



## How did we get to a Negative \$8.00 PPD?



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## What Is Special About Milk?

- It's perishable
- It's bulky
- It's produced and must be sold 365 days a year
- Specialized assets for production
- Many more sellers than buyers
- Relatively inelastic demand for products
- Historically led to "destructive competition"

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## A Brief History of FMMOs

- Ability of cooperatives to bargain effectively erodes prior to and during great depression.
  - Most people convinced that cooperatives can't do it alone.
- Agricultural Adjustment Act of 1933 amended in 1935 first authorizing marketing orders.
- 1937 Agricultural Marketing Agreement Act passed to preserve order language.

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## Many Unique Aspects of FMMOs

- Federal Orders are voted in or out only by dairy producers.
- Only dairy processors are regulated
  - Class I processors must be regulated
  - Manufacturing processors may be regulated
- Very open hearing process
- USDA issues a balanced and fair recommended decision to be voted on by producers.
- The vote is for the whole order, or nothing—not just the change.



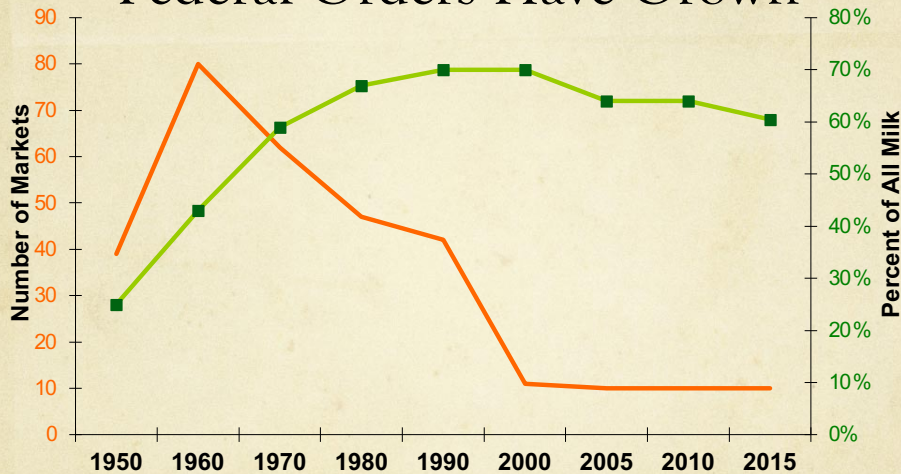
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## Two Primary Tools

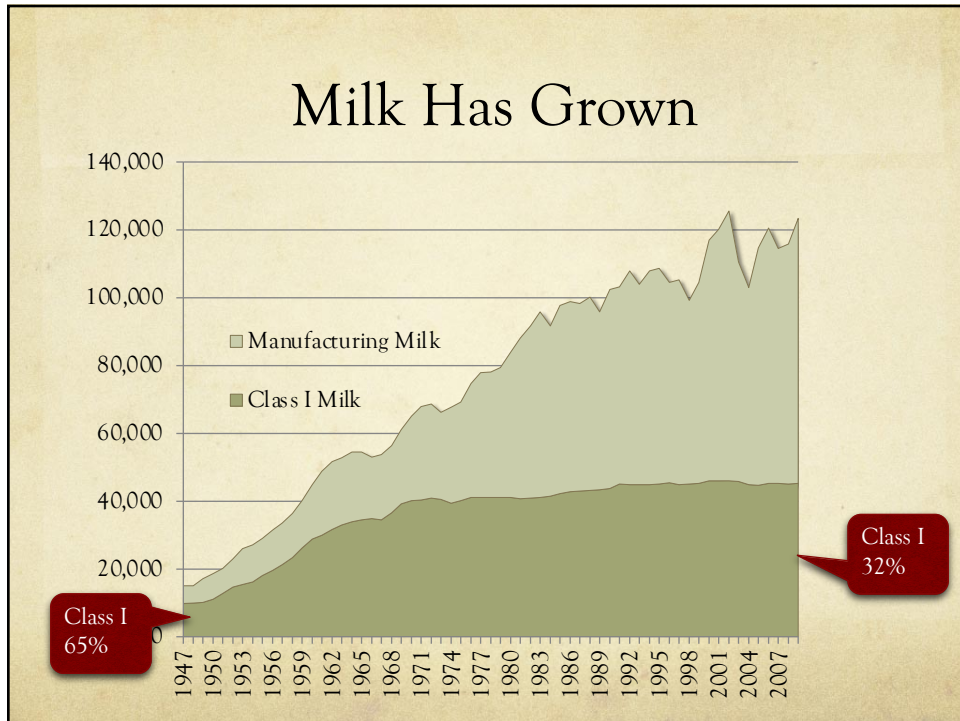
- Classified Pricing
  - Milk price based on what milk was used to make
- Pooling
  - Sharing revenue among producers
- Regional Markets
  - Based on territory where fluid bottlers compete for sales
  - Value changes only based on Class I differentials and utilization
  - Class I differentials generally highest where milk is most deficit and lowest where milk is surplus

