

Explanation of the Basic Formula Price Provisions
of the Proposed Rule

AFPC Working Paper 98-2

January 1998



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BASIC FORMULA PRICE

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Introduction

Federal orders establish Class prices that are synchronized to move together with a market-determined price referred to as the Basic Formula Price (BFP). BFP has been utilized to set the price of milk used for manufacturing and as a mover of the higher Class prices. As such, it is a key determinant of changes in producer prices. To administer the price of milk in a manner that creates neither surplus nor deficit conditions, it is necessary to have a price that is competitively determined and allows all products to be sold. That is, it needs to be determined by economic forces that reflect both supply and demand conditions.

Background

Historically, the price of milk used for manufacturing was determined from the price paid for Grade B milk by unregulated manufacturing plants located in Minnesota and Wisconsin, often referred to as the M-W price. As the volume of Grade B milk has continuously declined, the use of the M-W price has become increasingly suspect (Table 1). Currently, about 10 percent of the milk in Minnesota and Wisconsin is Grade B.

In 1995, as a temporary measure, USDA began determining the BFP by adjusting the M-W price to current market conditions with the use of bulk commodity prices. In the minds of some, these product prices were unreliable in that they were not determined by competitive market forces.

Another issue is whether all milk used in manufacturing ought to be priced the same or if separate prices should be established for milk used for cheese and for the combination of butter and nonfat dry milk (NDM). This is essentially an issue of whether there are to be three or four

Table 1. Percent Grade B Production by State.

Year	Minnesota	Wisconsin
	-----Percent-----	
1970	71	46
1989	26	17
1995	8	11

Source: AMS/USDA, proposed rule.

milk classes. In 1992, the number of milk Classes was expanded from three to four. Thus, the BFP effectively sets the price of milk used to make cheese (Class III) while the price of milk used to make NDM is set at a lower level (Class IIIA). The precipitating factors leading to the establishment of the fourth Class included:

- # The lower California state-regulated price for NDM.
- # The higher costs of operating butter-powder plants which frequently operated at less than full capacity as the residual use for milk because they performed the market balancing function.

The updated M-W (BFP) was installed as a temporary measure. It was never intended that it be used for an extended time period. The updating process drew more attention to commodity prices established by exchanges. Questions arose as to whether these prices were competitively established. As a result, USDA began surveying transaction prices.

BFP Alternatives

In seeking alternatives to the M-W price series, over 30 BFP options were analyzed. These analyses were conducted by the USDA Basic Formula Price Replacement Committee, by a University BFP Study Committee, and many industry interests as reflected in comments received by USDA.

Most of these 30 options were rejected. These fall into four categories which were rejected for the following reasons:

- # Competitive pay prices are prices of raw/producer milk is determined based on prices paid in actual market transactions. The M-W price was an example of a competitive pay price. In the absence of a viable supply of Grade B milk, all competitive pay price options either were found to be highly influenced by Federal Orders or to be competitively unreliable. In addition, they tended to be either substantially higher or lower than the current BFP.
- # Economic formulas utilize indicators of cost of production or economic models to set the price of milk. Cost of production models suffer from not giving adequate consideration to demand conditions. Economic models are complex, not transparent in terms of how price is determined, and are often considered to be unreliable.
- # Futures markets have been developed for fluid milk on the Coffee, Sugar and Cocoa Exchange and for the BFP on the Chicago Mercantile Exchange. While futures markets could hold long-run potential for pricing milk used for manufacturing, the volume of trading has not always been sufficient to be reliable. In addition, the resulting price

may, at times, reflect the demand for milk for fluid use rather than the demand for manufacturing use.

Proposals were made not to set a BFP and to only pool the Class differentials. The price of milk for manufacturing uses would be completely unregulated. USDA determined that this option does not fulfill the requirements for classified pricing under the enabling legislation for Federal Orders.

The Proposed BFP Rule

USDA proposes to establish two manufacturing product Classes. It uses a component system in pricing Class III milk used for cheese and a product formula in pricing Class IV milk used for butter and NDM.

Component pricing, used for Class III, involves paying farmers based on the actual protein, butterfat and other solids content of milk. The component values are based on product prices. While a BFP is not calculated for pricing milk used for manufacturing, it can be derived for use as a mover of higher Class prices.

Class III prices protein, butterfat and other solids (whey). All components are proposed to be priced utilizing NASS/USDA product prices resulting from a survey of actual processor sales transactions. The rule proposes to subtract from the survey prices make allowances that are based on cost analysis/surveys. It then utilizes standard industry yield factors to derive a butterfat, protein and other solids price. The specific proposed formulas are:

- Butterfat price = $(\text{NASS AA butter survey price} - 0.079) / 0.82$
- Protein price $((\text{NASS block cheese survey price} - 0.127) \times 1.32) + (((\text{NASS block cheese survey price} - 0.127) \times 1.582) - \text{butterfat price}) \times 1.20$
- Other solids price = $(\text{NASS dry whey survey price} - 0.10) / 0.968$

For example, the butterfat component price subtracts from the NASS AA butter survey price a make allowance of 7.9 cents per pound and divides this by 0.82, reflecting the fact that butter is 82 percent fat. The 1.32 in the protein formula is the number of pounds of cheese made by 1 pound of protein.

Product price formulas derive a manufacturing milk price from the product yields from 100 pounds of milk, multiplied by the related product prices and subtracting a cost of processing — often referred to as a make allowance. An acceptable product formula requires reliable product prices and a make allowance. The Class IV product formula utilizes the same butterfat price as for Class III:

$$(NASS\ NDM\ survey\ price - 0.125) / 0.96$$

The NDM price is established utilizing the NASS NDM survey price, a cost-based make allowance of 12.5 cents and a recognition that NDM is 4 percent moisture.

