

# Understanding Producer Price Differential on your Milk Check

The dairy industry has been impacted by many factors during the COVID-19 pandemic, but perhaps the largest factor is the uncertainty in milk price. Its volatility over the last three months has been the most extreme in many years, which has prompted numerous milk price risk management discussions. Dairy farmers have more options at their disposal than ever before, but along with it comes the need to educate oneself about each program or product.

A key to risk management is understanding milk price basis, and one of the largest factors in basis is the Producer Price Differential (PPD) portion of your milk check. This article will explain this value for the Northeast milk order and how it will significantly impact your next few milk checks.

## Milk Price Basics

All milk sold in a Federal Milk Marketing Order pool is measured every month, and the administrator reports how much milk was sold through four major channels:

- Class I: Fluid milk products
- Class II: Cream, cultured dairy products, ice cream, cottage cheese, ricotta cheese
- Class III: “Hard” Cheeses
- Class IV: Butter and dried milk powders

Prices are assigned to each class based on the value of components and skim milk sold in each channel. These values are derived from the market prices of butter, non-fat dry milk, cheese and dry whey product. Under normal conditions, the price will be highest for Class I and lowest for Class IV. However, during times of volatility, the class prices can change in rank due to several reasons including the timing differences of when Class I price is announced and when Class II, III and IV prices are set. While this is an over-simplification of the “pool,” the description will help provide a conceptual basis for the pool calculation discussion that follows.

If you take the total pool value divided by the total pounds of milk, the Federal Order system comes up with the Statistical Uniform Price (SUP), often referred to as the Blend Price. In effect, this results in the weighted average milk price of all four channels for milk at the “standard” component level of 3.5% fat and 2.99% protein.

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## PPD Basics

PPD often appears on a milk check as ‘Producer Price Differential’ and sometimes includes a line for location adjustment. The location adjustment is a fixed reduction in price based on how far your milk market is from Boston. The net result of adding those two items together is technically your PPD, but for this next section we will focus on the PPD portion only.

The simplest way to describe PPD is that it is the calculated adjustment per hundred weight (cwt) to make sure every farmer in the federal milk order gets their “fair share” of the milk marketed in the region (the pool).

PPD is the difference between the value of the same pounds of components at Class III prices and the value assigned to the components by each channel the milk was sold through. To see this calculation for the Northeast order each month, visit [FMMone.com](http://FMMone.com) and look for the Statistical Uniform Price report to see how your PPD was calculated each month.

Using Figure 1 as an example, look at the November 2019 report for the Statistical Uniform Price of the Federal Milk Marketing Order 1 Northeast Marketing Area (FMMO 1). Notice that the first major calculation is to report the total pool value. The next is to show the value of the producers’ components at Class III prices. The final step is to use a series of calculations to come up with the correct PPD per cwt to adjust milk checks up or down to the level that reflects 1) a producer’s share of the milk order, and 2) leaves room to deduct a location adjustment to the Boston area.

November 2019 FMMO 1			Total Value*	Minimum Class Price	
Class I	31.8%	660,851,928	\$ 121,427,659	\$ 21.39	
Class II	22.8%	473,578,916	\$ 109,185,300	\$ 16.85	
Class III	27.7%	575,827,242	\$ 137,153,855	\$ 20.45	A
Class IV	17.6%	365,110,742	\$ 60,212,125	\$ 16.60	
<b>Total Milk</b>	<b>100.0%</b>	<b>2,075,368,828</b>	<b>\$ 427,978,939</b>		
Adjustments			\$ 310,382		
<b>Total Pool Value</b>			<b>\$ 428,289,321</b>		
<b>Less Value of Producer Component Valuations @ Class III prices</b>			<b>\$ 466,420,842</b>		
Total PPD Value before Adjustments			\$ (38,131,521)		
Location Adjustment to Producers			\$ 12,174,937		
Other adjustments			\$ 11,980		
<b>Total PPD Pool and PPD Value</b>			<b>\$ (25,944,604)</b>	<b>\$ (1.25)</b>	B
				per cwt	
<b>Statistical Uniform Price at Average Components</b>			<b>\$ 440,476,238</b>	<b>21.22</b>	
<b>**Statistical Uniform Price</b>				<b>19.20</b>	C
*Detailed calculation of underlying class components results in this figure					
**The SUP is equal to A + B = C					

Figure 1: Statistical Uniform Price for the Federal Milk Marketing Order 1

The PPD in Figure 1 was used on your milk check for November 2019 milk and is required under the FMMO system. At this point, the only item that makes your price different than anyone else in your region is your percentage of components and your location. After those Federal Order items are calculated, your cooperative or milk handler may also adjust your milk price for various premiums (quality, volume, etc.), market adjustments and hauling costs.