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## Federal Orders Have Grown



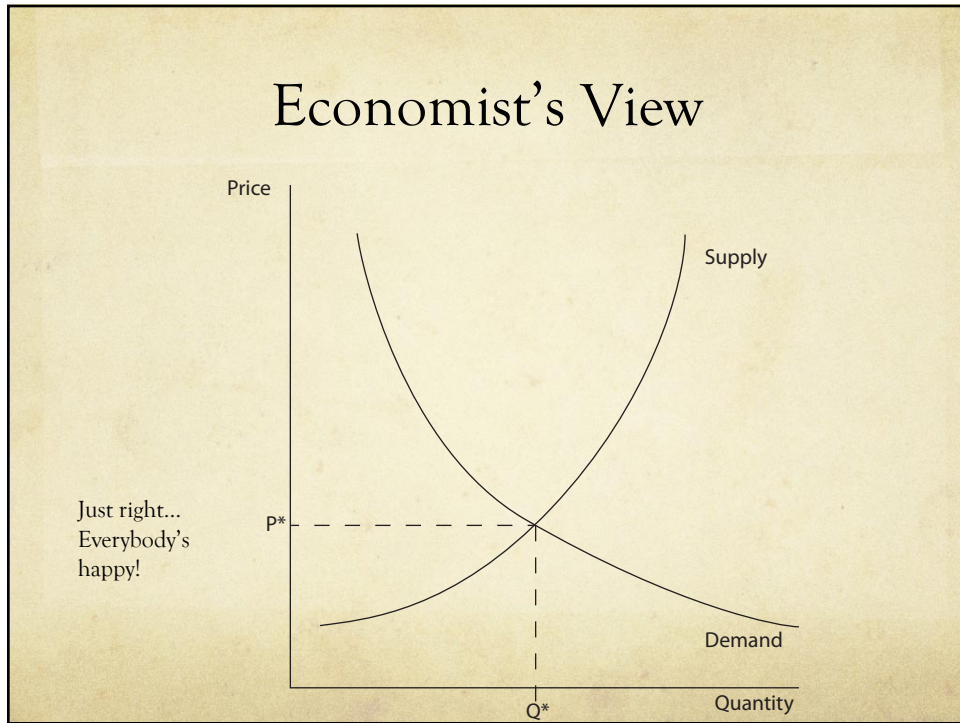
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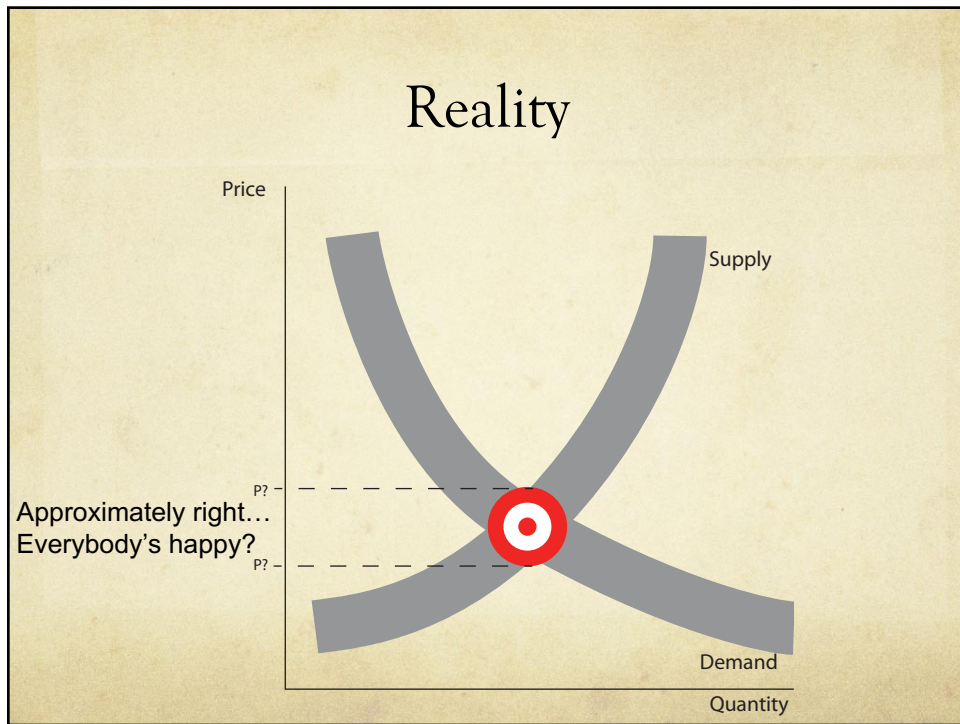
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## How Do You Price Milk?