Orders lacking an interest in component pricing can maintain a per cwt skim/butterfat pricing system. Four orders lacking significant cheese production have proposed not using component pricing. Prices are adjusted for somatic cell count in four orders.

The Class II price is set as a fixed differential of \$0.70 per cwt over the Class IV price. This reflects the cost of drying NDM and of reconstituting it for use in Class II products.

Consequences of Proposed Rule

The proposed rule represents a viable system for the pricing of milk used for manufacturing. Therefore, it is a significant advancement over the current M-W based pricing system. However, in essence, the proposed rule effectively eliminates the BFP and substitutes a Class III

and Class IV pricing system for setting prices for manufacturing and for moving higher Class prices.

Component price provisions provide a more equitable payment system based on protein for both producers and processors. Over time, the result should be incentives to produce higher protein milk to the benefit of consumers.

The prices generated track the current BFP quite closely, generally being within a few cents per cwt. Although the prices in Figures 1 and 2 appear to be a bit higher than those generated under the current system, this may not be the case when they are implemented. The survey prices that are proposed will likely average lower than the spot market prices used here. Survey prices were not available over the period presented in Figures 1 and 2.

Figure 1. Proposed Class III Price Compared with BFP, 1994 - August 1997.

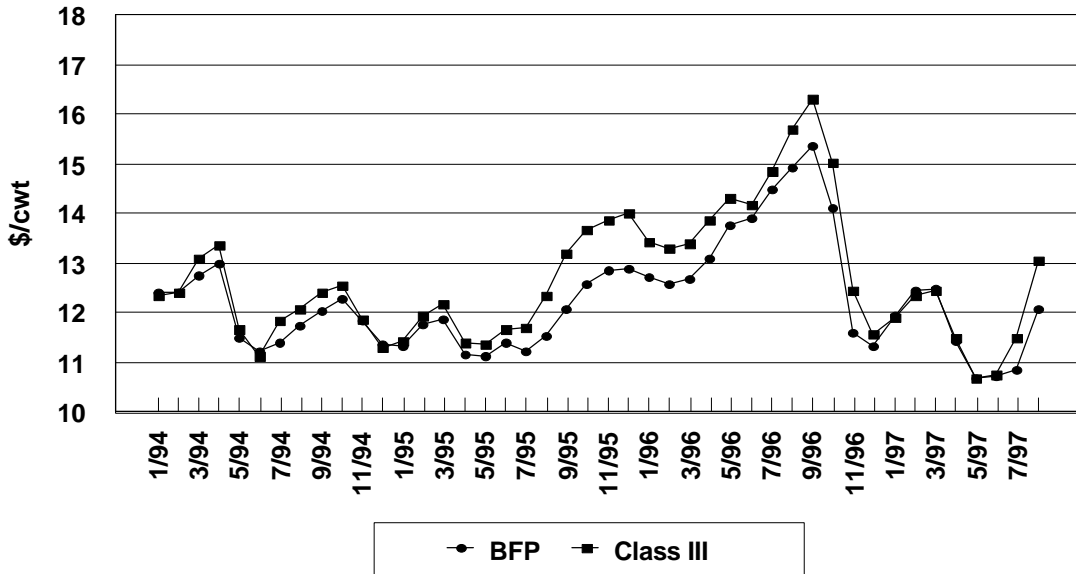
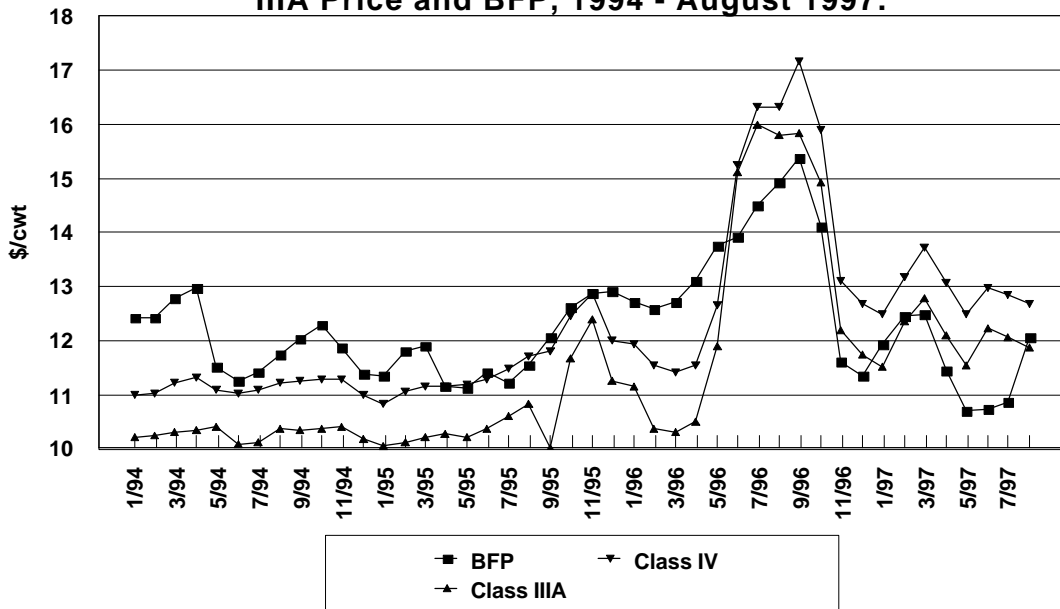


Figure 2. Proposed Class IV Price Compared with Class IIIA Price and BFP, 1994 - August 1997.



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