MREC Conference
2023 Dairy Outlook

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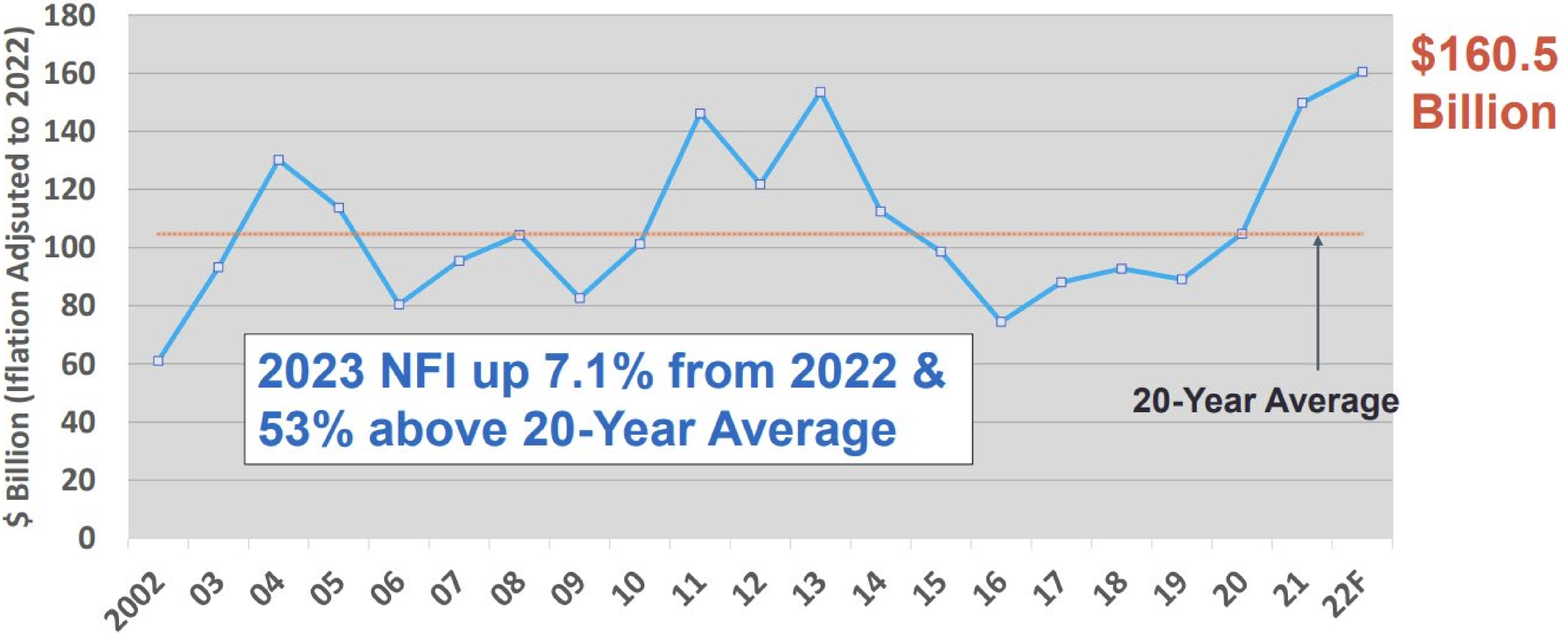
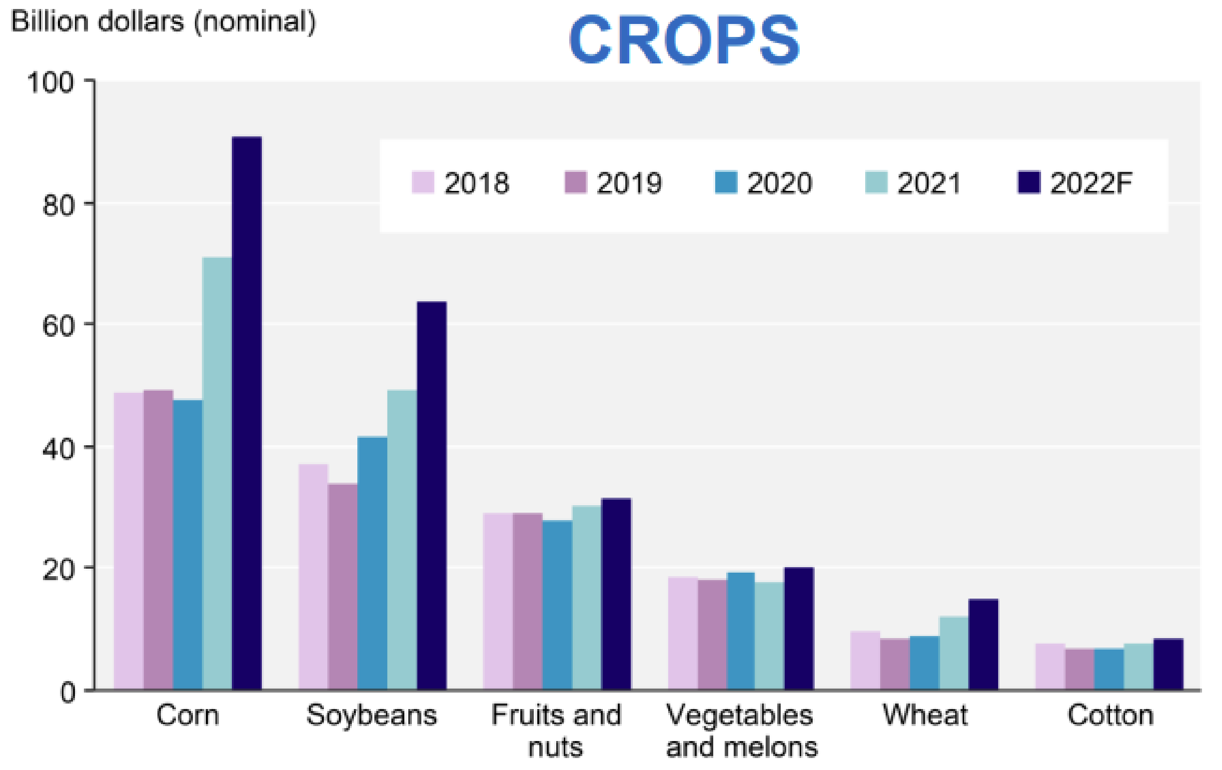
US Net Farm Income 2002-2022F



% Change Cash Receipts 2022 vs 2021 and 2020

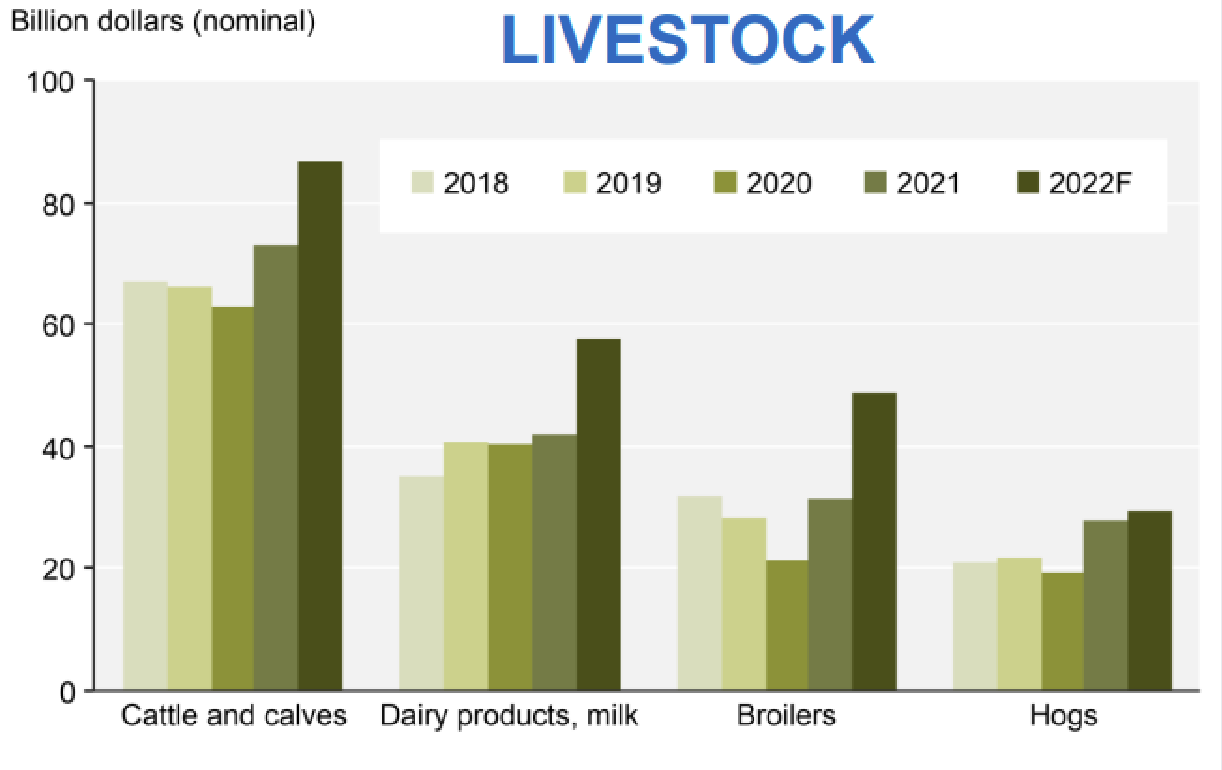
Comparison	Corn	Soybean	Dairy	Cattle
2022 vs 2021	+28%	+30%	+38%	+19%
2022 vs 2020	+90%	+54%	+43%	+38%

U.S. cash receipts for selected crops, 2018–22F



Note: F = forecast.
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of December 1, 2022.

U.S. cash receipts for selected animals/products, 2018–22F



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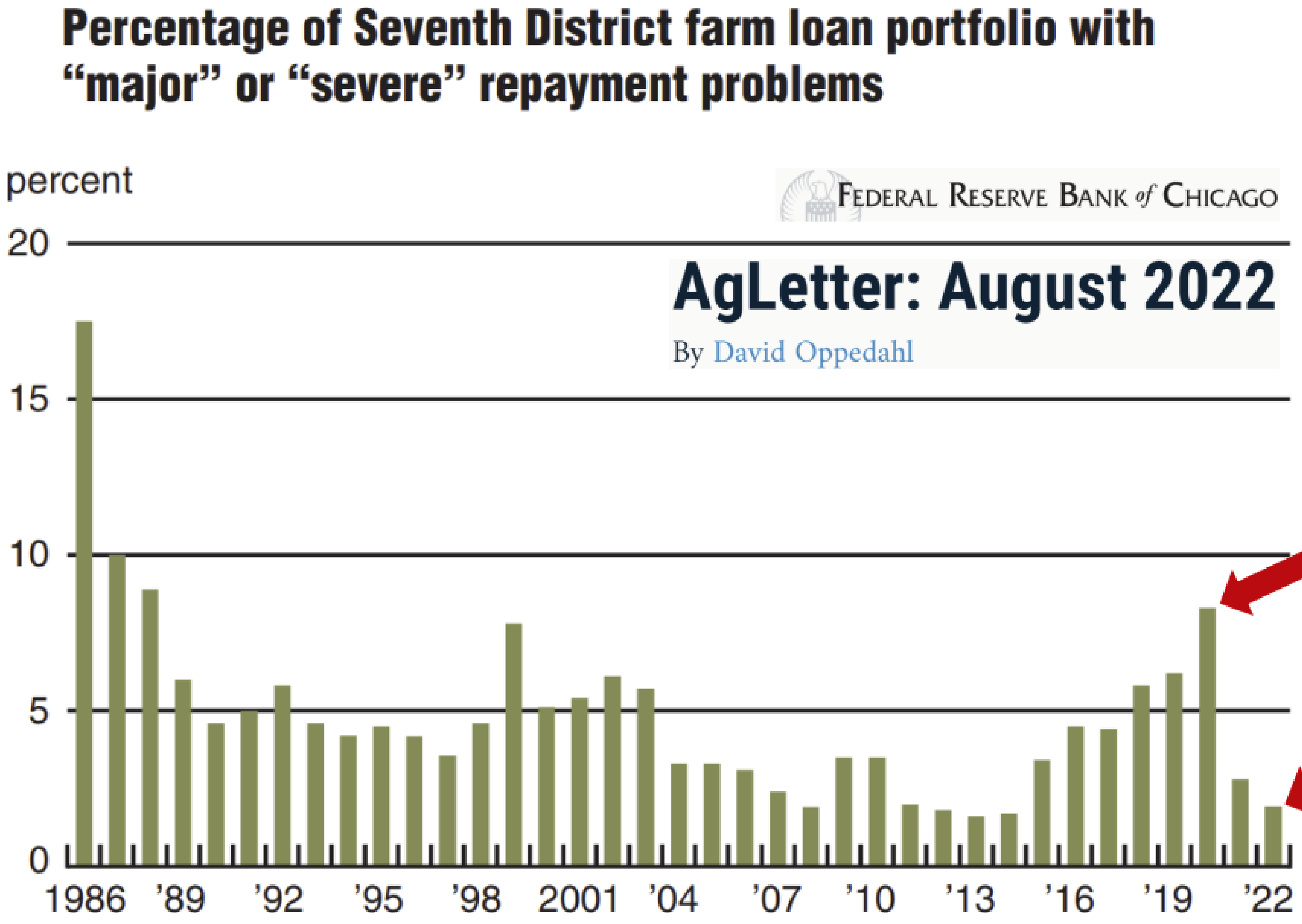
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics.
Data as of December 1, 2022.

https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/farm-sector-income-forecast/

Farmers Continue to Pay Down Debt



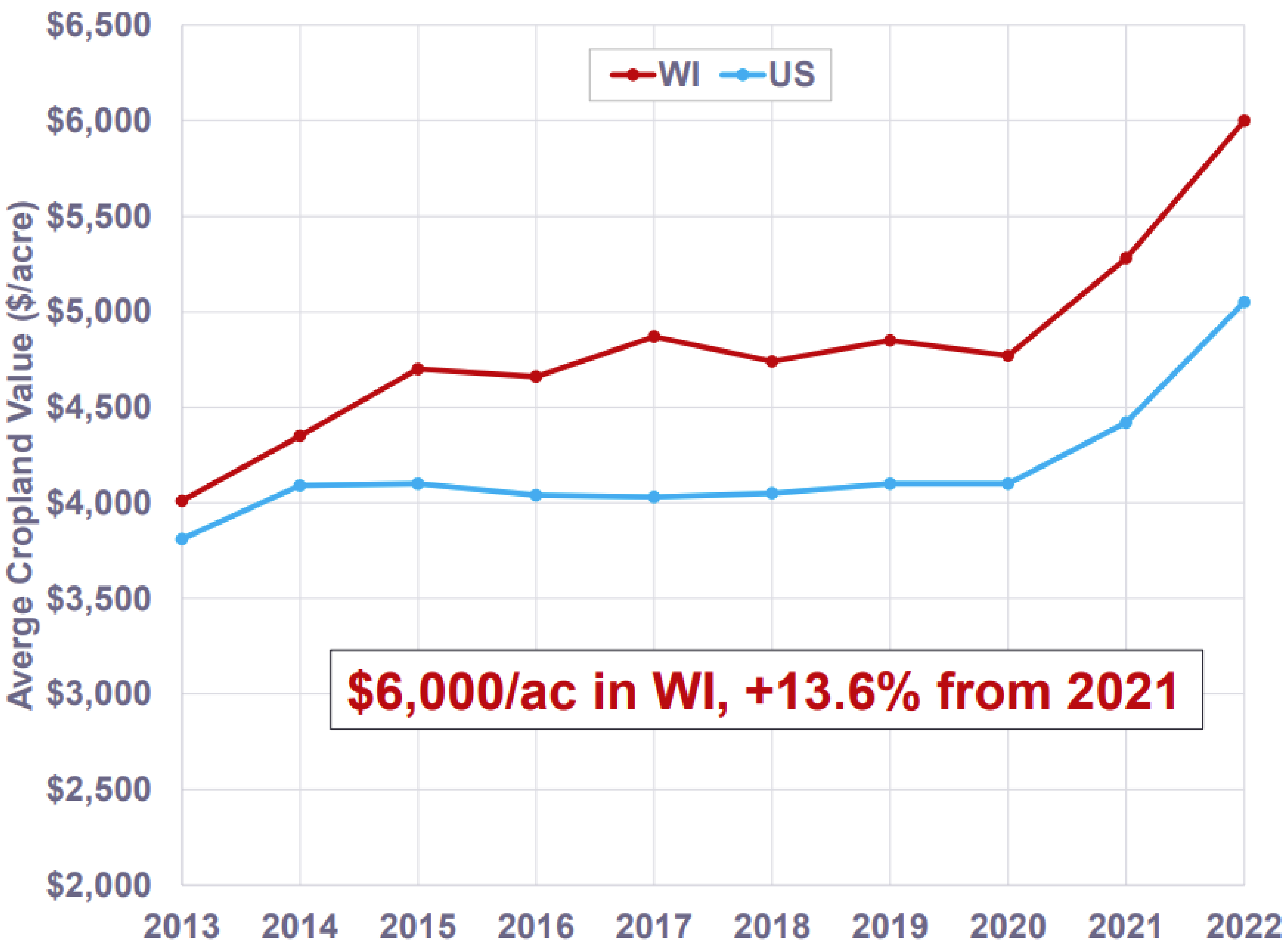
2020: Highest rate of repayment problems since the 1980’s

2022: lowest since 2014

https://www.chicagofed.org/publications/agletter/2020-2024/august-2022

Average Cropland Values 2013-2022

- After several years of steady land values, rapid rise in 2021-2022



USDA NASS Aug 2022: https://www.nass.usda.gov/Publications/Todays_Reports/reports/land0822.pdf

Where Does This Place Farmers Financially?

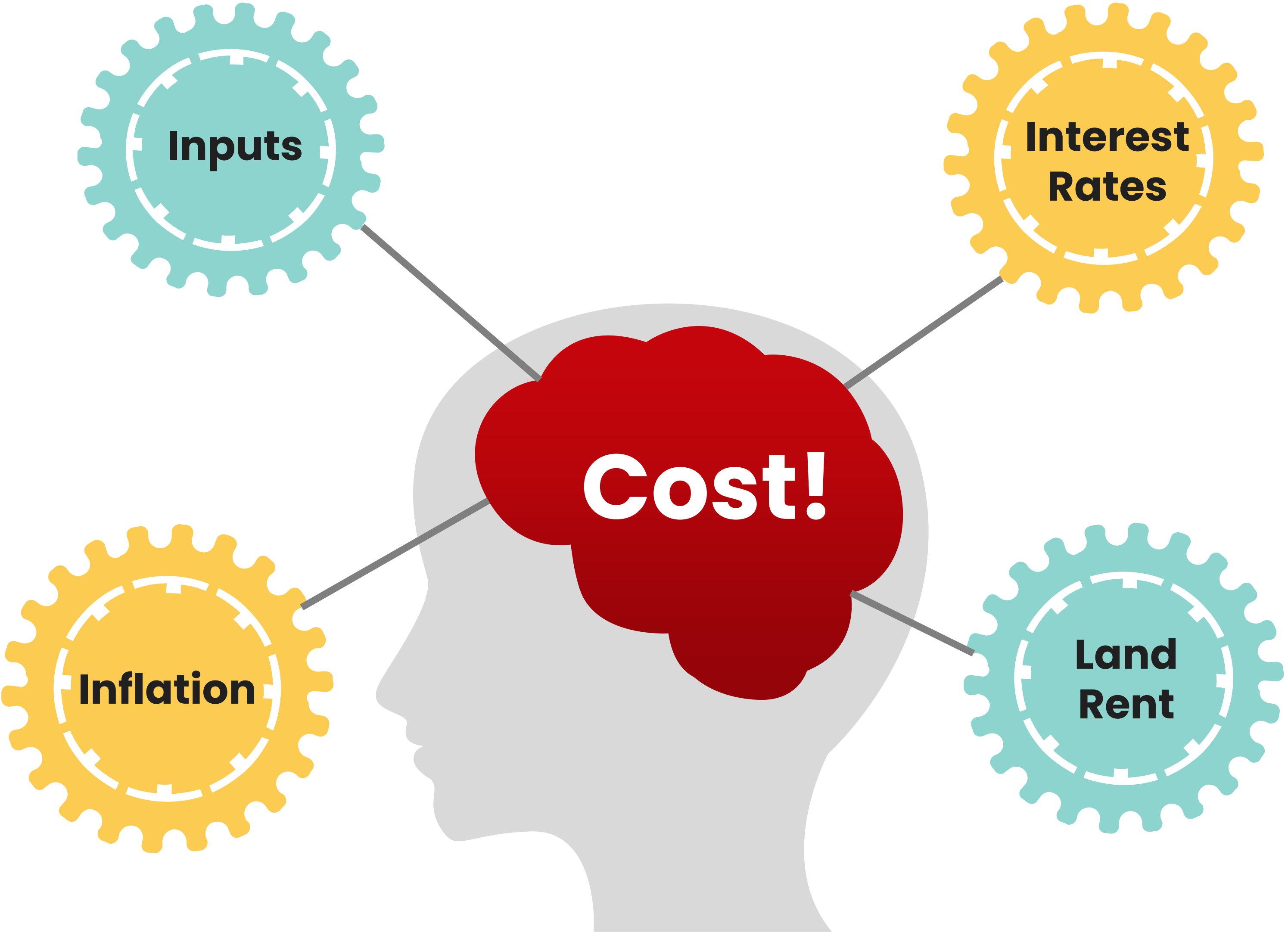
2 Years of High Income and Increased Land Values

Ave Farmer Going into 2023 In Solid Financial Position

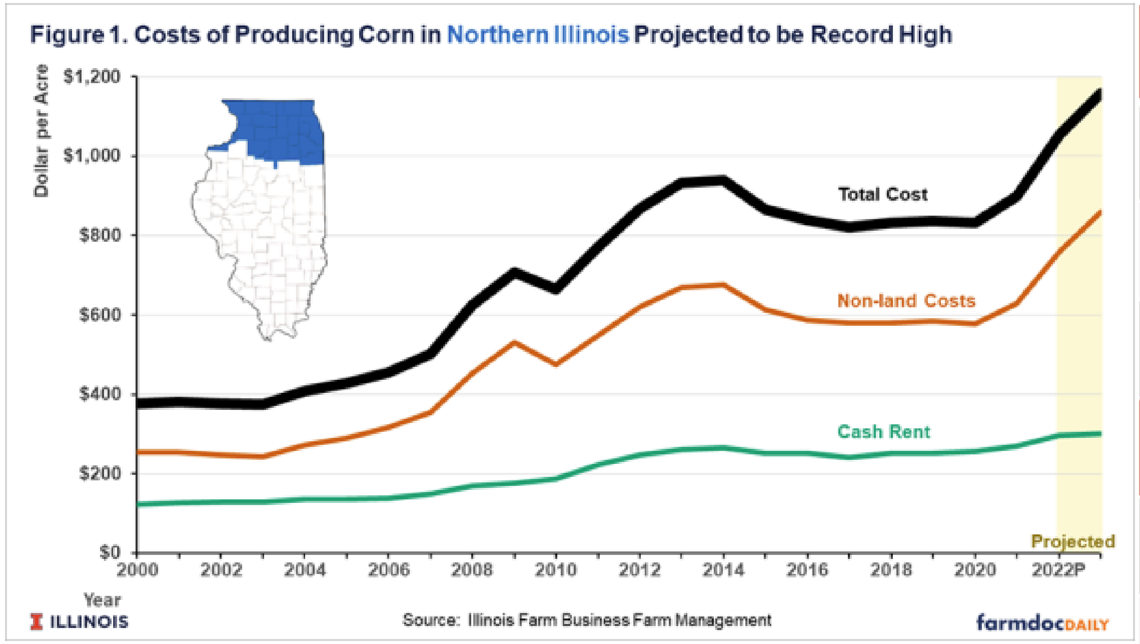
Increased Equity on Balance Sheet

Debts paid down; loans refinanced with low interest rates.