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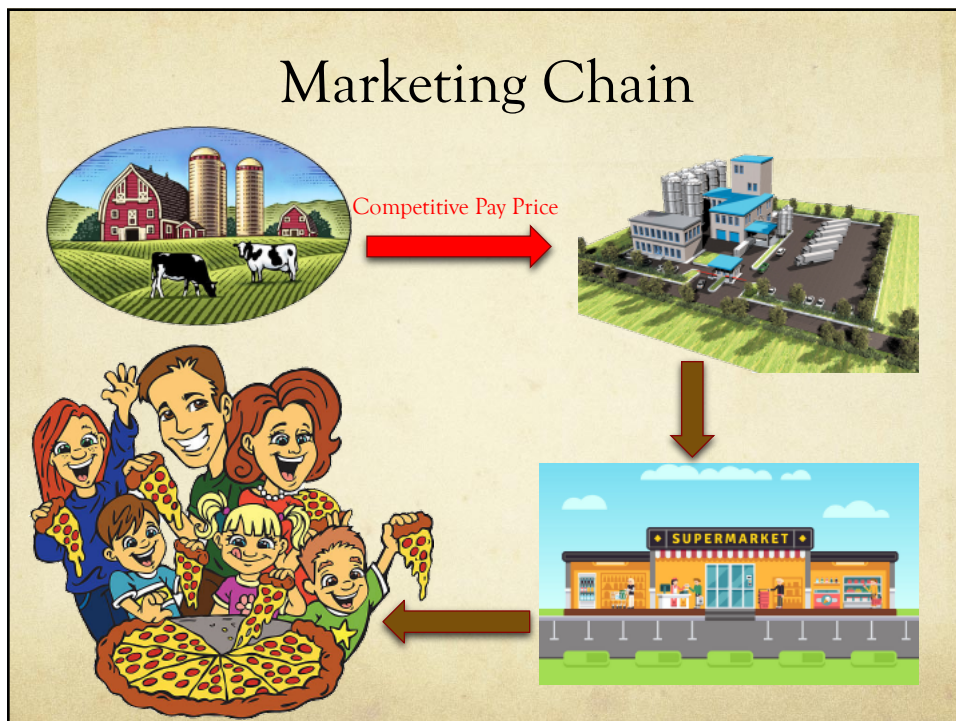
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## Options for Setting Milk Prices

- **Competitive Pay Price**
  - Gold standard, but hard to achieve
- Product Price Formulas
  - Competitive Pay Price moving one step up the marketing chain
- Administratively Determined
  - Single entity that sets the price
- Economic Formulas
  - Always discussed, seldom employed
  - Dairy Price Support Program

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## Marketing Chain



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## Options for Setting Milk Prices

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## Marketing Chain



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## Classified Pricing\*

- Class I – generally highest price
- Class II
- Class III
- Class IV – generally lowest price



What is consistent with this ordering?

These are minimum prices to be paid!

\* Classified Pricing and Pooling were Cooperative ideas from back in the Boston Market in the 1880s. It predated FMMOs by 60 years!

