

# MARKETING SERVICE

## B U L L E T I N

### Producer Revenue Issues

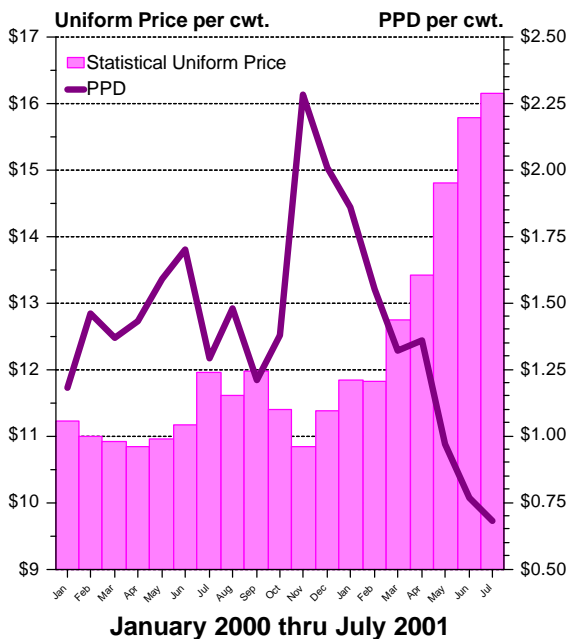
The Producer Price Differential (PPD) is a component of dairy producer revenue that receives a substantial amount of industry scrutiny. Comparisons of

PPDs between Federal Milk Orders (FMOs) are commonplace, and the announced PPD level is often viewed as a barometer of dairy farmers' financial well-being. The PPD is only one piece of an individual milk producer's total revenue puzzle, however, and its importance is often overemphasized. In addition, the announced PPD is only applicable to milk delivered to a specific location within a particular order. Milk delivered to different locations can have significantly different PPDs. Simply comparing announced PPDs between FMOs to estimate producer revenue advantages or disadvantages may not be appropriate. An analysis of milk components relative to producer revenue is presented in this issue, with particular emphasis on the Central Order (FMO #32).

The Central Order became effective with the implementation of FMO reformation on January 1, 2000. This was the first exposure to pricing multiple milk components for many associated with this new order. Producers marketing milk on the Central FMO receive payment for butterfat, protein, and other solids on a per pound basis. They also receive a PPD payment and a somatic cell payment (or deduction) both of which are paid on a per hundredweight basis. While the per pound payments for butterfat, protein, and other solids are relatively straightforward and easy to comprehend, the makeup of the PPD as well as calculations for the somatic cell adjustment may be less transparent.

### Central FMO Comparisons

#### Statistical Uniform Price versus the Producer Price Differential



The PPD represents the difference in total dollars accumulated by the market-wide pool and the aggregate amount paid to producers for the priced components; i.e., butterfat, protein, other solids, somatic cell adjustment. Although the value of milk used in Class I is the largest contributor, numerous other factors impact the monthly PPD level. Among these are the "spreads" or price differences between usage categories, the proportion of milk in each usage category, and other monthly idiosyncrasies such as plant overages and excess shrinkage. The level of the PPD is not a good proxy for total producer revenue, as the following analysis will demonstrate. In fact, for the Central FMO the data indicates an overall negative correlation between these two items.

The graph on this page depicts the relationship between the PPD and the statistical uniform price. The statistical uniform price is computed by adding the PPD to the Class III price. Comparison of month-to-month price movements for the

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PPD versus the statistical uniform price indicates an inverse relationship more than two-thirds of the time. Specifically, monthly changes in the PPD and the statistical uniform price moved in the same direction only five times from January 2000 through July 2001.

The statistical uniform price appears to be a more accurate indicator of total producer revenue than the PPD. This is particularly true for the Central FMO and other markets with a high percentage of milk used in Class III manufactured products, i.e., cheese. The graphs on this page depict total revenue for a hypothetical producer marketing 200,000 pounds of milk per month on the Central FMO with the following component tests: butterfat 3.67%, protein 3.10%, other solids 5.70%. (The somatic cell count for this analysis was a constant 330,000.)