So, what is on Farmer's Minds?



Record Costs to Plant Corn and Soybean in 2023



	Corn	Silage	Soybean	Rent
UW	$1,017	$1,134	$696	$185
ISU	$1,091	$1,310	$758	$296
NIL	$1,168	--	$820	$301
Breakeven Prices				
UW	$5.81	$60.65	$13.39	
ISU	$5.50	$50.39	$11.66	
NIL	$5.38	--	$12.62	

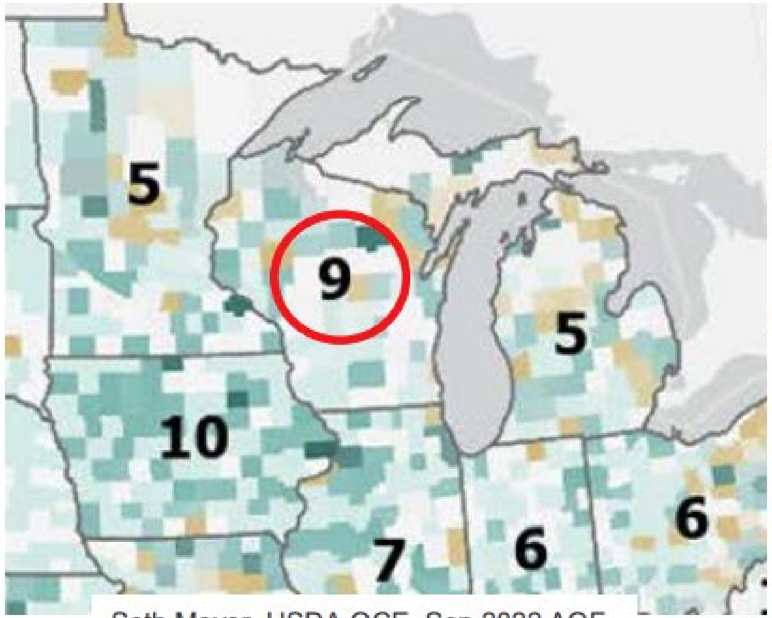
- UW: https://cropsandsoils.extension.wisc.edu/article-topic/economics-budgets-financial/
- ISU: https://www.extension.iastate.edu/agdm/crops/html/a1-20.html
- IL-N: https://farmdocdaily.illinois.edu/2022/12/revised-2023-crop-budgets.html

Crop costs in 2023 are up 10% to 20% from 2022

Division of Extension
University of Wisconsin-Madison

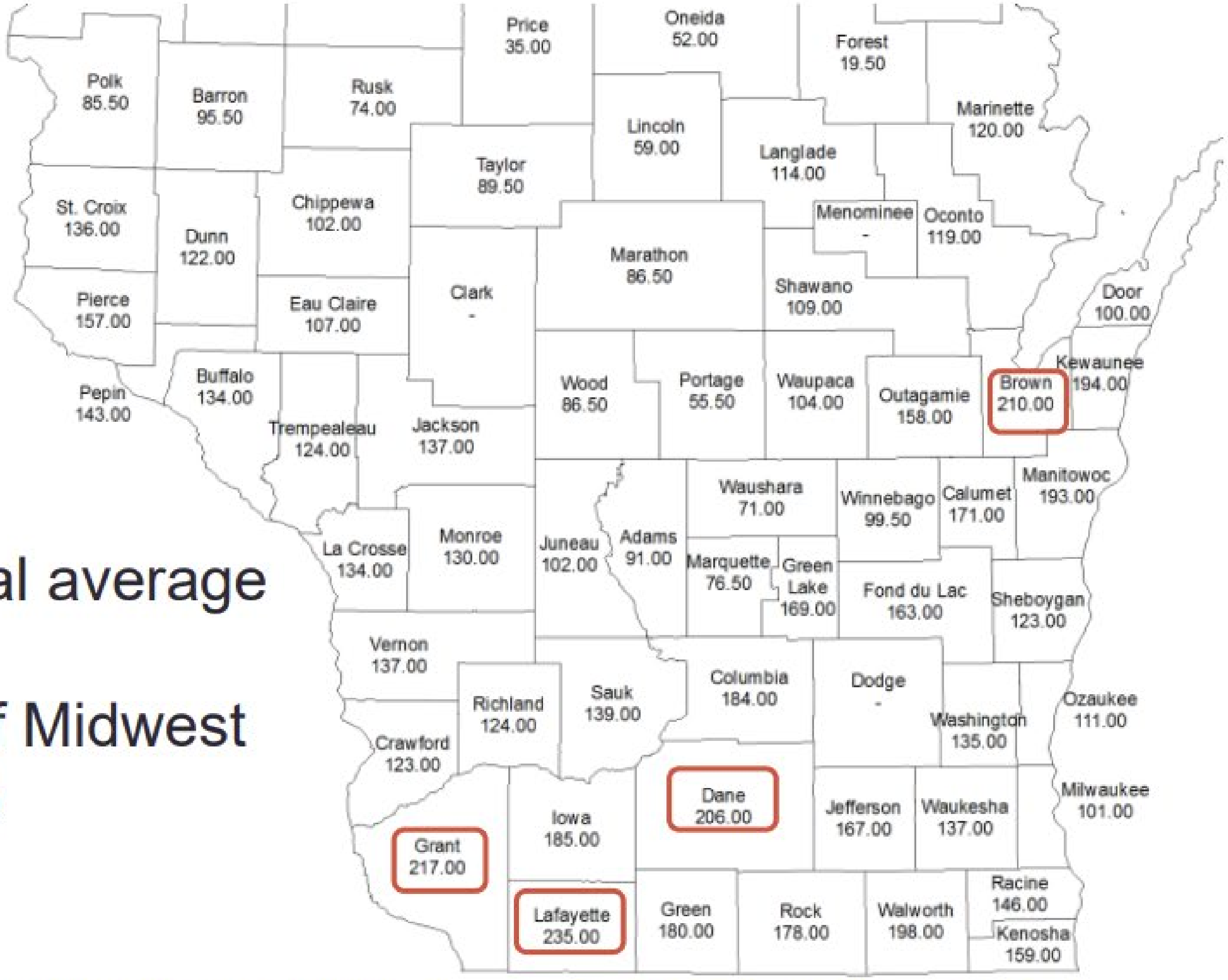
Land Rents up all over the Midwest

- WI average $145/ac in 2022, up 9%
- WI irrigated average $250/ac, up 5.5%



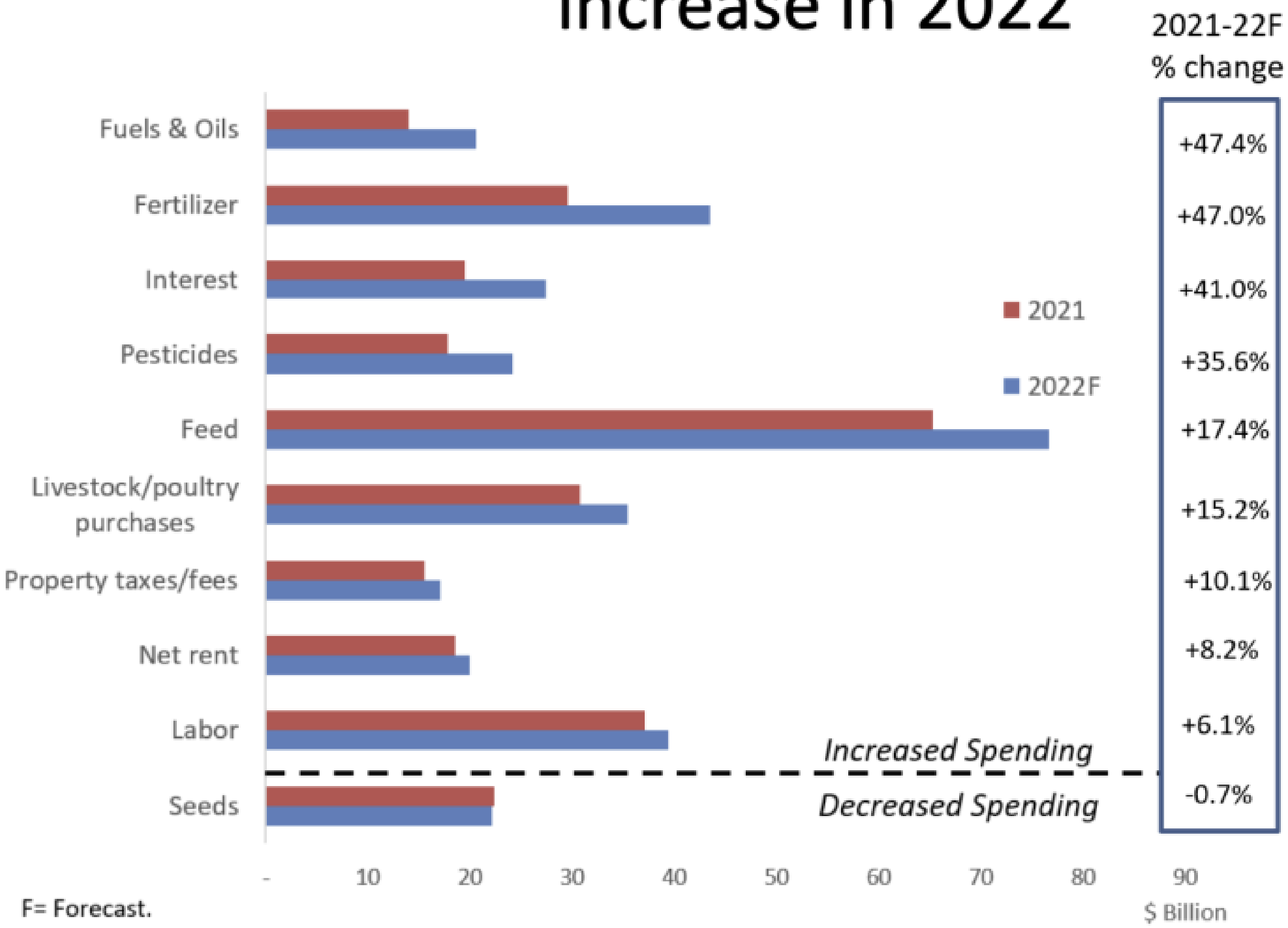
Seth Meyer, USDA OCE, Sep 2022 AOF
http://www.agbizkc.com/agoutlookforum

- National average +5.5%
- Most of Midwest 5%-7%



USDA NASS Aug 26, 2022: https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/County_Estimates/2022/WI-CtyEst-Cash-Rent-08-22.pdf

Almost all individual expense items forecast to increase in 2022



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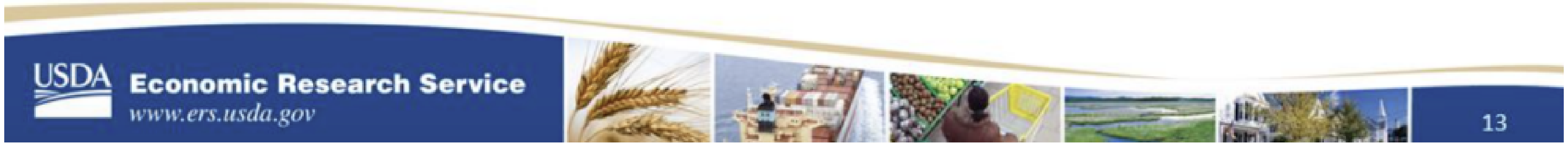
Source: USDA, Economic Research Service, Farm Income and Wealth Statistics
Data as of Decemeber1, 2022



Farmers are anxious going into 2023

- How high will costs go?
- When will costs start to decline?
- Will commodity prices stay high enough to justify these costs?

Fun Fact

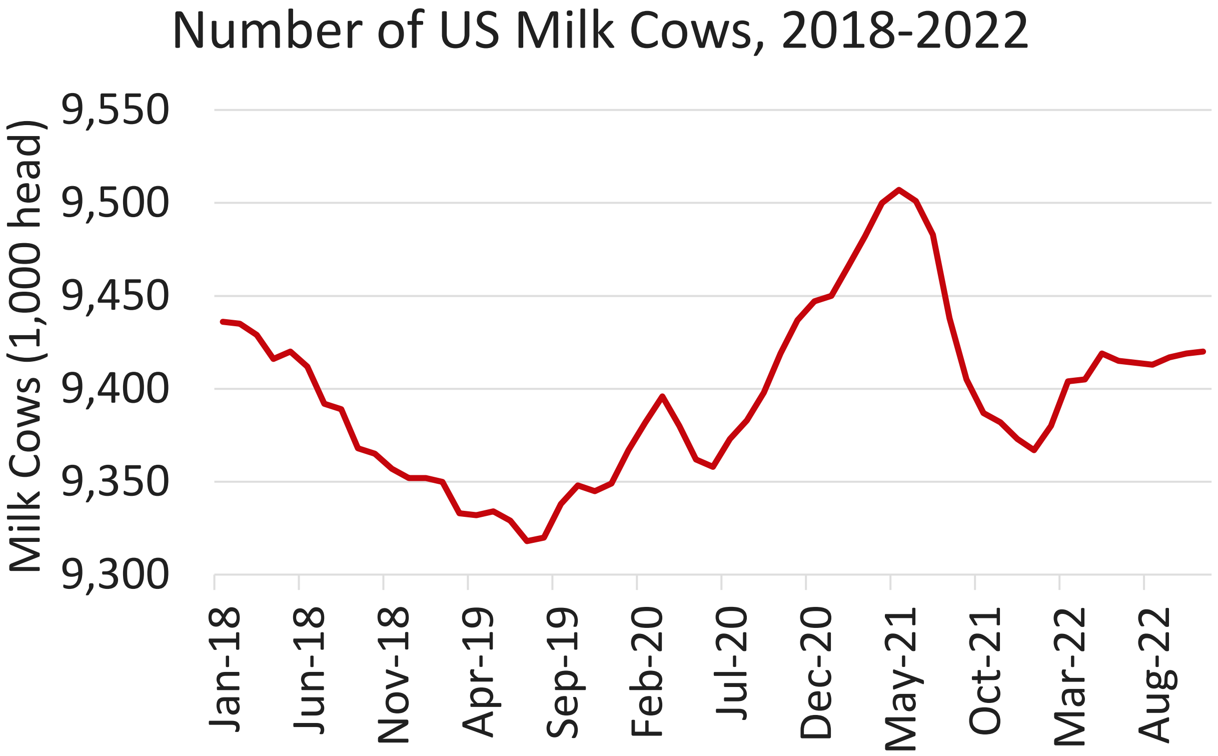
What state led the US in milk production in 2022?

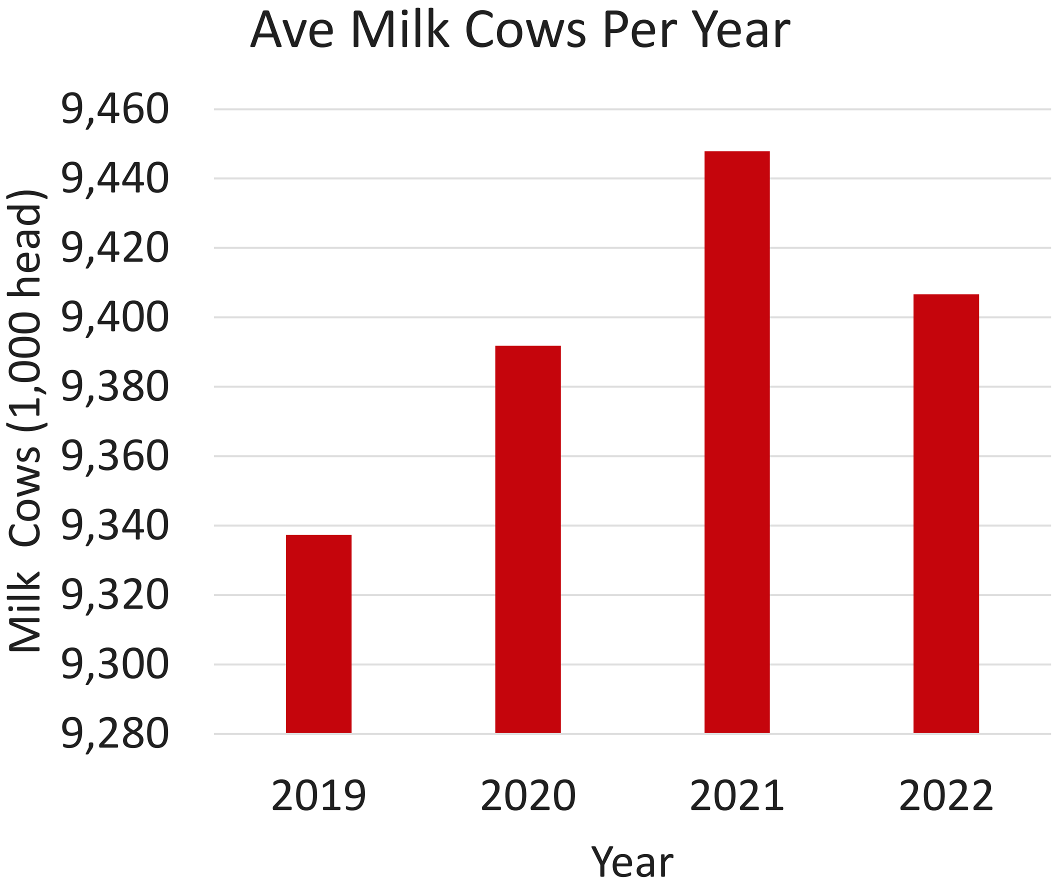
Fun Fact

Answer:

