Pricing of Milk and Filtered Ingredients

Dairy Products 301

May 2026

McCully™ CONSULTING

Overview

- Raw Milk Pricing Mechanisms (FMMO's)
- Protein Demand Trends
- UF Milk & MPC Landscape
- Cost Structure of UF Milk and MPC
- Production & Formulation Decisions

Milk Classification

One of the central tenets of the FMMO's is classified pricing. The FMMO's establish a minimum price that handlers have to pay each month based on how the milk is used. Each class has a different price with Class 1 being the highest value and Class 3 and 4 having lower prices for milk. The quality of the milk is the same – the FMMO system applies a different price to the milk depending on how it's used.

Classification	Products
Class 1	Fluid milk
Class 2	Ice cream, yogurt, cottage cheese, sour cream, non-class 1 beverages
Class 3	Cheese, whey products
Class 4	Butter, AMF, NFDM/SMP, WMP, MPC/MPI

Multiple Component Pricing

All milk prices in Federal Orders are based on component values derived from product price formulas – this is called Multiple Component Pricing (MCP).

The MCP formulas require 3 inputs:

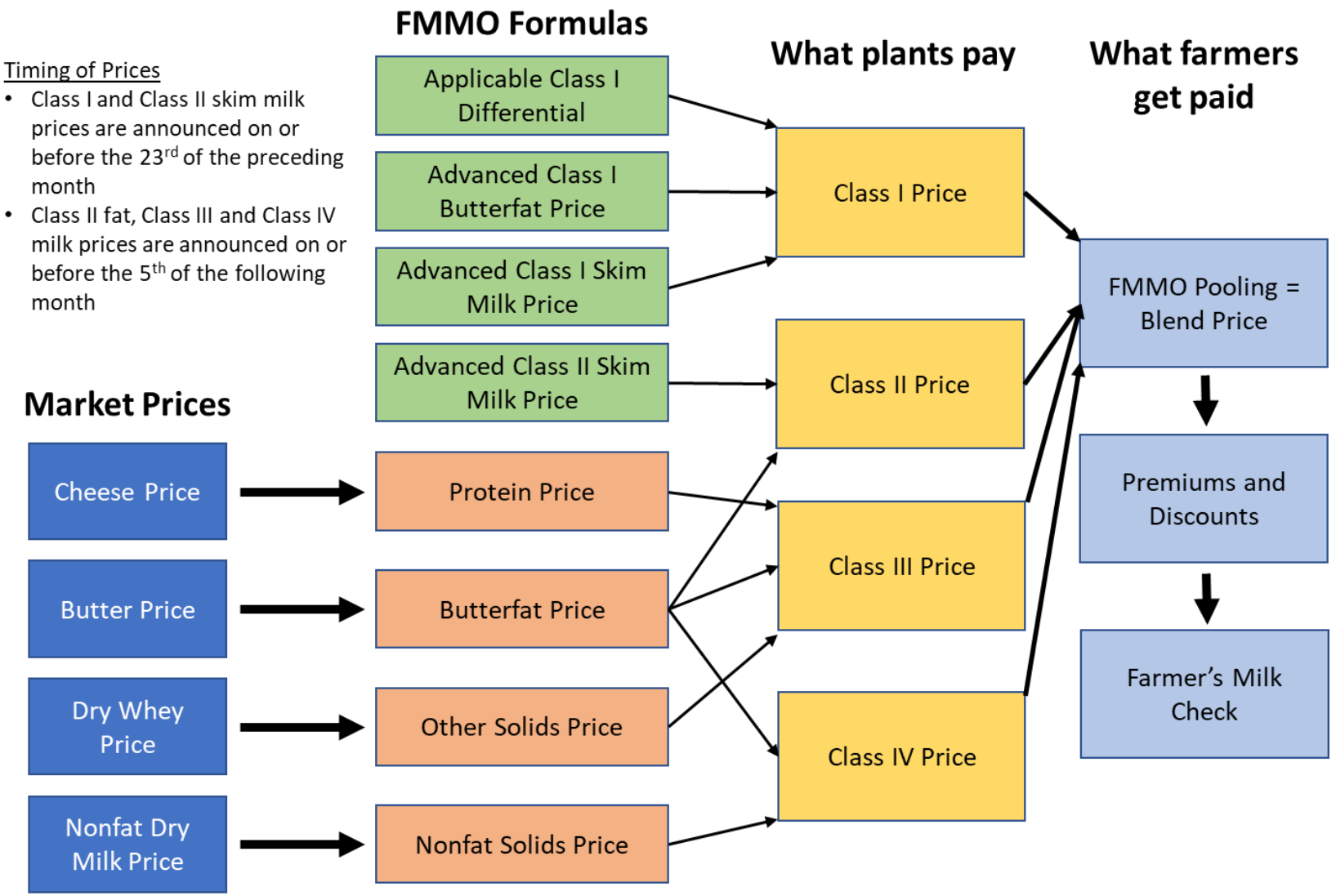
- Yield – how much product can be made from the milk
- Manufacturing cost – how much it costs to turn the milk into a commodity product. The manufacturing cost is also called the make allowance.
- End-Product price – what is the market value of the product