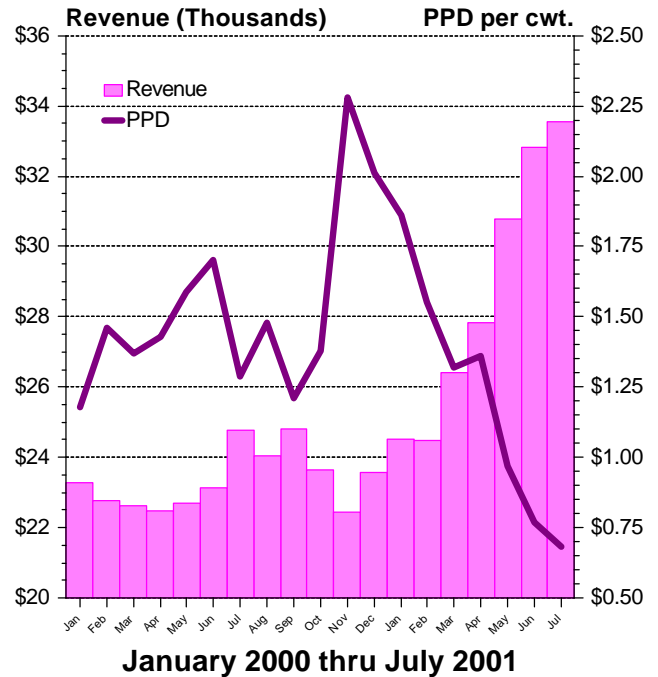
The first graph on this page compares the monthly PPD with total revenue for our hypothetical producer. Examining monthly changes in these two items indicates an inverse relationship 13 out of 18 times. The PPD increased eight times during this 19-month period and declined ten times. Producer revenue decreased during five of the eight months when the PPD increased. Conversely, revenue increased during eight of the ten months with PPD decreases. The PPD peaked in November 2000 at \$2.28 per hundredweight; meanwhile producer revenue was at its lowest level during the entire 19 months. Conversely, the lowest PPD was recorded during the month when producer revenue peaked (July 2001). The PPD's performance as a measuring device for producer revenue is very inadequate, based on this analysis for the Central FMO.

The second graph on this page compares the statistical uniform price with producer revenue. This graph depicts a highly correlated relationship between these two statistics for the Central FMO. Producer revenue and the statistical uniform price changes have moved in the same direction every month since the order's inception. The highest revenue level was attained during July 2001, which coincided with the highest statistical uniform price. During the month with the lowest revenue (November 2000), the statistical uniform price reached its second lowest level of \$10.85 per hundredweight. (The lowest price recorded was \$10.84 during April 2000). This data indicates that the statistical uniform price may be a relatively good indicator of producer revenue for the Central FMO.

The graphs on page 3 depicts producer revenue for the Central FMO by component. As indicated by these two graphs, butterfat and protein revenue comprise the

## Central FMO Comparisons

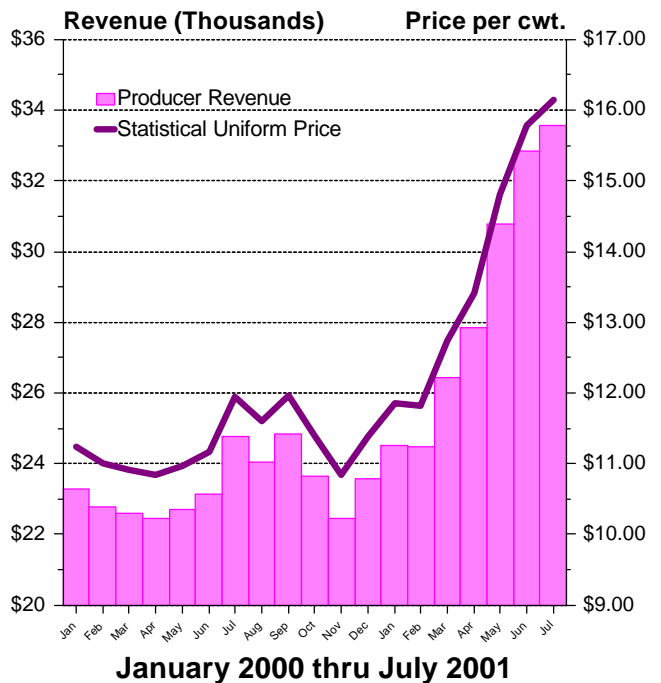
### Producer Revenue\* versus the Producer Price Differential



\* Revenue calculations assume the following: 200,000 lbs marketed per month; Butterfat test: 3.67%; Protein test: 3.10%; Other Solids test: 5.70%; Somatic Cell Count: 330,000.