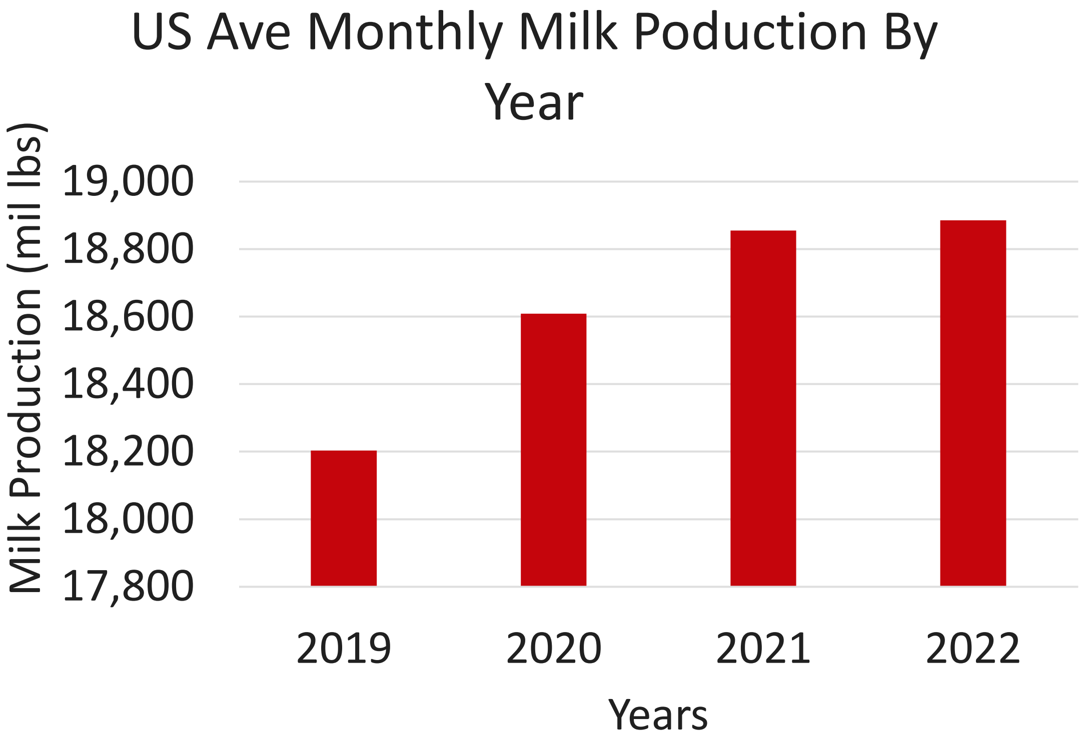
California

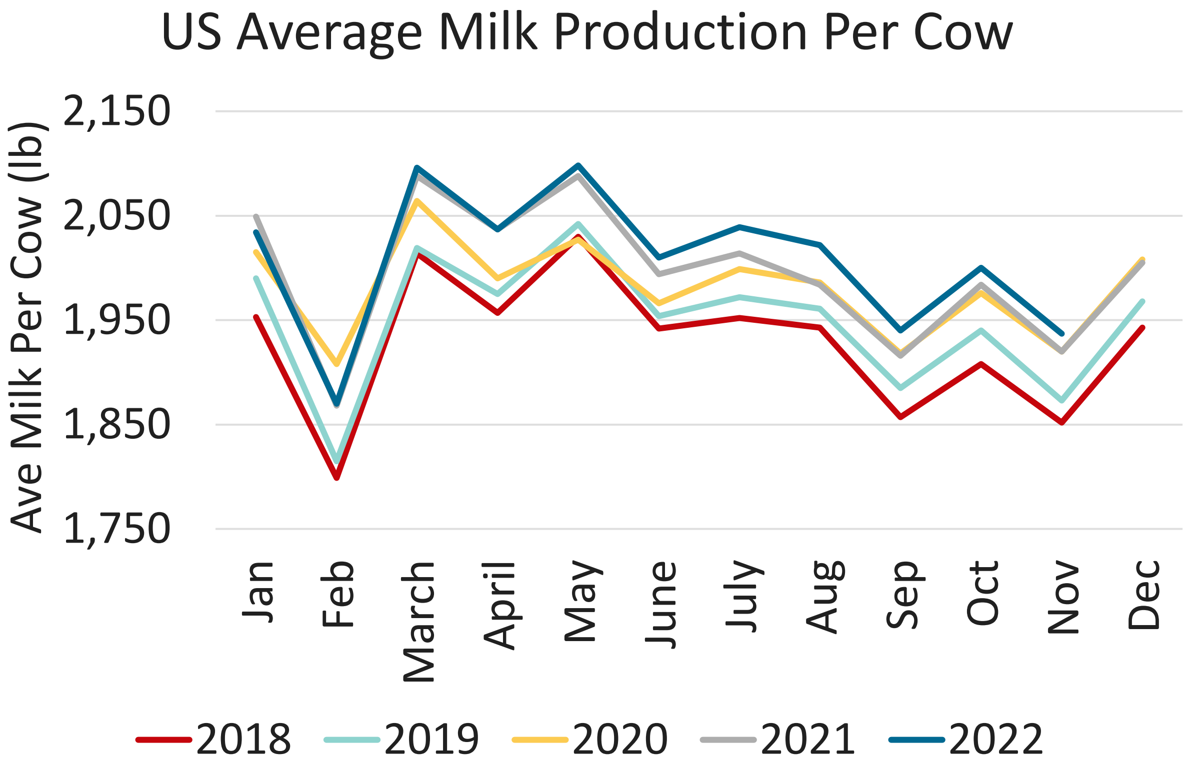
National Dairy Herd Cow Numbers



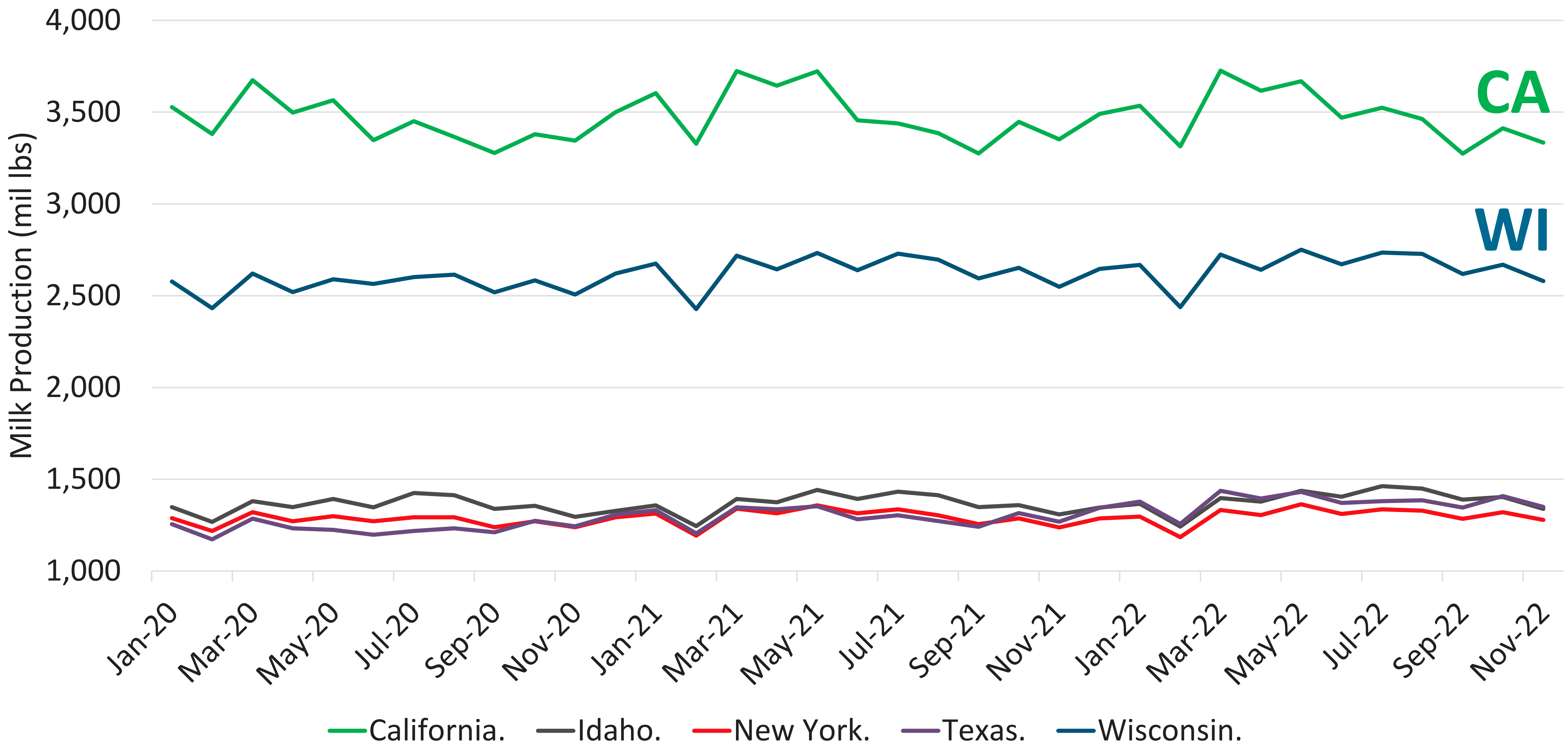


National Herd Milk Production and Production Per Cow



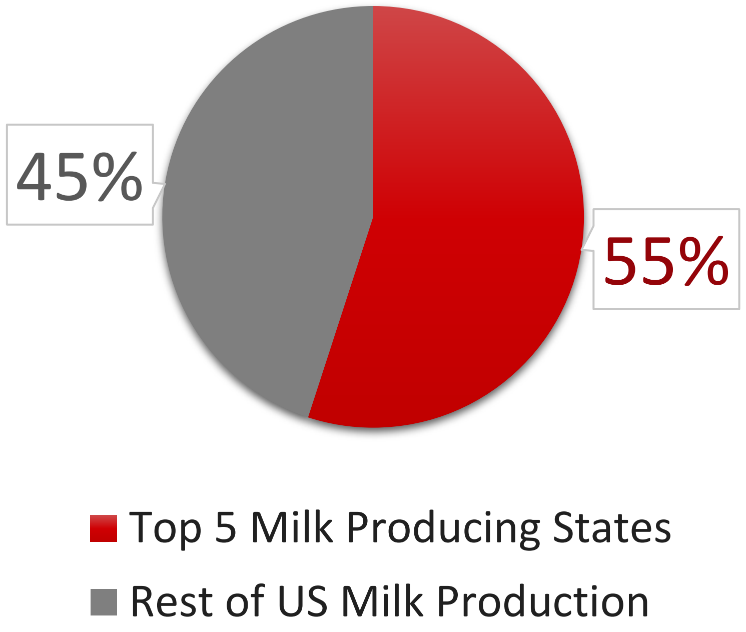


Top 5 Milk Producing States

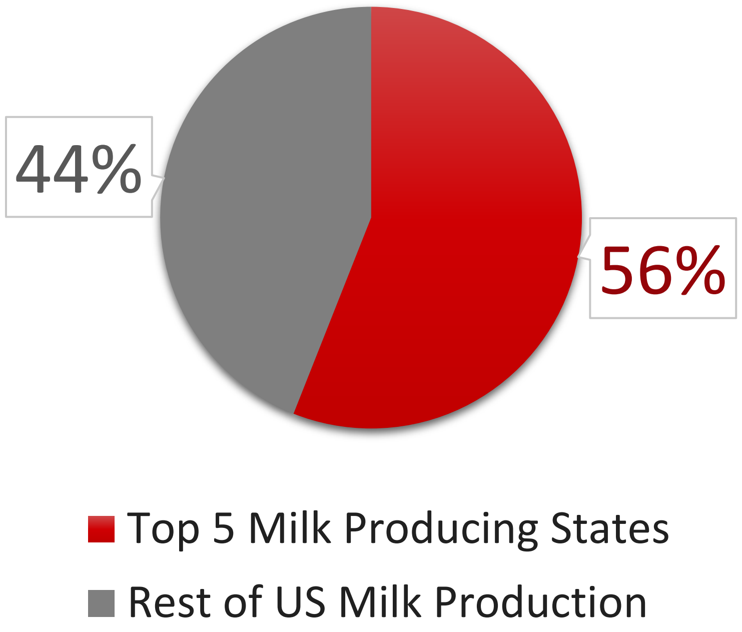


Top 5 Milk Producing States Percent of Total US Production

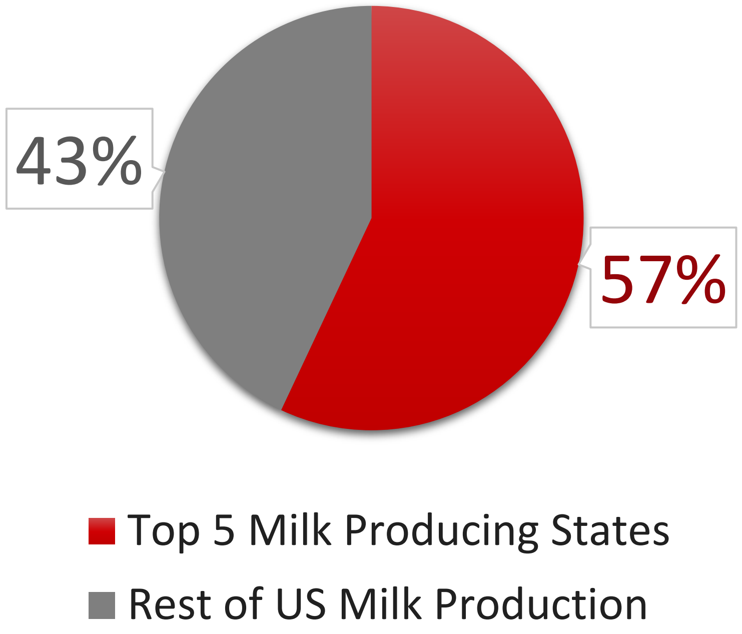
2018-2019



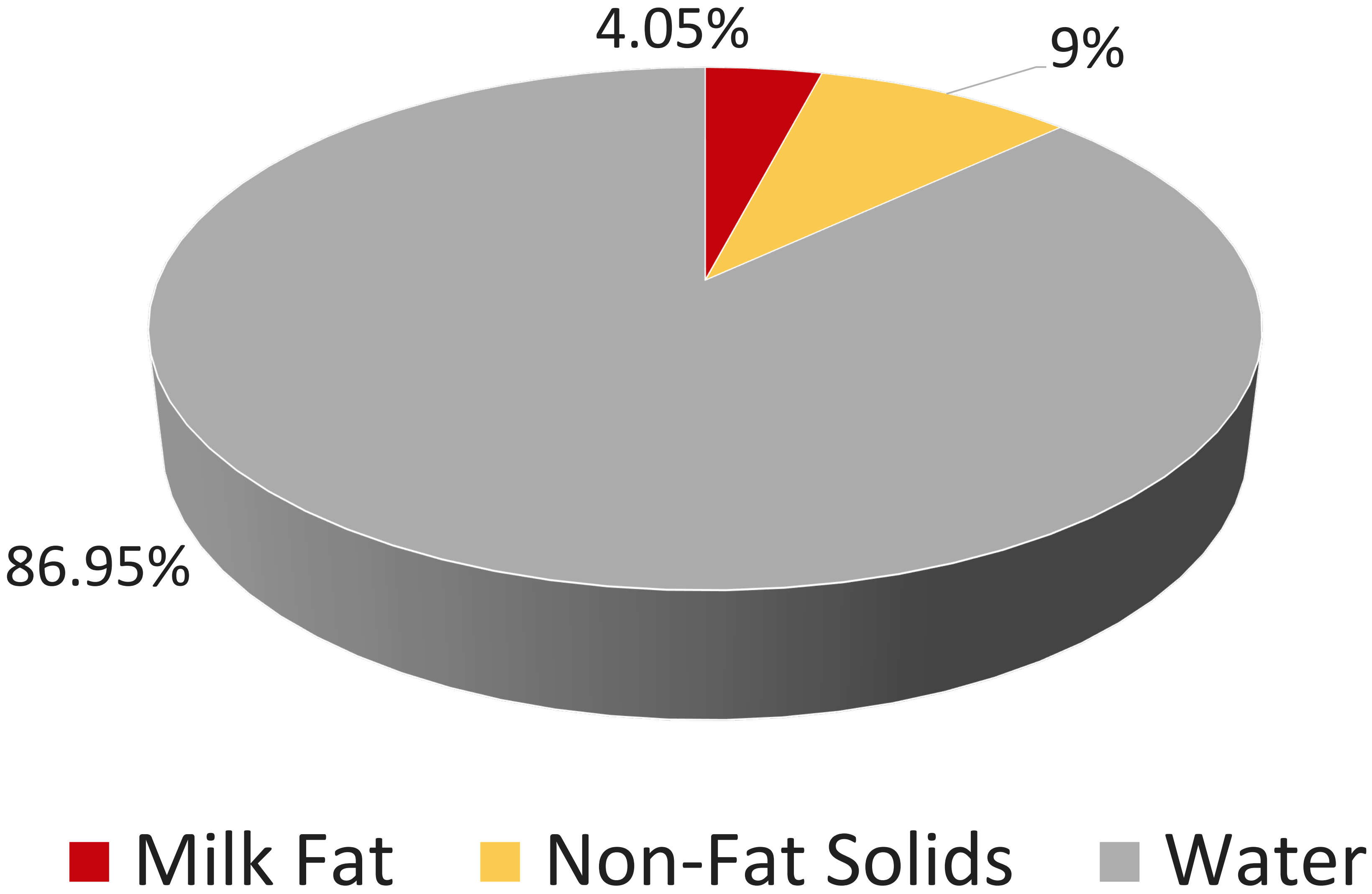
2020-2021



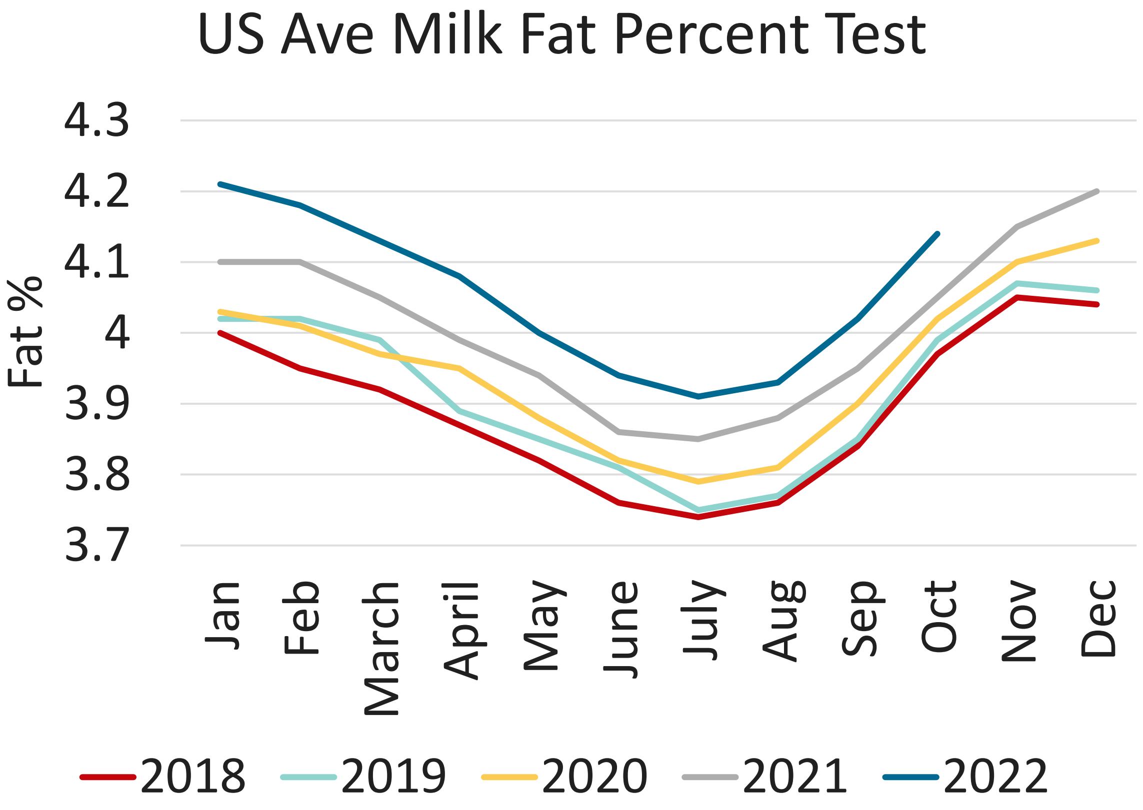
2022

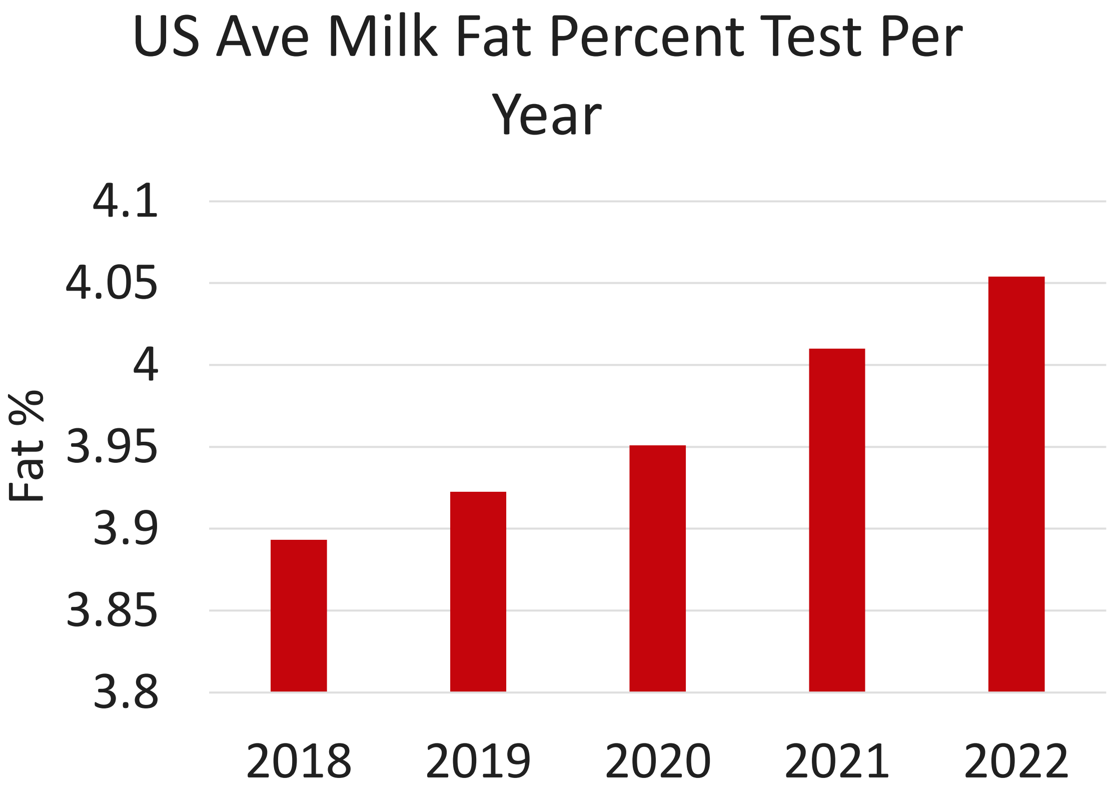