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## Pooling

	Price	Utilization	Value to Pool
Class I	\$20.00	40%	\$8.00
Class II	\$18.50	10%	\$1.85
Class III	\$18.00	40%	\$7.20
Class IV	\$17.50	10%	\$1.75
Blend / Uniform Price		100%	\$18.80

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## Who is Regulated Under a Federal Order?

- Class I processors must be regulated
- Other class processors may be regulated
  - Why would they choose to be?
    - Pool of dollars—not milk
    - Receive equalization payment
  - What is the cost?
    - Paperwork/auditing
    - Performance

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## Pool Contribution/Draw

Class I	$\$18.80 - \$20.00 = (\$1.20)$
Class II	$\$18.80 - \$18.50 = \$0.30$
Class III	$\$18.80 - \$18.00 = \$0.80$
Class IV	$\$18.80 - \$17.50 = \$1.30$

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## If you “must” be pooled, are there benefits?

- Know that your competitors must also pay at least the minimum price
- “Performance” from manufacturing plants helps to assure you of a milk supply
- Advanced pricing guarantees that you know the price of milk before you buy it
  - Not true for manufactured milk prices

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## Product Price Timing for February, 2018

Sun	Mon	Tue	Wed	Thu	Fri	Sat
31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

January '18

February '18

March '18

- Class I Wednesday on or before 23rd of prior month

- Class III & IV Wednesday on or before 5th of following month

- Class II - Combo

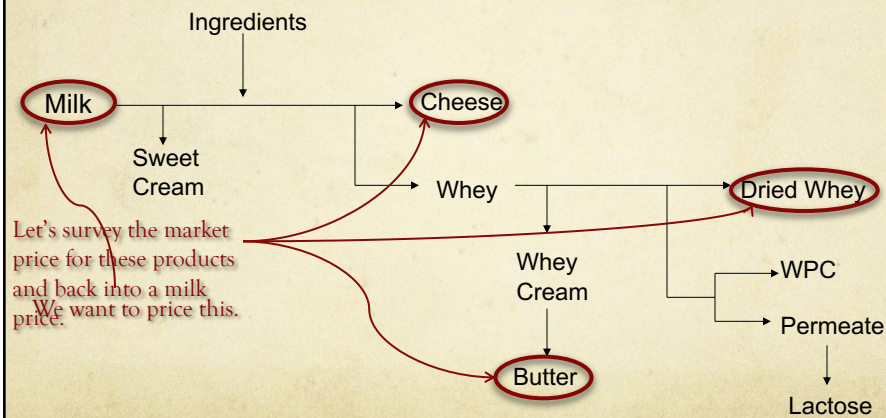
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## Product Price Formulas

- Based on weekly AMS surveys of product sold
- Most accurate reflection of product value to look back at previous month (Class III & IV)
- Better business model to know the cost of inputs before you use it (Class I)

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## Ingredient & Product Streams



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# Product Price Formulas

○ Based on weekly AMS surveys of product sold



## National Dairy Products Sales Report

United States Department of Agriculture

Agricultural Marketing Service	Dairy Programs		Market Information Branch		
DPMRP - 0254					March 1, 2017
Butter Prices and Sales					
United States	28-Jan	4-Feb	11-Feb	18-Feb	25-Feb
	(dollars per pound)				
Weighted Price	2.2557	2.2292	2.2148	*2.1624	2.1383
	(pounds)				
Sales	4,126,967	3,142,784	4,580,178	*4,745,862	7,462,129

\*Revised

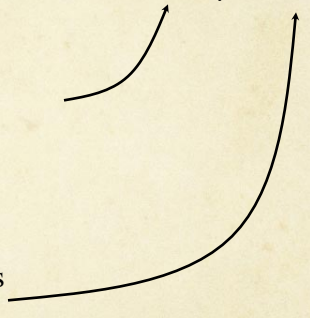
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# Product Price Formulas

$$\text{Butterfat Price} = (\text{Butter price} - 0.1715) \times 1.211$$

Make Allowance - What does it cost you to transform milk into 1 pound of butter?

Yield Factor - How many pounds of butter can you make from 1 pound of butterfat?



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## How Big is the Pie?

- Price discovery and classified pricing is all about how big the pie is.



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## How Are Producers Paid?