## Central FMO Comparisons

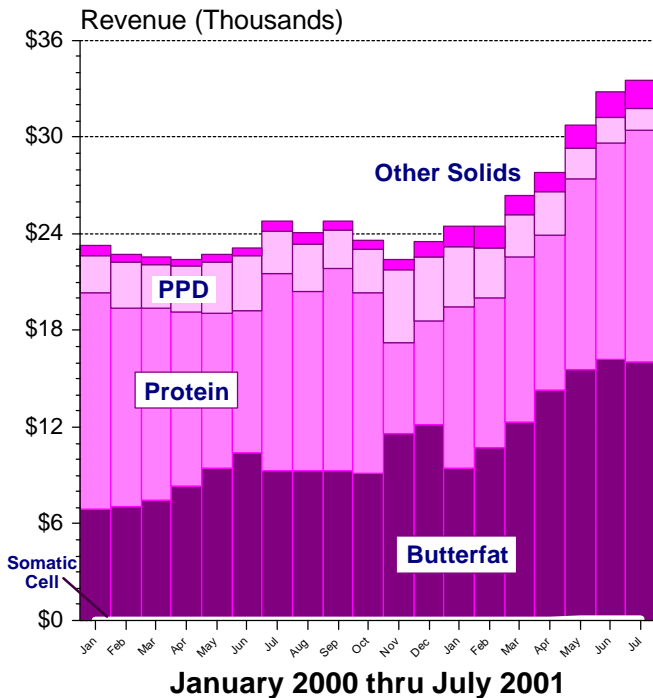
### Producer Revenue\* versus the Statistical Uniform Price



\* Revenue calculations assume the following: 200,000 lbs marketed per month; Butterfat test: 3.67%; Protein test: 3.10%; Other Solids test: 5.70%; Somatic Cell Count: 330,000.

## Central FMO Comparisons

### Producer Revenue\* by Component



\* Revenue calculations assumes the following: 200,000 lbs marketed per month; Butterfat test: 3.67%; Protein test: 3.10%; Other Solids test: 5.70%; Somatic Cell Count: 330,000.

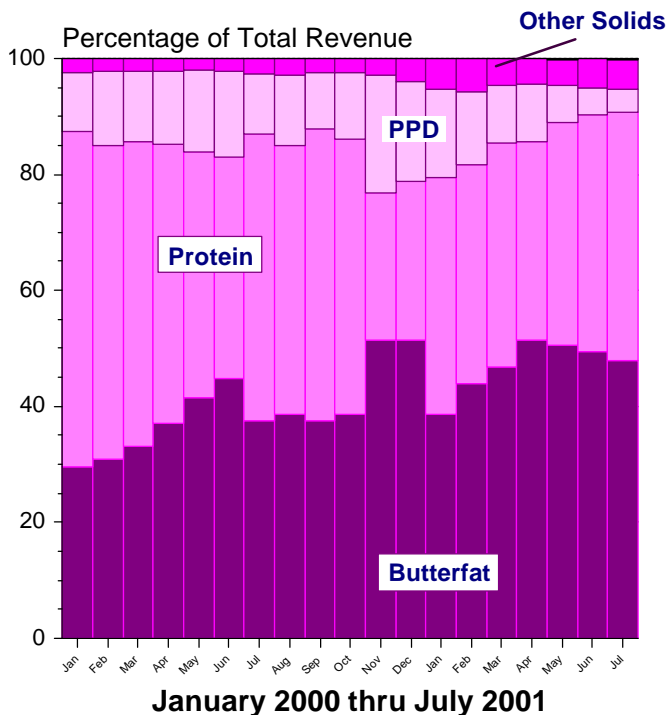
majority of our hypothetical producer's total revenue. PPD revenue was a distant third in terms of proportion of total revenue, with other solids coming in fourth and somatic cell revenue fifth.