Note: Yield and manufacturing cost are dictated by USDA rules

And utilize a specific product price formula for each component:

(End-Product Price – Make Allowance) x Yield Per Lb of Component

How Milk Pricing Works



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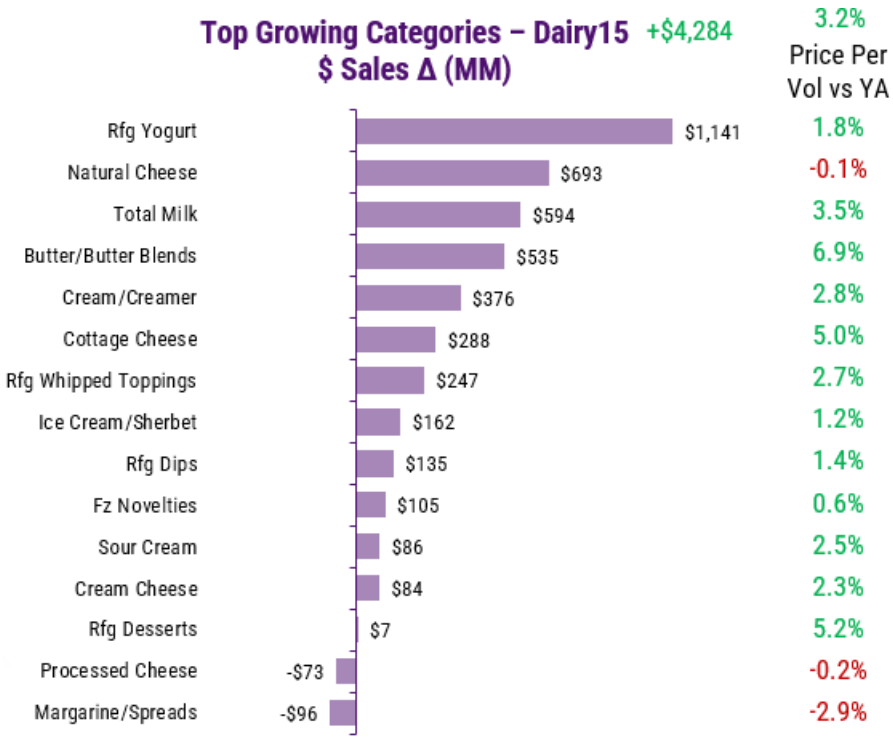
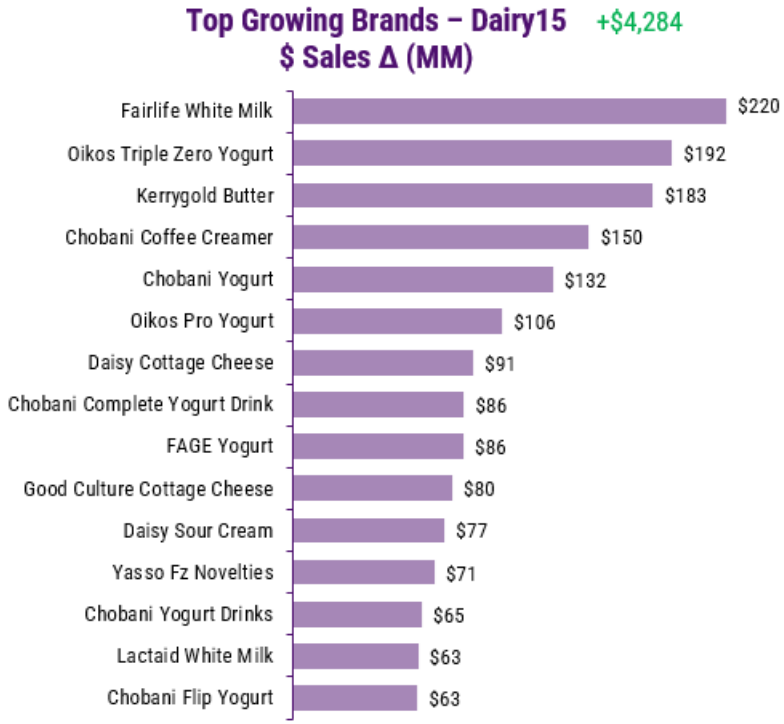
Protein Trends in Dairy Foods

The top growing dairy retail category is yogurt while most of the fastest growing brands are protein-focused – Fairlife, yogurts, and cottage cheese.





