8.53	1.2326	12.55
Jun	7.68	1.2268	11.71	7.83	1.2256	11.85	8.38	1.2558	12.48	8.53	1.2326	12.55
Jul	7.68	1.2268	11.71	7.83	1.2256	11.85	8.38	1.2753	12.55	8.53	1.2521	12.61
Aug	7.68	1.2268	11.71	7.83	1.2256	11.85	8.38	1.3533	12.82	8.53	1.3302	12.89
Sep	7.68	1.3244	12.05	7.83	1.3232	12.19	8.38	1.3533	12.82	8.53	1.3302	12.89
Oct	7.68	1.3244	12.05	7.83	1.3232	12.19	8.38	1.2924	12.61	8.53	1.2692	12.67
Nov	7.71	1.2634	11.86	7.83	1.2622	11.97	8.38	1.2924	12.61	8.53	1.2692	12.67
Dec	7.71	1.2634	11.86	7.83	1.2622	11.97	8.38	1.2924	12.61	8.53	1.2692	12.67
Annual avg.	7.69	1.2747	11.89	7.83	1.2735	12.02	8.39	1.2578	12.50	8.53	1.2346	12.56

Note: based on commodity price forecasts provided in Table 1.

Review of Other Studies

The results of this study are similar to those for a USDA study entitled, "Economic Analysis for the Tentative Final Decision on Class III and Class IV Price Formulas." That study shows for 2001, the interim amendment is expected to lower the Class III price by 0.043 per cwt. The skim component is expected to decline $2.09 per cwt and the fat component is expected to rise $0.5635 per pound. Again, USDA is implying that the impact of this decision on dairy producers will be minimal since changes in Class III fat and protein will offset each other to some extent.

The International Dairy Foods Association, a trade group that represents processors, issued an analysis of cream prices before and after USDA's change in milk pricing for both 1999 and 2000. They note the minimum price for cream used for Class III purposes would have increased 39.2 percent in 1999 and 24.4 percent in 2000. They are concerned that the higher Class III price for butterfat could have tremendous implications for dairy products that use cream as an ingredient, such as cream cheese and many processed dairy cheese products. They have an excellent point. Cheese makers that use very little butterfat (i.e. mozzarella) will face lower ingredient costs due to the lower Class III protein price, whereas high fat cheese makers will face a significantly higher cost for dairy ingredients due to the higher Class III butterfat price.

National All-Jersey (NAJ), a trade group that represents Jersey breeders, issued a report that does not support USDA's tentative final decision. They noted that USDA's changes will "cause more significant damage to the net pool milk value to producers, due to alternative sourcing of Class III fat by cheese processors, and by creating confusion in the market."

The NAJ report noted the new formulas create an incentive for cheese plants to replace Class III milk fat with alternative (Class IV milk fat) or non-dairy fat sources. Processors of non-standard cheeses could lower ingredient costs by paying the lower protein price into the pool and by avoiding the obligation for the higher Class III fat prices. This would effectively lower the value of the federal order pool, resulting in less money to pay producers.

Another problem they noted was that this change in milk pricing would create a tremendous bookkeeping problem for any federally regulated plant that sells cream. Prior to January 1, 2001, cream took on a value in the market place based on a multiple off the butter price. When a Class I processor sold surplus cream, there was a clear market price for this by-product of fluid milk processing. Under the new system, there will be two prices or cream depending on how the product is ultimately used (Class III or Class IV). This effectively takes the economic concept of discriminatory pricing to a new level since a standard dairy commodity like cream will no longer have a market-based price. Essentially this would present a bookkeeping problem for cream processors.

For example, suppose a Class I processor sold cream at a multiple above the Class IV price to a cooperative for Class IV purposes. The Class I processor would report their Class IV obligation to the pool. However, the end user of the cream, the cooperative, may decide to use that cream for cheese making purposes. This then presents a problem. In theory, the original Class I processor would then face a higher Class III obligation to the pool even though they already sold the cream. Selling cream into the market without really knowing your input costs will create problems in the cream market.

Conclusions

Milk prices at the farm level in the Northeast are not expected to be significantly different under USDA's interim amendment. Producers in federal orders with a high Class I and IV utilization level, such as the Northeast, will see prices rise a few pennies.

For example, the average utilization rates for the Northeast order in 2000 were as follows: Class I—44.0 percent, Class II—17.4 percent, Class III—29.0 percent, and Class IV—9.6 percent. Using the changes in class prices (at 3.5 percent butterfat) in Tables 4 and 5 and these utilization rates, the impact of USDA's interim final rule in 2001 is to raise the uniform blend price three cents per cwt. Statistically speaking, this means very little change in the pool value. This of course assumes that cheese processors continue to use Class III butterfat in cheese vats.