Butterfat's proportion of total revenue during the first 19 months of the Central Order's existence averaged 42.64%. This was the largest share of total revenue, slightly greater than the proportion accounted for by protein. Butterfat revenue ranged from a low of 29.55% of total revenue during January 2000 to a high of 51.52% in December 2000. During the most recent five months, butterfat's proportion of total revenue has averaged slightly less than 50%, and has averaged over 47% for 2001 (through July). In terms of total dollars generated for our hypothetical producer, butterfat peaked at \$16,213.33 during June of this year.

Total revenue attributable to protein averaged 42.60% of the total since the Central Order's inception. Proteins peak proportion was recorded during January 2000 at 57.76%, while the low of 25.26% occurred in November 2000. In terms of total dollars generated in the calculations for our hypothetical producer, protein's highest amount was \$14,368.50 recorded for July 2001. During the first seven months of 2001, protein's proportion of total revenue has averaged slightly less than 40%.

## Central FMO Comparisons

### Producer Revenue\* by Component



\* Revenue calculations assumes the following: 200,000 lbs marketed per month; Butterfat test: 3.67%; Protein test: 3.10%; Other Solids test: 5.70%; Somatic Cell Count: 330,000.

Central FMO revenue generated by the PPD averaged just 11.19% of the total over the past 19 months for our hypothetical producer. The highest proportion for the PPD occurred during November 2000 at 20.31%. (This was also the month when total revenue was at its lowest level.) November 2000 was also the month for the highest total dollars generated by the PPD at \$4,560.00. The lowest dollar amount and the lowest proportion of total revenue were recorded during July 2001 at \$1,360.00 and 4.05%, respectively. The PPDs proportion of total revenue has been below 10% for the past five months, and has averaged 8.49% this year.

Other solids proportion of total revenue for our hypothetical producer has averaged 3.49% since January 2000. The highest proportion for this component was recorded during February 2001 at 5.58%, while the low of 2.02% occurred in May 2000. Other solids revenue averaged 4.88% of total revenue for our hypothetical producer during the first seven months of 2001.

The revenue generated by the somatic cell adjustment averaged 0.09% of the total for our hypothetical producer, since we assigned a somatic cell count very near the base count point of 350,000.

	Statistical Uniform Price		Producer Price Differential		Class I Utilization	
	<u>07/2001</u>	<u>07/2000</u>	<u>07/2001</u>	<u>07/2000</u>	<u>07/2001</u>	<u>07/2000</u>
Pacific Northwest	15.80	12.19	0.34	1.53	26.17	26.40
Western	15.90	11.73	0.44	1.07	18.72	20.12
Arizona-Las Vegas	16.08	12.32	----	----	31.48	29.04
<b>Central</b>	<b>16.14</b>	<b>11.95</b>	<b>0.68</b>	<b>1.29</b>	<b>24.10</b>	<b>26.50</b>
Southwest	17.12	13.36	1.66	2.70	43.42	42.02
Upper Midwest	15.91	11.36	0.45	0.70	20.21	16.37
Southeast	17.54	14.23	----	----	63.82	65.58
Mideast	16.24	12.68	0.78	2.02	30.92	42.39
Appalachian	17.61	14.46	----	----	66.06	69.29
Northeast	17.21	13.52	1.75	2.86	39.25	40.51
Florida	18.88	15.78	----	----	87.41	88.51

Several conclusions can be gleaned from the data and analysis presented in this bulletin. Using the PPD as a measure of producer revenue generation on the Central FMO is not appropriate, since revenue for our hypothetical producer was high when the PPD was low and low when the PPD was high. The statistical uniform price has been a good proxy for measuring the amount of revenue generated.

Since butterfat and protein comprised over 85% of our hypothetical producer's total revenue over the past 19 months, maximizing the production of these components will generate the highest return for Central FMO producers during most months.

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