Source: Circana

Protein Trends in Dairy Foods

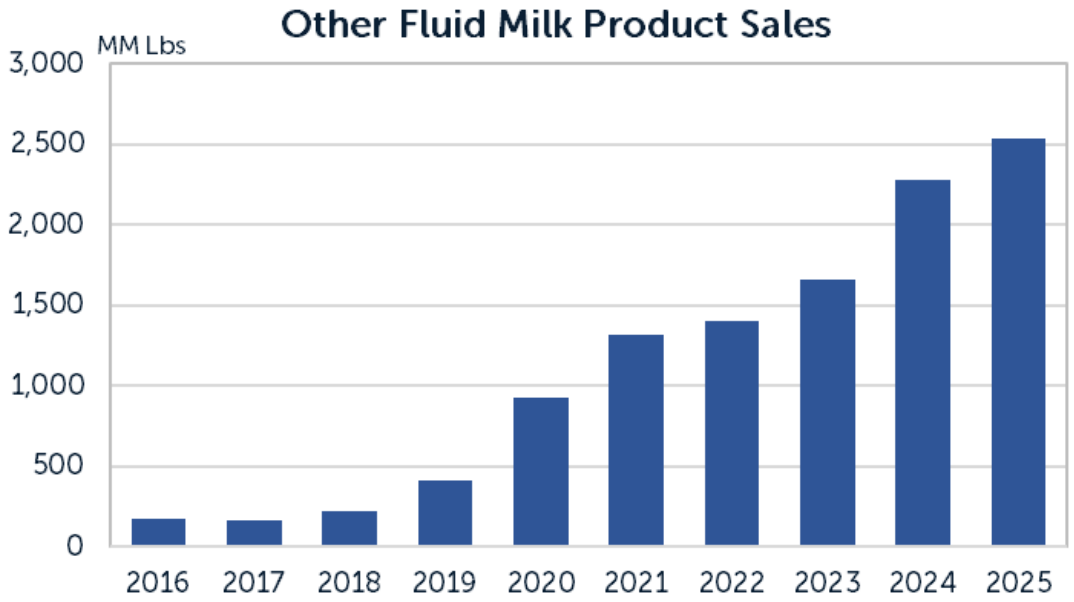
There have been an influx of high protein milk/dairy beverages and shakes

- Fairlife's Core Power continued to lead growth in the $6 billion US protein shake category at retail with dollar sales up 39% and volume up 29% (2024).
- Nurri launched a chocolate protein shake at Costco in Q4 2024 with additional flavors in 2025; expanded into Sam's Club in Q2 2025
- Muscle Milk reformulated from MPC to UF milk in 2026
- The growth of these products has greatly increased the demand for ultra-filtered liquid milk along with whey and milk proteins, and casein/caseinates

Protein Trends in Dairy Foods

High protein and lactose free milks have been the key driver of growth in the broader fluid milk sector.

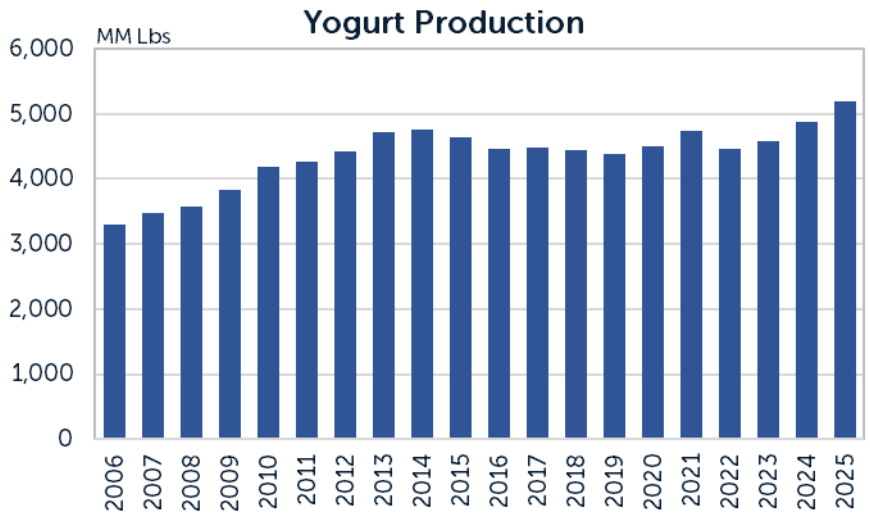
- The "other fluid milk products" category had an average growth rate of 14% over the last 5 years and 31% over the last 10 years. This includes a combination of high protein and lactose free beverages (fairlife, Fit, Lactaid).
- Sales of fairlife in 2025 were $980 million (+25% vs. 2024) with unit sales up 14% to 188 million (25% of "other fluid milk" category).