However, producers in federal orders with a higher Class III utilization will see prices fall about a dime per cwt. That's because of the lower value of Class III prices. But this analysis assumes prices at 3.5 percent butterfat, and that processors behavior won't change.

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The concern is the dramatic change in protein and butterfat prices for Class III milk. There may be implications beyond what was outlined in this study and the USDA study.

For example, suppose a fluid processor in a heavy Class I market is facing rapidly rising cheese prices. The advanced Class III pricing factor will rise above the advanced Class IV price. Class I skim prices will actually decline under this scenario since they are now based on the lower protein prices. There will be some offset to the federal order pool, however, due to the higher advance Class III butterfat price. The reality, however, is that most surplus cream from fluid processing is sold at Class IV prices. Thus dairy producers in this heavy Class I market will face an eroding pool.

Another problem is how will dairy producers react to this new USDA change in milk pricing? Many were suspicious when the protein price switched from crude protein to true protein testing. It was hard to explain to a dairy producer that their now lower protein price was offset by a very complex formula. What will happen February 18, 2001 when dairy producers in component markets receive their new January 2001 milk check and see a substantial drop in their true protein price? Will they understand that this change was partially offset by a higher butterfat price? What happens if this change coincides with lower commodity prices? This will further erode producer confidence in the federal order system.

To conclude, it is very likely that USDA will have to go back to the drawing board and find a new method for pricing butterfat and protein used in Class III milk. The dramatic change in these component values will not likely receive support from dairy producers, cooperatives, and processors. Any significant drop in protein prices, and any significant difference between butterfat values for Class III or Class IV purposes will likely cause disruption in the market place.

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Appendix Table 1. Revised Calculation of Class Prices and Component Values As Amended by USDA's Interim Rule

Class I:

    Advanced Pricing Factors:

    Class III Price (3.5%) = Class III skim milk price X 0.965 + Class III butterfat X 3.5
        Class III skim milk price = (protein price X 3.1) + (other solids price X 5.9)
            Protein price = (weighted avg. NASS cheese price[1] – 0.165) X 1.405

            Other solids price = (NASS dry whey price[1] – 0.14)/0.968
        Class III butterfat price = (weighted avg. NASS cheese price[1] - 0.165) X 1.582

    Class IV Price (3.5%) = Class IV skim milk price X 0.965 + Class IV butterfat X 3.5
        Class IV skim milk price = (nonfat solids price X 9)
            Nonfat solids price = (weighted avg. NASS nonfat dry milk price[1] – 0.14)
        Class IV butterfat price = (weighted avg. NASS Grade AA butter price[2]
            – 0.115)/0.82

    Class I Base Price (3.5%) = higher of Advanced Class III or Class IV Pricing Factors
    Class I Price (3.5%) = Class I Base Price + applicable Class I differential

Class II:

    Class II skim milk price = advanced Class IV skim milk pricing factor + 0.70
    Class II butterfat price = Class IV butterfat price + 0.007
    Class II price (3.5%) = (Class II skim milk price X 0.965) +
        (Class II butterfat price X 3.5)

Class III:

    Class III skim milk price = (protein price X 3.1) + (other solids price X 5.9)
        Protein price = (weighted avg. NASS cheese price[3] – 0.165) X 1.405
        Other solids price = (NASS dry whey price[2] – 0.14)/0.968
    Class III butterfat price = (weighted avg. NASS cheese price[2] – 0.165)
        X 1.582
    Class III price (3.5%) = (Class III skim milk price X 0.965) +
        (Class III butterfat price X 3.5)

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[2] Weighted average of the two most recent U.S. average NASS survey prices before the 24th of the month.
[3] Monthly weighted average NASS survey price.

Class IV:

> Class IV skim milk price = (nonfat solids price X 9)
>> Nonfat solids price = (weighted avg. NASS nonfat dry milk price^2 – 0.14)
> Class IV butterfat price = (weighted avg. NASS Grade AA butter price^2 – 0.115)/0.82
> Class IV price (3.5%) = (Class IV skim milk price X 0.965) +
>> (Class IV butterfat price X 3.5)

Note: weighted avg. NASS cheese price = (NASS 40-lb blocks X δ) + (NASS 500-lb barrel cheese @ 38% moisture X (1-δ)),
where δ is the percent of all cheese surveyed for block cheese.

Source: Federal Register, Vol. 65, No. 250, December 28, 2000
(http://www.ams.usda.gov/dairy/ClassIII&IVInterimFinal.pdf)