Milk Composition

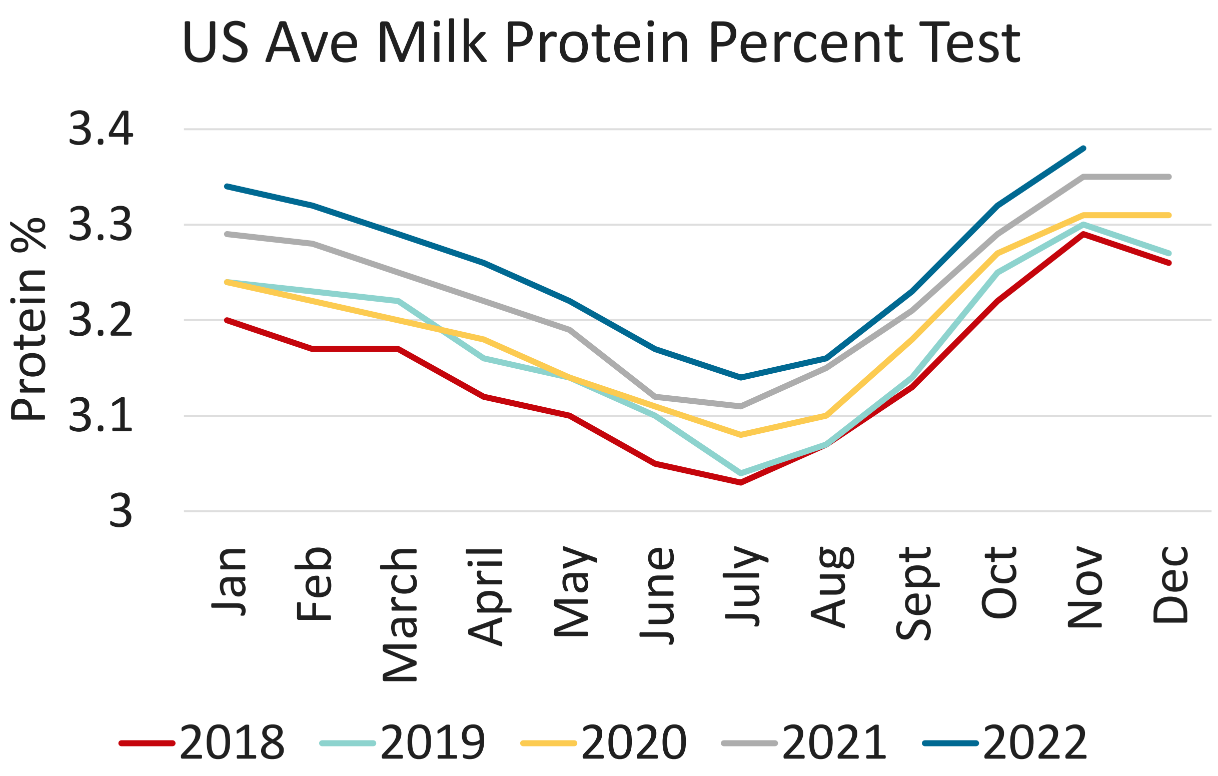


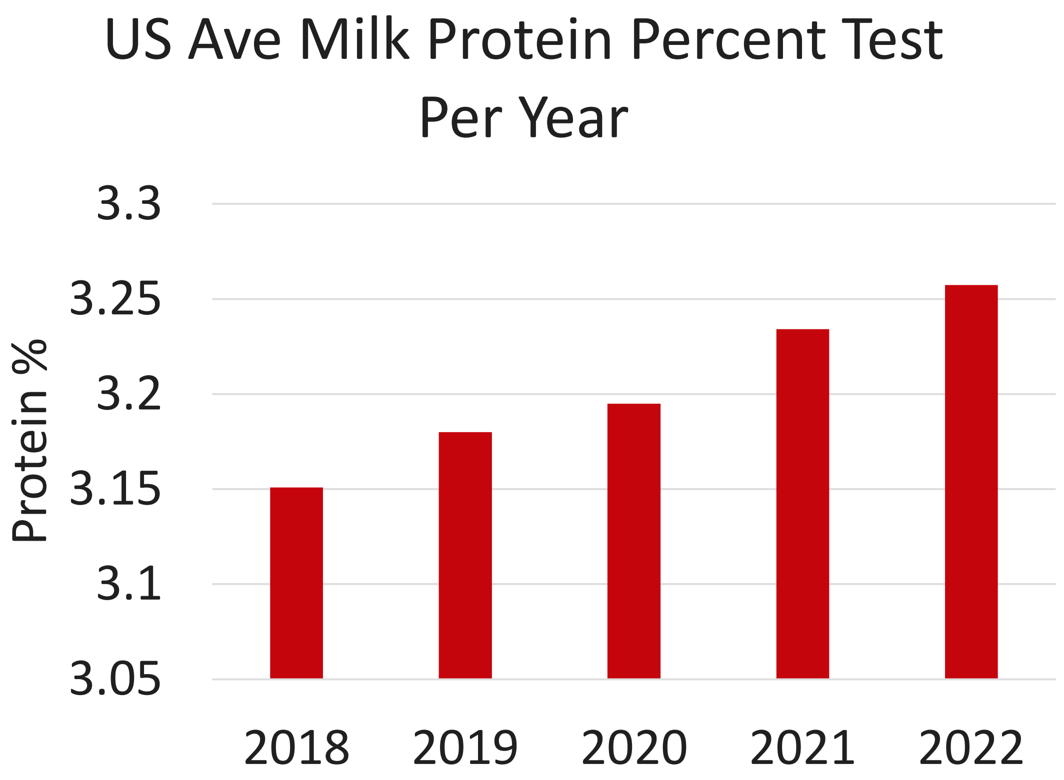
Components, Fat



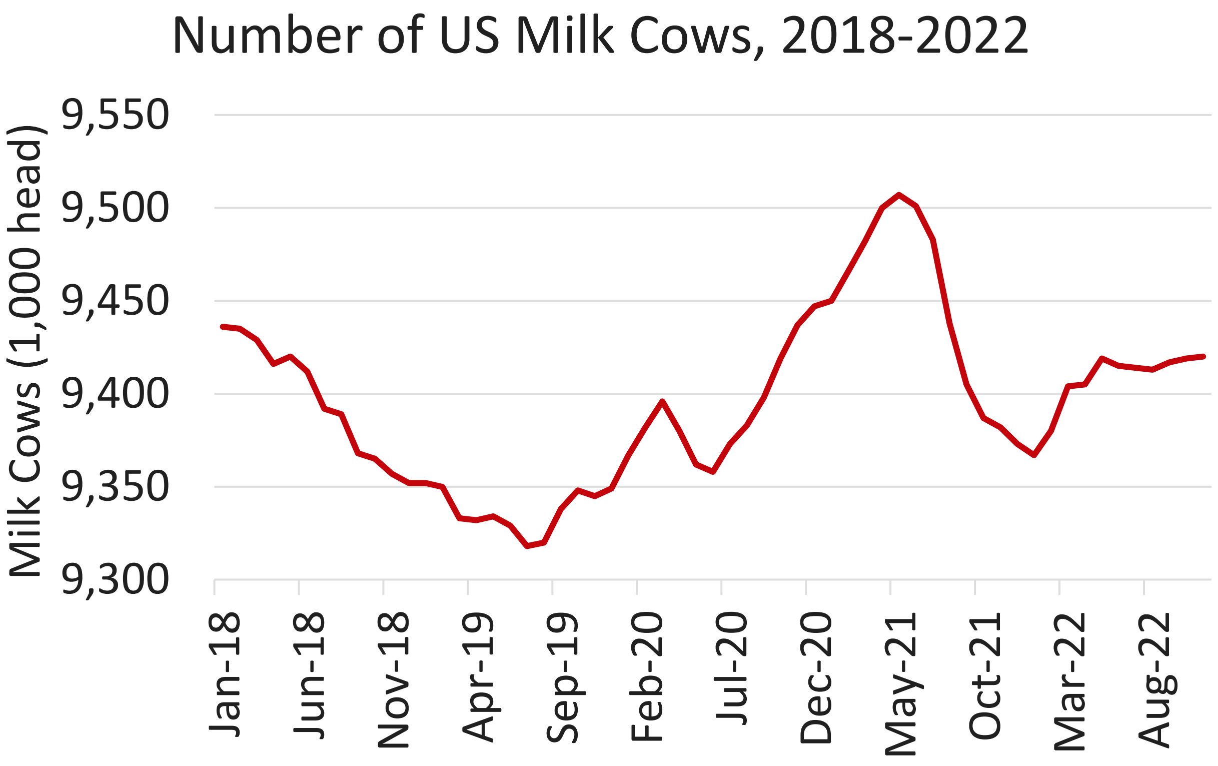


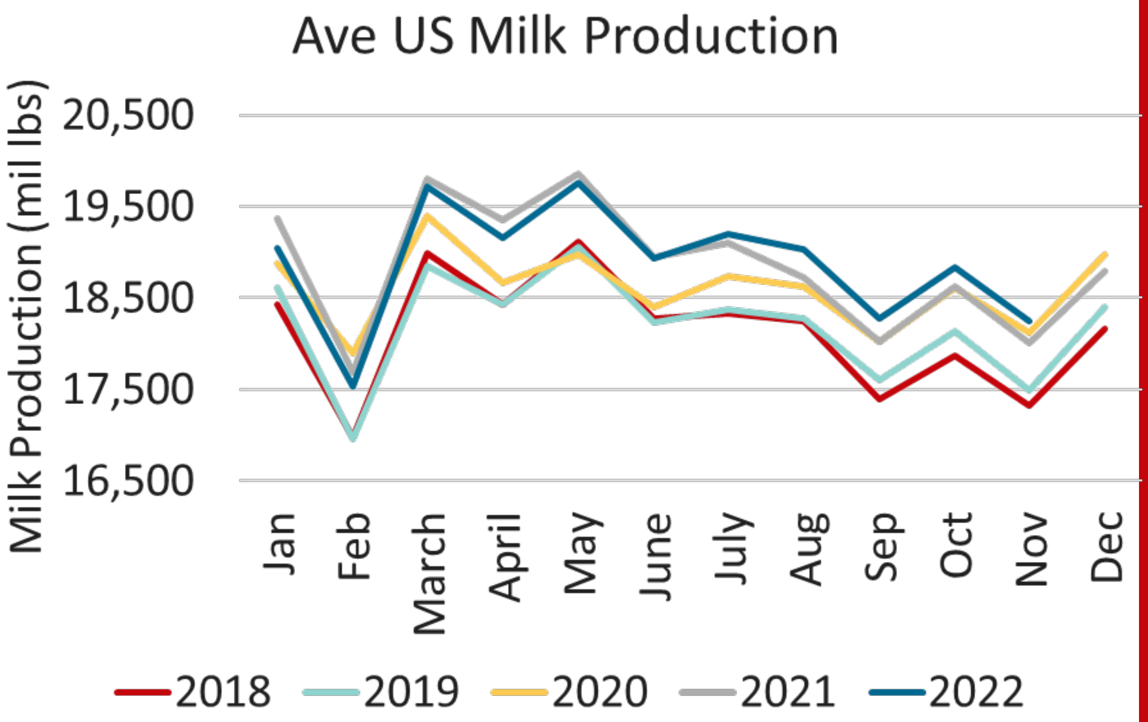
Components, Protein



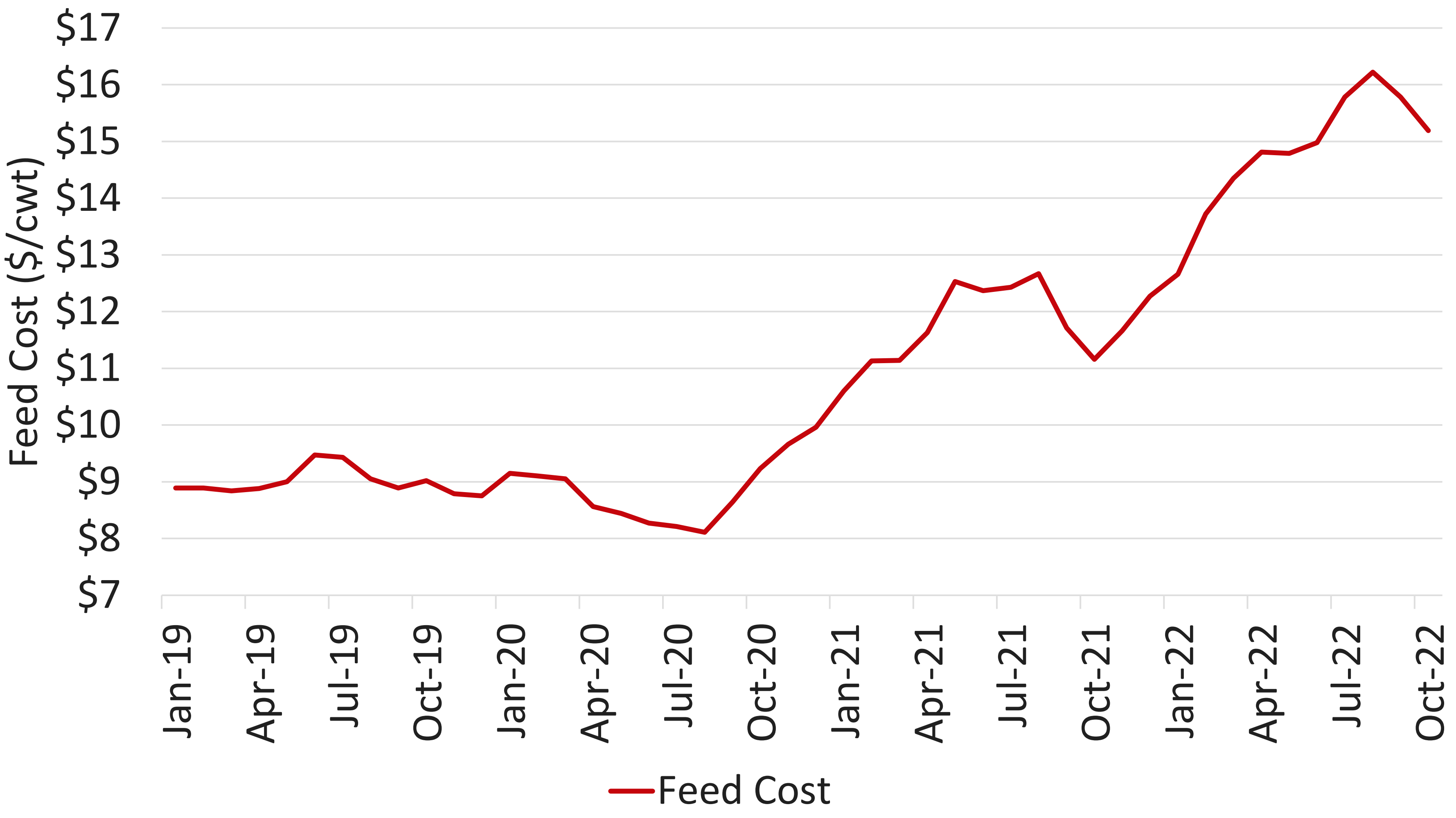


Story of Rebuilding…



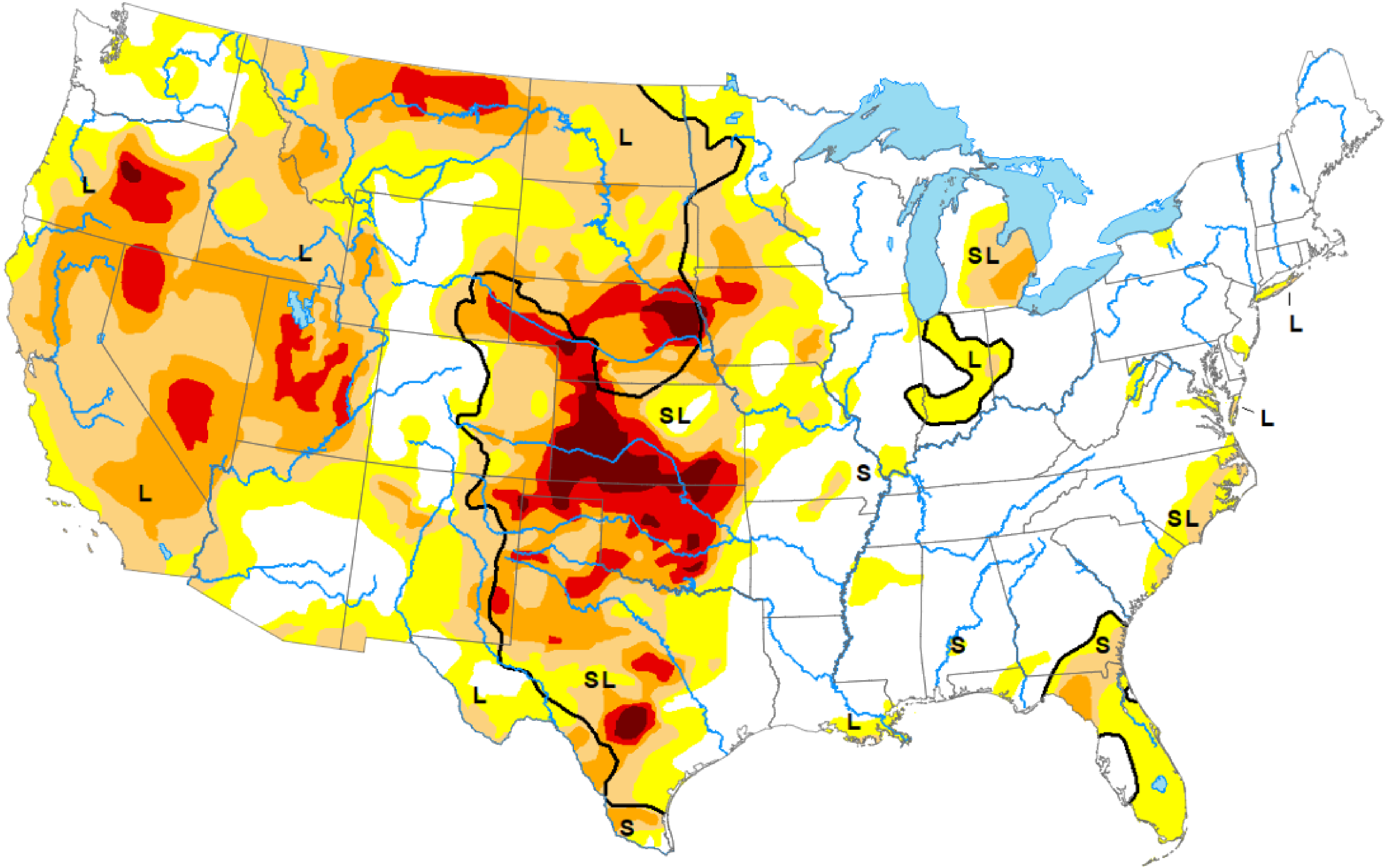


Limiting Factors… Feed Cost

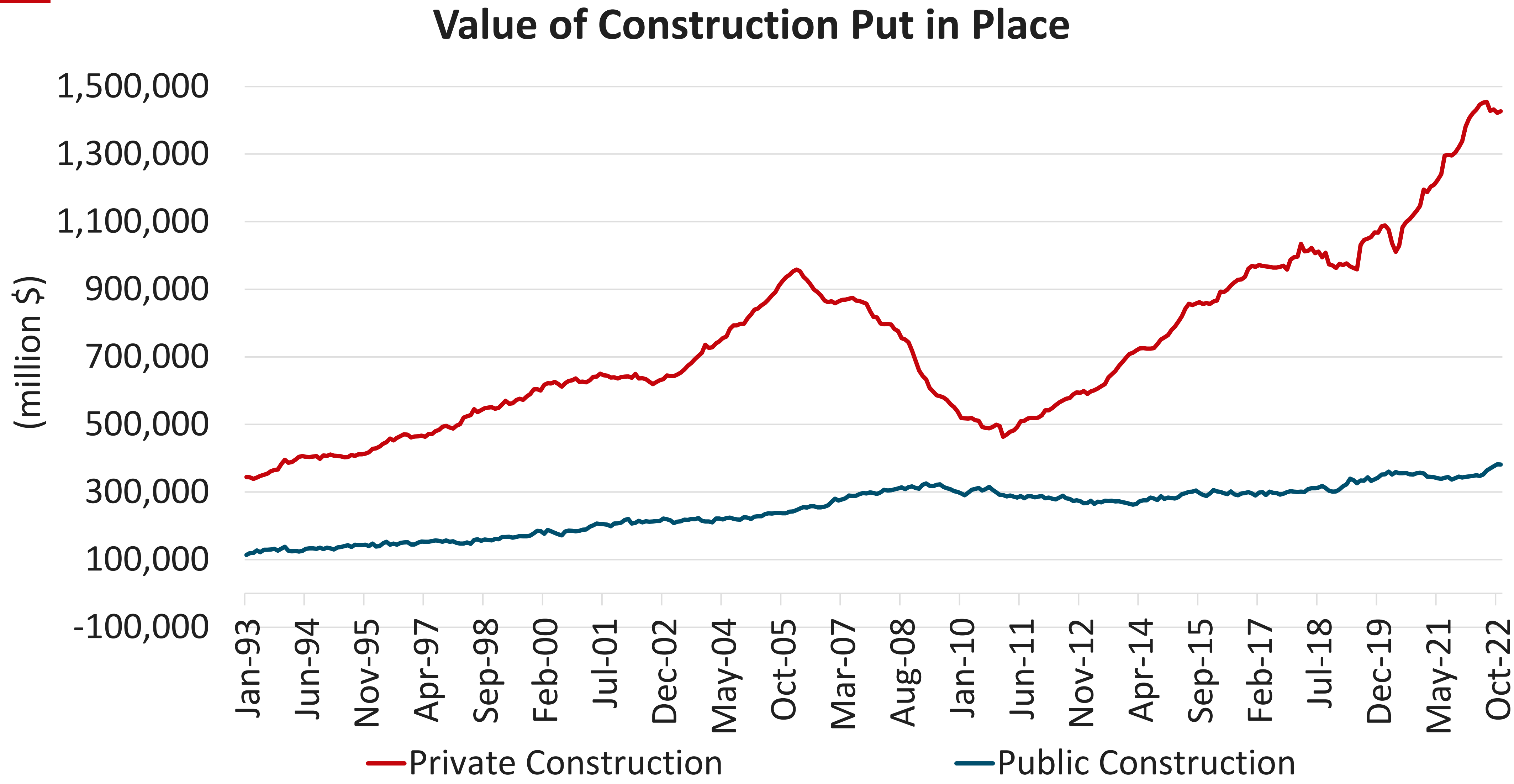


Map released: February 2, 2023

Data valid: January 31, 2023

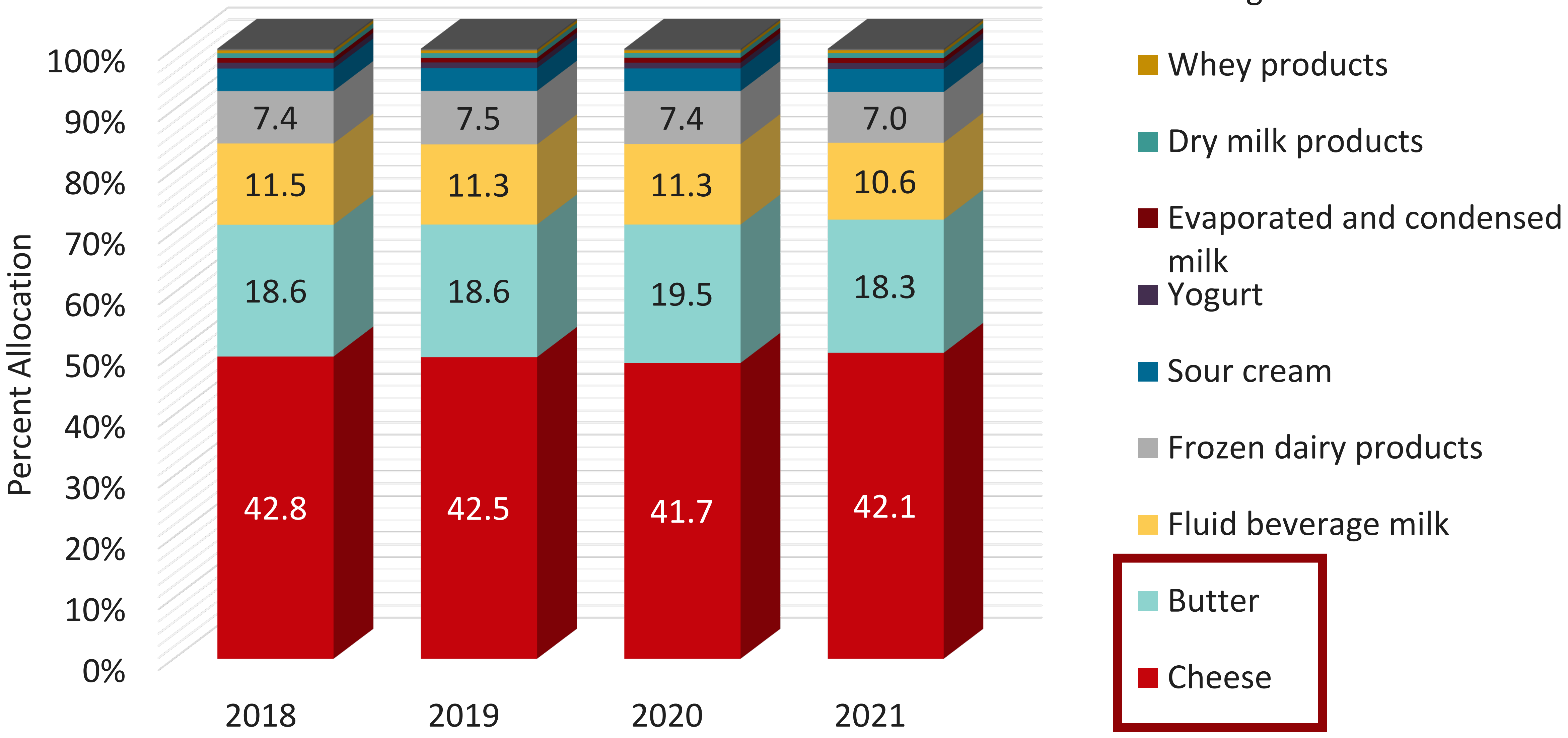


Limiting Factors… Cost of Expansion