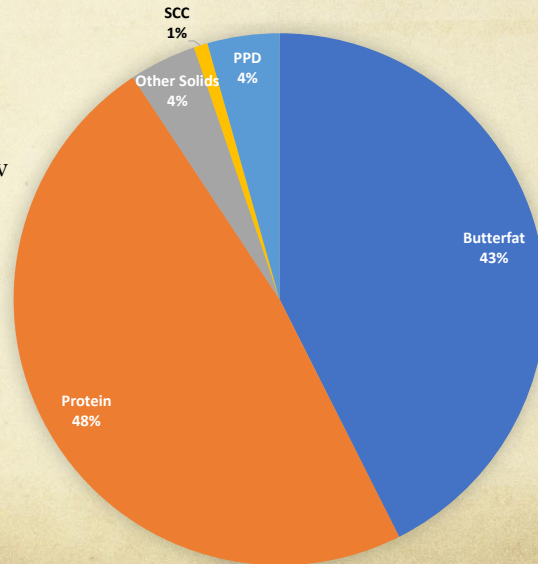
- Component values based on Class III pricing
  - Butterfat, Protein and Other Solids (mostly lactose)
- PPD—residual value in pool after paying for components
  - Simple math: will always equal Blend price minus Class III price
  - PPD will be negative if you paid out more in Class III component values than the average value in the pool

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## How Are Producers Paid?

January, 2020, FMMO 33

- Pooling is all about how we split up the pie.



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## When Will PPDs be Negative?

- When prices are rapidly rising

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○ Class I Wednesday on or before 23rd of prior month

○ Class III & IV Wednesday on or before 5th of following month

○ Class II - Combo

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## When Will PPDs be Negative?

- When prices are rapidly rising
- When there is a very large spread between Class III and Class IV prices
  - Farm Bill change in Class I pricing from “the higher of” to “the average of” Class III and IV prices

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## The Equalization Payment

- Normally, Class I plants make an equalization payment *into* the pool and manufacturing plants get to take a draw *out* of the pool. The payments are exactly equal to the Uniform (Blend) price minus the Class price.
- That way, all plants have exactly enough money to pay their producers the Blend price.

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## Pool Contribution/Draw

Class I	$\$18.80 - \$20.00 = (\$1.20)$
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Class III	$\$18.80 - \$18.00 = \$0.80$
Class IV	$\$18.80 - \$17.50 = \$1.30$

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## What About a Negative PPD?

- If the PPD will be negative, it means that the Class III price is greater than the Uniform price. Under that circumstance, Class III plants would have to make an equalization payment *into* the pool for other plants to take a draw from.
- Remember, only Class I plants must be regulated. It is optional for all other plants. In this case, Class III plants might choose to depool their milk.
  - They are no longer bound by FMMO regulations
  - They get to keep the equalization payment
  - They get to pay producers whatever price they choose

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## Pool Contribution/Draw

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What will Class III plants pay if they depool?

\$20.00?

\$18.80?

Something else?

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# Estimating PPDs

Midwest Order 33										
Class I Differential:	\$ 2.00				Adjust:	\$ (0.40)				
Utilization:	35%	18%	32%	15%						
					With no Depooling		With complete depooling			
					Est Uniform	Est PPD	Est Uniform	Est PPD	Actual	
					Price		Price		PPD	
Jun-20	\$ 13.42	\$ 12.99	\$ 21.04	\$ 12.90	\$ 15.30	\$ (5.74)	\$ 12.60	\$ (8.44)	\$ (7.05)	
Jul-20	\$ 18.56	\$ 13.79	\$ 24.54	\$ 13.76	\$ 18.50	\$ (6.04)	\$ 15.65	\$ (8.89)	\$ (8.02)	
Aug-20	\$ 21.78	\$ 13.27	\$ 19.77	\$ 12.53	\$ 17.82	\$ (1.95)	\$ 16.90	\$ (2.87)	\$ (2.93)	
Sep-20	\$ 20.44	\$ 13.16	\$ 16.43	\$ 12.75	\$ 16.29	\$ (0.14)	\$ 16.23	\$ (0.20)	\$ (0.27)	
Oct-20	\$ 17.20	\$ 13.63	\$ 21.61	\$ 13.47	\$ 17.01	\$ (4.60)	\$ 14.84	\$ (6.77)		
Nov-20	\$ 20.04	\$ 14.22	\$ 23.86	\$ 13.56	\$ 18.84	\$ (5.02)	\$ 16.48	\$ (7.38)		
Dec-20	\$ 20.88	\$ 14.26	\$ 20.22	\$ 13.55	\$ 17.98	\$ (2.24)	\$ 16.92	\$ (3.30)		
Jan-21	\$ 19.45	\$ 14.37	\$ 17.99	\$ 13.78	\$ 16.82	\$ (1.17)	\$ 16.27	\$ (1.72)		
Feb-21	\$ 18.70	\$ 14.64	\$ 16.84	\$ 14.10	\$ 16.28	\$ (0.56)	\$ 16.02	\$ (0.82)		
Mar-21	\$ 18.50	\$ 15.00	\$ 16.55	\$ 14.50	\$ 16.25	\$ (0.30)	\$ 16.10	\$ (0.45)		
Apr-21	\$ 18.55	\$ 15.35	\$ 16.35	\$ 14.80	\$ 16.31	\$ (0.04)	\$ 16.29	\$ (0.06)		
May-21	\$ 18.66	\$ 15.62	\$ 16.35	\$ 15.04	\$ 16.43	\$ 0.08	\$ 16.43	\$ 0.08		
Jun-21	\$ 18.79	\$ 15.82	\$ 16.41	\$ 15.19	\$ 16.55	\$ 0.14	\$ 16.55	\$ 0.14		