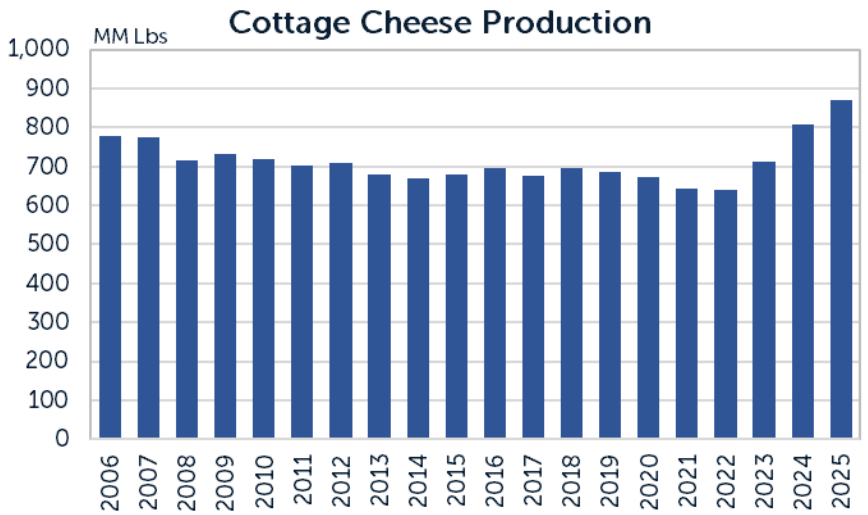


Protein Trends in Dairy Foods

Yogurt and cottage cheese have seen strong growth over the last few years

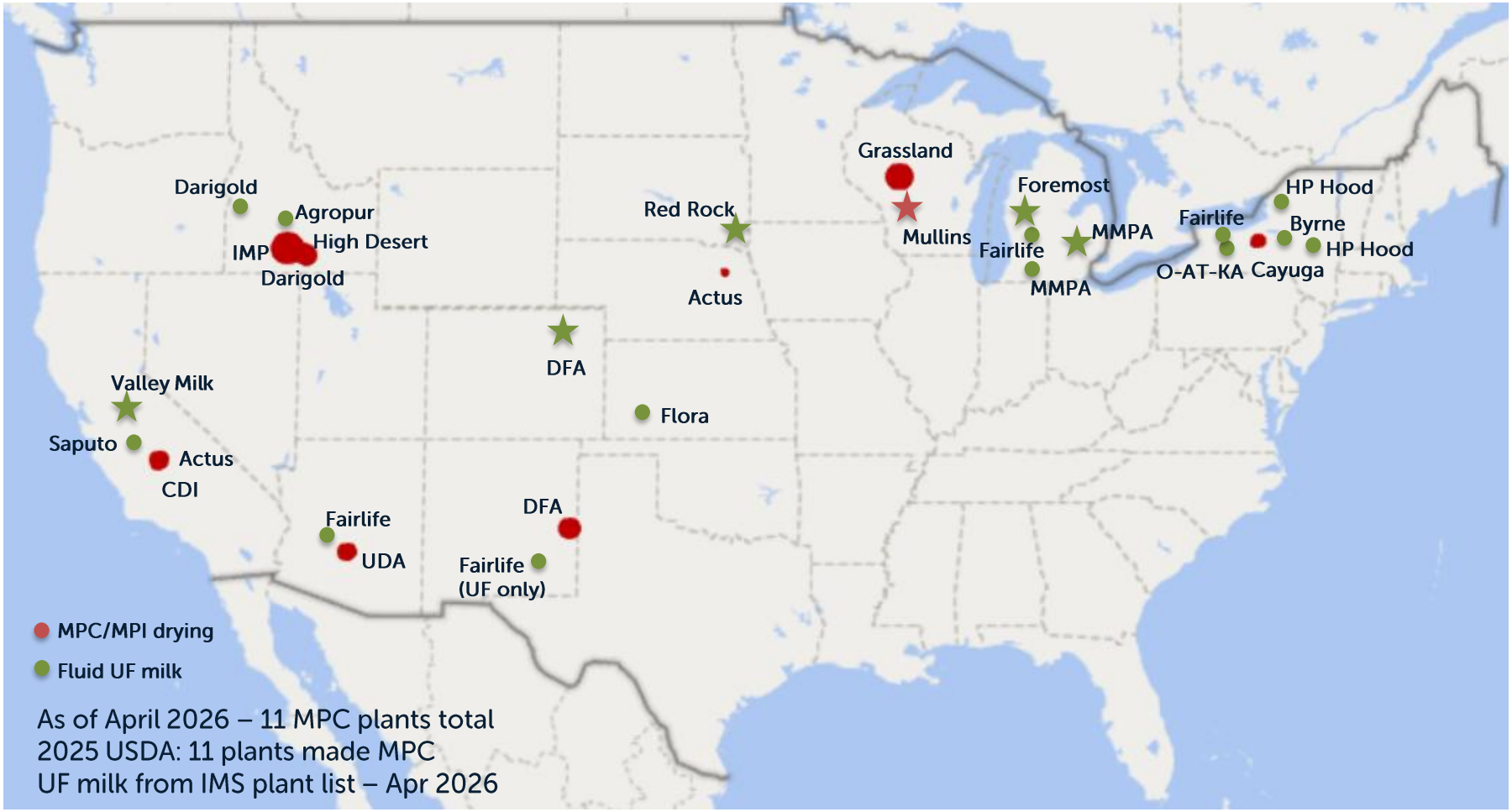
- Yogurt production is up nearly 10% over the last 5 years and 17% higher than 10 years ago
- Cottage cheese production is up 35% in the last 5 years and is 25% higher than 10 years ago; 6+ new plants/expansions will add 35-40% capacity