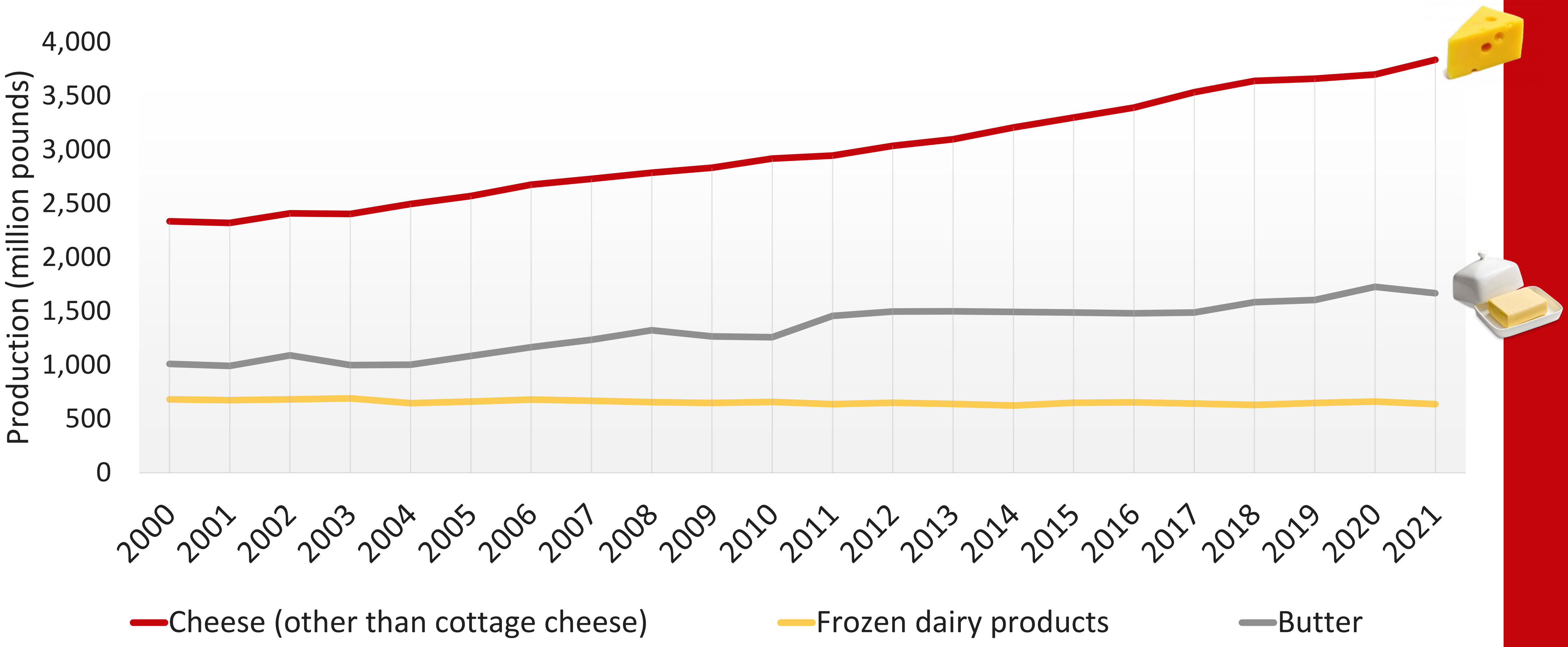


Where are these components going?

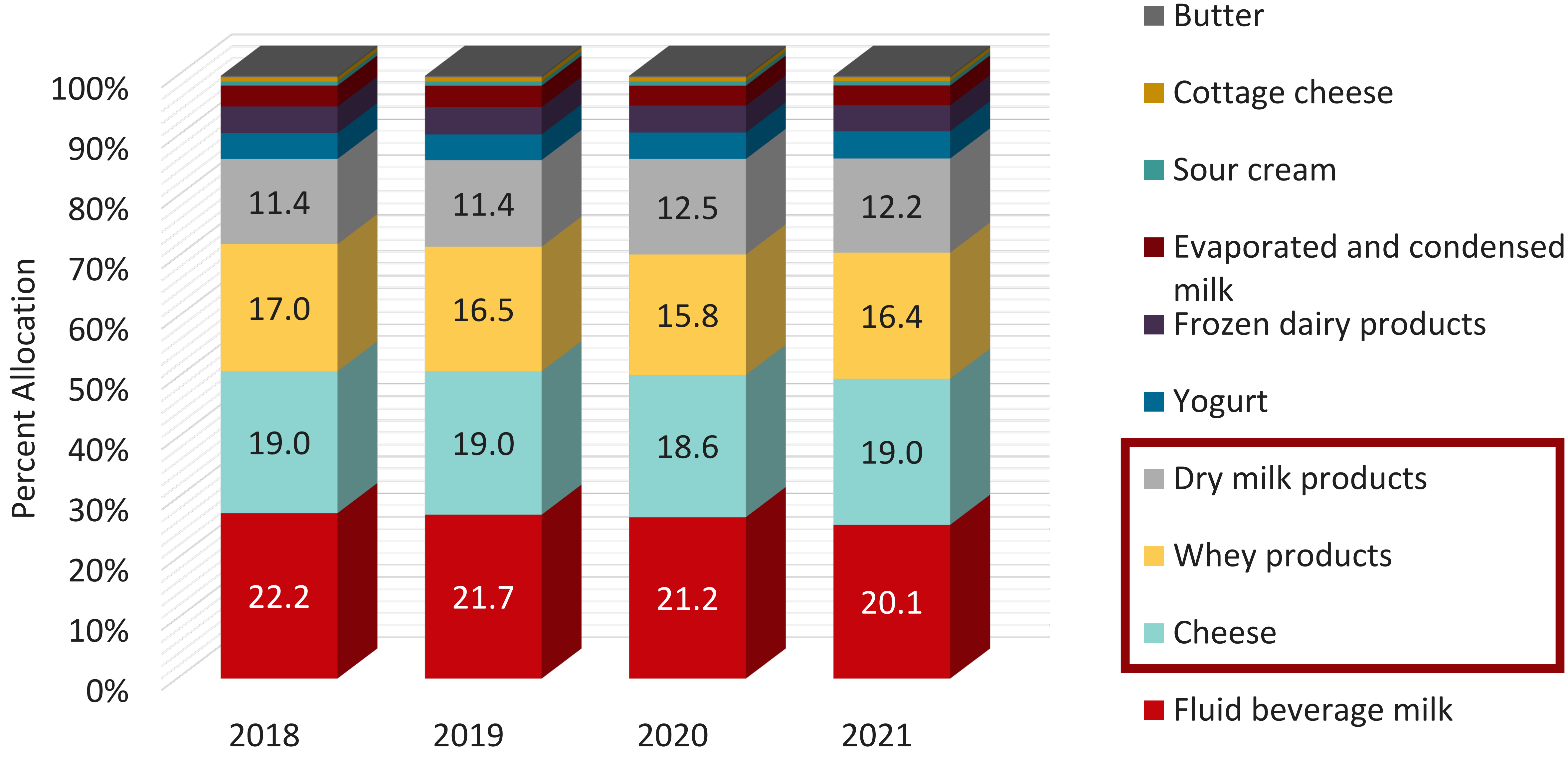
Dairy Industry Allocation of Milk Fat



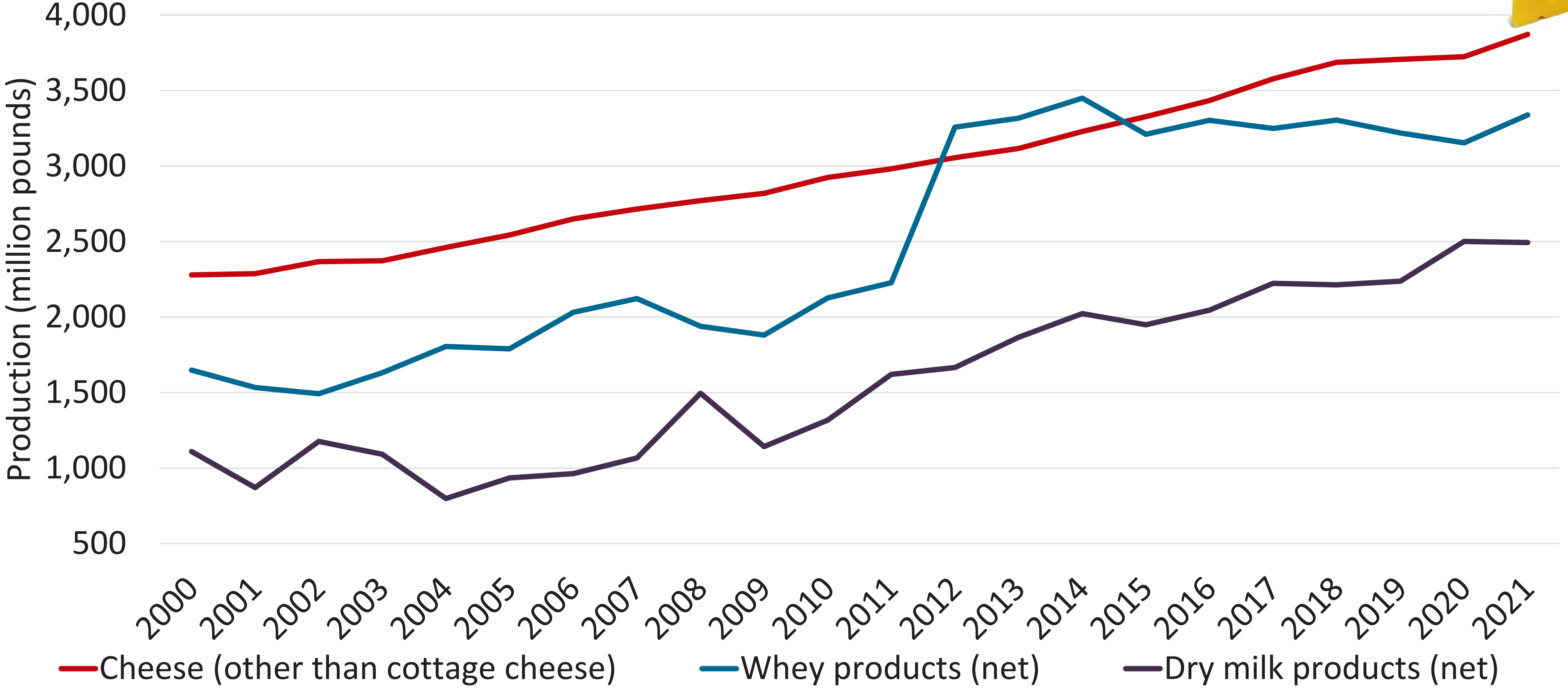
Dairy Industry Allocation of Milk Fat



Dairy Industry Allocation of Skim-Solids (Protein)



Dairy Industry Allocation of Skim-Solids



Fun Fact

Is US per capita milk consumption increasing or decreasing?

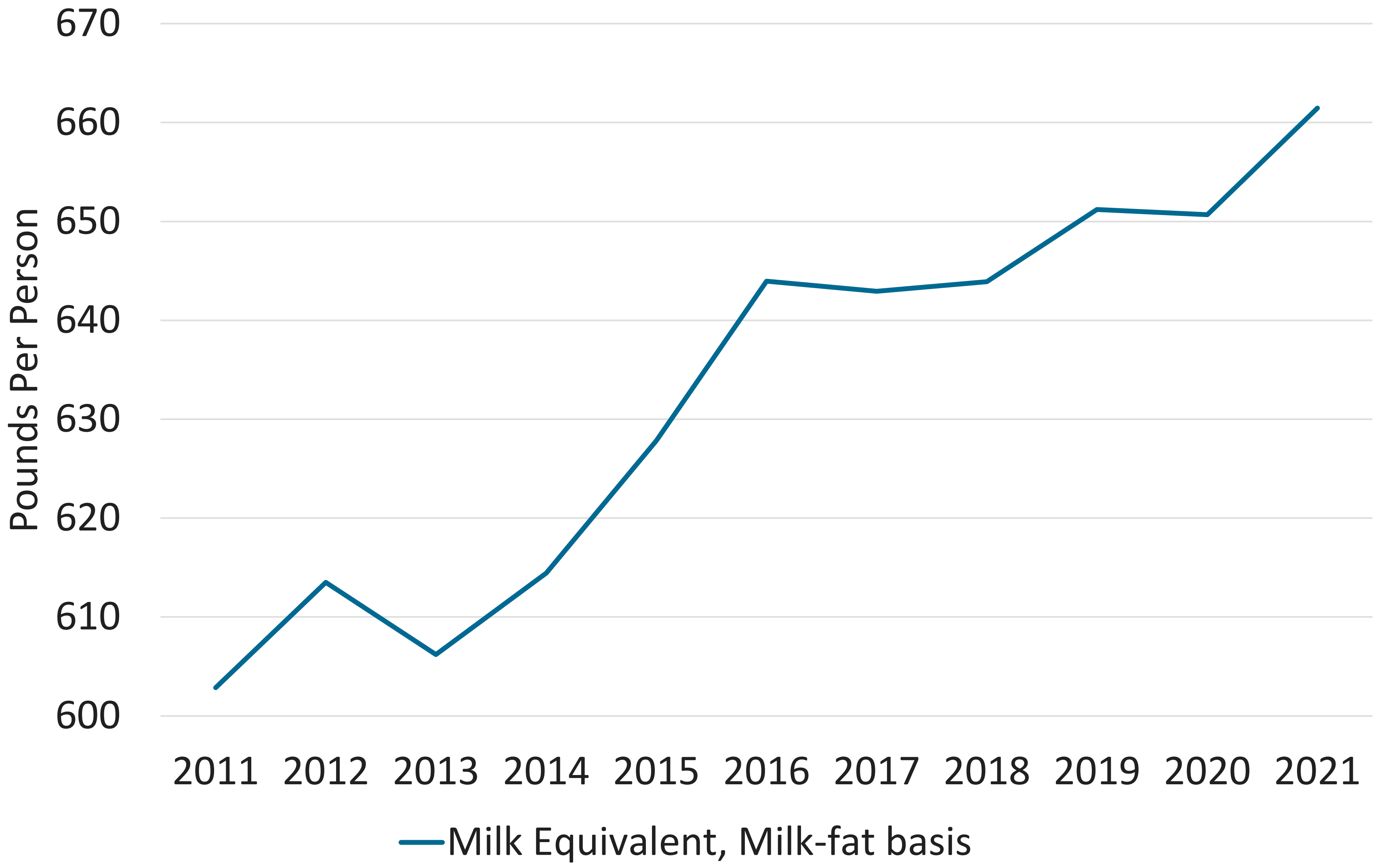
Fun Fact

Answer:

Consumption measured by 'Milk Equivalents' is increasing

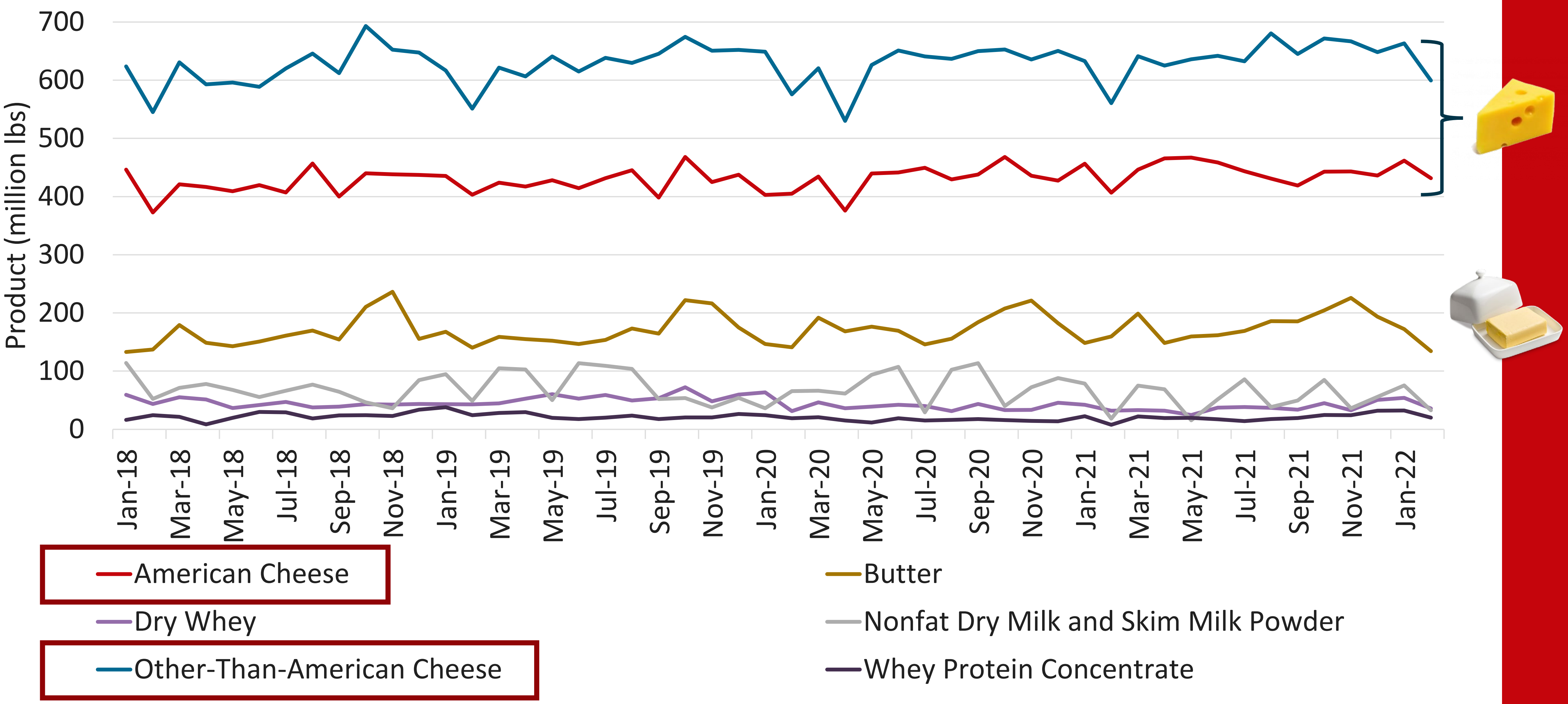
What happens to these products?