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# So, What Happened?

COMPONENT PRICES			
Butterfat Price		\$	1.8591 /lb
Protein Price			4.5349 /lb
Other Solids Price			0.1696 /lb
Somatic Cell Adjustment Rate			0.00111 /cwt
Nonfat Solids Price (For Informational Purpose Only) 2			0.7354 /lb

MARKET AVERAGE CONTENT OF PRODUCER MILK		CLASSIFICATION OF PRODUCER MILK	
		Product Lbs	Percent
Butterfat	3.72%	Class I	522,603,275
Protein	3.06%	Class II	333,927,437
Other Solids	5.78%	Class III	126,783,372
Nonfat Solids	8.84%	Class IV	309,751,470
		Total	1,293,065,554
			100.0

COMPUTATION OF UNIFORM PRICE	
Class III Price - 3.5% BF	\$ 21.04
Producer Price Differential	(7.05)
Statistical Uniform Price (For Informational Purpose Only)	\$ 13.99

The Ohio All Milk price for July was \$18.70!

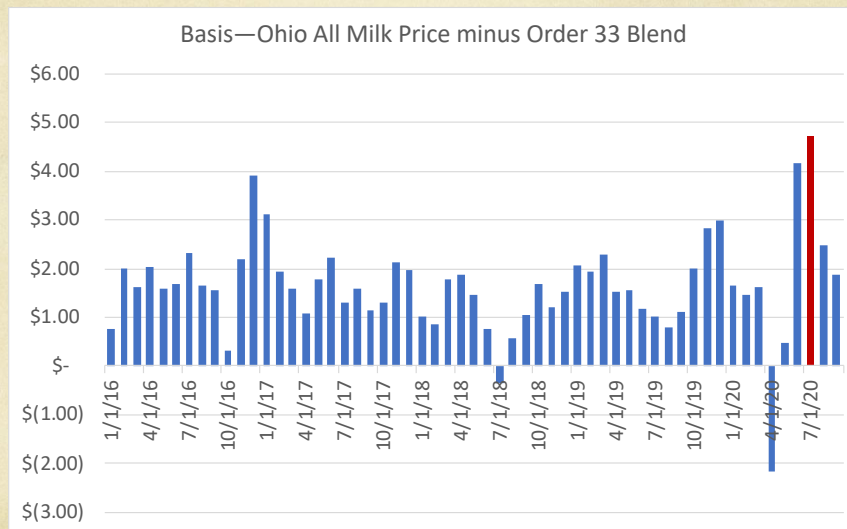
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## FMMO Issues

- FMMOs are a Fluid institution in a Manufacturing world!
  - A \$3 differential on top of a \$5 manufacturing price when Class I utilization was more than 60% was a lot of money (26% of your milk check)
  - A \$3 differential on top of a \$16 manufacturing price when Class I utilization is less than 30% is not so much money (5% of your milk check)
  - In regions like the Upper Midwest or California the value is much less (about 1%)
- Processors need relief in the make allowance
- How does U.S. milk pricing evolve?