## Current projections for PPD

As of the release of this article, June, July and August Class III prices are at or are expected to be at very high levels. One of the quirks of the system is that the Class I price is announced 35 to 40 days in advance of the other class prices. Example: Your milk check for June 2020 milk will be based on a Class I price announced on May 20 based on May 9 and May 16 product prices, and a Class III price announced on July 1 is based on the four days of June 6, 13, 20 and 27 product prices. Due to this time lag and other factors, the Class I milk will be priced lower than Class III for June. In addition, Class II and IV are also expected to be far lower than Class III. With approximately 75% of the milk in the FMMO 1 going through classes other than Class III, you may now understand why the PPD will be significantly negative in June to reflect what was sold through the milk order. In fact, we expect PPD to be historically low in June 2020 and it is expected to be lower than average for several months.

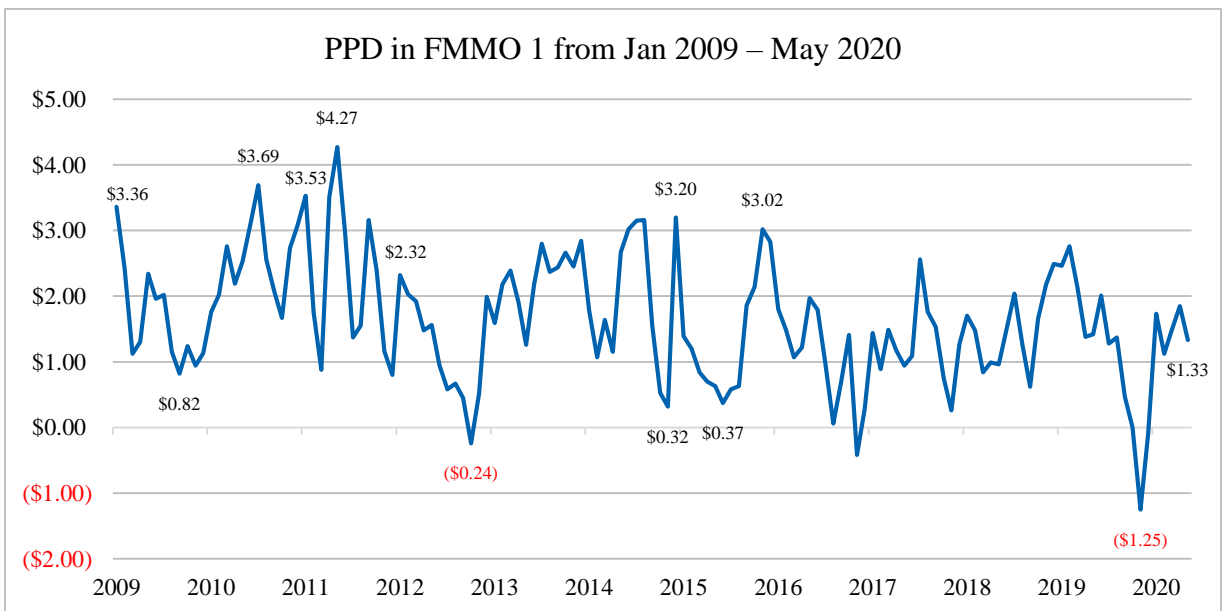


Figure 2: Data from [fmmone.com](http://fmmone.com)

## How your milk check calculates your share of the pool

The first step your milk handler takes in calculating your milk check's share of the pool is to value your components at Class III prices per pound of fat, protein and other solids. If they left it at that, you would be receiving a pure "Class III" milk check! Instead, the Federal Order provides the PPD to correct the milk price from Class III to the pool average. Your milk

handler applies the PPD including location adjustment to correct your milk price after giving you credit for your components under the Class III price per pound. In addition to your component differences, your milk handler applies quality and other premiums to your milk check, and these can contribute to the differences between your milk price and the average pool price.

## Final thoughts

Some other Federal Milk Marketing Orders that process predominantly Class III milk have a lower PPD value and lower volatility. In the Northeast, PPD has generally allowed dairy farmers to enjoy a better price than our Midwest or Western counterparts due to better fluid milk sales. However, as different dairy products become more popular and fluid sales fall, PPD has also decreased. Perhaps most disheartening is to see an excellent price for Class III and not have the immediate effect on your milk check.

Because of the Class I to Class III time lag noted above, the PPD calculation tends to “reward” you with a positive PPD during the decline of Class III and “punish” you during a recovery. This quirk in the FMMO calculations also makes milk price risk management more difficult for us in the Northeast since Class III is the most widely exchange traded of the two classes of milk that are the foundation of most dairy risk management alternatives (the other being Class IV). For now, I think we should take heart in the prospect of improving milk markets despite the reality of federal order pricing that can delay a significant improvement to cash flow. If you would like more assistance in understanding your milk price relative to cost of production or break-even milk price, please contact your branch manager to see if now is the right time to add our business consulting service as a competitive advantage to your business.

## Farm Credit East Contributors

**Gregg McConnell**, Business Consultant

**Bill Zweigbaum**, Business Consultant

More information can be found at [FarmCreditEast.com](http://FarmCreditEast.com)

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## KNOWLEDGE EXCHANGE

### CONTACT INFORMATION

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