Per Capita Consumption



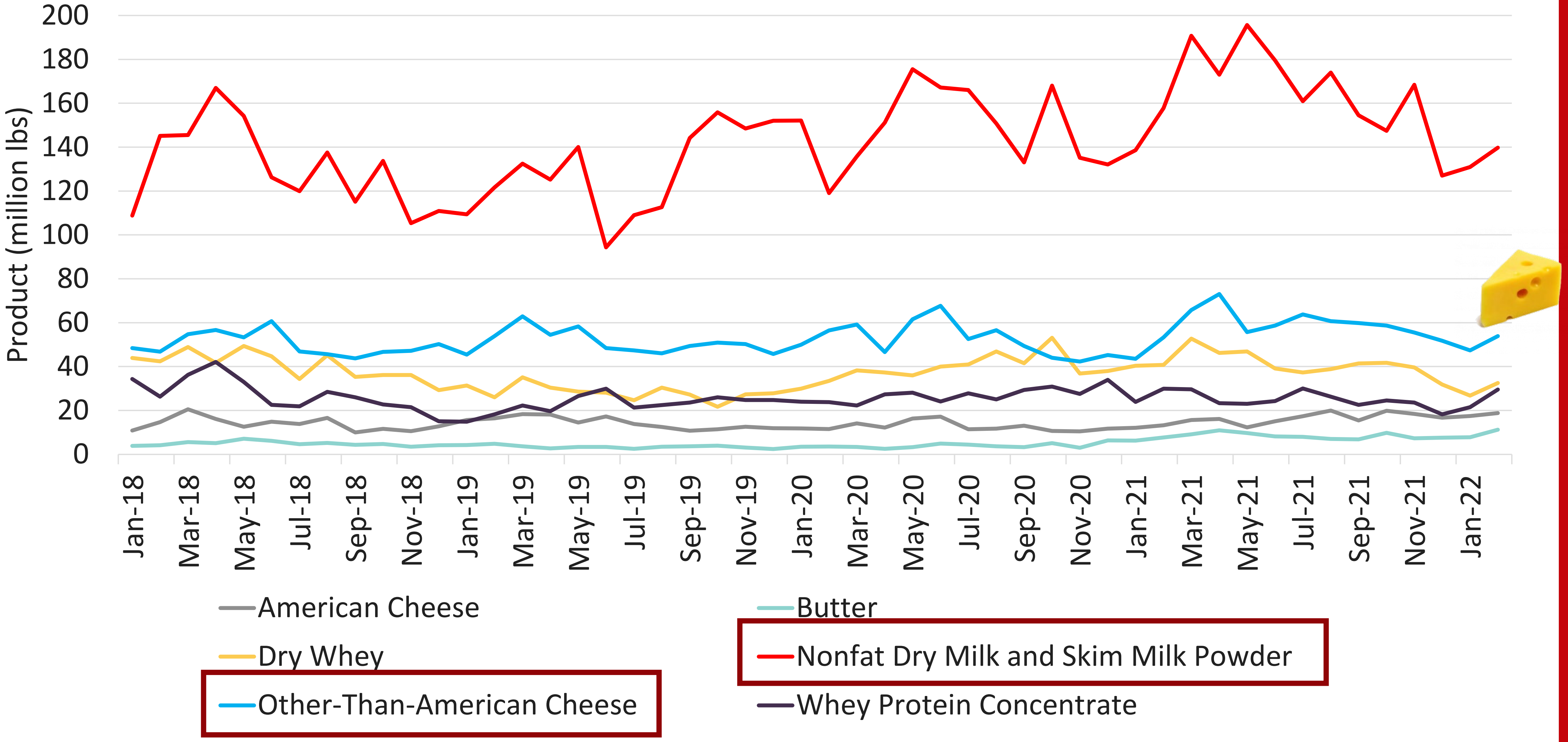
Ave of 3.65, 8 oz glasses of milk per day

Domestic Disappearance by Product Volume

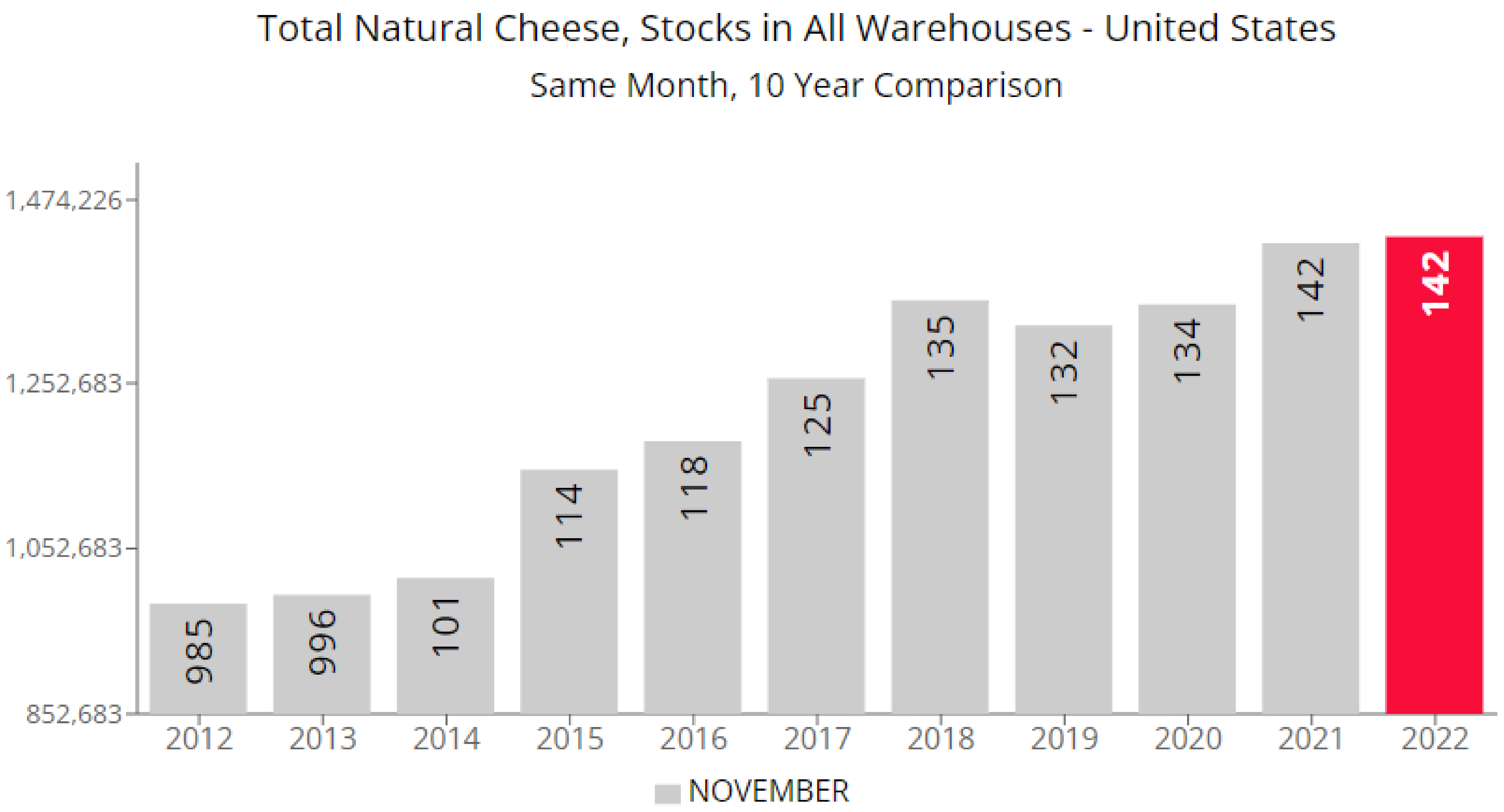


Export Volume by Product

(~18% of Total US Milk Solids Produced)

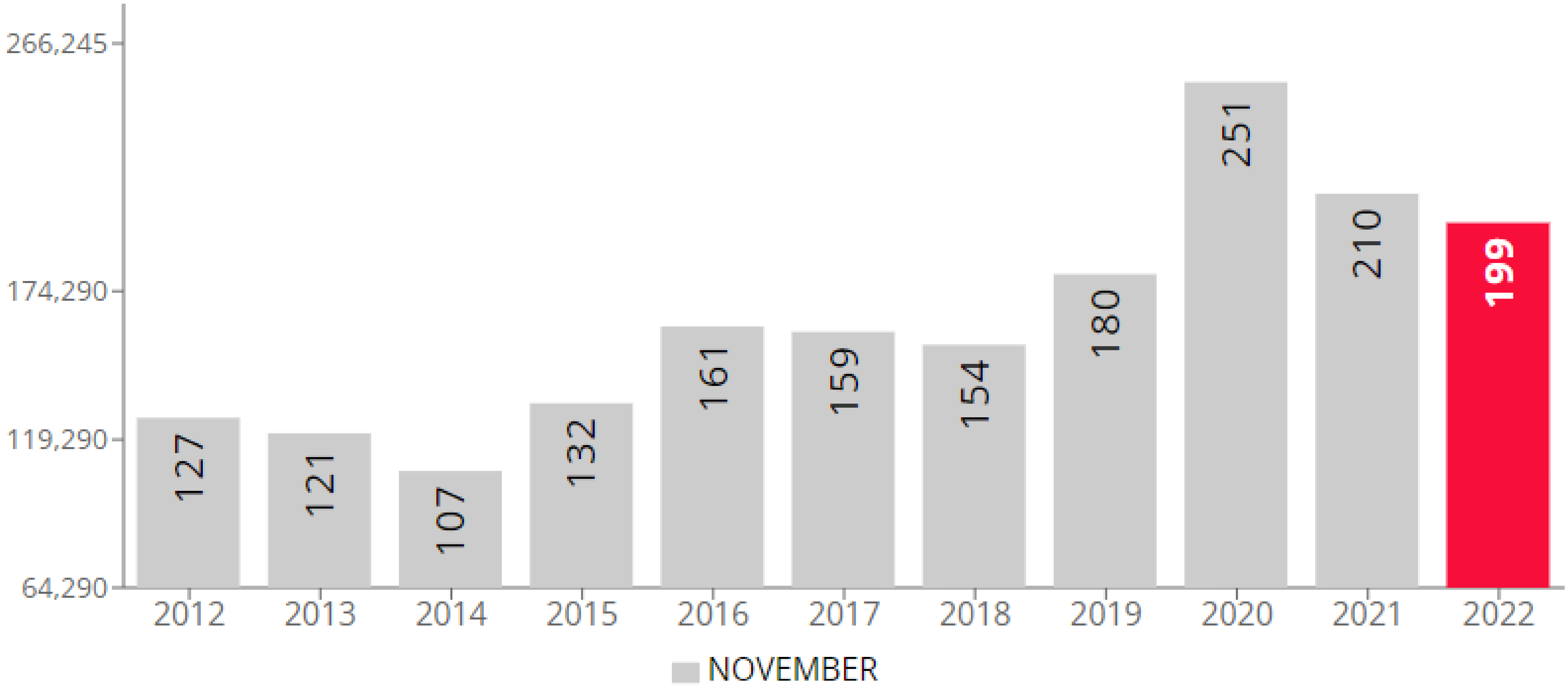


Stocks and Utilization

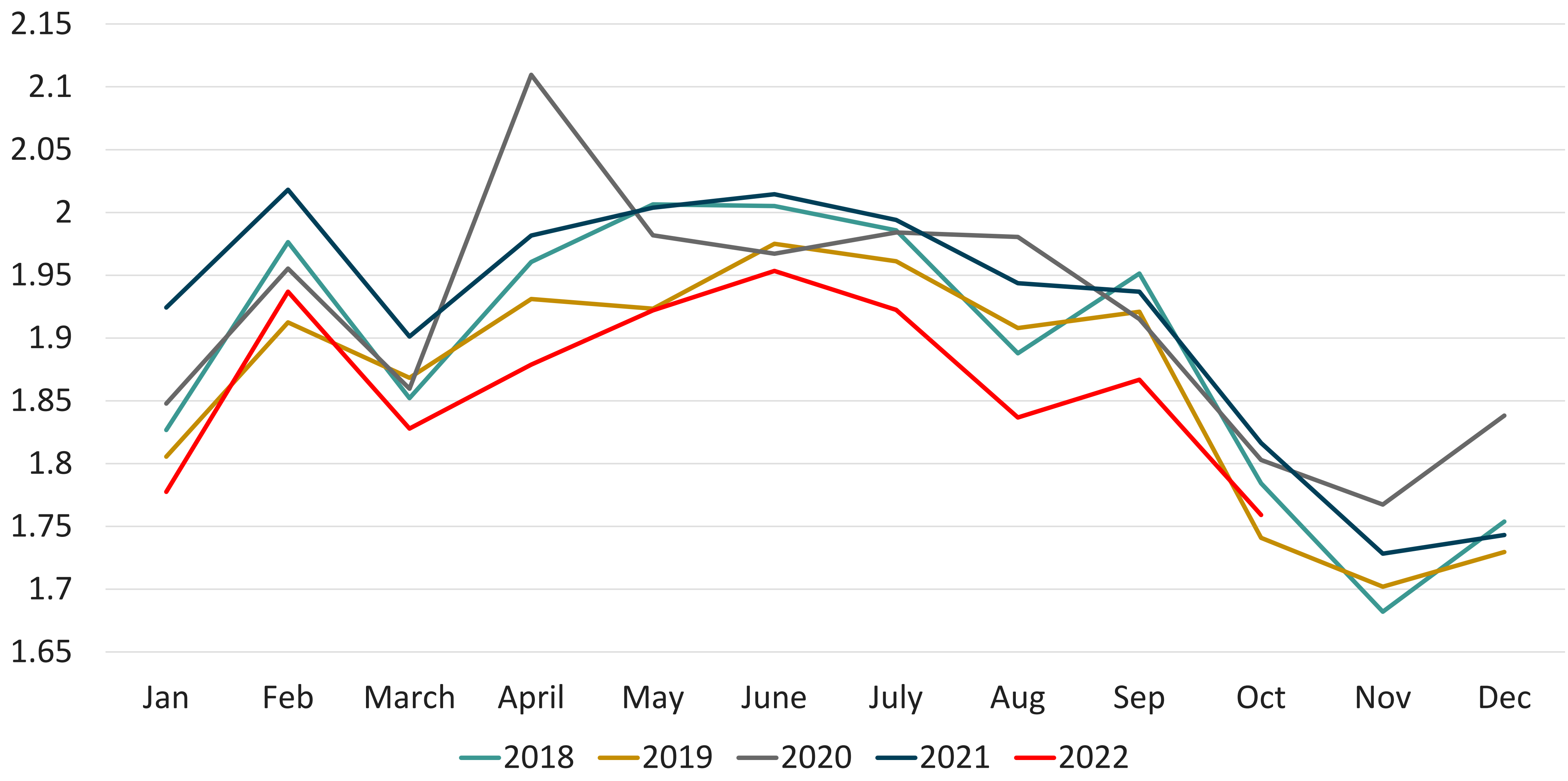

Total Natural Cheese, Stocks in All Warehouses - United States
Same Month, 10 Year Comparison
1,474,226
1,252,683
1,052,683
852,683
985
996
101
114
118
125
135
132
134
142
142
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
NOVEMBER