UF Milk & MPC

UF Milk + MPC & MPI Plant Locations



Cost Structure of UF Milk & MPC

The cost structure of UF milk and MPC vary by usage and protein content

<u>Liquid milk cost is based on utilization</u>

- UF 85 milk
  - ✓ Used in high protein beverages which are mostly class 2 products
  - ✓ Valued at class 2 SNF times X% (e.g. 325%)

- UF 65 milk
  - ✓ Lower protein UF milk more commonly used in cheese
  - ✓ Typically priced at the class 3 protein + a premium (e.g. $1.00/lb.)

Cost Structure of UF Milk & MPC

The cost structure of UF milk and MPC vary by usage and protein content

<u>Milk powders cost to manufacture are based on class 4</u>

- While liquid UF milk in a high-protein beverage is valued as class 2, the milk cost to produce MPC is based on class 4
- MPC 70: more commoditized MPC product used in process cheese and other dairy foods; valued at ~1.8-2.2X NFDM price given 2X protein content
- MPC 85: more specialized product with less formulaic pricing than 70 but can be 3.2-3.5X+ NFDM price
- MPI: most specialized MPC/MPI product that is valued as an ingredient with less commodity/NFDM influence

Production Decisions

A plant decides which provides the best return – selling the milk in liquid form or drying it into a milk powder. The answer varies through the year depending on local supply and demand conditions, plant capacity, and other factors.

Plants with dryers are able to make the decision to dry vs. selling liquid while other plants lack drying capacity only sell liquid milk ingredients.

<u>Condensed skim milk vs. NFDM/SMP</u>

- More demand for CSM into ice cream – sell liquid
- Surplus milk in market – dry into NFDM/SMP

<u>UF milk vs. MPC/MPI</u>

- Strong demand into beverages – sell liquid
- Balance milk – dry into MPC

Formulation Decisions

Milk solids are usually cheapest in liquid form vs. the higher cost of transforming them into a powder or other ingredient. In addition, raw farm milk is cheaper than UF milk, CSM, or other liquid dairy ingredients that have had some processing step.

Decision points on formulation – liquid vs. dry

- Functionality
- End-product characteristics – quality, nutritionals, etc.
- Cost – liquid vs. dry
- Can the plant handle liquid dairy products? USDA regulations?
- Does a plant have powder handling capabilities?
- Perishable vs. storable ingredients
- Ability to build inventory of powder – secure supply and price

Thank You!

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