Butter, Stocks in All Warehouses - United States

Same Month, 10 Year Comparison



Milk Fat Coverage Ratio

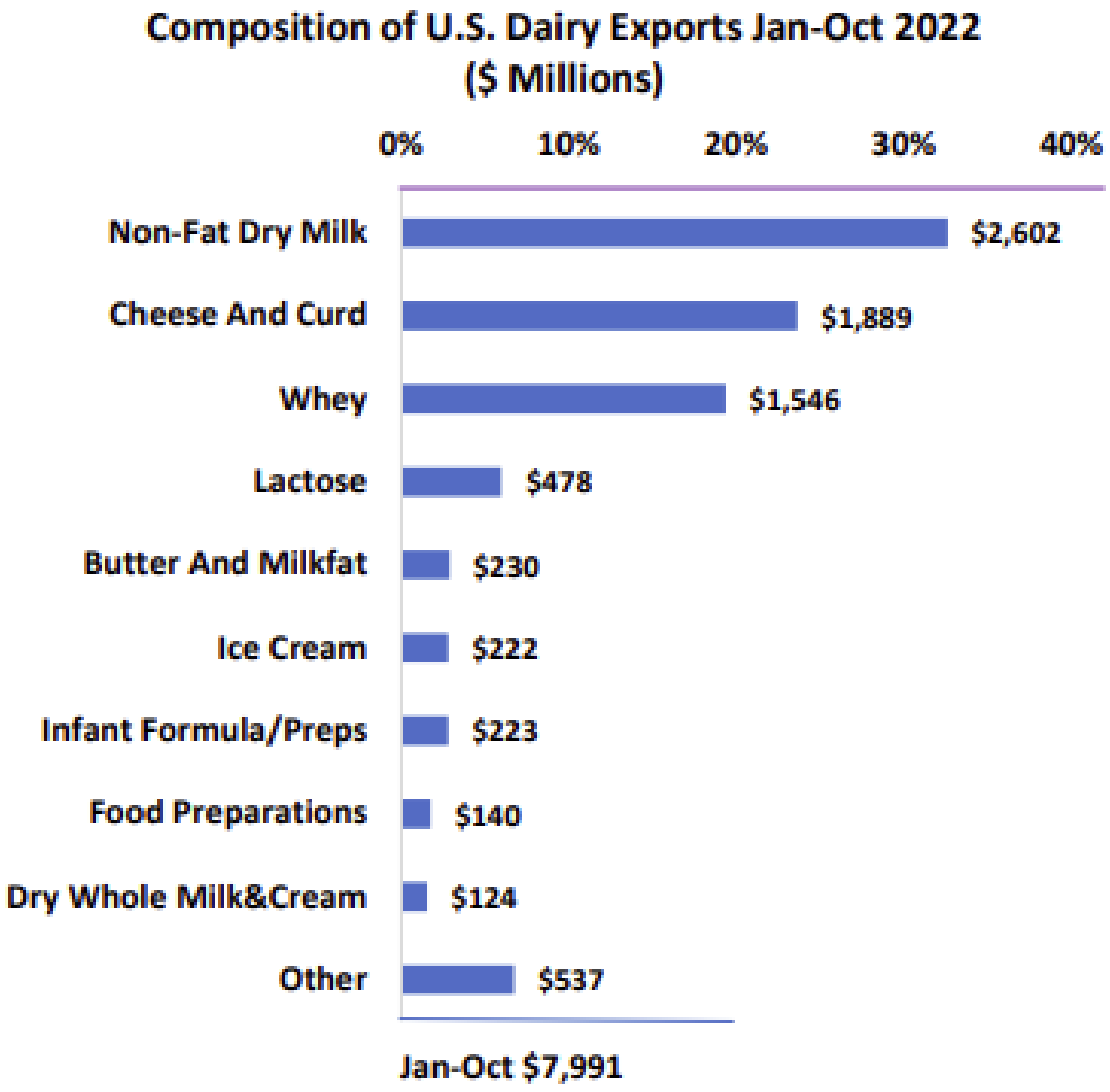


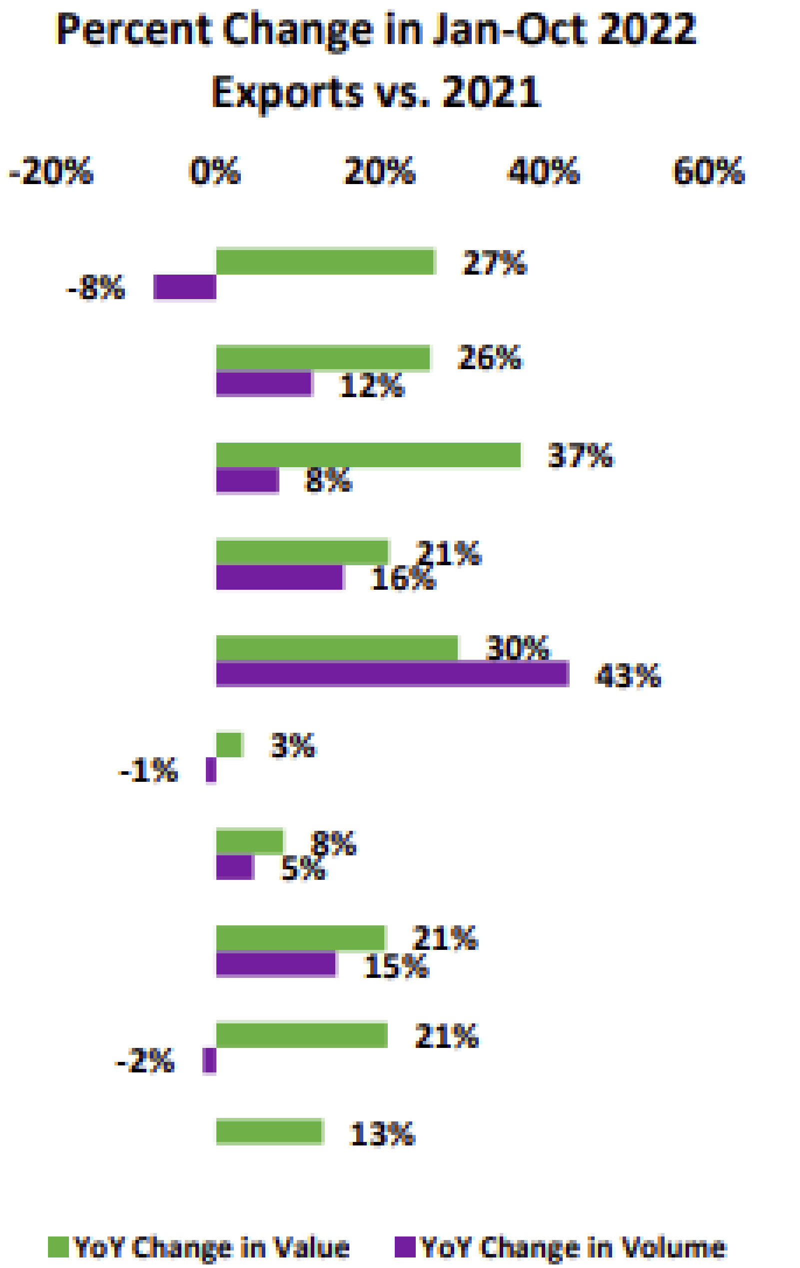
World View

Exports on a Milk Equivalent Basis Through October 2022

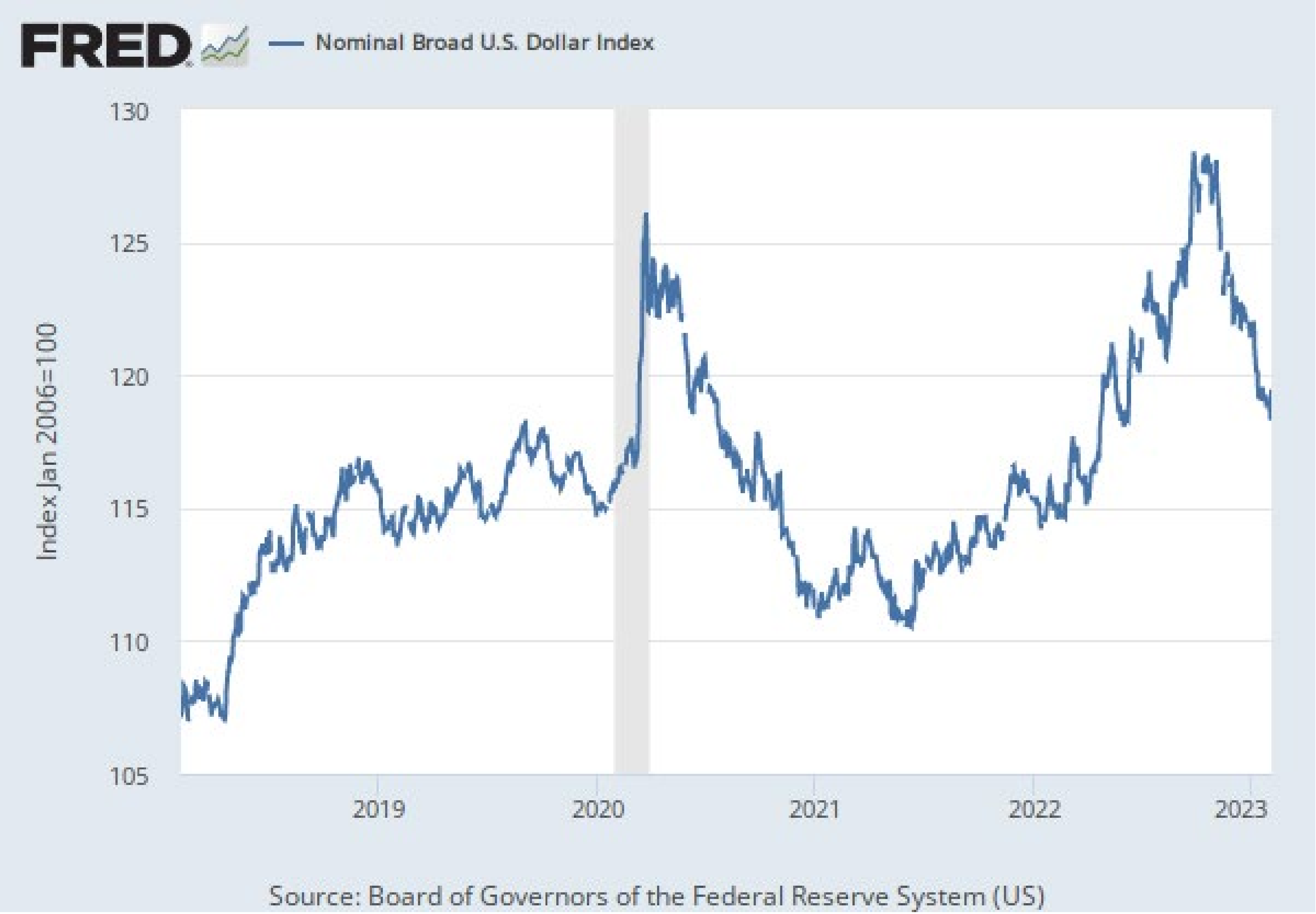
Top Dest. -M.E. Milkfat Basis (Mill. lbs)	2022	
MEXICO	2,628	23%
CANADA	1,824	16%
SOUTH KOREA	1,336	12%
JAPAN	717	6%
CHINA (MAINLAND)	443	4%
BAHRAIN	402	4%
Other	3,951	35%
TOTAL	11,300	

Top Dest.-M.E. Skim Basis (Mill. lbs)	2022	
MEXICO	9,787	22%
CHINA (MAINLAND)	9,191	21%
PHILIPPINES	3,446	8%
INDONESIA	2,920	7%
JAPAN	2,054	5%
CANADA	1,932	4%
Other	14,812	34%
TOTAL	44,143	





Note: Given "Other" is a mix of different units of measurement, volume change is unavailable

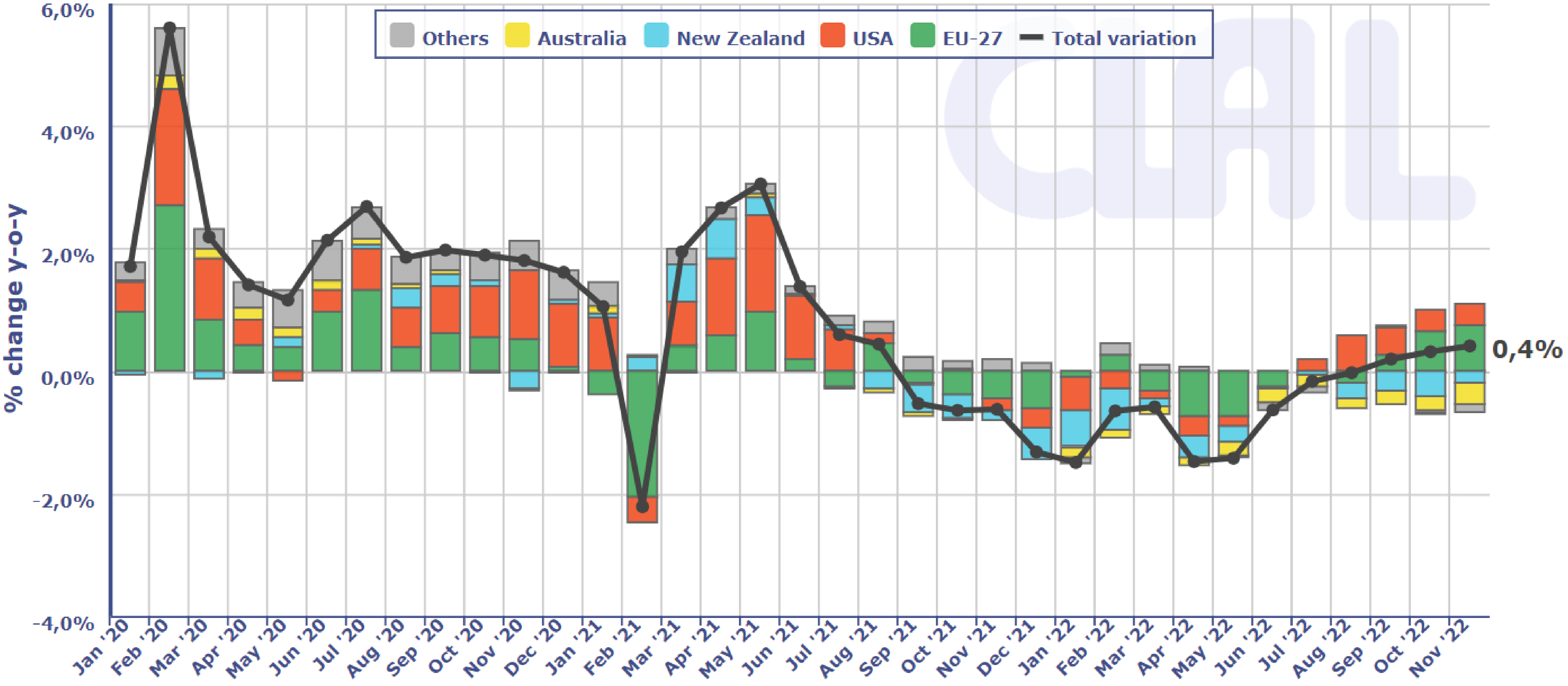

FRED
Nominal Broad U.S. Dollar Index
130
125
120
115
110
105
Index Jan 2006=100
2019
2020
2021
2022
2023
Source: Board of Governors of the Federal Reserve System (US)

World - Global Supply Variation in the Key Exporters of Dairy Products

% change y-o-y subdivided by the contribution of each Player

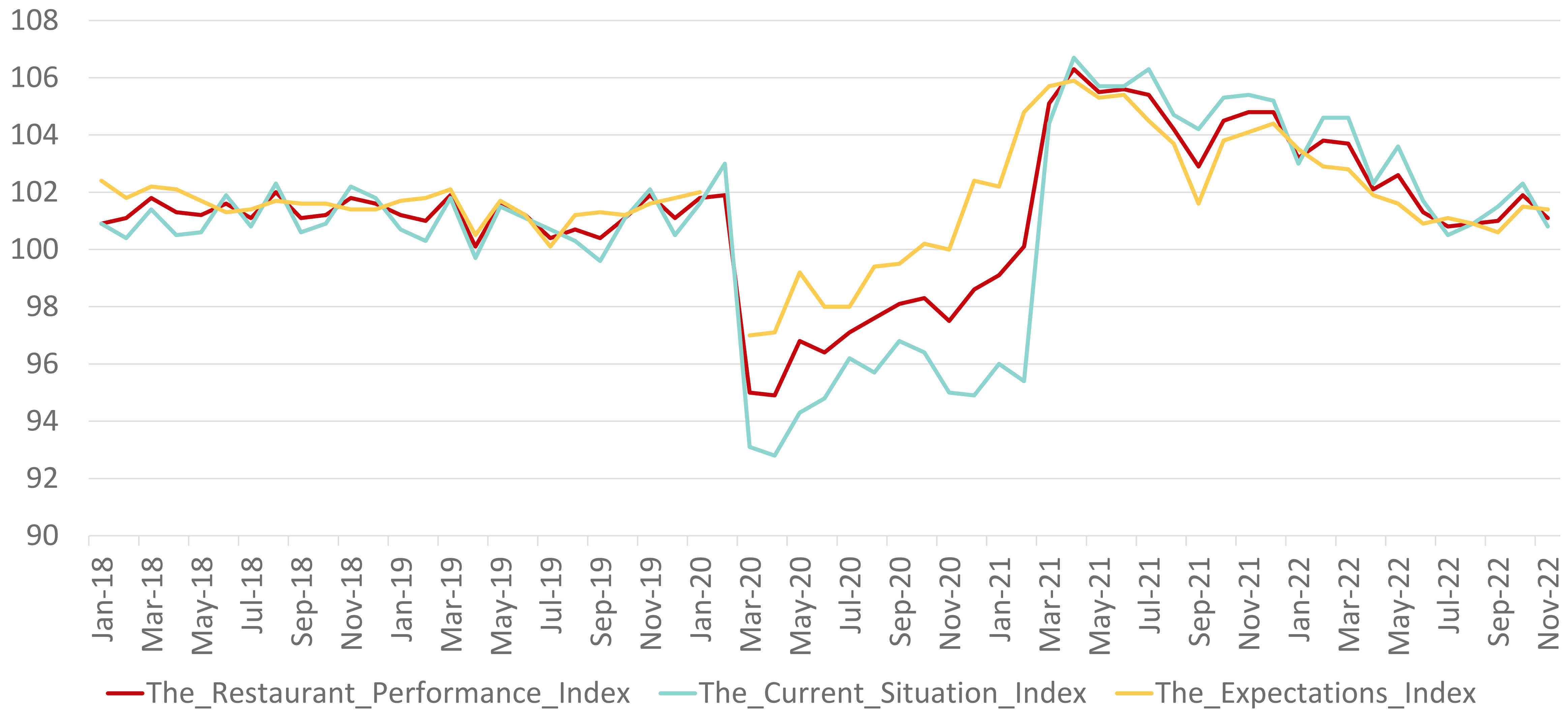
Players considered: EU-27, USA, New Zealand, Australia, Others: Argentina, Belarus, Chile, Uruguay

Processed by CLAL

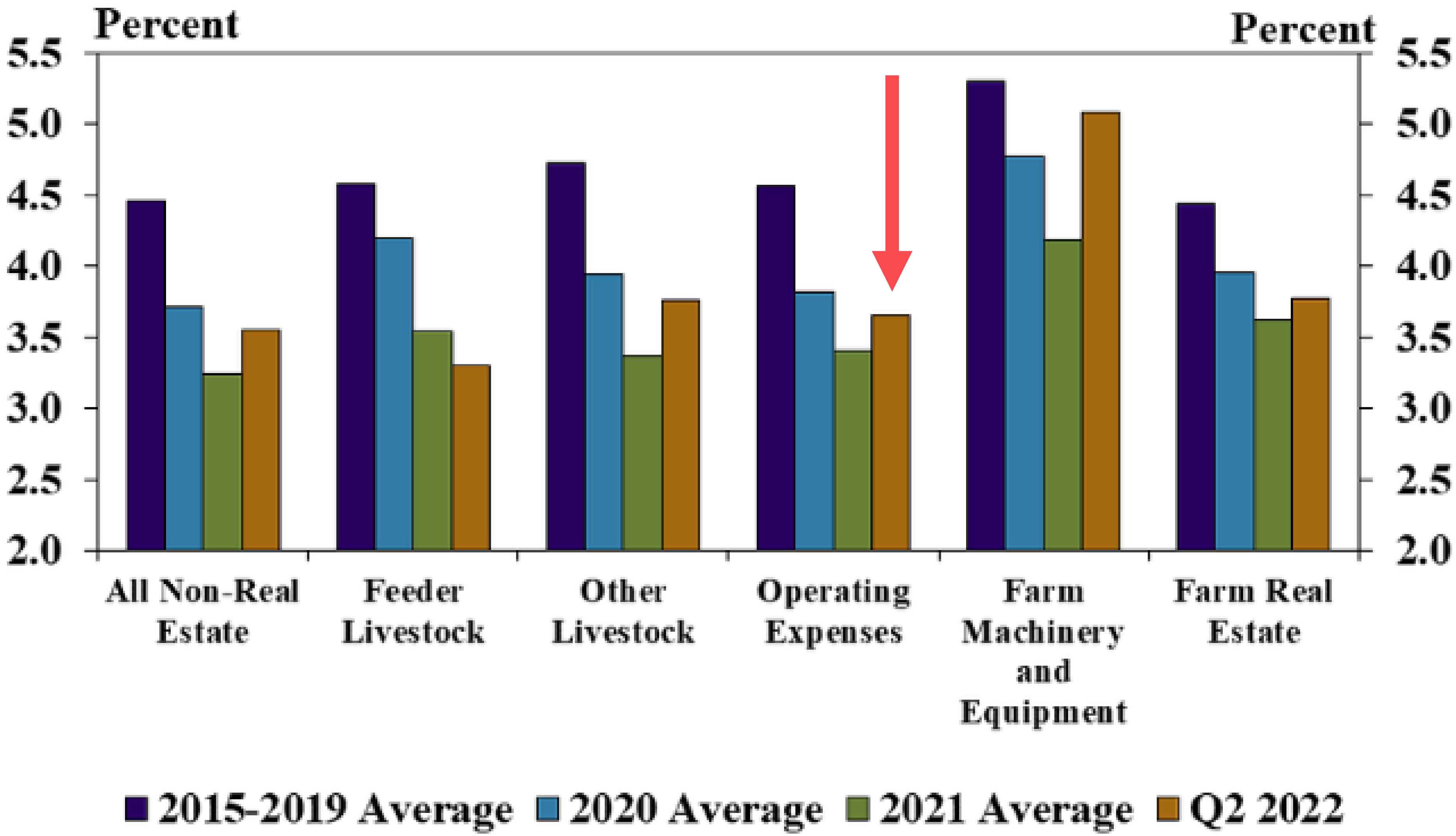


Additional Economic Factors

Restaurant Performance Index



Ave Interest Rates By Loan Type, Federal Reserve



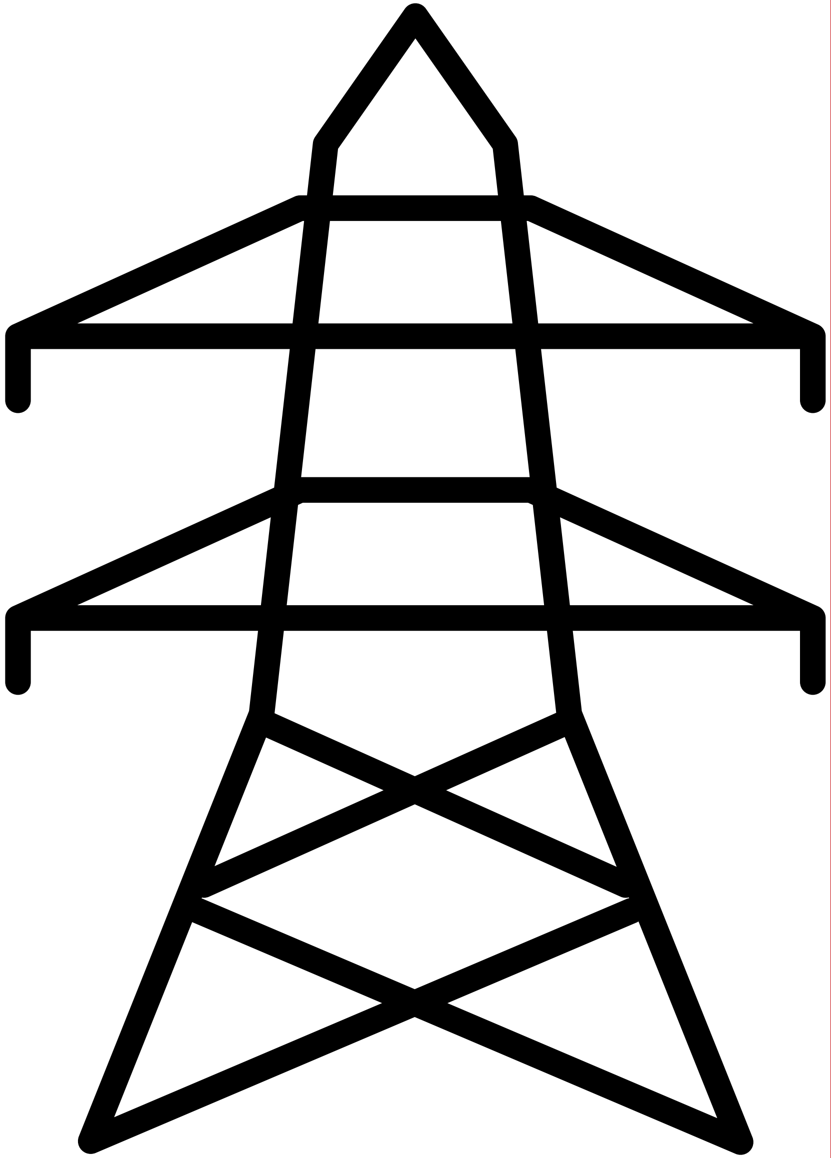
Historic Interest Expense

Low <$0.20/cwt

Med ~$0.30/cwt

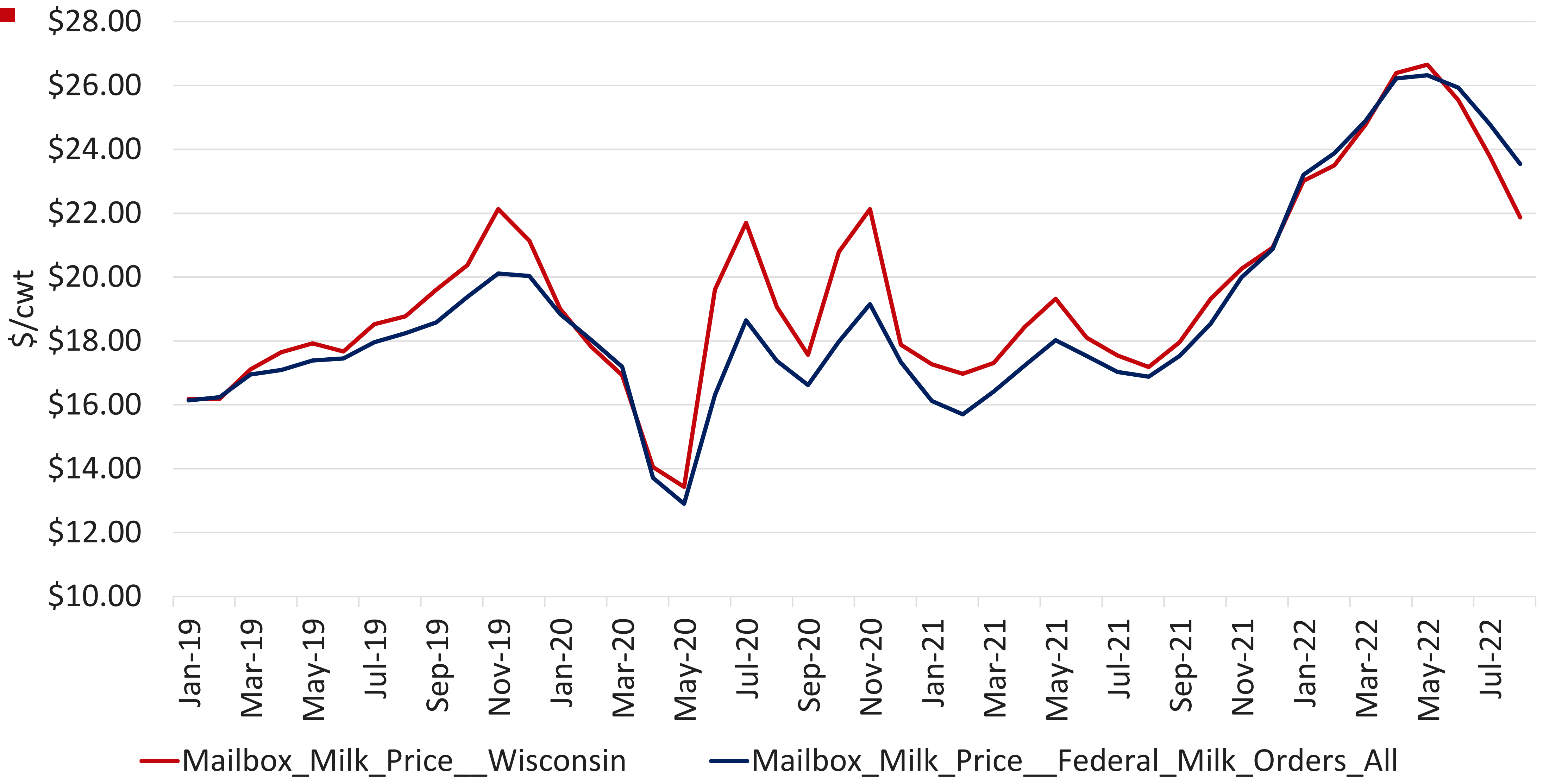
High $0.80+/cwt

Utility Cost Per Year

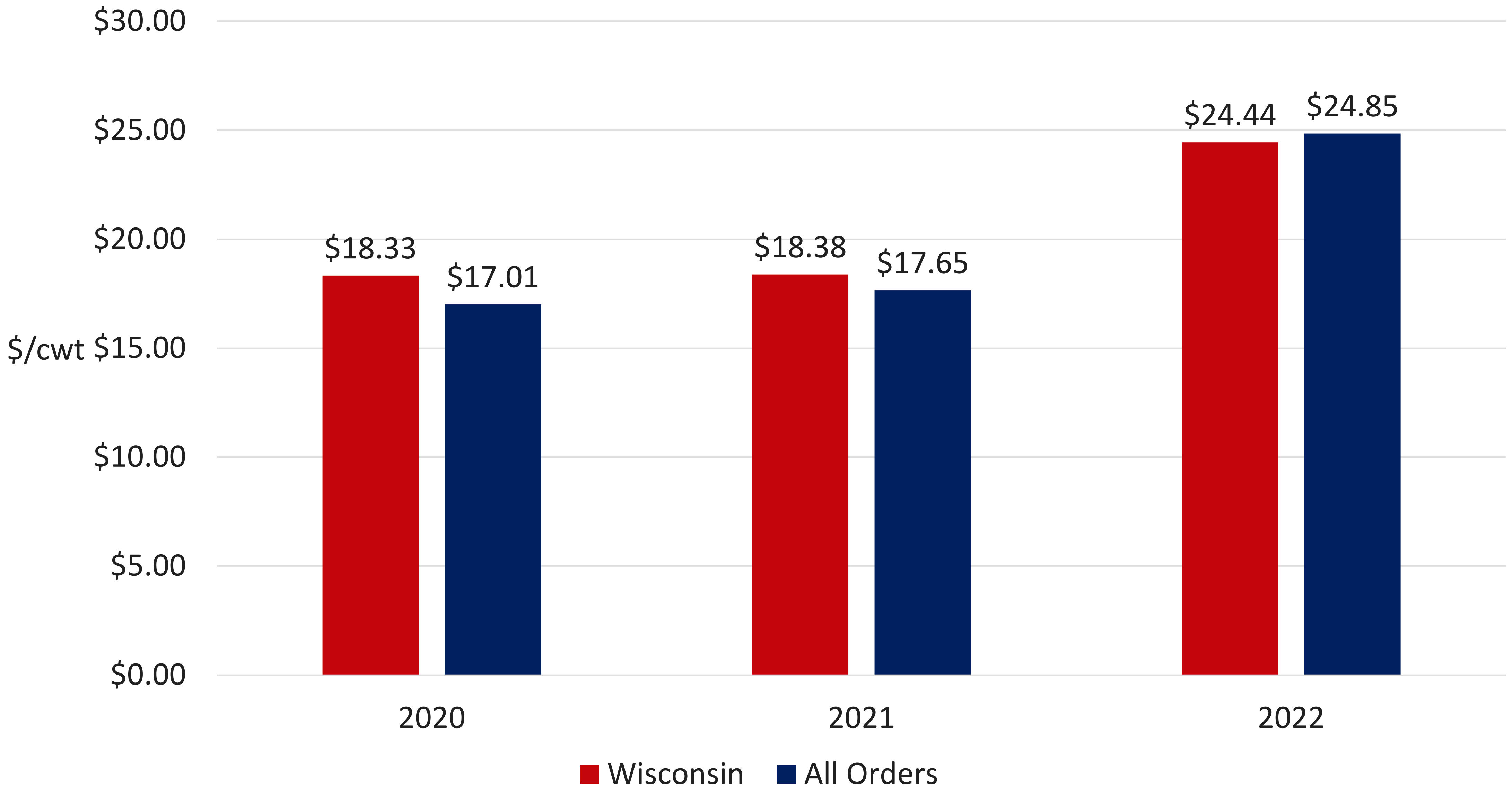


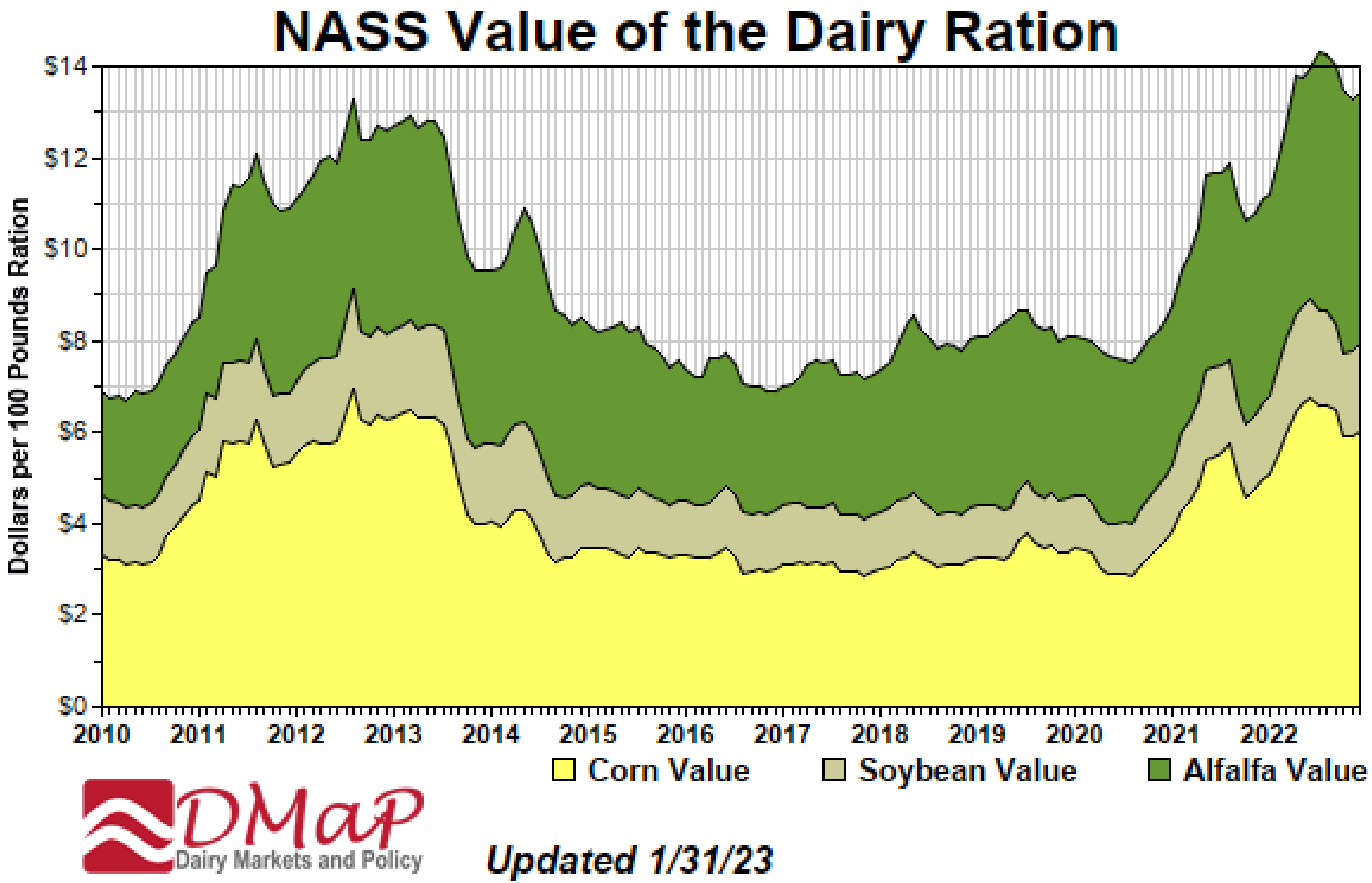
Farm Level

FMMO Mailbox Milk Price



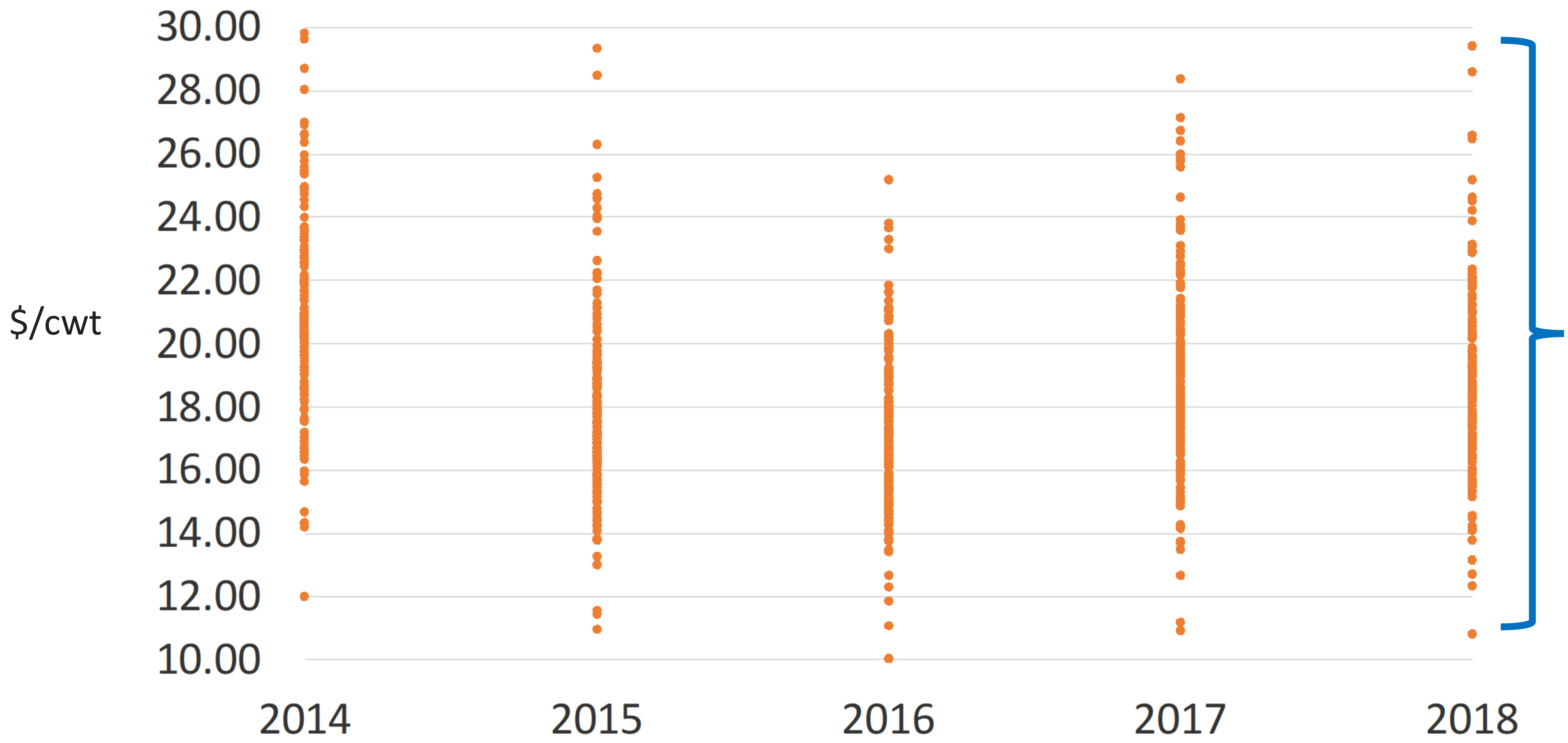
Average FMMO Mailbox Price Per Year





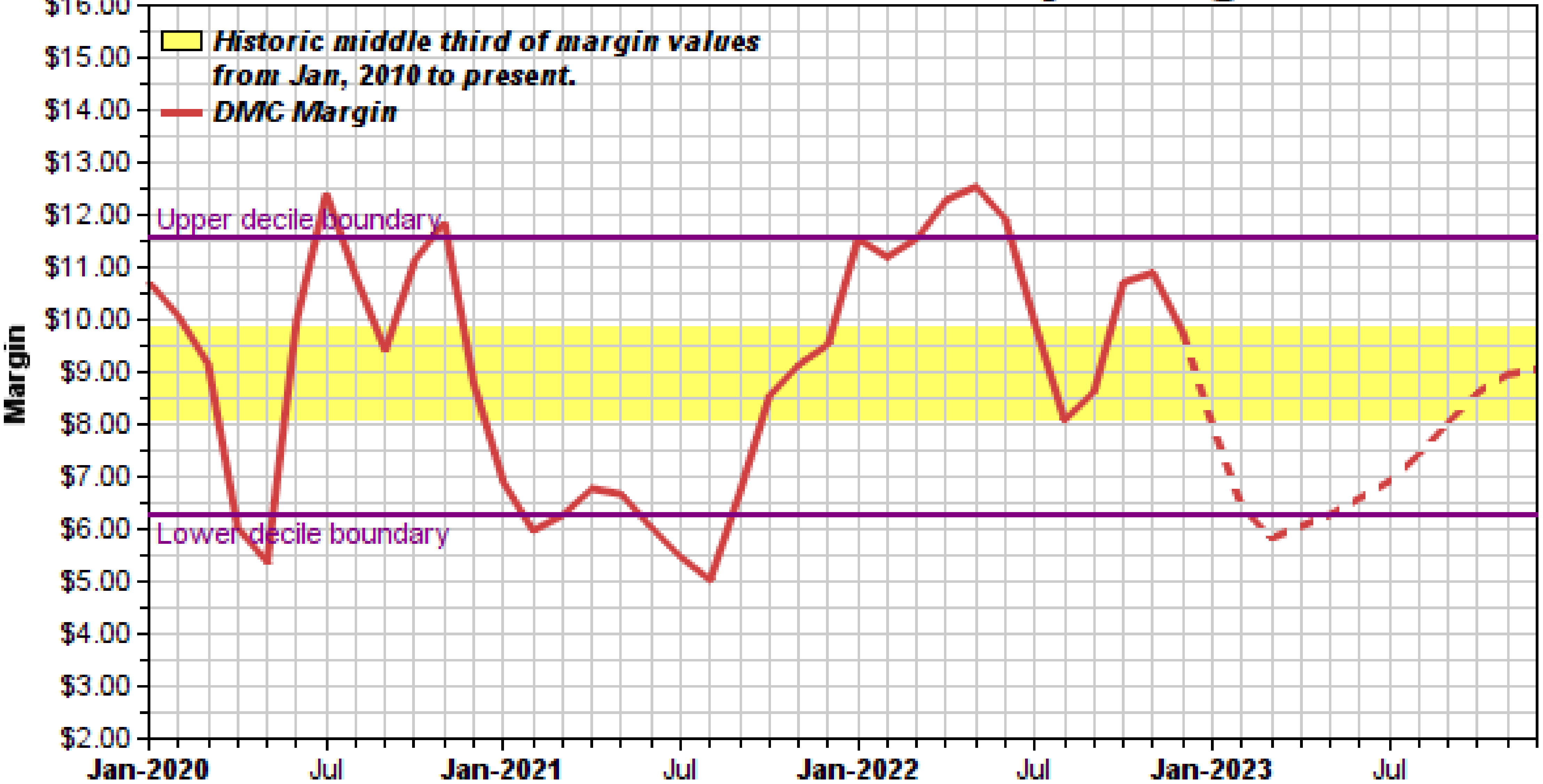
NASS Value of the Dairy Ration
Dollars per 100 Pounds Ration
$14
$12
$10
$8
$6
$4
$2
$0
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Corn Value
Soybean Value
Alfalfa Value
DMaP
Dairy Markets and Policy
Updated 1/31/23

Dairy Farm Cost of Production



Source: AgFA, Center for Dairy Profitability, Univ of WI

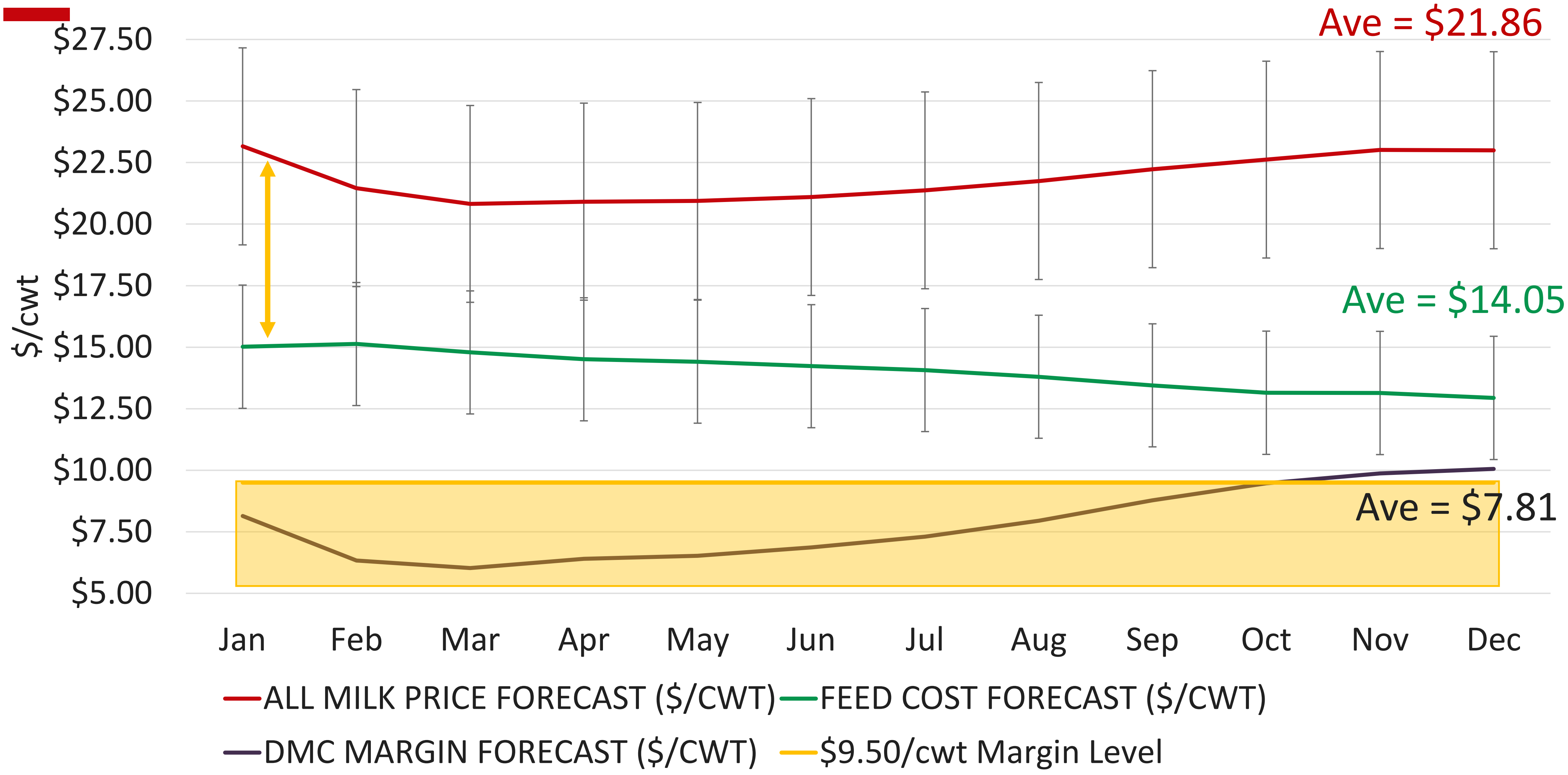
Actual and Forecast Dairy Margin



DMaP Dairy Markets and Policy

Updated 2/6/23

2023 Price Forecast



Driving Factors

Cow Numbers

Strong Domestic Demand

Feed Costs/Weather

World likes our products,

USD decreasing

Greater Economic Factors

In Conclusion

Lower Milk Price

High Costs

WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON