



*Saputo*

# Dairy Commodity Update

March, 2023





# The Data – Weather is Changing & Supply/Demand?

- After three consecutive La Niña years bringing great conditions for some as well as devastating floods for others, the odds look to be growing for a flip straight into El Niño before the end of the year. In New Zealand, the agricultural sector is still counting the cost of extreme weather with Cyclone Gabrielle causing an estimated NZ\$1bn in damage.
- We have lots of trade updates this week, including the highlights from our annual trade insights which is available as a separate report. US exports continued to expand and even the UK bought more cheese.
- An interesting story this week about US hay exports seems to undermine the view that China's milk output is growing strongly. News from a leading supplier in the US is that hay exports to China have ground to a halt, as farm margins there come under increasing pressure
- In a recent report, Rabobank paints a chaotic picture of global dairy with participants all along the dairy value chain currently feeling the pressure. Producer prices have tumbled from 2022 highs while feed prices are at record highs.
- At the same time, inflation and rising interest rates are steering consumers toward cheaper options when shopping. In response to higher input costs and lower milk prices, dairy cow slaughter rates have escalated.
- With this in mind, Rabobank has downgraded its 2023 forecast, anticipating global milk from the Big 7 export regions to grow by 0.7% YOY, down from last quarter's 2023 forecast of 1% growth for the year. Global sector strategist for dairy at Rabobank Mary Ledman attributes slower growth to increased US cow culling and weather-related production challenges in New Zealand, Brazil and Argentina.
- Price uncertainty across dairy markets and products remains with more milk and less demand contributing to weaker dairy commodity prices in Q1 2023.
- With signs of a slowdown in household consumption, which is likely to continue over the coming months, Ledman said consumers are looking for value. With China's reopening,
- Rabobank expects foodservice revenues to improve by 1% to 2% compared to pre-COVID levels, with renewed buying interest expected in Q2 and YOY increases in imports in the second half of 2023.
- US Cheese commercial disappearance fell 0.1% YOY in January 2023 – that followed a 1% YOY growth in December. The overall flat result reflects a 0.7% YOY fall in commercial disappearance of American cheese varieties, and a 0.2% YOY lift in demand for other cheese varieties (including mozzarella).
- US Domestic commercial disappearance of butter has weakened significantly since late Q2 and again declined sharply in January – down 14% YOY to 67,536t, while falling 8.5% in 2022.
- US NFDMD demand fell in January, down 36% YOY. Domestic commercial disappearance of dry whey continued to track lower – down 4% YOY in January and declined in every single month since August last year.
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# Summary



Commodity - CME Spot Daily Call	Close Today Mar 13, 2023	Close Last Month Feb 13, 2023	Close Last Year Mar 14, 2022	Month Over Month Change	Year Over Year Change	High Last 12 Months	Date 12 month High	Low Last 12 Months	Date 12 month Low
Butter	\$2.3800	\$2.4350	\$2.7350	(\$0.0550)	(\$0.3550)	\$3.2675	10/06/2022	\$2.2675	1/26/2023
Block Cheddar	\$1.8100	\$1.8725	\$2.1900	(\$0.0625)	(\$0.3800)	\$2.3975	4/18/2022	\$1.7150	8/29/2022
Barrel Cheddar	\$1.7950	\$1.5750	\$2.0300	\$0.2200	(\$0.2350)	\$2.4500	5/17/2022	\$1.5300	3/2/2023
NFDM	\$1.1700	\$1.2650	\$1.8450	(\$0.0950)	(\$0.6750)	\$1.8850	6/8/2022	\$1.1525	1/27/2023
Whey	\$0.4400	\$0.4350	\$0.7575	\$0.0050	(\$0.3175)	\$0.7600	3/16/2022	\$0.3125	1/26/2023



The Consumer Price Index for All Urban Consumers (CPI-U) rose 0.4 percent in February on a seasonally adjusted basis, after increasing 0.5 percent in January, the U.S. Bureau of Labor Statistics reported today. Over the last 12 months, the all items index increased 6.0 percent before seasonal adjustment. The index for shelter was the largest contributor to the monthly all items increase, accounting for over 70 percent of the increase, with the indexes for food, recreation, and household furnishings and operations also contributing. The food index increased 0.4 percent over the month with the food at home index rising 0.3 percent. The energy index decreased 0.6 percent over the month as the natural gas and fuel oil indexes both declined. The index for all items less food and energy rose 0.5 percent in February, after rising 0.4 percent in January. Categories which increased in February include shelter, recreation, household furnishings and operations, and airline fares. The index for used cars and trucks and the index for medical care were among those that decreased over the month. The all items index increased 6.0 percent for the 12 months ending February; this was the smallest 12-month increase since the period ending September 2021. The all items less food and energy index rose 5.5 percent over the last 12 months, its smallest 12-month increase since December 2021. The energy index increased 5.2 percent for the 12 months ending February, and the food index increased 9.5 percent over the last year.

Month	All items	Food	Food at home	Food away from home	Energy	Gasoline (all types)	Electricity	Natural gas (piped)	All items less food and energy	Commodities less food and energy commodities	Apparel	New vehicles	Medical care commodities	Services less energy services	Shelter	Medical care services	Education and communication
Feb 2023	6.0%	9.5%	10.2%	8.4%	5.2%	-2.0%	12.9%	14.3%	5.5%	1.0%	3.3%	5.8%	3.2%	7.3%	8.1%	2.1%	1.0%
Feb 2022	7.9%	7.9%	8.6%	6.8%	25.6%	38.0%	9.0%	23.8%	6.4%	12.3%	6.6%	12.4%	2.5%	4.4%	4.7%	2.4%	1.6%



# Global Highlights – Weak Dairy Trade

## Asian Indicator SUMMARY

- January US hay exports were just under 210,000t, the lowest for any month in at least the last six years according to Hoyt. China is the largest US hay market but shipments in January were the lowest in 2 years. Chinese dairy demand is well below recent years and stocks of hay have built at Chinese ports given the poor margins on Chinese farms. Buyers are reported to be resorting to smaller volumes of local lower grade (cheaper) product. This is at odds with the continual reporting of stronger growth in the local dairy sector. Hay exports to other important markets - South Korea and Japan – were also well below typical levels. Milk production in Japan has been weakening in the past 6 months and fell 4% YOY in January

## 2022 Summary

- Global trade shares shifted away from the two largest exporters in 2022 with reduced export availability which impacted most categories in the EU-27 while NZ suffered from the collapse in Chinese demand for WMP. Meanwhile, the US posted growth in shipments of cheese, whey and butter.
- Annual WMP trade fell 16% in 2022 which is the largest annual drop ever seen for a commodity – even bigger than the EU's loss of the Russian cheese market. Global cheese trade grew 1% in 2022, impacted by inflation in developing countries and weaker Chinese demand. SMP trade contracted 3.7% in 2022 after a small increase in the previous year. Rolling annual trade volumes steadily declined through most of the year as availability fell and prices reached the top of the cycle but managed a small recovery in Q4 with prices coming off their highs. Global butterfat trade posted a strong recovery in 2022 as foodservice reopened, despite rising prices through the year. Butter trade rose 11.9% and AMF trade 12.4%

## Europe

- EU27 milk production in January rose an estimated 1% YOY, a 4-month low. This estimate is based on 58% of average reported milk production. Among major producing countries, German supplies rose 3.6% YOY, while Poland rose 1.6% YOY - that was the weakest expansion since July. Since the start of Q4-22, Italy has tracked down more than 3% YOY. According to the most recent data, German supplies were up 2.6% YOY in week 9 (ending 5 March 2023). That was the 26th consecutive weekly YOY increase. Meanwhile, French milk production fell 2.9% YOY in week 9, the 16th consecutive decline. AHDB reports UK production rose 4.1% in the first four days of March after being up 2.9% YOY in February.
- Dutch farmers have protested against Government plans to limit nitrogen emissions with more than 10,000 people descending on The Hague. The protests took place right before 15 March regional elections and were concurrent with thousands of environmentalists blocking a major road in an unauthorised protest against tax rules, which they believe encourage fossil fuels. Large numbers of livestock and heavy use of fertilisers have led to nitrogen oxide levels in the soil and water in the Netherlands and neighbouring Belgium that are higher than EU regulations allow. However, Dutch farm protesters say the problem has been greatly exaggerated and maintains the proposed solutions are both unfair and ineffective.

## New Zealand/Australia

- Cyclone Gabrielle is shaping up to be New Zealand's most expensive weather event in terms of spread and scale with Federated Farmers policy team estimating on-farm costs could top NZ\$1bn. The costs include income disruption, infrastructure repair and crop or orchard restoration expenditure for affected farmers. The cyclone moved across nine provinces with severe damage to rural infrastructure, including washing away fence lines which are critical to livestock feed management. Rural insurance specialist FMG is handling over 3,000 claims from Cyclone Gabrielle and the New Zealand Government has recently announced NZ\$26m of direct support to farmers, in addition to the NZ\$25m announced last month with a larger recovery package in development. Serious questions are being asked about where, and how, to rebuild roads, bridges, rail, electricity substations and other infrastructure as the long recovery process begins
- The US National Weather Service has declared La Niña officially over, with El Niño favoured to form, meaning drier than average conditions for parts of Australia. The World Meteorological Organisation (WMO) have echoed the US weather forecaster, saying El Niño is considered likely for Australia with neutral conditions expected to continue between March and May. WMO says there is a 15% chance of El Niño developing in April – June, while the likelihood gradually increases to 35% in May – July. Long-term forecasts for June to August show a 55% chance of El Niño developing however, the forecast is subject to high uncertainty associated with predictions this time of the year.





# US Market Highlights

## **USDA Projects More Milk**

- In its March WASDE report, the USDA milk production growth forecast for 2023 was increased from the prior month on higher dairy cow numbers. Milk output is expected to be up 0.9% YOY at 103.6bn kgs in 2023 after a 0.1% YOY lift in 2022. Milk production for 2022 was slightly revised downwards at 102.7bn kgs. The 2023 all-milk price forecast was reduced from the prior month to US\$0.403/l, down from US\$0.503/l in 2022.
- The same report failed to provide meaningful direction for grain and oilseed prices with only minor boosts for corn and soybeans following the release. US corn exports were revised downwards, with ending stocks now higher. Global soybeans export demand was better-than expected, and stocks historically tight. The US wheat outlook was unchanged while global production estimates were lifted marginally higher.

## **US Cheddar Volatile -**

- CME cheese barrel prices continued to improve in recent trading sessions, gaining more than \$US600/t since the start of the month, but are now again US\$187/t lower than blocks. CME cheese blocks trended consistently lower earlier in the month due to relatively strong milk supplies in the Mid-West (as evident in spot milk basis data) but recovered those losses in yesterday's trading session alone and are now back to end of February levels. Near-term cheese futures jumped with the spot price action but have been little changed through Q3-2023 in recent weeks. After a long period, Class III implied spot prices are now above Class IV. NFDM have been relatively flat and close to the US\$2,600/t mark while butter now trades at US\$5,247/t.
- Cheese commercial disappearance fell 0.1% YOY in January 2023 – that followed a 1% YOY growth in December. The overall flat result reflects a 0.7% YOY fall in commercial disappearance of American cheese varieties, and a 0.2% YOY lift in demand for other cheese varieties (including mozzarella)

## **US Butter Prices Resilient**

- Despite weak domestic commercial disappearance in recent months, butter has been supported by weak milk supplies in the West. Meanwhile, NFDM remains heavily exposed to global market trends and generally trended lower in the past few months – this reflected stronger-than-expected EU27 milk supplies and changing product mix in NZ away from WMP due to weak Chinese demand. NFDM futures have weakened US\$60-80/t in the past 2 weeks.
- Domestic commercial disappearance of butter has weakened significantly since late Q2 and again declined sharply in January – down 14% YOY to 67,536t, while falling 8.5% in 2022. NFDM demand fell in January, down 36% YOY. Domestic commercial disappearance of dry whey continued to track lower – down 4% YOY in January and declined in every single month since August last year.



# Commodity Summary – One Perspective

- Cheese stocks in the US made an unexpected move lower in January as pipelines refilled. However, supplies have been more than adequate keeping prices with a narrow band.
- CME block cheese prices have averaged \$1.90 since falling below \$2.00 in mid-January. Cheese production saw solid gains in January with total cheese output up 3.2%, led by a 6.2% increase in American styles while Mozzarella production was flat. However, pipeline refilling after the holiday and Super Bowl demand periods resulted in cheese stocks dropping in January for the first time since 2018, posting the largest decline for the month since 2008. Block supplies are more balanced than barrels, which have suffered from heavier production and a large plant being down for several months after an early January fire. Barrels are forecast to close the gap to blocks, but it will likely be Q2 before that happens. While January export data is not available yet, anecdotal reports point to a slow-down in cheese exports to start the year as European cheese provided more competition for US suppliers. With current trends expected to continue into spring, CME block prices are forecast to be near \$1.90 with barrels recovering into the \$1.80's by May
- Global prices for cheese are mixed with New Zealand prices falling sharply on the latest GDT Event, but with prices showing some signs of stabilizing in Europe. Export prices for Mozzarella out of Europe fell to \$1.25-1.30/lb. but have rebounded in recent weeks. European producers are reportedly trying to hold domestic prices (and milk prices) higher while clearing some excess product into export markets. Given seasonal trends, this is expected to last into Q2.
- Butter prices in Europe and New Zealand have bounced off their lows while US prices still have some downside as stocks are building.
- January saw solid growth in butter supplies in the US with production up 3.8% vs. last year and stocks building faster than average. January 31 stocks stood at 263MM lbs., up 20% from last year. Given the strong relationship between January 31 and May 31 stocks, the analysis puts May 31 stocks near 370MM lbs. or about 50MM lbs. more than last year. Similar to cheese, US butter exports have slowed in Q1 while imports have picked up.
- Most forecasters continue to see prices trading in the \$2.20's and \$2.30's for the balance of the year as the market becomes more comfortable, we won't run short of butter again in the second half.
- Global butter prices are converging with New Zealand prices bouncing up \$450/MT since mid-January and European prices increasing €480/MT. Prices in both regions are expected to stabilize as the market comes back into balance. The outlook for foodservice demand is uncertain, but a continued recovery in global travel, especially China, is supportive to butter prices.
- Milk powder prices are stabilizing as buyers step forward to add coverage on signs the market could start to tighten later this year.
- US milk powder output grew 2.8% vs. prior year in January with a 4.0% increase in NFDM, but a 1.5% decline in SMP. The mix shift aligns with weaker export demand to start the year, so plants prioritized NFDM for domestic users and Mexico. Stocks increased 16.5MM lbs. (+6.5%) during January finishing the month 3.9% above last year. Production and stocks are expected to see seasonal increases over the next few months. However, milk supplies in the West, the major milk powder producing region, are seeing little, if any, increase vs. last year. As demand increases by mid-year, NFDM prices are forecast to move into the \$1.30's. A stronger demand recovery could push prices up to \$1.50 by second half.
- The market continues to wait for Chinese buying to exert more upward pressure on milk powder prices. The results from the March 7 GDT Event will leave it waiting for another few weeks. Demand from China has been higher so far this year on GDT, but not enough to offset weaker sales to other countries and regions. My market intel continues to point to buyers being adequately covered to mid-year, waiting for signs the market may be turning upward. There have been a couple small flourishes of buying over the last 2 months, but they have not been sustained. The calendar will force buyers back to the market in Q2 with Chinese buyers likely becoming more active in April and May to cover Q3 needs. Unless supplies become tighter than anticipated, only a modest rally is expected with US NFDM moving up into the \$1.30's while SMP and WMP gain \$200-300/T.





# Will Milk Production Decline in the US?

- US milk production increased by 1.3% year-over-year in January, the best showing in six months. Cow numbers were up by 38,000 head year-over-year, the biggest margin since August 2021.
- On balance, producers had a good year in 2022, with the US All Milk price averaging a record \$25.56 per hundredweight, up more than 35% versus 2021 and 20% above the rolling 10-year average.
- The annual average DMC margin landed at \$10.72 per hundredweight, the third highest on the all-time list. Several contacts say that producers rolled significant amounts of income into 2023. Bottom line:
- We have tailwinds that history says could keep milk production strong for the next several months. But we don't have to look too far to see threats.
  - Milk futures are trading at less than \$20 per hundredweight while costs remain elevated.
  - The forward-looking DMC calculation has margins averaging about \$7.85 per hundredweight over the next 12 months. That would be more than 10% below the rolling 10-year average. And most models may be overstating the case on the income side of the ledger.
- There's a lot of extra milk in the Upper Midwest these days, and it takes big discounts to move it into processing facilities. Data from USDA shows spot discounts averaging nearly \$7 per hundredweight "under class" year-to-date, way lower than in 2022 (about -\$1.50) and the five-year average for the period (about -\$2.50). At some point, in some way, farm pay prices in the region will reflect those discounts. In addition, credible anecdotal reports suggest that generally strained finances in the processing sector are translating into bigger milk check deductions. We know there's financial strain because auction notices continue, with operations in the Southwest and West opting out. We also see record-high cattle prices as paving the exit ramp.
- We also need to keep an eye on "base/excess" programs. They should limit growth potential nationally. Yet comparatively strong milk production performance in the Northeast has us wondering whether some handlers will need to dial up penalties to discourage output. Indeed, some contacts say that, in certain situations, deducts haven't been big enough to make a difference. Will that change? When?
- If the current situation isn't complicated enough, there may be growing reasons to wonder if grain and feed prices are going to shift lower in a way that has a material impact on dairy farm profitability. Over the past two weeks, we've seen nearby corn futures drop 50 cents per bushel to test critical support in the \$6.30 to \$6.40 area. More importantly, December 2023 corn futures have slipped below \$6.00 per bushel, with a drift toward \$5.50. Last year at this time, nearby corn was about \$7.50 per bushel as the world watched with horror as Russia rolled into Ukraine. Today, USDA's initial pass at planted acreage, yield and demand figures puts US 2023/24 ending stocks at 1.8 billion bushels, with stocks-to-use at 13%. History says that doesn't translate to corn prices above \$5 per bushel. We're fond of saying things like, "we won't see much \$15 milk at \$7 corn..." and "we won't see a lot of \$20 milk at \$4.50 corn..." History bears that out: Over the past 20 years or so, we see Class III milk averaging \$17.75 per hundredweight when corn is between \$4 and \$5 per bushel, compared to \$18.28 when corn is between \$6 and \$7. For Class IV, the difference is even bigger -- \$17.26 per hundredweight versus \$18.76. It may be way too early to think about \$5 corn -- there's a lot of "ifs" between here and a 1.8-billionbushel carryout. And dairy producers already own a lot more expensive feed. It will be a while before falling grain prices make a difference to their bottom line. At the same time, it wouldn't surprise to see lower grain prices spark a lot of questions and weigh on dairy market sentiment.



# Will China Demand Reemerge or Us Economy Slip?

## China Balances Increasing Domestic Production -

- China looms as a major wildcard for global dairy price determination in 2023. With pandemic restrictions suddenly disappearing late last year, China's slumbering economy is reawakening, ostensibly opening the door to increased dairy imports. But things are not necessarily that simple, because domestic supply is suddenly a burly presence on the other side of the rope.
- Last year, with tight pandemic rules restricting economic activity, China's imports of skim milk powder and whole milk powder added up to over one million metric tons, down 19% from 2021 levels. That obviously left a major void in global trade.
- Several reports say that China's economy is roaring back, however. For example, the official manufacturers Purchasing Manager Index for February jumped to 52.6, solidly in "expansion" territory and the strongest showing since April 2012. The country's non-- manufacturing PMI reading also jumped to multi-month highs. People are moving around and are presumably loosening their wallets. That's bullish for dairy product consumption.
- Domestic milk supplies surged while China's economy endured its Covid coma, however, offering local means to satisfy revitalized demand. Data from CN-Agri shows 2022 milk production at 39.3 million metric tons, up 7% versus 2021 and up 23% compared to pre-pandemic times in 2019. The change in domestic milk production between 2021 and 2022 – 2.49 million metric tons – translates to about 350,000 metric tons worth of WMP production. That's equal to 50% of 2022 WMP imports or nearly double the difference in 2022 WMP imports versus 2021 volume. All the extra domestic milk production likely played a role in boosting inventories, with CN-Agri putting WMP stocks at 143,000 metric tons in December, up 138% year-over-year. SMP stocks aren't as robust – they were actually down 19% at year-end. Yet, China has domestic powder stocks to draw upon.
- China's ongoing march toward dairy self-sufficiency has to factor into expectations for the amount of milk powders the country will need to import even as demand returns. We know that Chinese buyers have been active on GDT, so they are in the mix. We don't know the overall magnitude, though, as China recently announced that it will publish January trade data later this month with February's figures. We think China will import more in 2023 than in 2022 but aren't convinced volumes will soar.

## Are Fears Overblown About the US Economy –

- Labor markets remain strong, with more job openings than unemployed persons. Wages are rising. Gasoline prices are under control. Airplanes are full, and people are still spending money, with overall retail sales up 7% year-over-year in January. Even if we have a recession – which is far from certain – it will be mild. There's no need to worry about consumer demand. On the other side... Inflation remains out of control, with grocery store prices up nearly 20% compared to two years ago. People are going deeper into debt to finance their day-to-day existence. Seasonal adjustment factors are the only reason government labor data looks good, with private surveys showing deteriorating conditions. People are seeing their 401k accounts and home values erode, leading to a sour mood and increasingly cautious spending. Demand for discretionary items keeps softening. There's more trouble coming, and it's going to be bad. It's hard to know which side to favor on any day. For people traveling in upper-middleclass to high-end circles, things probably look decent enough. Elsewhere? Cracks have emerged.
- The inflation story makes it hard to get excited about consumer demand prospects. When you adjust grocery store dollar sales for inflation, overall volume is down by 4% year-over-year. High dairy commodity prices are hurting retail volumes whether through lighter consumer purchases, package shrink at the wholesale level or some combination therein. At a high level, demand at the center of the plate still seems reasonably safe. People have to eat. But it could get more vulnerable if people start losing their jobs. At the lower end of the income spectrum, there is concern as 30 million people just saw emergency SNAP benefits disappear, translating to about \$80 less per month, a 1/3 reduction at the individual level. Now you have fewer dollars floating around chasing prices that keep moving higher. That's not a recipe for demand strength. 8





# Product Summary – Cheese/Butter

## **Cheese Demand/Export Will Determine Outcome?**

- Block Cheddar fell to six-month lows (\$1.78/lb.) on March 10th but has rallied 18 cents so far this week. Spot volumes remain low, with 18 loads trading from February 15 to March 15. Cheddar production was at an all-time high in Jan '23, suggesting ample supply is available. Furthermore, discounted Midwest spot milk loads running near the 5- year low throughout 2023 so far indicate excess milk will keep flowing to cheese plants through the spring.
- The CME block premium to barrels has significantly tightened in recent days after remaining incredibly wide for months, moving from 38.5 cents from Mar 3<sup>rd</sup> to settle at 7.25 cents on Mar 15<sup>th</sup>. Barrel demand has been robust at the exchange of late, driving prices from \$1.53 (Mar 2) to \$1.8875 (Mar 15), though HG believes this rally is short lived. 311-barrel loads have exchanged hands at CME since the start of 2023.
- January fundamental data were puzzling, as cheese production increased due to solid milk output in Class III heavy regions while Natural American cheese stocks declined from prior month. Exports set a record, but utilization data shows Natural American domestic demand falling below prior year for the first time since Sep '22, and retail sales were poor. US cheese prices remain higher than Europe, and significant exports should not be expected in the coming months
- CME spot cheese prices during the first part of January held above \$2.00/lb. while markets gave way to fundamentals (stronger milk output, weaker demand) in Feb and early March. Without robust exports, domestic demand will need to make up the balance so long as cheese production remains firm. While volatile and rallying to start this week, HighGround expects block and barrel prices to remain rangebound between \$1.70-1.90 during the first half of 2023.

## **Butter**

- After trading as high as \$2.45/lb. at the end of February, CME spot butter has stayed below \$2.40/lb. since the beginning of March, closing at \$2.38/lb. today. Prices have managed to stay above the \$2.30/lb. mark and not retested or broken 2023 lows.
- US butter stocks continued to build in January for the second month in a row, UP 46.4 million pounds against January 2022 and near the five-year build of 45.2 million pounds. However, average stocks are weaker than in 2021 and 2020, with 2021's inventories being the largest since 1993. Butter production was UP 3.8% YoY, in January, totaling over 201 million pounds.
- As international demand wanes, January butter exports of 7.5 million pounds, with 2/3 shipped to Canada, were down 0.2% from December 2022 and 3.7% from January 2022. The US imported 9.6 million pounds of butter, meaning the US was a net importer of butter in Jan, the second month in a row. In 2022, the US was a net exporter of butter in 10 of 12 months. This switch back to being a net importer is another indicator of smaller demand.
- The international market seems to be reeling from general price inflation and all-time highs experienced in 2022, which dried up demand. While choppy, CME spot has traded in a narrow band of \$2.30 to \$2.40 per pound in recent weeks and it is expected that the \$2.20 to \$2.50 range to continue for the foreseeable future, finding 2023 lows during the seasonal flush.



# Product Summary – Powder/Lactose

## Powder

- Over the past month, CME spot NFDM has decidedly declined from the mid \$1.20s to mid \$1.10s, likely due to demand.
- US NFDM output of 177 million pounds in January 2023 was up 4% compared to January 2022; however, it was still lower than in January 2021 and 2020. The Central region, which makes up almost a quarter of US NFDM production, upped production by 29%, driven by the ample and discounted milk supplies. National stocks rose by 3.9%, equaling 272 million pounds and building from December to January. NFDM inventories have grown for seven consecutive months on a year-over-year metric.
- NFDM/SMP exports were surprisingly robust in January, given the reports of weaker international demand, with volume increasing almost 15% compared to January 2022 levels. However, over 50% of those exports went to Mexico. US prices align with the rest of the world's current prices, but international demand has not been great due to macroeconomic uncertainty and the US is likely not their #1 choice if prices are comparable, but not advantageous.
- Most “experts” remain bearish short-term for global NFDM/SMP markets, even with increasing exports to the United States’ top dairy destination, Mexico. It is unlikely that exports will be as strong in the first half of 2023 as they were in 2022. China’s dairy herd is growing, meaning they will be providing more of their own needs. Other developing countries face economic headwinds, which may result in less dairy consumed there. Some analysts believe the US NFDM market has not yet found a 2023 bottom

## Whey/Lactose

- CME whey prices have stayed in the mid \$0.40/lb. range since midFebruary, trading as high as \$0.465. Most whey contracts, though, are not based on CME prices, so the recent strength does not necessarily reflect prices paid. National Dairy Product Sales Report whey pricing has remained within a penny of \$0.40/lb. for the past month, though the March 11th NDPSR reported its highest price (\$0.4246/lb) since Jan 21 of this year.
- January USDA data for whey showed lower year-on-year production in all parts of the whey complex, even in the midsection of the US, where milk was abundant. However, stocks grew, despite the weaker volume numbers, signaling tepid demand.
- Whey exports increased vs. prior year for the eighth consecutive month, growing almost 12% against a weak January 2022, when whey exports were small due to China rebuilding its hog herd. Whey exports to China increased by almost 9%, YoY, but fell on a monthly basis for the fourth consecutive month
- Whey demand remains sluggish as stocks are growing on declining production. While export markets were up in January vs. year-ago levels, it was an easy comparison. NDPSR whey has been ticking higher in recent weeks but without any support to the higher proteins (WPC-34, WPC-80, WPI), Industry experts believe this market will likely roll back over below \$0.40 per pound in the coming weeks.





# Just Some Wrap Up

**US milk production was higher than the prior year throughout the second half of 2022, but the growth rate declined as the year progressed.** Year-over-year strength peaked at 1.7% in August but fell to just 0.8% in December. Notably, production was down compared to December 2020, showing that the US is still recovering after eight months of lower year-over-year output between November 2021 and June 2022.

**The herd declined by 16,000 head in the year's final two months of 2022** as farmer margins tightened and milk prices declined, causing an uncertain profitability outlook for some into 2023. Still, at 9.405m head, the January 2023 herd is 38,000 head larger than last year.

**Rabobank forecasts US milk production will grow by 1.1% in 2023**, which is lower than the Q4 2022 estimate. A critical wildcard in the growth rate will be cow numbers in the coming months. Farmer sentiment has recently shifted the herd management strategy, with lower milk prices spurring farmers to cull unprofitable animals. Higher weekly dairy slaughter rates have been reported throughout the first two months of 2023. As a result, the herd is expected to be on par or below last year's level by Q2, making

gains in milk production highly dependent on increased yields.

**Milk per cow has also trended lower** than the long-term average 1% growth rate in recent months. Yield growth is weaker, even over the easy-to-overcome prior year's rates as well. Despite the decline in the dairy herd and lower-than-expected yield, milk production is still expected to exceed prior-year levels each month this year.

Regarding replacement heifers, 2.77m animals were expected to calve as of January 1. **This is the lowest January replacement heifer number since 2004**, signifying US farmers' limited ability to expand the herd quickly once milk prices and margins improve into 2H. While Rabobank expects a return to herd size growth by then, the pace will be lower than average.

From a feed cost perspective, corn, soymeal, and alfalfa hay values remain elevated. As in 2022, feed costs are well above the average rates seen over the past decade. **There is limited near-term downside expected in feed costs, keeping the cost of production high this year** and causing tight margins at current milk prices.

**The dairy chain's participants – from producer to processor to end user – are being squeezed.** Dairy producers' milk prices have tumbled from their lofty 2022 levels while their cows digest new-crop feeds and forages priced at record highs. Dairy processors and cooperatives entered the year with expensive inventory, made with high-priced milk, being discounted to clear the markets. Meanwhile, consumers are being squeezed by higher inflation and rising interest rates, resulting in more frugal purchasing behavior. Consumers haven't left the dairy aisle, but they are looking for value.

**Greater year-on-year milk production growth emerges in 2023 in the key export regions against low 2022 comparables.** Farmgate milk prices are catching up to global commodity market trends and moved lower in 2023. Meanwhile, expensive input costs remain a clear headwind worldwide and combined with lower milk prices result in farm-level margin pressure. In response, dairy cow slaughter rates have escalated.

**Global dairy trade in 2022 was better than expected, despite China's retreat.** Exports to key importers including Mexico, Indonesia, Japan, Algeria, and South Korea, among others, surpassed 2021 levels. Through November 2022, trade in total dairy product volume was within 1.5% of the previous year, despite about a 20% reduction in China's imports. China's 1Q 2023 dairy imports are expected to fall short of Q1 2022 levels, with renewed buying interest developing in 2H 2023.

**The macroeconomic environment remains complex.** Inflation has slowed, but primarily due to falling energy prices. Core services inflation remains strong. The labor market is still very tight in certain sectors, and the central banks continue to raise rates. There are increased signs of a slowdown in household consumption, which is likely to continue deteriorating over the coming months.

**A little more milk and a little less demand have contributed to weaker dairy commodity prices in Q1 2023.** However, stock levels in the key exporting regions are not burdensome. Since our last report, we've tempered our optimism for year-on-year milk production growth. Lower global cheese, milk powder, and whey prices, year-on-year, are expected to support exports. Still, much depends on internal Chinese policies and broader demand resilience to support dairy product prices in 2023.



# US Dollar - Had Impacted Imports



- While it has come off slightly, the US dollar index remains historically high this year, which is continuing to limit purchasing power as it has been paired with high interest rates as well, making storage and lending options even more expensive. The Japanese yen and the Chinese RMB are at two decade and 14-year lows, respectively. In 2022, the US dollar has appreciated by one-fifth relative to the South Korean won and by over one-tenth against the Malaysian ringgit, Philippine peso and Thai baht. Great for exports from these countries, but not ideal for importing.
- Global risk and uncertainty are likely to persist for some time and the Fed intends to keep raising interest rates until inflation comes down. Many economists predict that this will take a recession, but the Fed has signaled that it is more concerned with inflation at this point. Asia needs to prepare for a continuing strong dollar, at least in the short-term
- Falling currencies also increase the cost of servicing dollar denominated debt, a critical concern for some South Asian and Southeast Asian economies. The region's central banks have little choice but to tighten in their own markets, depreciating their currencies and selling dollar-denominated currency reserves. The global Foreign-exchange reserves stockpile declined more than \$1 trillion, or 8.9%, this year to less than \$12 trillion, the biggest drop since Bloomberg started to compile the data in 2003





# Macro Highlights – Nervous????

Economies globally are dealing with volatile purchasing power, driven by a multitude of factors:

- The US Dollar strengthened during the latter half of 2022 as the US Federal Reserve started to tackle inflation, which dealt blows to the purchasing power of buyers in partner countries.
- Rapid deterioration of the value of the Chinese Yuan heightened the comparative value of imported dairy, significantly increasing costs of foreign dairy products in the local China economy.
- The last six months have been very volatile for Southeast Asian currencies, a whiplash effect that is unlikely to settle in the short-term while the US Fed keeps chasing inflation down.
- Pegged currencies in dairy importing countries are in a strong position, with oil exporters still benefiting from buoyant crude prices and a strong US dollar.
- As inflation continues to be tough to tackle in the US and globally, markets have reacted again to recent news, selling off across equity markets, while FX markets return to the USD with pace. The risk of recession, growing financial risks and the associated impacts to consumers, continue to be a large risk for commodity prices and economies together.
- A leading indicator of late for the global economy has been the current state of the ocean shipping industry, which is facing a significant downturn due primarily to decreased demand for goods. The situation has resulted in a buildup of idle ships and empty containers, causing shipping rates to plummet. The current slump is the biggest the industry has seen in years, with some experts predicting that it may last for several more months. Rising inflation has eroded demand for many products as Americans shifted more spending to food, fuel and services, leaving retailers with a glut of inventory. This slowdown is having a significant impact on global trade and carries potential consequences for businesses and consumers, increasing fears of a global recession. The National Retail Federation estimates that US sea import volumes fell 12% in February compared with January and will be down 26% from a year ago.

In 2022, China's population growth turned negative for the first time in 61 years.

- According to the China Population and Development Research Center, the country is likely to experience year-over-year population decreases for decades to come, although the decline will be slow and gradual, at least before 2035. Experts had long anticipated this moment, but it arrived several years earlier than expected. With 850,000 fewer births than deaths last year, at least according to the country's official report, China joined an expanding set of nations with shrinking populations caused by years of falling fertility and often little or even negative net migration, a group that includes Italy, Greece and Russia, along with swaths of Eastern/Southern Europe and several Asian nations like South Korea and Japan
- A winter heatwave, record low levels of rain and a startling lack of snow in Europe are pushing rivers, canals and lakes across the continent to alarmingly low levels, with experts warning there could be repeat of last year's severe droughts. Images of dried-up river beds and shrunken lakes are usually associated with the scorching heat of summer – not the winter. But an exceptionally warm and dry start to the year is affecting a swath of Europe, including central and southwest France, northern Spain and northern Italy. France, which is experiencing its driest stretch in more than 60 years, may soon bring in water restrictions. The country “suffered a series of 32 consecutive days without any significant rainfall from Jan 21 to Feb 21,” – the longest stretch since records began in 1959.

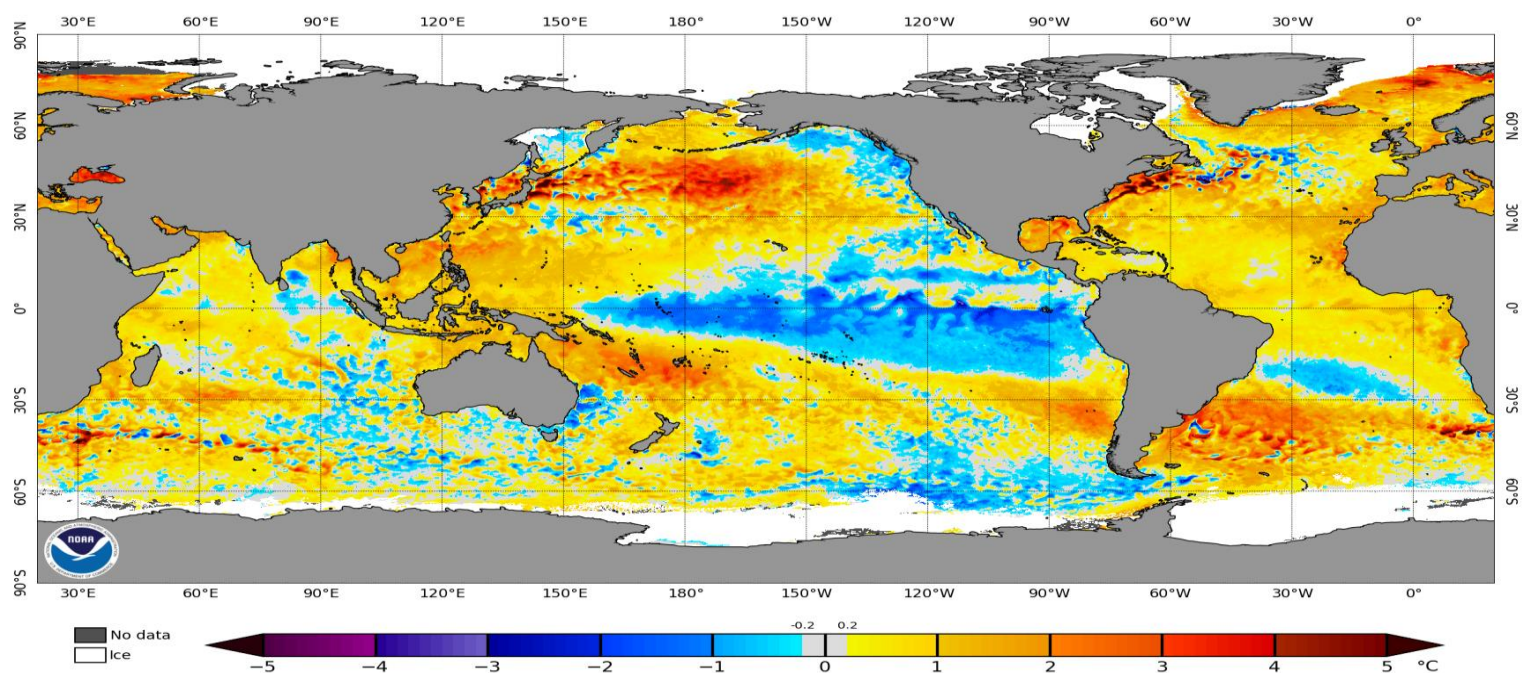
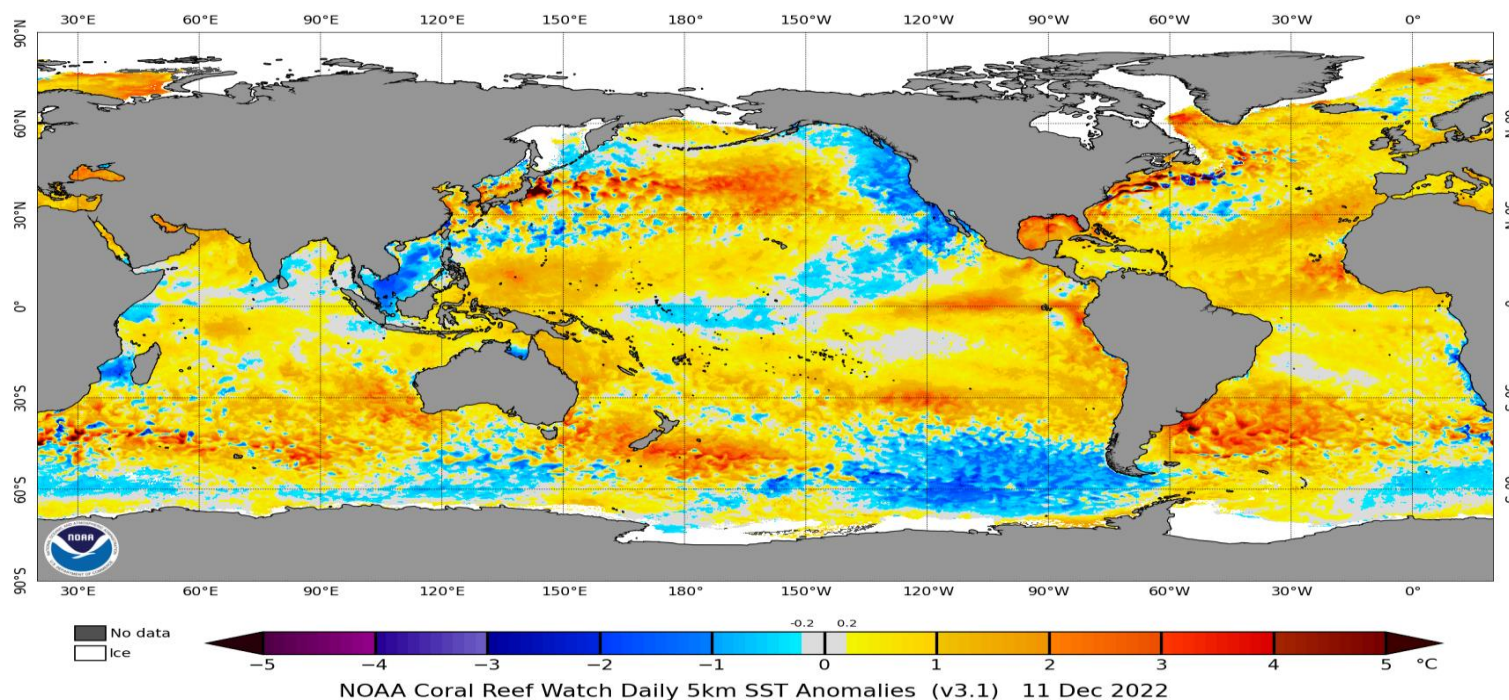


# Elephant in the Room Weather

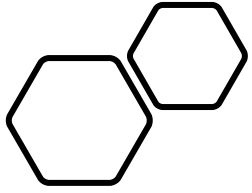
## Final La Niña Advisory

- ENSO-neutral conditions are observed.
- Equatorial sea surface temperatures (SSTs) are near average across most of the Pacific Ocean.
- The tropical Pacific atmosphere is still consistent with a weak La Niña signal.
- ENSO-neutral conditions are expected to continue through the Northern Hemisphere spring and early summer 2023.
- Negative SST anomalies have gradually weakened across most of the equatorial Pacific Ocean since at least December 2022.
- Since late January 2023, positive SST anomalies have strengthened in the eastern equatorial Pacific.

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 14 Mar 2023



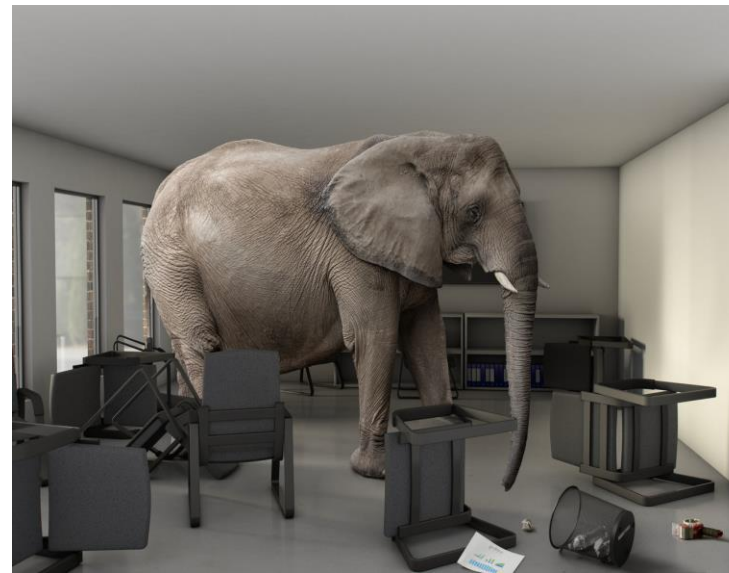




# Elephant in the Room— Weather

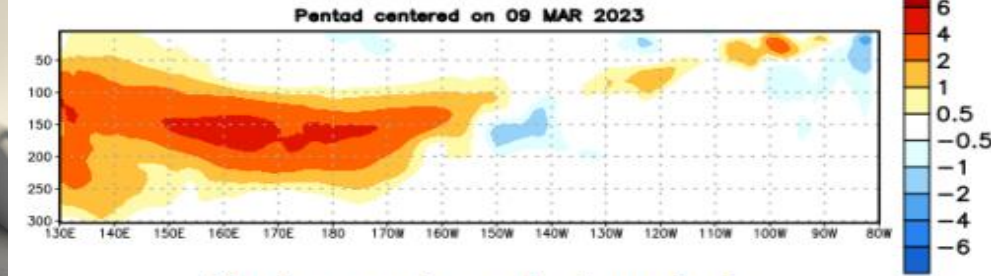
## ENSO Alert System Status: **Final La Niña Advisory**

- Subsurface temperature anomalies were negative until June 2022, before becoming briefly positive.
- From late June 2022 to late January 2023, anomalies were negative.
- From November 2022 to mid-February 2023, negative anomalies weakened and returned to near zero.
- Since then, anomalies have become positive and are increasing.



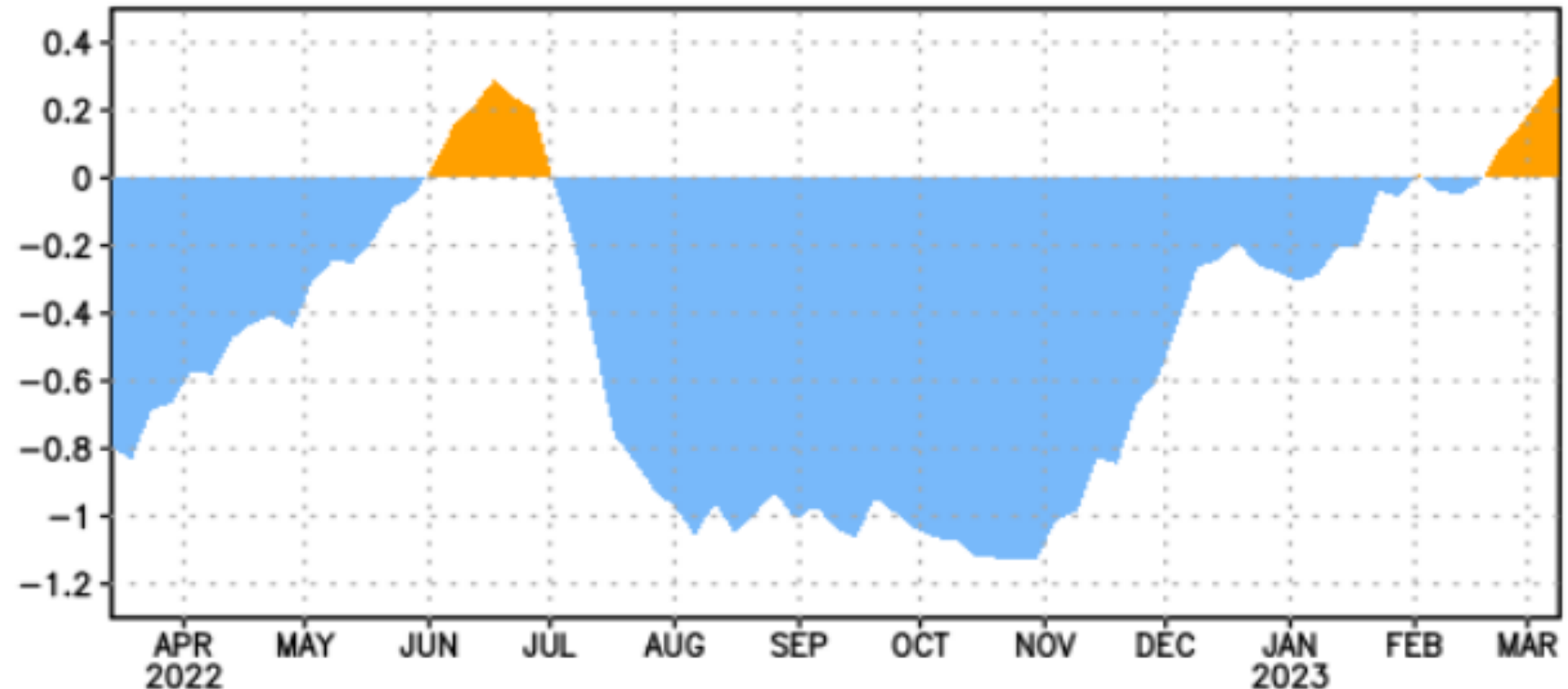
Positive subsurface temperature anomalies have expanded eastward, remaining mostly at depth, except near the surface in eastern Pacific. Negative subsurface temperature anomalies weakened across the equatorial Pacific Ocean, Weak anomalies continue to reside in small areas

EQ. Subsurface Temperature Anomalies (deg C)



Most recent pentad analysis

EQ. Upper-Ocean Heat Anoms. (deg C) for 180–100W

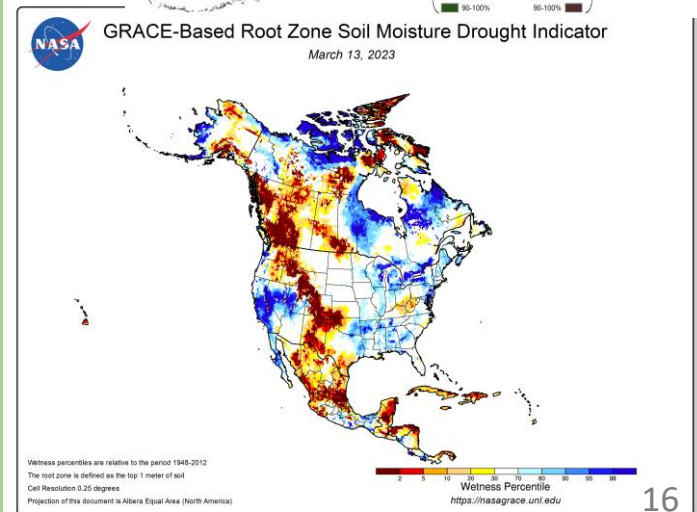
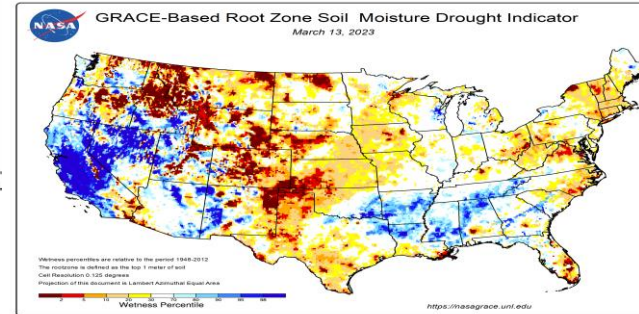
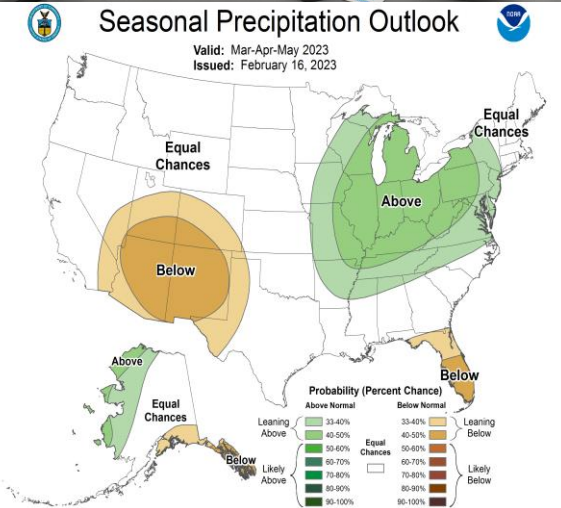
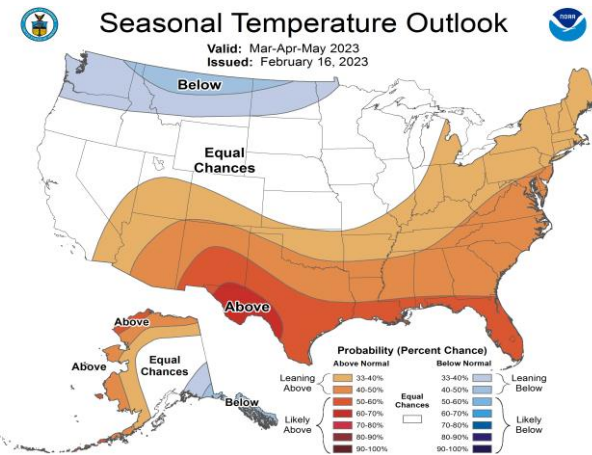
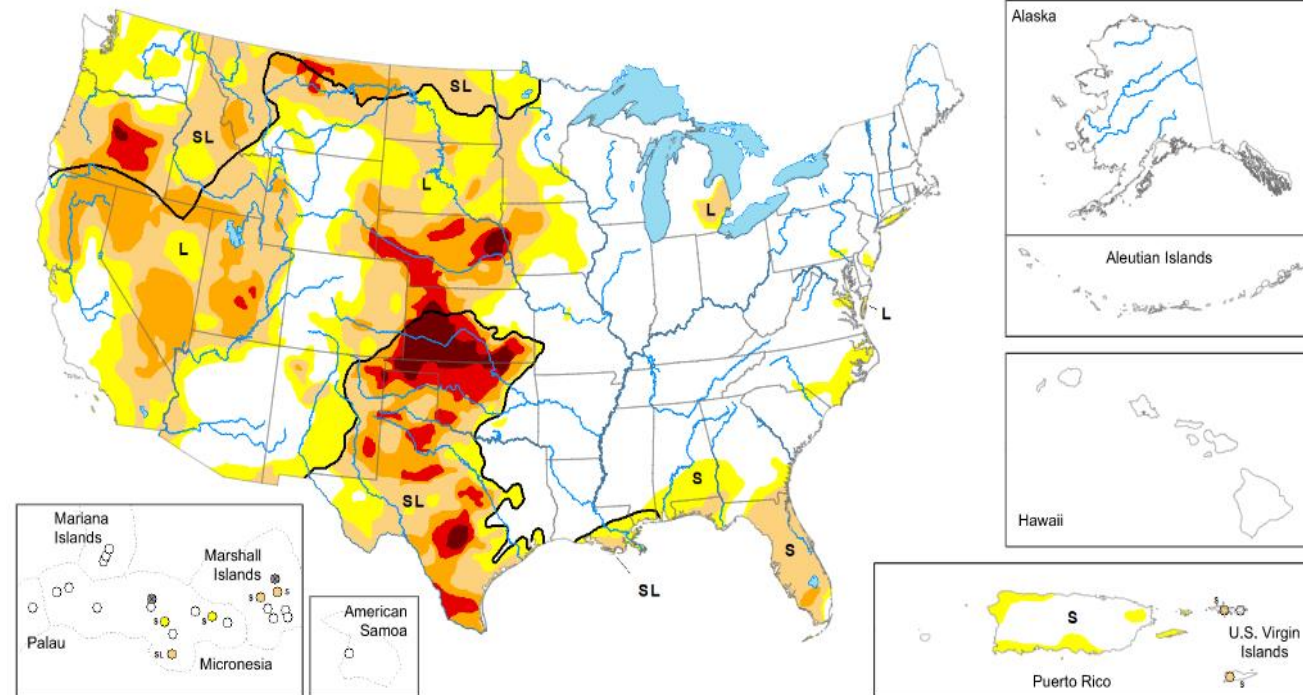






# 70% of the US Remains Dry – Pattern Change?

Data valid: March 7, 2023



There is a trough in the eastern U.S. with a ridge in eastern Canada and a trough along the west coast of North America. A weaker ridge is developing across the Rocky Mountains. The trough across the eastern U.S. will continue east while the ridge across the Rocky Mountains will build across the central U.S. By the end of the week, another trough will develop across the West and push into the central U.S. The U.S. and European models are similar. For the outlook period, temperatures will be below normal across much of the country. A system across the central U.S. will advance into the East with high pressure expected to build in across much of the central and eastern U.S. in the wake of the system. By the end of the period, another system may enter the central U.S. from the West.

Snow fell across the northern Plains area this weekend as another system pushed through. High pressure will build in for the start of the week before a few systems could provide more snow for the second half of the week. Temperatures will waffle this week, but trend towards below normal by the end of the period with higher inputs than normal required for livestock. Temperatures will waffle around over the next 5 days in the central/southern Plains but turn cooler than normal by the weekend. Besides some isolated showers early this week, a more widespread system will move through later this week. Precipitation continues to be limited for southwestern areas where drought remains in control. A few waves of moisture will push through the Midwest during the second half of week, providing rain and snow showers. Drier conditions return by the weekend. Temperatures will waffle around over the next 5 days, but trend colder thereafter. Water levels on the Mississippi River remain high for the foreseeable future due to more chances for rain later this week across the Delta watershed. Some areas of minor flooding are forecast. While drier conditions will return for the beginning of the week, wetter conditions will return later in the week which could delay early fieldwork.

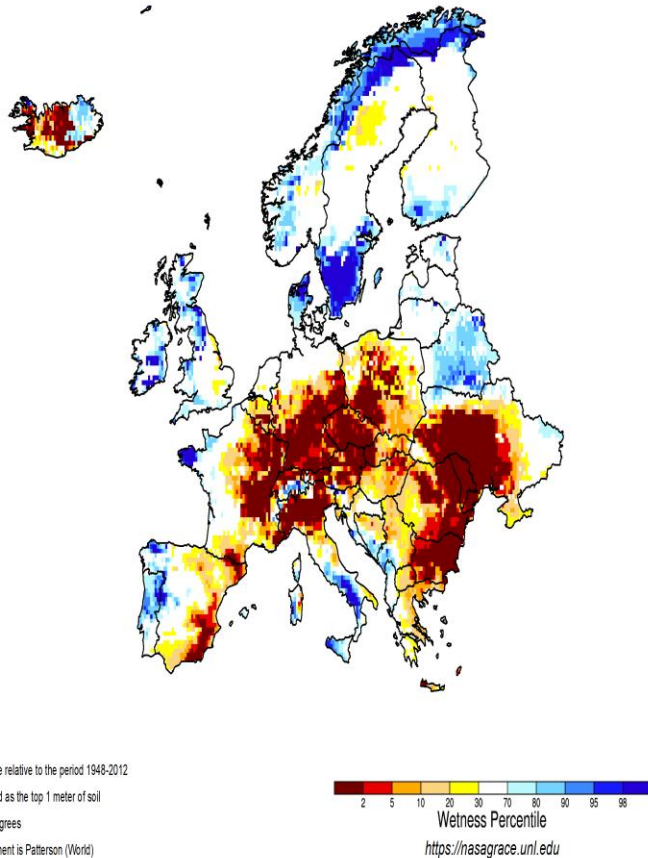


# Elephant in the Room– Weather



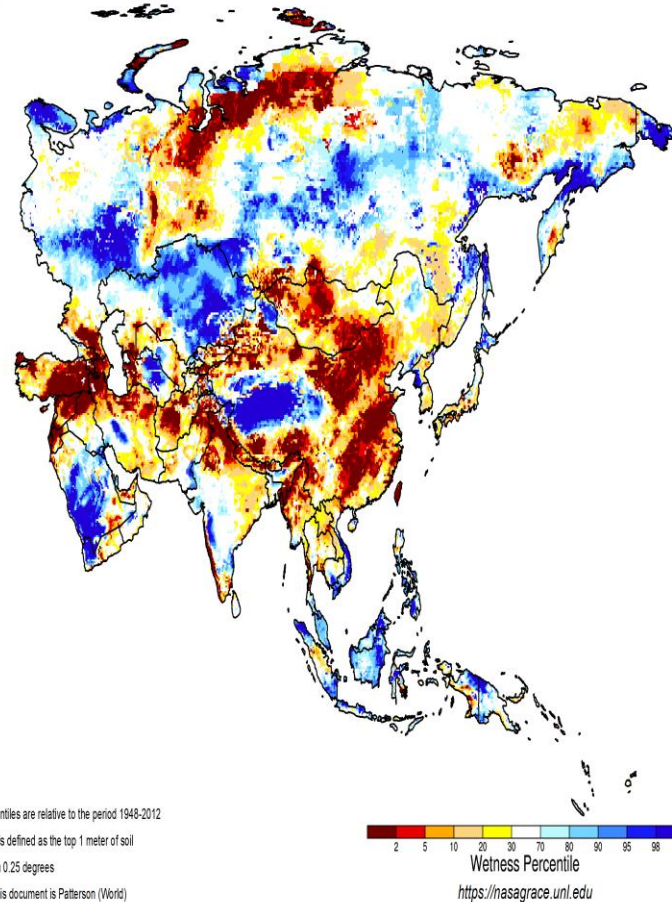
## GRACE-Based Root Zone Soil Moisture Drought Indicator

March 13, 2023



## GRACE-Based Root Zone Soil Moisture Drought Indicator

March 13, 2023



A few waves of moisture will be possible in Europe over the next 7 days as winter crops are emerging out of dormancy. The region's winter grains remain vulnerable to a blast of cold air due to limited snow cover, but none is forecast.

Weather conditions over the winter in the Black Sea have been favorable and outside of some spotty areas, the winter wheat crop is in good shape outside of being affected by the war. The favorable outlook will continue into this week as periods of showers continue over the next 5 days

A heatwave will continue into this week across most of India. As long as precipitation does not occur, daytime highs will exceed 100F into early next week. Isolated showers will develop at times early this week but be limited. Better chances for precipitation return for the second half of the week; however, the heat will remain very stressful for filling winter wheat. Precipitation has been limited over the winter in China, with most areas in central and southern China drier than normal as crops start to break dormancy. Outside of a few isolated showers possible, mostly dry conditions will continue this week.



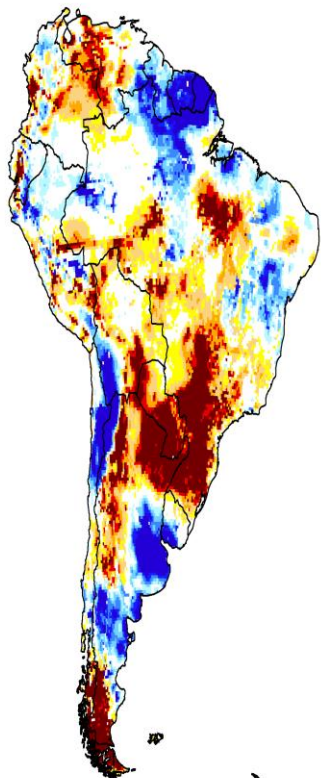


# Elephant in the Room– Weather



## GRACE-Based Root Zone Soil Moisture Drought Indicator

January 24, 2022

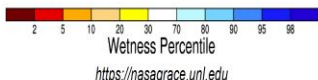


Wetness percentiles are relative to the period 1948-2012

The root zone is defined as the top 1 meter of soil

Cell Resolution 0.25 degrees

Projection of this document is Albers Equal Area (South America)

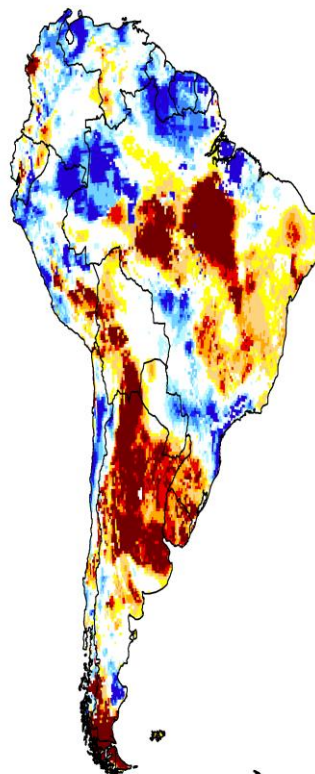


<https://nasagrace.unl.edu>



## GRACE-Based Root Zone Soil Moisture Drought Indicator

March 13, 2023

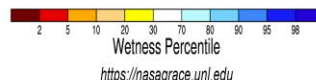


Wetness percentiles are relative to the period 1948-2012

The root zone is defined as the top 1 meter of soil

Cell Resolution 0.25 degrees

Projection of this document is Albers Equal Area (South America)



<https://nasagrace.unl.edu>

Scattered rains occur into Wed and again Thur/Fri in the southwest ½ of Argentina, with wetter EU model risks for the east. At least ½ of the belt is favored to miss rain relief next week as well, with model risks wetter but drier than last week. Wetter 1-5 and 11- 15-day trends keep about ¼ of Paraguay too wet, while showers in the Brazilian state of Parana ease for nearly a week after Thu. Rains benefit northern Brazil safrinha growth.

Some showers are forecast on the far southern end of the Pampas through Mar 14 before spreading farther north through the rest of the territory. Models are suggesting a few waves of precipitation that might bring some significant amounts through about Mar 23 or so. Rainfall amounts of about 1.5 to 4 inches are forecast for the area, with some areas seeing more and some seeing less. But it does point to the possibility of a good stretch of rainfall.

Scattered showers continue for much of Brazil's growing regions over the next week, with drier conditions returning for southern Brazil for the second half of the week. Despite recent rains, many areas have made significant progress with regard to soybean harvest and corn planting. However, some areas are behind, somewhat significantly, and will expose more of the corn crop to the dry season which is forecast to start up in April and frosts that may occur in June. Corn already in the ground will benefit from good soil moisture. Isolated showers will return for central areas of Argentina this week, but the rain is too late to have much of an impact. Hot temperatures will continue into this week with some areas seeing daytime highs near 100 degrees Fahrenheit when the rains do not occur. The heat and dryness are keeping stresses high for both crops in various stages of growth.

Following sharp cuts earlier in the week from the Rosario Grains Exchange, the Buenos Aires Grains Exchange on Friday followed suit, cutting Argentina's soybean crop estimate to 29.0mmt from 33.5mmt previously (USDA 33.0mmt) and 43.9mmt last year, while lowering corn crop estimate to 37.5mmt from 41.0mmt previously (USDA 40.0mmt) and 49.5mmt last year.

Brazilian officials see total Brazilian soybean production at 147.0mmt vs. Conab at 151.4mmt and USDA at 153.0mmt



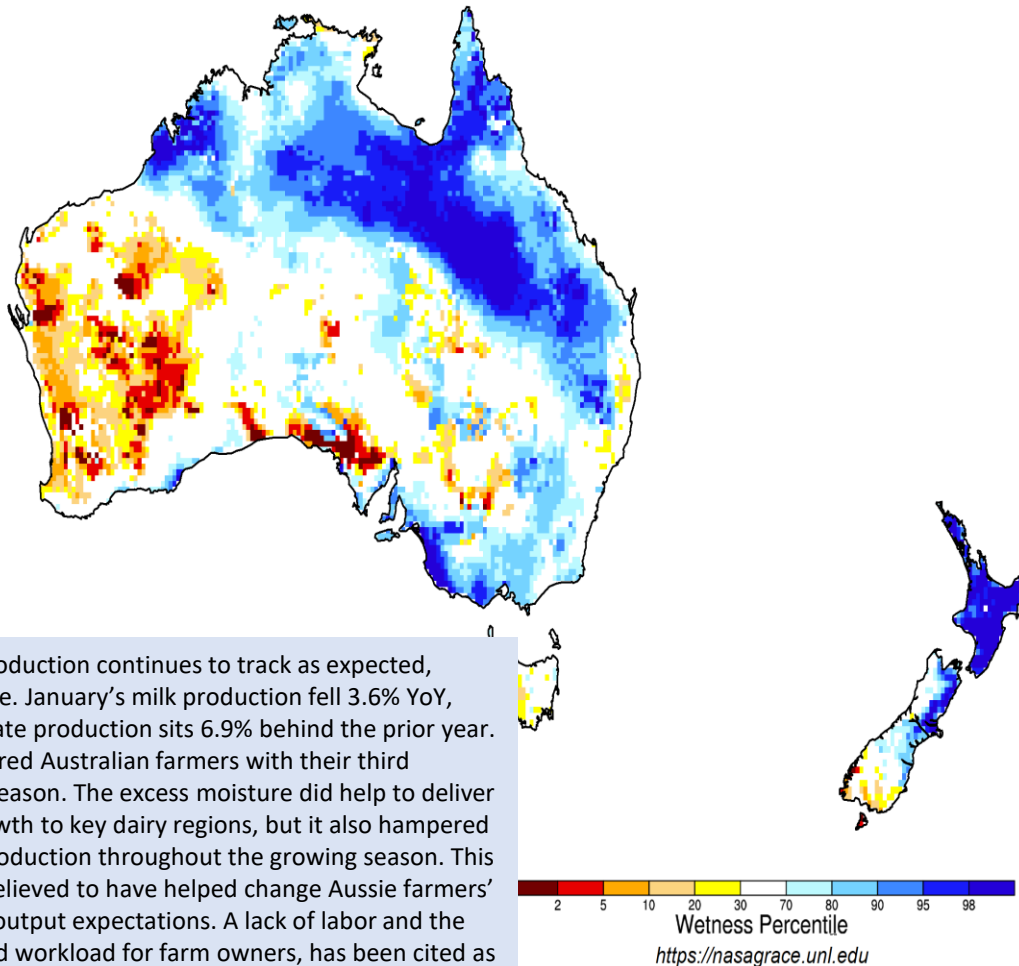


# Australia Drying Up/New Zealand – Damp



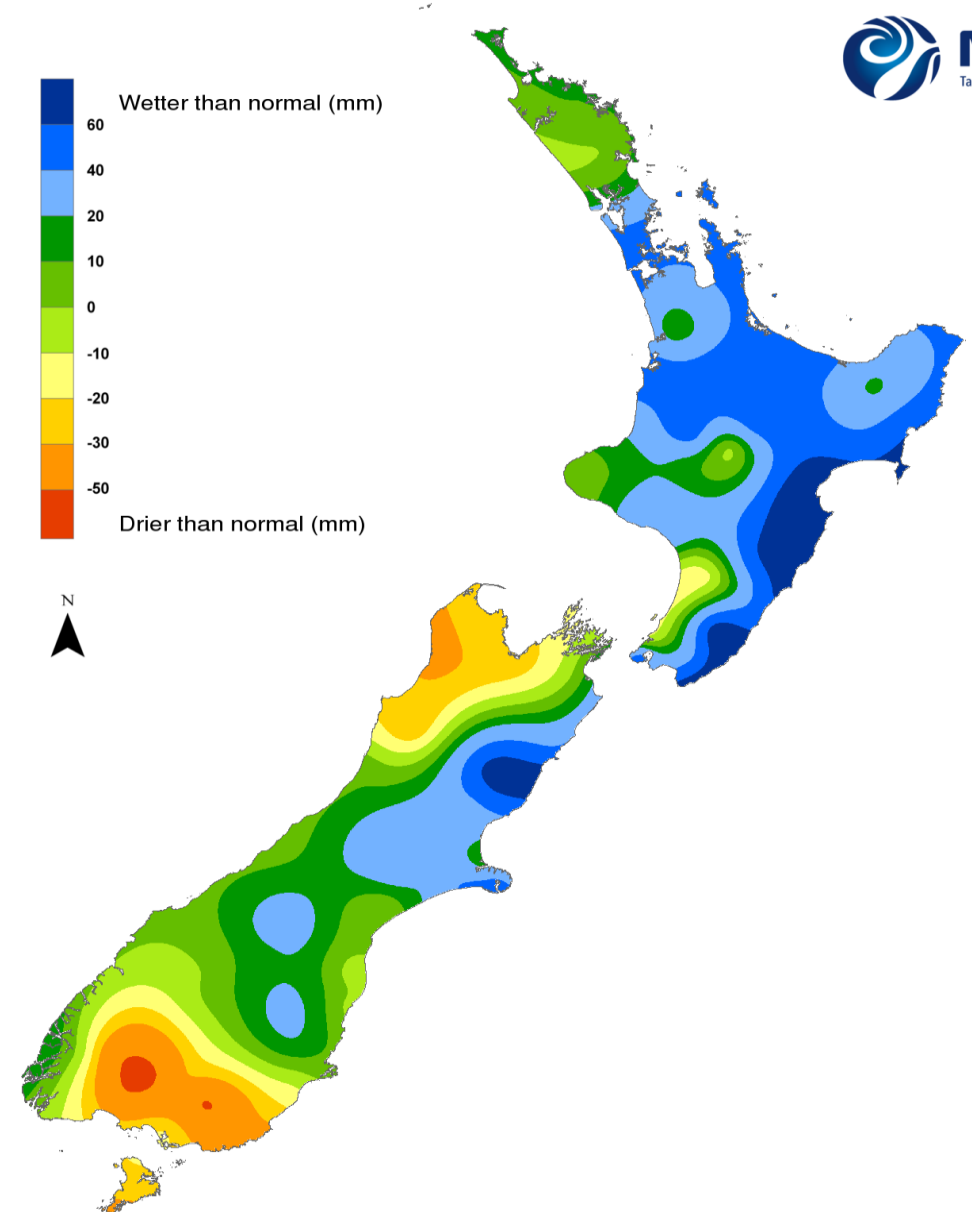
## GRACE-Based Root Zone Soil Moisture Drought Indicator

March 13, 2023



Australian milk production continues to track as expected, remaining negative. January's milk production fell 3.6% YoY, while season to date production sits 6.9% behind the prior year. La Nina has delivered Australian farmers with their third consecutive wet season. The excess moisture did help to deliver more pasture growth to key dairy regions, but it also hampered silage and crop production throughout the growing season. This moisture is also believed to have helped change Aussie farmers' mindsets around output expectations. A lack of labor and the resulting increased workload for farm owners, has been cited as one key driver for herd size reduction decisions, with good profit margins making the transition to lower herd sizes easier

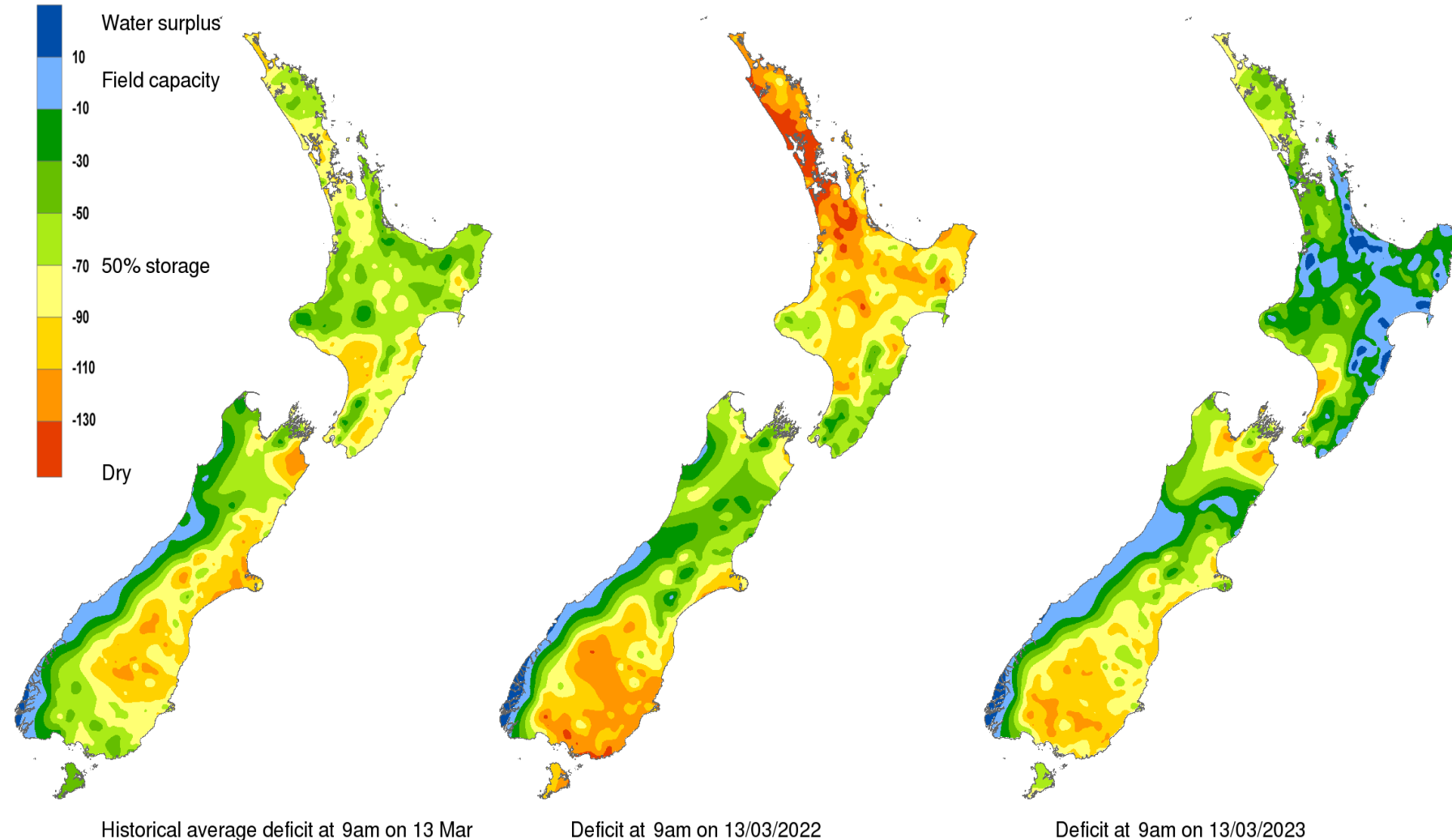
Soil moisture anomaly (mm) at 9am on 13/03/2023





# New Zealand – Improving - Off-Season

Soil moisture deficit (mm) at 9am on 13/03/2023



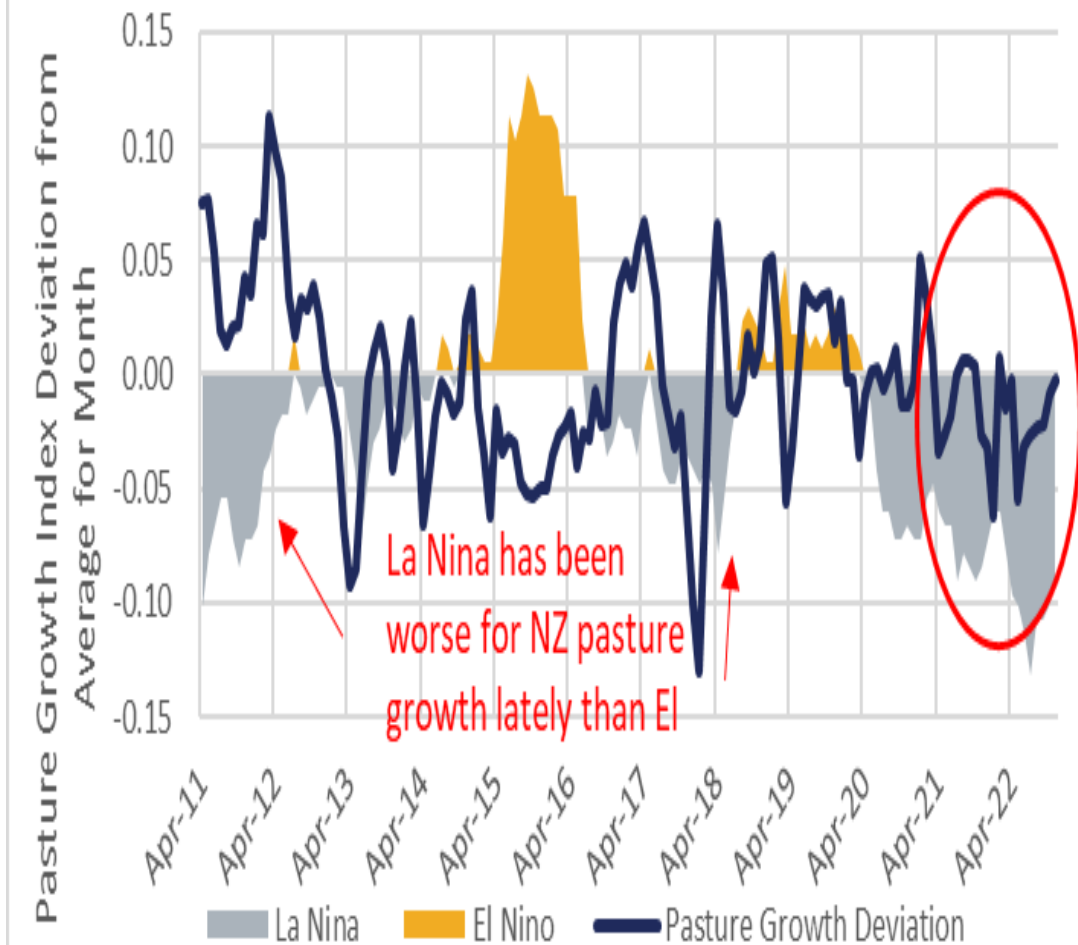
Day		Temperature	Weather
Tue Mar 14		61 / 55 °F	Light rain. Overcast.
Wed Mar 15		65 / 54 °F	Breaks of sun late.
Thu Mar 16		68 / 51 °F	Showers late. Overcast.
Fri Mar 17		60 / 55 °F	Light rain. Overcast.
Sat Mar 18		67 / 53 °F	Sprinkles. Cloudy.
Sun Mar 19		60 / 51 °F	Passing showers. Overcast.
Mon Mar 20		68 / 50 °F	Overcast.
Tue Mar 21		65 / 53 °F	Breaks of sun late.
Wed Mar 22		62 / 48 °F	Showery. Increasing cloudiness.
Thu Mar 23		57 / 46 °F	A few tstorms. Overcast.
Fri Mar 24		55 / 45 °F	Rain. Cloudy.
Sat Mar 25		59 / 48 °F	Isolated tstorms late. Mostly cloudy.
Sun Mar 26		61 / 49 °F	Tstorms late. Cloudy.
Mon Mar 27		60 / 50 °F	Isolated tstorms. Mostly cloudy.
Tue Mar 28		57 / 50 °F	Isolated tstorms. Cloudy.

**Soil moisture deficit:** the amount of water needed to bring the soil moisture content back to field capacity, which is the maximum amount of water the soil can hold.  
**Soil moisture anomaly:** the difference between the historical normal soil moisture deficit (or surplus) for a given time of year and actual soil moisture deficits.



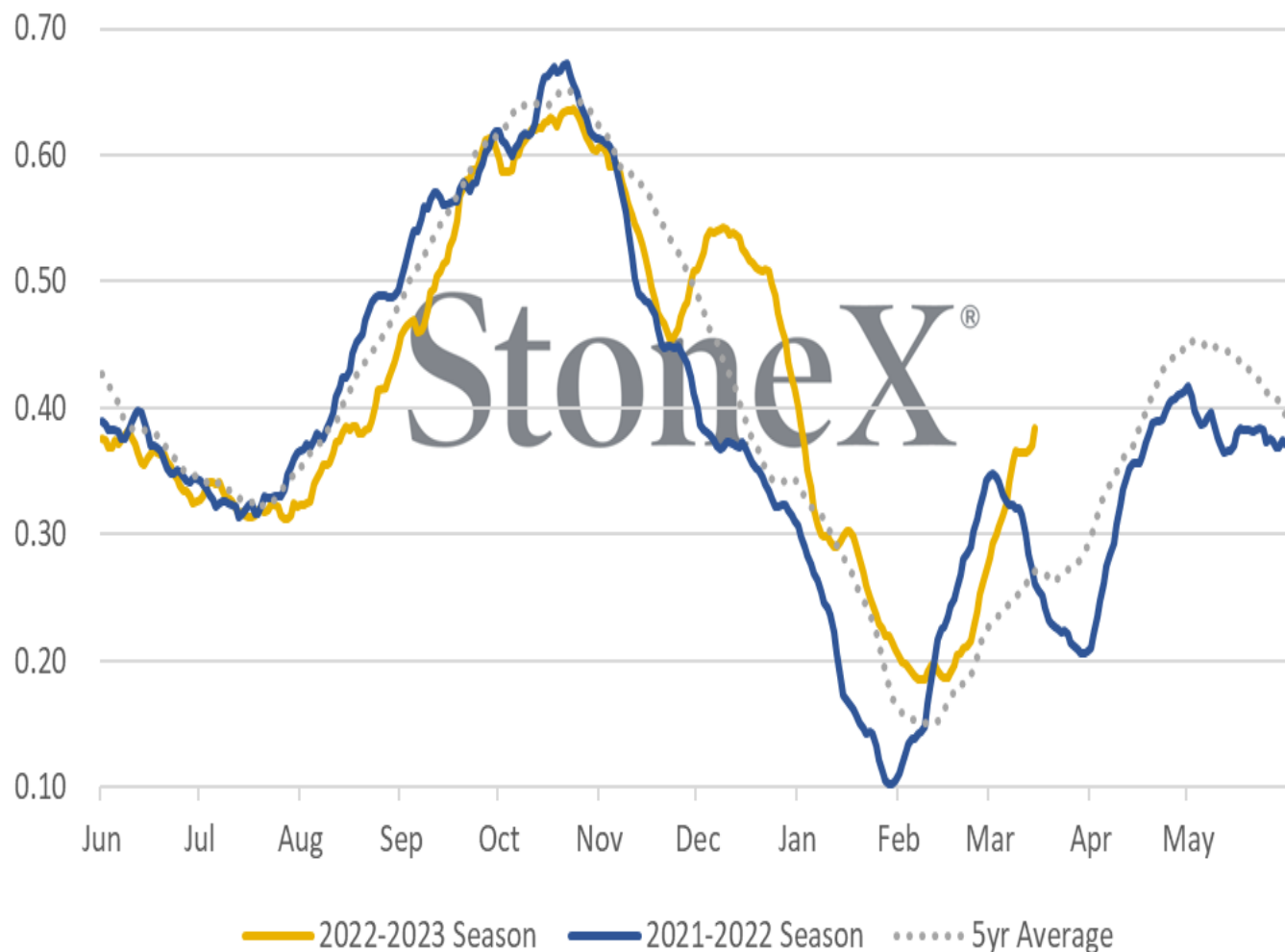
# Southern Hemisphere – Some Relief

ENSO MEI Index and NZ Pasture Growth  
Deviation from Normal (3 month rolling average)



Source: NOAA, Reuters, StoneX Calculations

New Zealand Pasture Growth Index  
30 Day Rolling Average







# Is This Trend Narrowing?



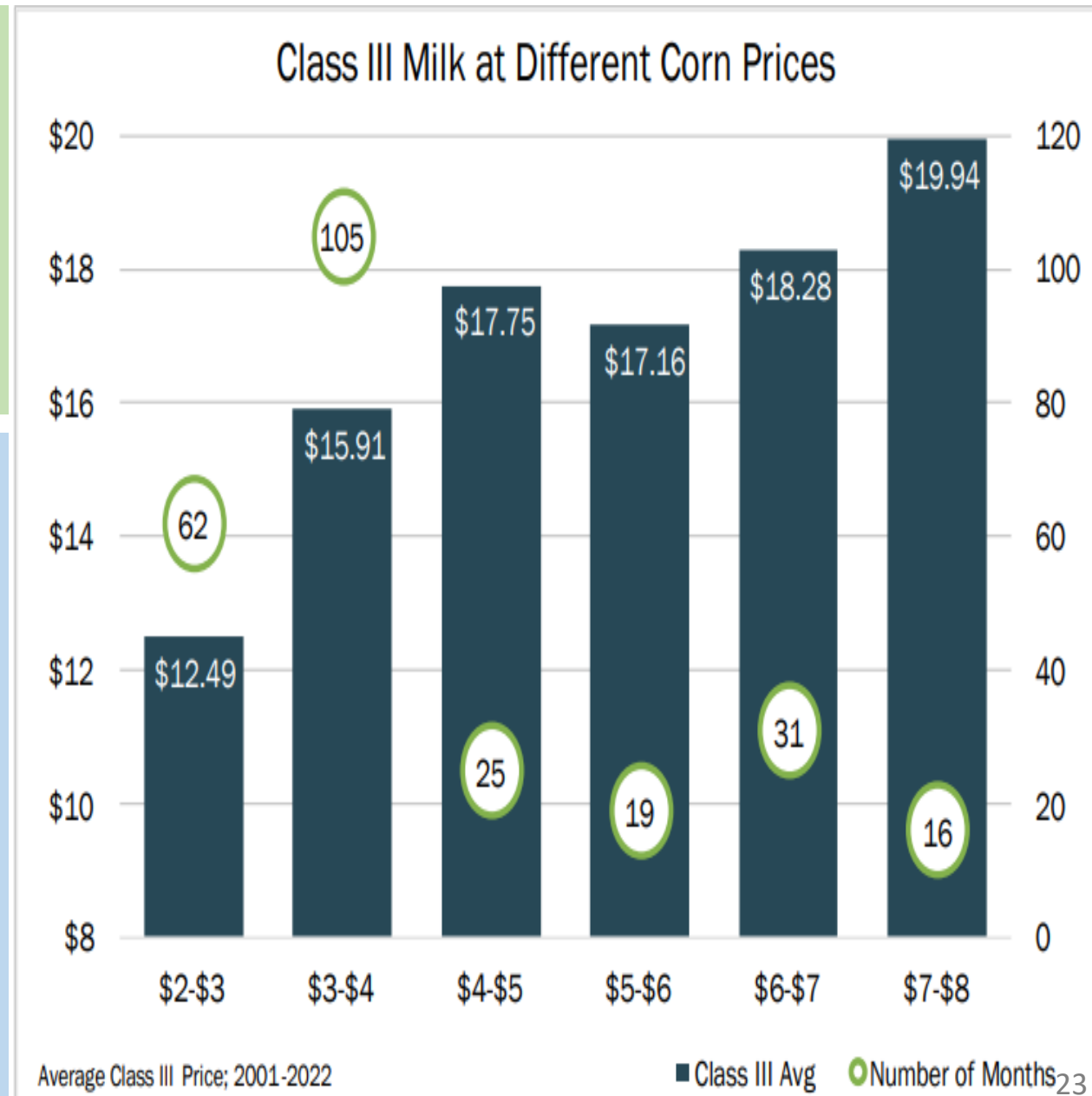
The milk production forecasts for 2022 and 2023 are raised from last month. The cow inventory is raised reflecting a more rapid pace of expansion in late 2022 and the first half of 2023. Output-per-cow is raised for the remainder of 2022 and into the first part of 2023. Fat and skim-solids basis imports for 2022 are raised, largely driven by recent trade data and higher expected imports of cheese and a number of other products; the skim imports increase also reflects strong milk protein concentrate and casein imports. Forecasts for 2023 imports for both bases are also raised largely on stronger imports of butter. Exports for both years are raised on expectations of stronger whey, lactose, and butterfat product exports. However, export growth in skim milk powder is expected to be slower in 2022. For 2022, forecasts for butter and cheese prices are raised on current price strength, but nonfat dry milk (NDM) and whey prices are lowered. Both Class III and Class IV prices are raised, reflecting the higher butter and cheese prices respectively. For 2023, price forecasts for butter and cheese are raised while the NDM prices is lower. The Class III price is raised on higher cheese and Class IV price forecast is raised as the higher butter price more than offsets the lower expected NDM price. The 2022 all milk price forecast is raised to \$25.60 per cwt and the 2023 all milk price is raised to \$22.90 per cwt.



# Price of Feed Matters

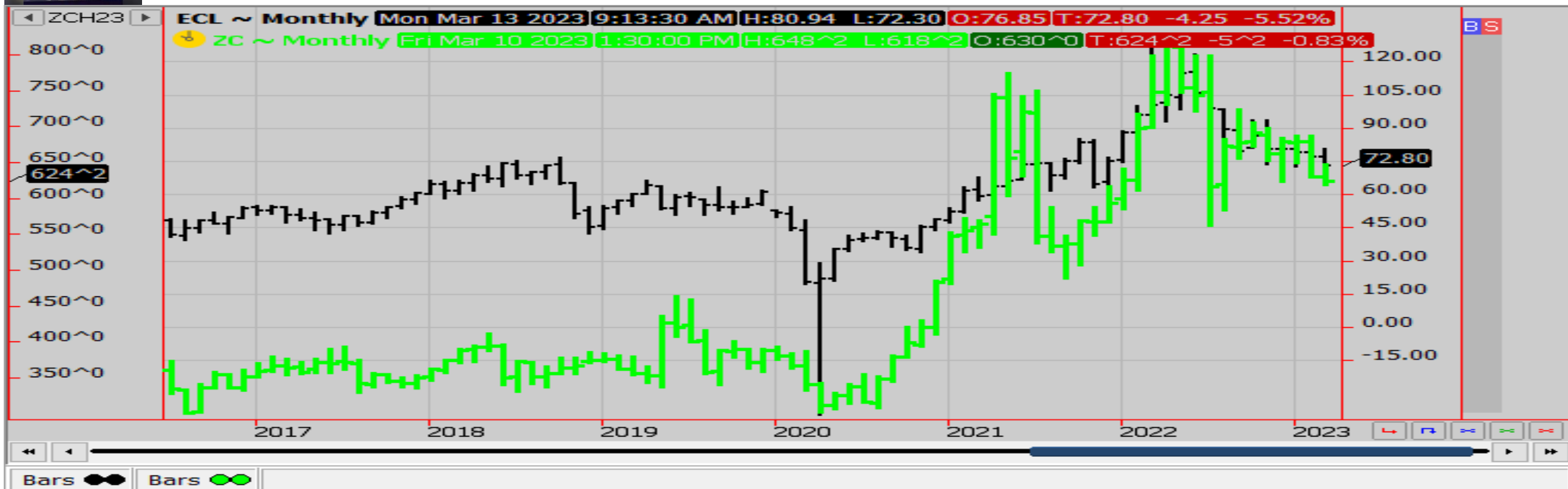
- We've been known to say things like "we won't see a lot of milk with corn..." and, conversely, "don't expect much milk with corn..."
- How true are those statements?
- When we look at the last 20 years or so, in the 25 months with corn between \$4 and \$5 per bushel, Class III milk averaged \$17.75 per hundredweight compared to \$18.28 when corn was between \$6 and \$7.
- For Class IV the difference is \$17.26 and \$18.76 per hundredweight.
- It's way too early to think about corn dropping under \$5 per bushel. And the relationships with milk aren't necessarily hard and fast. But if things start trending in that direction, expect a lot of questions about what it means.

- Nearby corn futures have traded above \$6 per bushel since mid-January, with the market over \$7 for 19 weeks. That compares to a five-year average of \$4.42 per bushel going into 2022. Will corn prices remain elevated? And, if so, what might that say about milk price prospects?
- We can conjure up scenarios for corn pricing to fall back below \$5 per bushel.
  - The situation in Ukraine gets materially better.
  - Weak gasoline demand cuts deeply into ethanol production.
  - US exports remain lethargic in the face of tough logistics down the Mississippi River
  - A weak global economy, strong USD
  - South America weather turns positive.
- Today, things appear to be changing and feed prices may come under pressure. That can change quickly as history has taught us.
- Assuming that corn will likely be closer to \$6 than \$4, what does history say about milk prices?
- With the recent decline in grain prices – what seemed impossible 3 month ago is not "possible" The data to the right includes 2022 performance





# Does Corn Follow Crude??



Brazil total corn production for marketing year (MY) 2022/23 is estimated at a record 125.0 million metric tons (mmt), unchanged from last month, and larger than last year's crop by 9.0 mmt (8 percent). Total harvested area, for all three corn crops, is estimated at a record 22.7 million hectares (mha), up 1 mha (4 percent) from last year. Yield is estimated at 5.51 tons per hectare, 3 percent above last year's crop, and 6 percent above the 5-year average.

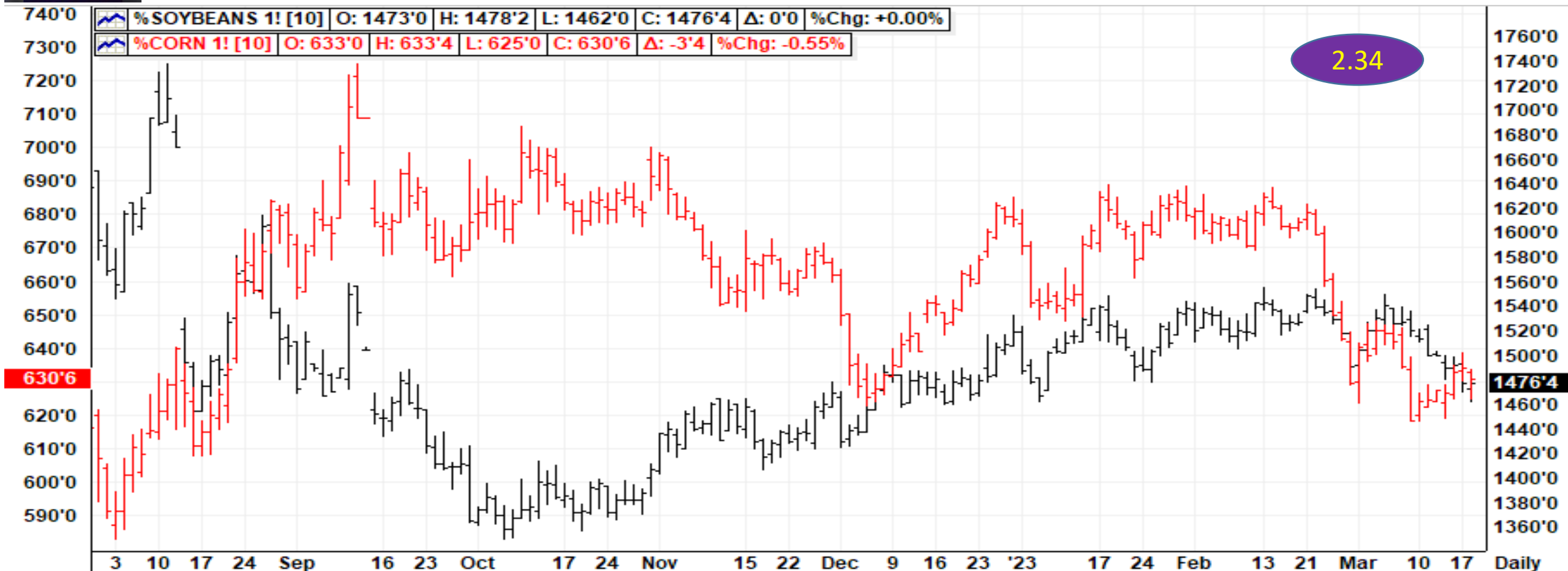
Harvest started for the first-season crop (20 percent of total production) and is currently at 17 percent complete versus last year's 23 percent complete at this stage, as reported by the Companhia Nacional de Abastecimento (CONAB). First-season corn area is estimated by CONAB at 4.4 mha, about 152,000 hectares below last year's area. Production for this crop is estimated at 26.5 mmt by CONAB. Sufficient rainfall benefitted crop progression in most areas with the exception of the state of Rio Grande do Sul. Prolonged dry periods occurred during critical pollination and grainfilling stages, thus reducing potential yields. Recent rainfall will provide relief to the later-maturing crop.

Second-crop planting has been progressing at a slower pace than average in several center-west states because of excessively wet conditions due to well-above-average rainfall. This situation limits fieldwork and is delaying the soybean harvest in Mato Grosso and Paraná. Based on reporting from CONAB and the Instituto Mato-Grossense de Economia Agropecuária (IMEA), about 70 to 75 percent of the safrinha crop will be planted within the "ideal" window, with the late planted crop potentially at greater risk if rainfall is insufficient towards the end of the season. In southern states such as Mato Grosso do Sul and Paraná, frosts before harvest can also pose a risk to a late planted crop. Area for the second-season crop is at a record 16.9 mha (about 4 percent greater than last year) with production of 95.0 mmt per CONAB. The largest area increase is in the state of Mato Grosso (about 46 percent of second crop production) of over 400,000 hectares with a projected output of 44.1 mmt (77 percent of total production). The second crop corn is harvested from June to September.





# Market is Starting To Ask For Corn?



Argentina soybeans production for marketing year 2022/23 is estimated at 33.0 million metric tons, down 20 percent from last month, and down 25 percent from last year. Soybean yield is estimated at 2.13 tons per hectare, down 17 percent from last month, and down 23 percent from last year. Harvested area is estimated at 15.5 million hectares, down 3 percent from last month, and down 3 percent from last year.

Planting for both first and second soybean is complete. Yield is down month-to-month because of dry and hot conditions throughout February that impacted the second soybean crop during flowering. The satellite-derived Normalized Difference Vegetation Index (NDVI) displays significantly below average conditions for several of the main soybean producing provinces. In Santa Fe (19 percent of production) and Santiago del Estero (6 percent of production), crop conditions are the lowest in the last twenty years of data. The second soybean crop is planted during December through early January and flowers during February and March. Roughly two thirds of area are planted to early soybeans and one-third is planted to late soybeans.

Global 2022/23 oilseed crush is lowered 3.3 million tons to 526.3 million, mainly on a slower-than-expected soybean crush pace for China and lower available soybean and sunflowerseed supplies for Argentina. Lower Argentina vegetable oil exports are offset by higher shipments of palm oil from Malaysia and sunflower seed oil from Turkey, Russia, and Ukraine. Global soybean ending stocks are lowered 2.0 million tons to 100.0 million, with lower stocks for Argentina, Brazil, and the United States that are partly offset by higher stocks for China.



# Will Wheat be Substituted for Corn?

%CORN 1! [10] O: 633'0 H: 633'4 L: 625'0 C: 630'6 Δ: -3'4 %Chg: -0.55%  
%WHEAT 1! [10] O: 708'4 H: 708'4 L: 695'4 C: 700'2 Δ: -10'2 %Chg: -1.44%



Brazil wheat production for marketing year 2022/23 is estimated at a record 10.4 million metric tons (mmt), 5 percent higher than last month, and higher by 2.7 mmt (35 percent) from last season's record crop. Harvested area is estimated at 3.1 million hectares (mha), up 0.4 mha (13 percent) from last season's area and the largest wheat area in 3 decades. Yield is estimated at a record 3.37 tons per hectare (t/ha), 20 percent higher than last season. Brazil's wheat has been harvested. The month-to-month yield change is based on harvest data from official sources. For a second consecutive season, Brazil harvested a record wheat crop. This was possible due to the large area increases in southern Brazil and weather remaining mostly favorable. The largest wheat producing state, Paraná (roughly 44 percent of the national total production), had some losses in yield due to frost in late August. However, the second largest wheat producer, Rio Grande do Sul (roughly 40 percent of national production), planted the largest area in 42 years and escaped the trifecta of threats that normally beset wheat in Brazil – drought during flowering or grain-fill, an ill-timed frost, or rains during harvest. Rio Grande do Sul was fortunate to have favorable weather during the entire season resulting in a record production over 5 million tons as reported by the Technical Assistance and Rural Extension of Rio Grande do Sul (EMATER-RS). Additionally, the state of São Paulo, the fourth largest producer nationally, also reported a record wheat crop over 400,000 tons.

Kazakhstan wheat production for marketing year 2022/23 is estimated at 16.4 million metric tons (mmt), up 17 percent from last month and 39 percent from last year. Wheat yield is estimated at 1.28 tons per hectare (t/ha), up 16 percent from last month and 38 percent from last year. Harvested area is estimated at 12.8 million hectares (mha), up less than 1 percent from last month and from last year. The production increase this month is based on officially published data from the National Bureau of Statistics of the Republic of Kazakhstan. The agency released its final 2022 numbers for all major crops on January 31, 2023. This year's wheat production is the second largest after the 2011 record of 22.7 mmt. The reported year-to-year increase is driven by yield improvements owing to favorable weather and sufficient precipitation during the growing season across the major northern grain producing oblasts of North Kazakhstan, Qostanay, and Aqmola. Timely July precipitation aided crop development during key yield formation stages. As a result, this season's vegetation response tracked along the average and slightly above average indicating improved yield relative to the drought-stricken 2021 crop. Major wheat producers in Kazakhstan reported higher harvests and better yields this season, according to FAS-Astana



# Grain Markets – Continue to be the Issue?

This month's 2022/23 U.S. corn outlook is for lower exports and larger ending stocks. Exports are reduced 75 million bushels reflecting the poor pace of sales and shipments to date despite relatively competitive U.S. prices. With no other use changes, ending stocks are up 75 million bushels from last month. The season-average corn price received by producers is lowered 10 cents to \$6.60 per bushel based on reported prices to date. Global coarse grain production for 2022/23 is forecast 3.2 million tons lower to 1,439.6 million. This month's foreign coarse grain outlook is for reduced production, consumption, and ending stocks relative to last month. Foreign corn production is down, with a decline for Argentina partially offset by increases for India and Paraguay. For Argentina, production is cut as continued heat and dryness during February and into early March reduce yield prospects for late-planted corn. India corn production is higher based on official government data. Foreign barley production is higher reflecting increases for Kazakhstan, Australia, and Argentina. Foreign sorghum production is lowered with declines for Australia and Argentina. The 2022/23 U.S. wheat supply and demand outlook is unchanged from last month. The projected season-average farm price remains \$9.00 per bushel. The 2022/23 global outlook this month is for slightly smaller supplies, increased trade and consumption, and lower ending stocks. Supplies are lowered slightly as an increase in production nearly offsets a decrease in beginning stocks, which are lowered mostly on an increase for China 2020/21 feed and residual use

Commodity	Global Production 2020/21 (MMT)	Global Production 2021/22 (MMT)	Global Production 2022/23 MMT)	Change 21/22 vs 20/21	Commodity	US Production 2020/21 (MMT)	US Production 2021/22 (MMT)	US Production 2022/23 MMT)	Change 21/22 vs 20/21
Corn	1,129.39	1,216.03	<b>1,147.52</b>	-5.63%	Corn	358.45	382.89	<b>348.75</b>	-8.92%
Wheat	774.42	779.21	<b>788.94</b>	1.25%	Wheat	49.75	44.80	<b>44.90</b>	0.22%
Rice	509.32	513.97	<b>509.83</b>	-0.81%	Rice	7.22	6.08	<b>5.09</b>	-16.28%
Soybeans	368.48	358.14	<b>375.15</b>	4.75%	Soybeans	114.75	121.53	<b>116.38</b>	-4.24%
Sugar	180.24	180.35	<b>183.15</b>	1.55%	Sugar	9.23	9.16	<b>9.31</b>	1.67%
Barley	160.91	145.93	<b>151.62</b>	3.90%	Barley	3.72	2.62	<b>3.80</b>	45.04%
Cotton mm bales	111.49	115.90	<b>115.09</b>	-0.70%	Cotton mm bales	14.61	17.52	<b>14.68</b>	-16.21%
Canola	73.89	74.03	<b>83.31</b>	12.54%	Canola	1.58	1.24	<b>1.74</b>	40.32%
Sorghum	62.54	61.97	<b>58.03</b>	-6.36%	Sorghum	9.47	11.38	<b>4.77</b>	-58.08%
Sunflower	49.20	57.31	<b>50.29</b>	-12.25%	Sunflower	1.35	0.86	<b>1.28</b>	48.84%
Peanuts	50.26	50.43	<b>50.11</b>	-0.63%	Peanuts	2.79	2.89	<b>2.53</b>	-12.46%
Oats	25.72	22.74	<b>25.25</b>	11.04%	Oats	0.95	0.58	<b>0.84</b>	44.83%
Rye	14.30	12.44	<b>12.19</b>	-2.01%	Rye	0.29	0.25	<b>0.31</b>	24.00%
Soybean Oil	59.33	59.04	<b>60.21</b>	1.98%	Soybean Oil	11.35	11.86	<b>11.88</b>	0.17%
Copra & PKO	24.87	25.40	<b>26.11</b>	2.80%		US Production	US Production	US Production	US Production
Palm Oil	73.08	73.83	<b>77.56</b>	5.05%	Year	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>
Milk supply and use estimates for 2022 are adjusted to reflect revisions to estimates of milk production and stocks. For 2023, milk production is forecast higher on a larger cow inventory. Output per cow is unchanged from last month. On both fat- and skim-solids bases, imports for 2023 are raised, while exports are reduced.					Milk (Billion lbs)	223.3	226.30	226.50	228.50
							<b>1.34%</b>	<b>0.088%</b>	<b>0.883%</b>





# Grain Markets – Continue to be an Issue?

<u>Commodity</u>	<u>Global Production 2022/23 MMT</u>	<u>US Production 2022/23 MMT</u>	<u>US as % Global Production</u>
Corn	1,147.52	348.75	30.39%
Wheat	788.94	44.90	5.69%
Rice	509.83	5.09	1.00%
Soybeans	375.15	116.38	31.02%
Sugar	183.15	9.31	5.08%
Barley	151.62	3.80	2.51%
Cotton mm bales	115.09	14.68	12.76%
Canola	83.31	1.74	2.09%
Sorghum	58.03	4.77	8.22%
Sunflower	50.29	1.28	2.55%
Peanuts	50.11	2.53	5.05%
Oats	25.25	0.84	3.33%
Rye	12.19	0.31	2.54%
Soybean Oil	60.21	11.88	19.73%

The global wheat outlook this month is for slightly smaller supplies, increased trade and consumption, and lower ending stocks. Supplies are lowered slightly as an increase in production nearly offsets a decrease in beginning stocks, which are lowered mostly on an increase for China 2020/21 feed and residual use. This reduction is based on an updated analysis of government old-crop wheat stocks auction data. Nearly offsetting this change, global production is raised 5.1 million tons to 788.9 million primarily on increases for Kazakhstan, Australia, and India. Production estimates for all three countries are raised on updated government data. Wheat production in Kazakhstan is now forecast at 16.4 million tons, 2.4 million higher than last month, and the largest harvest since 2011/12. World trade is raised 1.0 million tons to 213.9 million as increases for Kazakhstan, Australia, and Brazil more than offset decreases for Argentina and India. Global use is forecast 2.0 million tons higher to 793.2 million, largely on increases in India food, seed, and industrial use and Kazakhstan feed and residual use. Global ending stocks are lowered 2.1 million tons to 267.2 million, as smaller stocks for China more than offset increases for Argentina, Kazakhstan, and Australia. The outlook for 2022/23 U.S. rice this month is for unchanged supplies and domestic use, lower exports, and higher ending stocks. Total rice exports are reduced 3.0 million cwt to 59.0 million on the continued sluggish pace of export sales and shipments.

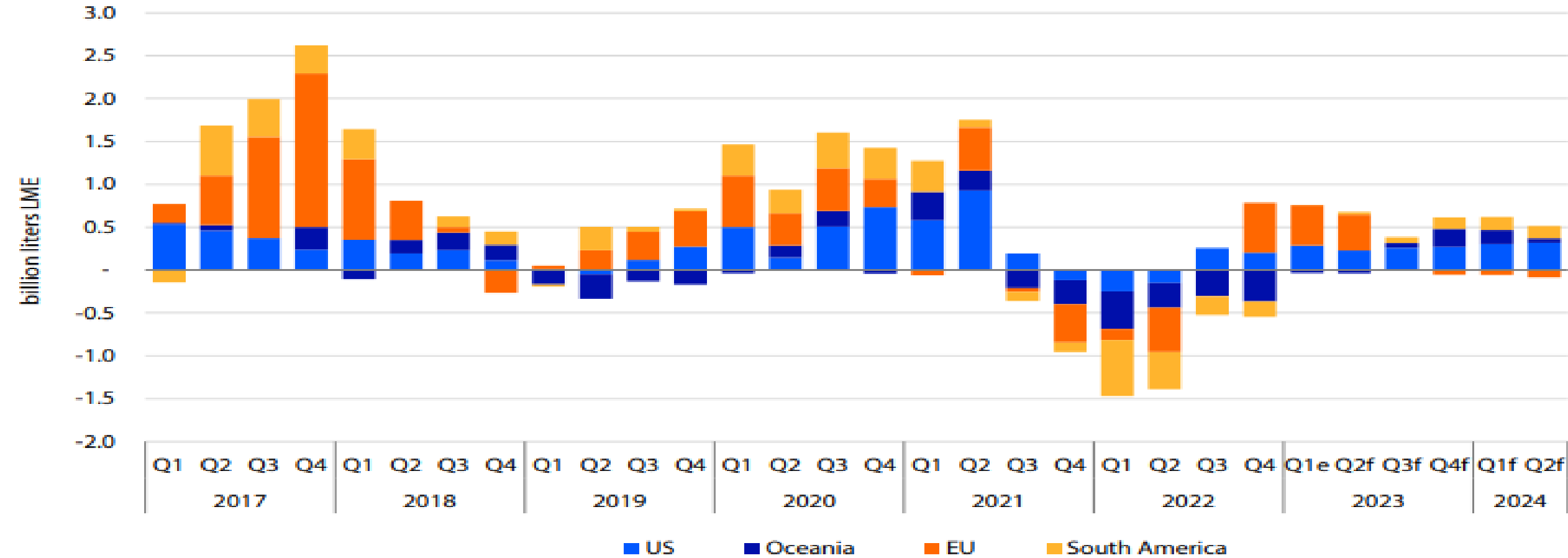
U.S. soybean supply and use changes for 2022/23 include higher exports, lower crush, and reduced ending stocks compared with last month's report. Soybean exports are raised 25 million bushels to 2.02 billion based on higher-than-expected shipments through February. Soybean crush is reduced on a small reduction in domestic soybean meal disappearance combined with a higher extraction rate. With higher exports more than offsetting lower crush, ending stocks are reduced 15 million bushels to 210 million. If realized, ending stocks would be the lowest in seven years. With relatively strong domestic demand for soybean oil limiting export competitiveness, U.S. soybean oil exports are reduced 200 million pounds to a historically low 500 million. Higher domestic use and reduced production are offsetting, leaving soybean oil stocks unchanged this month.

The U.S. season-average soybean price forecast for 2022/23 is unchanged at \$14.30 per bushel. The soybean meal price is forecast at \$465 per short ton, up 15 dollars. The soybean oil price is reduced 2 cents to 66.0 cents per pound. Global 2022/23 oilseed supply and demand forecasts include lower production, crush, and stocks. Global oilseed production is reduced 6.8 million tons to 629.9 million, mainly on lower soybean and sunflower seed production for Argentina partly offset by higher Australia rapeseed production. Soybean production for Argentina is lowered 8.0 million tons to 33.0 million on dry and hot weather conditions. Uruguay soybean production is also lowered 0.2 million tons to 2.1 million. Australia rapeseed production is increased 1.0 million tons to 8.3 million on higher area and yield. Global oilseed trade is up 1.9 million tons to 199.9 million on higher rapeseed and soybean exports. Rapeseed exports are increased for Australia and Ukraine, in line with higher imports for the EU and Pakistan. Soybean exports are higher for Brazil and the United States, and imports are higher for Argentina to partly offset production losses. Soybean imports are also raised for Iran and Turkey. Global 2022/23 oilseed crush is lowered 3.3 million tons to 526.3 million, mainly on a slower-than-expected soybean crush pace for China and lower available soybean and sunflower seed supplies for Argentina. Lower Argentina vegetable oil exports are offset by higher shipments of palm oil from Malaysia and sunflower seed oil from Turkey, Russia, and Ukraine. Global soybean ending stocks are lowered 2.0 million tons to 100.0 million, with lower stocks for Argentina, Brazil, and the United States that are partly offset by higher stocks for China. Cheese prices are lowered as supplies are expected to be relatively large and domestic demand is projected to be relatively soft. Butter prices are raised on recent data. Nonfat dry milk prices are unchanged, with a weaker first quarter offset by a stronger fourth quarter. Whey prices are raised on recent price observations and stronger expected demand. With the changes in component prices, Class III prices are projected lower, while Class IV prices are projected higher. The all milk price is projected lower at 20.45 per cwt.

<u>Commodity</u>	<u>Global End Stocks 2022/23 (MMT)</u>	<u>Total Global Consumption MMT</u>	<u>Global Stocks to Use Ratio</u>	<u>US Stocks to Use Ratio</u>
Corn	296.46	1156.75	25.63%	9.70%
Wheat	267.2	793.19	33.69%	29.89%
Rice	173.32	519.95	33.33%	24.63%
Soybeans	100.01	371.13	26.95%	4.80%
Sugar	45.36	178.84	25.36%	13.50%
Cotton mm bales	91.15	110.11	82.78%	30.00%



# Global Milk Producers – US/Oceania Turn Positive



- Milk productivity from the 'Big Five' increased 0.3% in December 2022. EU milk production pushed 1.0% higher in Dec '22, the fourth consecutive month of growth. US milk production increased 0.6% in Dec, and pushed 1.3% higher in January '23, the seventh consecutive month of growth. New Zealand milk production eased gained 0.6% in December, on a milk solids basis (DOWN 0.6% on a tonnage basis), while January's milk solid production increased 1.9% (UP 1.2% on tonnage basis).
- The surprise for the market was Argentina's growth in Jan, posting a 3.5% YoY gain, amid ongoing drought conditions.
- Australian milk production fell 3.6% in Jan. with season to date production now lagging nearly 7% behind the previous season; a trend unlikely to reverse in the near term. European sources are estimating a ~0.8% growth figure from the European Union in January as only half the data is out, though growth was notable from Germany, gaining 3.6% from prior year

# Elephant in the Room– World Trade Slowing???



## Top Milk Equivalent Importers ('000 MT)

	Dec-22	YoY Change	12 Month Rolling	12 Month Change
World	6,780	-0.2%	74,099	-4.5%
China	1,704	-2%	16,526	-19%
Mexico	447	32%	4,749	9%
Indonesia	257	-5%	4,154	13%
Japan	299	7%	3,129	6%
Algeria	303	52%	2,833	19%
Malaysia	171	-15%	2,301	-2%
South Korea	172	1%	2,207	7%
United States	197	18%	2,023	2%
Thailand	176	-12%	1,994	-1%
All Other	3,054	-5%	34,183	-3%

	NZ	EU-28	US	AU	AR	Other
Source of Imports (12 Month Rolling)	29.2%	37.7%	24.6%	4.3%	3.3%	0.9%
(Shares 1 Year Ago)	30.3%	38.9%	22.0%	4.3%	3.0%	1.5%

- Global imports were roughly flat YoY in December.
- Shipments to China were down 2.5% in December while exports to everyone else were up 0.6%.
- While China has generally been weak, we've seen shipments to other countries 1% - 2.5% above last year during the second half of 2022 and some models are suggesting imports by countries other than China should be up about 5% in 2023.
- There are still mixed signals on China. They have been a little more active at GDT auctions, but domestic milk production remains strong and domestically produced WMP is abundant and cheaper than imports.
- There is not a strong belief that imports are going to surge higher any time soon, but we are expecting them to stabilize from the long downtrend we've been on.





# Feb/YTD Chinese Imports – “Some Pick-Ups?”

## February 2023 China Dairy Import Volumes

Source: China Customs Statistics

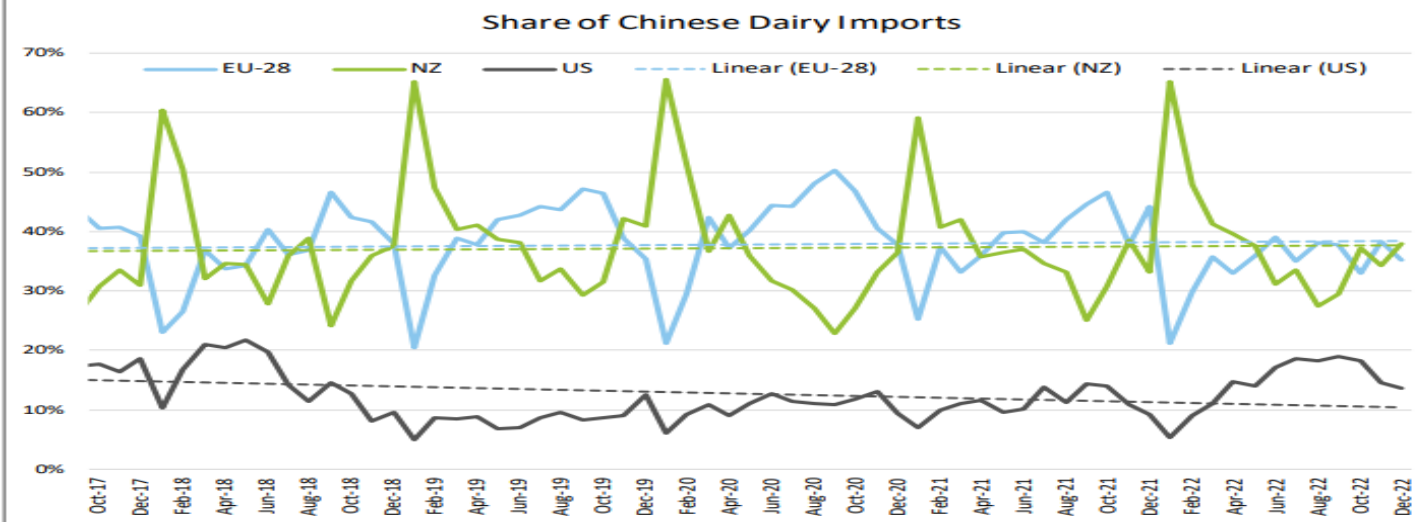
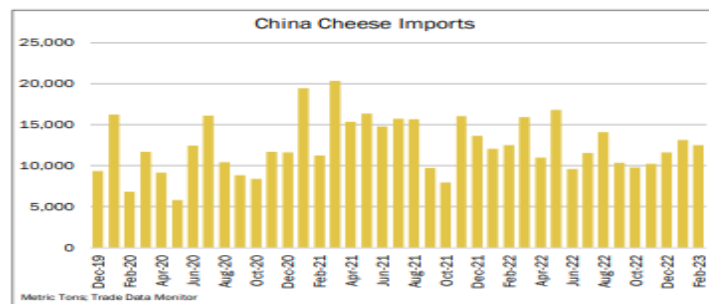
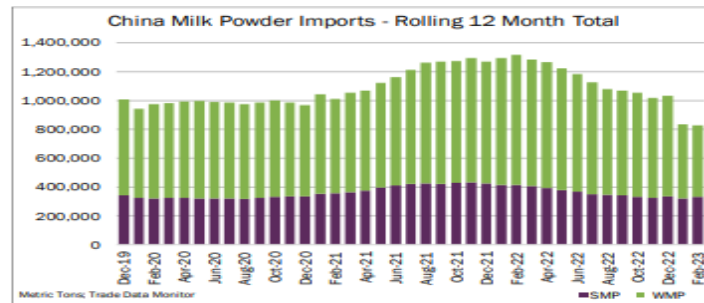
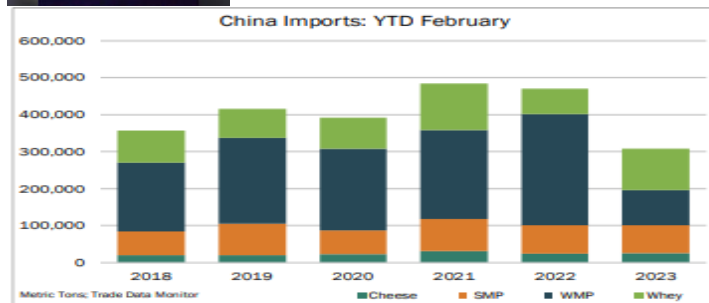
Commodity	Actual (metric tons)	Actual (million pounds)	vs last yr	vs last mo**	YTD vs prev yr**	YTD vs. prev year (in MT)**	vs two years ago
Whole Milk Powder*	49,089	108.2	- 31.1%	+ 17.5%	- 67.3%	(200,595)	- 3.3%
Skim Milk Powder*	40,458	89.2	+ 42.9%	+ 30.7%	- 0.3%	(268)	+ 50.3%
Combined WMP/SMP*	89,547	197.4	- 10.1%	+ 23.1%	- 53.6%	(200,863)	+ 15.3%
Whey Products***	51,561	113.7	+ 52.6%	- 6.4%	+ 62.0%	43,745	- 7.3%
WPC 80+	1,385	3.1	- 40.8%	- 48.4%	- 12.3%	(612)	- 35.2%
Lactose	8,602	19.0	+ 42.5%	- 20.5%	+ 34.5%	5,282	+ 88.4%
Butter	6,280	13.8	- 15.1%	- 25.8%	- 24.2%	(5,029)	+ 11.8%
Anhydrous Milk Fat	2,107	4.6	- 41.0%	- 30.7%	- 16.8%	(1,117)	+ 78.1%
Infant Formula	24,318	53.6	+ 37.4%	+ 7.4%	+ 35.2%	13,087	+ 42.4%
Fluid Milk & Cream	50,544	111.4	- 38.3%	- 14.4%	- 39.9%	(77,812)	- 37.6%
Cheese	12,511	27.6	+ 0.1%	+ 5.7%	+ 4.0%	1,006	+ 11.4%

Total Chinese whole milk powder (WMP) import volumes declined by 80% (-182,737 metric tons) versus prior year to 46,253MT, while February’s total imports eased by 31% (-22,169MT) to 49,089MT. This brought the year-to-date decline to 67% versus Jan-Feb 2022.

Skim milk powder (SMP) imports flipped over the two months, with January’s volume falling 28% YoY (-13,720MT), while February’s imports bounced by 43% YoY (+ 12,143MT). Market share of SMP imported into China is steadily changing, with New Zealand’s share falling in January to 53%, from 64% the year prior. US SMP market share increased the most, shifting from 5.5% in Jan ’22 to 11.5% this year. SMP year to date imports at the end of February were almost flat, down 0.3%

Whey imports have grown in annual comparisons but are still lagging the market highs recorded in 2021. Jan ’23 whey imports lifted 72% YoY on 61,007MT (+25,515MT), with US-sourced product as China’s #1 supplier, taking 56% of market share. Feb ’23 whey volumes grew by 53% vs. prior year to 51,561MT (+17,783MT), with the US again the largest supplier at 42% share.

# US Imports to China “Pluses & Minuses”



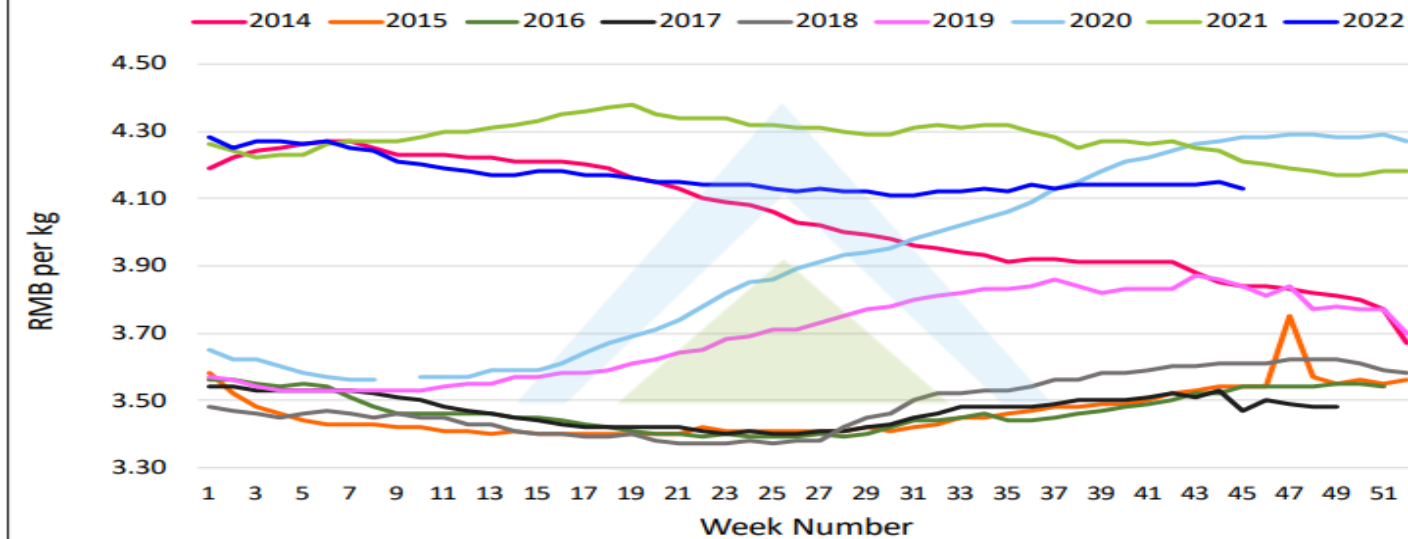
- December imports were mixed but turned positive across a few key commodities. Most notably, SMP imports were the strongest for the month in nine years.
- Despite a slightly better December, Q4 2022 ended up being the weakest quarterly dairy imports reported from China in three years with the entire calendar year recording the same statistic – the lowest volumes since 2019.
- While a weaker year due to strong internal production and lower consumption, total imports from the US reached an all-time high, led by whey and lactose demand needs.
- Of the top 20 suppliers throughout 2022, there were only two that reported an increase over prior year, the US and the Netherlands (infant formula).
- Fluid milk volumes-maintained losses into the end of the year as demand for domestic brands strengthened throughout the pandemic and there has been plenty of production internally to meet demand needs
- Earlier this month, local news sources in China were reporting that the dairy industry was facing an overproduction issue due to weak consumer demand. Dairy farmers in multiple provinces, including Hebei, Inner Mongolia, and Shandong, are witnessing difficulties in selling fresh milk and are facing losses amid low selling prices. Headlines are confirmation of what has been presumed given the rather weak import volumes throughout 2022 versus the strength observed in 2020 and 2021. While a more longer-term issue, China’s population crisis has also come back into the spotlight as China’s declining birthrate creates concern around milk powder demand. China’s leaders have offered tax deductions, longer maternity leave and housing subsidies to encourage people to have more babies, but the measures have not been effective. The combination of these negative-leaning headlines for the dairy industry has continued to make it difficult to forecast a return to normal for China’s dairy imports this year but low prices abroad are sure to being a resurgence of stock-building with it into the second half of 2023.

Most experts maintain that it will take some time for China’s demand to fully resurface as the country opens back up. While the population crisis in concerning, the real increase in dairy demand will come from a continued rise in per capita consumption, which remains light versus the rest of the world. In the near-term, there are still plentiful inventories internally that will meet needs, but China will turn to stronger import volumes in the second half of 2023



# Does China Want More Milk??

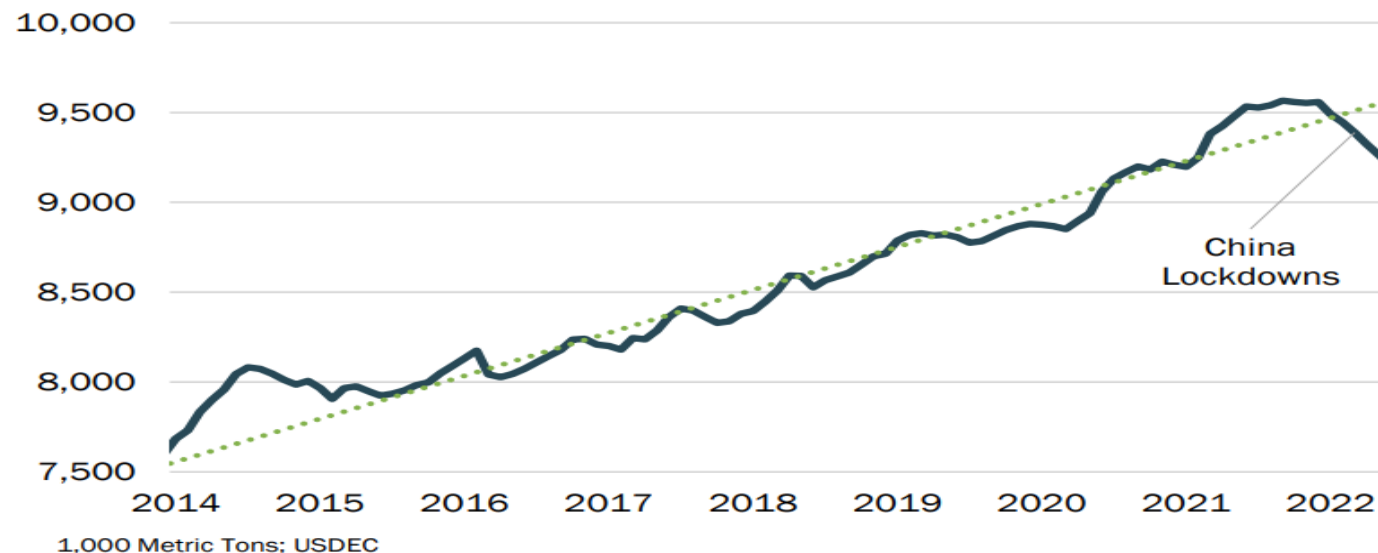
China's Raw Milk Prices  
(Source: Ministry of Agriculture of the People's Republic of China)



- China's economic situation and policy choices have suppressed dairy demand growth.
- The last time Chinese milk prices were at this level, Class IV milk was below \$14 per hundredweight in the United States

- Lack of Chinese demand is slowing world exports
- With lower domestic prices – is China asking for more internal production?
- China's whole milk powder (WMP) production increased to highs not observed since March 2020 into September, reportedly 70,000MT, UP 46% from prior year. Conversely, domestic consumption rates fell to lower levels not seen since April 2020, a key component to bearish demand sentiment. Skim milk powder (SMP) stocks dropped slightly from the August increase, remaining relatively elevated. Like WMP, domestic SMP consumption fell to 19-month lows.
- While small in comparison, SMP production was also quite high at 4,000MT, the highest reported since Feb 2020. After six weeks of steady movement, China's domestic raw milk prices have lifted to six-month (23-week) highs as input costs and transportation issues due to COVID lockdowns may be digging into production strength into the end of the year.
- While per capita consumption has room for growth, new births in China are still on the radar as they are set to fall to record lows this year, demographers say, dropping below 10 million from last year's 10.6 million - which was already 11.5% lower than 2020. Reasons for not having children are mostly focused on costs as demographers cite high education costs, low wages and notoriously long working hours, along with frustration over COVID curbs and the overall state of the economy

Milk Solids Exports to World (Rolling 12 Months)







# January NZ Exports – “Green”

January 2023 New Zealand Export Volumes

Commodity	Actual (metric tons)	Actual (million pounds)	vs last yr	vs last mo**	Calendar YTD vs prev yr**	YTD vs. prev year (in MT)**	vs two years ago	Season to Date Vs Prev Year (In MT)
Whole Milk Powder*	125,945	277.7	+ 7.2%	- 20.1%	7.2%	8,182	- 14.4%	(111,630)
Skim Milk Powder*	51,303	113.1	+ 69.9%	+ 2.2%	+ 69.9%	20,426	+ 62.7%	50,901
Combined WMP/SMP*	177,248	390.8	+ 20.0%	- 14.7%	+ 20.0%	28,608	- 0.8%	(60,729)
Anhydrous Milkfat	17,159	37.8	+ 27.8%	- 24.0%	+ 27.8%	3,612	- 4.8%	31,668
Butter	26,192	57.7	+ 10.4%	- 22.9%	+ 10.4%	2,390	+ 6.0%	29,254
Buttermilk Powder	5,365	11.8	89.3%	+ 35.5%	+ 89.3%	2,450	+ 163.9%	4,020
Fluid Milk & Cream	33,280	73.4	- 16.2%	- 13.9%	- 16.2%	(6,231)	- 25.1%	(2,034)
Cheese	36,625	80.7	+ 14.4%	- 10.8%	+ 14.4%	4,453	+ 4.7%	11,058
Caseinates	2,562	5.6	+ 11.1%	- 10.3%	+ 11.1%	248	- 2.8%	(66)
Casein	5,362	11.8	- 12.6%	- 9.9%	- 12.6%	(750)	+ 26.1%	(153)
Infant Formula***	5,838	12.9	+ 11.5%	- 32.6%	+ 11.5%	582	+ 80.3%	7,194
Lactose	2,705	6.0	+ 33.0%	+ 30.2%	+ 33.0%	649	+ 33.2%	4,525
WPC 80%+	2,124	4.7	+ 9.7%	- 30.7%	+ 9.7%	182	+ 20.3%	(2,691)

January 2023 New Zealand Import Volumes

Palm Kernel Expeller (PKE)	172,528	380.4	- 20.7%	+ 4.5%	- 20.7%	(43,555)	+ 31.8%	(23,546)
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January was an impressive month for New Zealand export volumes, which makes sense considering the significant consolidation in global dairy prices at the beginning of Q4. The lower prices brought pockets of demand back into the marketplace, aided by a slightly lower US dollar, but the lack of presence from Southeast Asia on the Global Dairy Trade (GDT) platform in November means a lot of this was booked off auction. China however, purchased very large SMP volumes on GDT in November, nearing ten-year highs. Price consolidation on GDT was paired with weak export commitments from Europe throughout Q4, pushing buyers to Oceania for needs into the beginning of 2023.

Total dairy exports (commodities listed on table) to Southeast Asia reached an all-time high in January as strong milk powder volumes sailed to the region last month. At 25,715MT, skim milk powder (SMP) exports jumped 53% from prior year, the highest in seven years (Feb 2016). Whole milk powder (WMP) accounted for the largest volume with exports rising 27% from prior year to 36,547MT, a four-year high. In fact, gains were reported on every single commodity over prior year levels except fluid milk & cream.

Skim milk powder exports rose to the highest volume since November 2022 driven primarily by increased shipments to China (+11,395MT or +150% YoY). Shipments also jumped to Vietnam (+5,673MT or +376% YoY), Indonesia (+2,015MT or +38% YoY), and the Philippines (+727MT or +70% YoY). While exports declined to United Arab Emirates (-400MT or -53% YoY), Libya (-227MT or -70% YoY), and Ghana (-277MT or -81% YoY) the large volumes seen to China and Southeast Asia were enough to overcome minor losses to a handful of countries in the Middle East and Africa.

Cheese exports marked the highest January volume since 2016 due to increased shipments to the top three destination countries China (+1,285MT or +14% YoY), Japan (+446MT or +8% YoY), and South Korea (+2,303MT or +82% YoY) despite New Zealand prices carrying a hefty premium compared to the US and Europe. Higher shipments were also seen to Philippines (+660MT or +68% YoY), Malaysia (+594MT or +63% YoY), and Indonesia (+563MT or +94% YoY) with marginal declines observed to Australia (-491MT or -14% YoY), and Chile (-748MT or -90% YoY). The end of the New Zealand season is set to be filled with plenty of milk to meet demand/committed sales, which will keep exports strong through May. Just when product begins to tighten up on GDT, Spring Flush will be in full swing in the Northern Hemisphere, which is keeping European dairy commodities at a competitive price level against the rest of the world and push buyers to the EU as a result.



# Agenda

- Macro Economics
  - What's Different?
- Supply/Demand
  - Global
  - US
- Deeper Dive
  - Butter
  - Cheese
- Pricing Implications / Forecast's



# European Milk Production – “Improving”

EU Milk Production											EU-27 + UK Milk Production: January 2023				
	EU-28		Germany		France		Netherlands		Ireland		Member State	Production	Billion	*Vs Last	*YTD vs.
	Output	YOY	Output	YOY	Output	YOY	Output	YOY	Output	YOY		(1,000 MT)	Pounds	Year	Last Year
Feb-22	12,200	+0.1%	2,484	-0.6%	1,923	-0.7%	1,068	-1.3%	378	+4.3%	Germany	2,772	6.1	3.6%	3.6%
Mar-22	14,075	-1.3%	2,778	-1.4%	2,179	-0.6%	1,187	-2.2%	833	-2.5%	France	2,046	4.5	-1.4%	-1.4%
Apr-22	14,079	-1.5%	2,685	-2.6%	2,146	-1.8%	1,154	-2.4%	1,086	-0.6%	U.K.	1,245	2.7	0.9%	0.9%
May-22	14,629	-1.7%	2,826	-1.8%	2,204	-1.4%	1,207	-0.5%	1,201	-1.3%	Netherlands	1,212	2.7	4.7%	4.7%
Jun-22	13,803	-0.6%	2,704	-0.2%	1,997	-1.7%	1,148	+1.8%	1,089	-0.9%	Poland	1,096	2.4	1.6%	1.6%
Jul-22	13,811	+0.1%	2,748	-0.6%	1,973	-0.1%	1,164	+2.3%	1,053	+0.5%	Italy	1,057	2.3	-3.7%	-3.7%
Aug-22	13,348	-0.4%	2,681	-0.1%	1,877	-2.4%	1,148	+2.2%	946	+0.2%	Ireland	184	0.4	-2.4%	-2.4%
Sep-22	12,707	+0.8%	2,551	+1.2%	1,832	+0.5%	1,106	+3.9%	809	+1.2%	Denmark	482	1.1	0.9%	0.9%
Oct-22	12,961	+1.7%	2,611	+2.3%	1,943	+1.6%	1,140	+4.8%	713	+6.6%	Belgium	394	0.9	4.7%	4.7%
Nov-22	12,430	+2.0%	2,543	+3.9%	1,898	+1.1%	1,114	+5.1%	499	+4.1%					
Dec-22	12,753	+1.0%	2,662	+3.1%	1,976	-1.2%	1,168	+4.2%	291	+9.4%					
Jan-23	13,037	+0.7%	2,772	+3.6%	2,046	-1.4%	1,212	+4.7%	184	-2.4%					
12 - Months	159,834	+0.0%	32,044	+0.5%	23,994	-0.7%	13,816	+1.8%	9,082	+0.7%					

- After remaining elevated, European milk prices are on the way down. That could start to squeeze farm margins later this year. Milk price cuts are sparking chatter in Ireland, where the Irish Farmers’ Association reported that declines had eliminated producer premiums. The country’s output slipped 2.4% year-over-year in January, the first negative comparison since June 2022.
- In France - prices didn’t rise as high as in other major-producing countries – output continues to lag prior-year levels. February production declined by an average of 1.7% versus 2022.
- Still, production in some countries remains in positive territory. Germany’s January output climbed 3.6% year-over-year, the fifth consecutive month of increases.
- Early January figures are pointing to another month of 0.8% to 1.0% YoY growth for EU-27+UK milk production. The gains will have been driven by strong figures from Germany (+93,697 metric tons YoY), the Netherlands (+52,258MT) and to a lesser extent, Belgium (+17,100MT) & Poland (+16,994MT). Italian milk production posted a fourth consecutive year-on-year decline in January, easing 3.7% while France posted a 1.4% decline





# European Exports – “Remain Soft”

## January 2023 EU-27 + UK Export Volumes

Source: Eurostat

Commodity	Actual (metric tons)	Actual (million pounds)	vs last yr**	vs last mo	Calendar YTD vs prev yr**	YTD vs prev year (in MT)**
Skim Milk Powder*	63,530	140.1	17.5%	- 4.6%	+ 17.5%	9,174
Whole Milk Powder*	16,328	36.0	- 28.8%	+ 11.7%	- 28.8%	(6,380)
Combined WMP/SMP*	79,859	176.1	+ 3.8%	- 1.7%	+ 3.8%	2,794
Cheese	67,313	148.4	- 10.0%	- 10.8%	- 10.0%	(7,219)
Whey Products	58,457	128.9	- 0.1%	- 0.4%	- 0.1%	(83)
Infant Formula	45,491	100.3	+ 25.0%	- 0.5%	+ 25.0%	8,797
Lactose	20,479	45.1	- 7.6%	- 2.8%	- 7.6%	(1,631)
Butter	16,863	37.2	+ 21.1%	+ 48.2%	+ 21.1%	2,843
Anhydrous Milkfat	1,851	4.1	- 6.7%	+ 31.9%	- 6.7%	(129)
Casein	3,285	7.2	+ 16.5%	- 34.1%	+ 16.5%	451
Fluid Milk & Cream	76,384	168.4	- 20.6%	+ 4.5%	- 20.6%	(19,201)
Fat Filled Milk Powder	28,404	62.6	- 1.9%	+ 17.2%	- 1.9%	(537)

It will not be difficult to outpace 2022 export volumes and given that Europe is at an advantage on the world stage when it comes to price on cheese, SMP and whey. 2023 should be a banner year – so long as the demand is there.

Anecdotally, there have been pockets of demand from the international marketplace, but buyers are not in a rush to procure needs given that milk will rise seasonally over the new few months. As long as the EU remains competitively priced, export growth will be reached throughout much of this year.

•Skim milk powder (SMP) exports increased nearly 18% (+9,174 metric tons) year on year in January, the largest volume of January SMP shipments since 2019. China remains the key SMP destination, with 15% market share (9,518MT), which is 68% more than last January. EU SMP shipped to Morocco and the United Arab Emirates both significantly improved, up 186% and 173%, respectively from Jan '22.

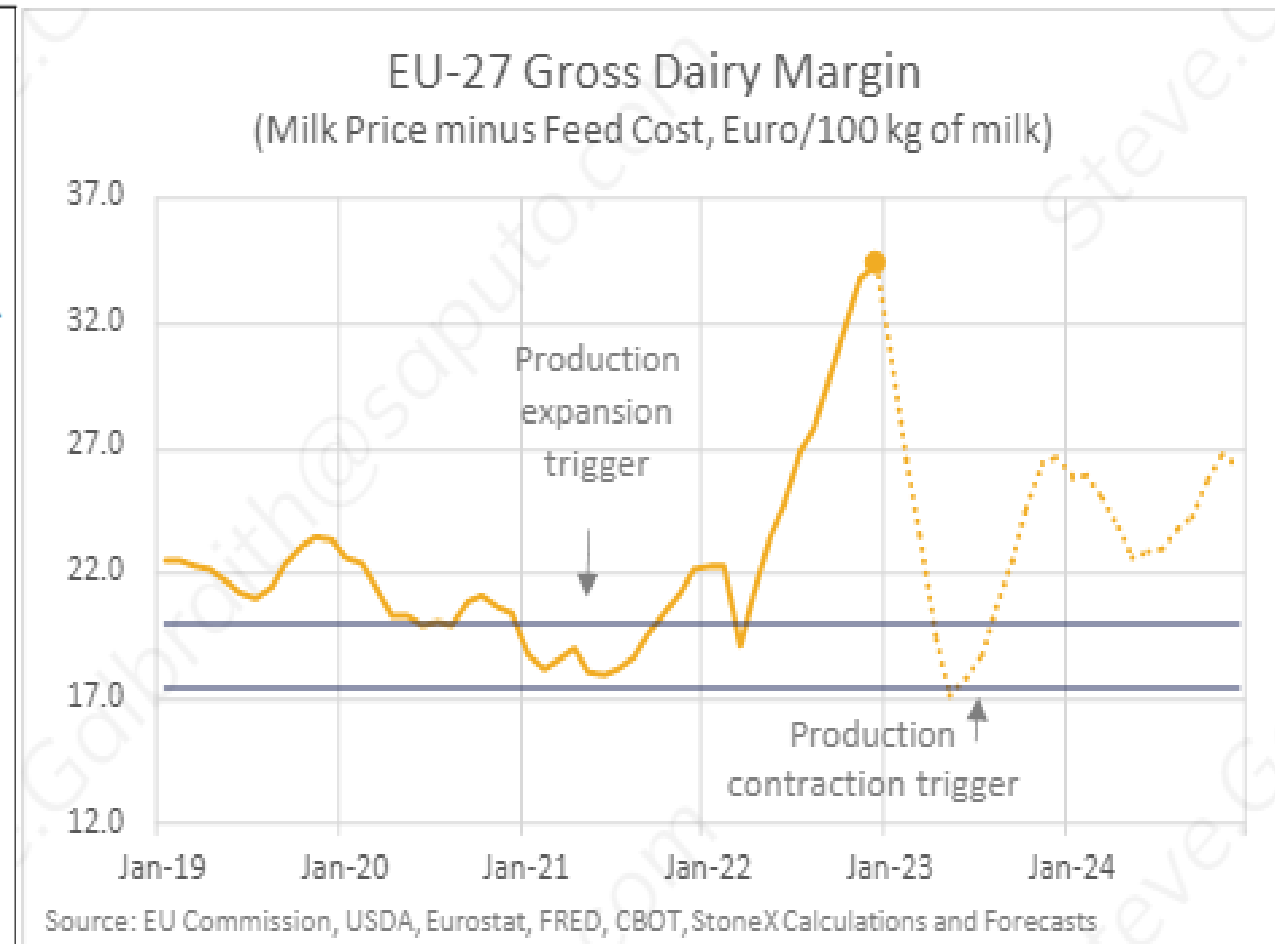
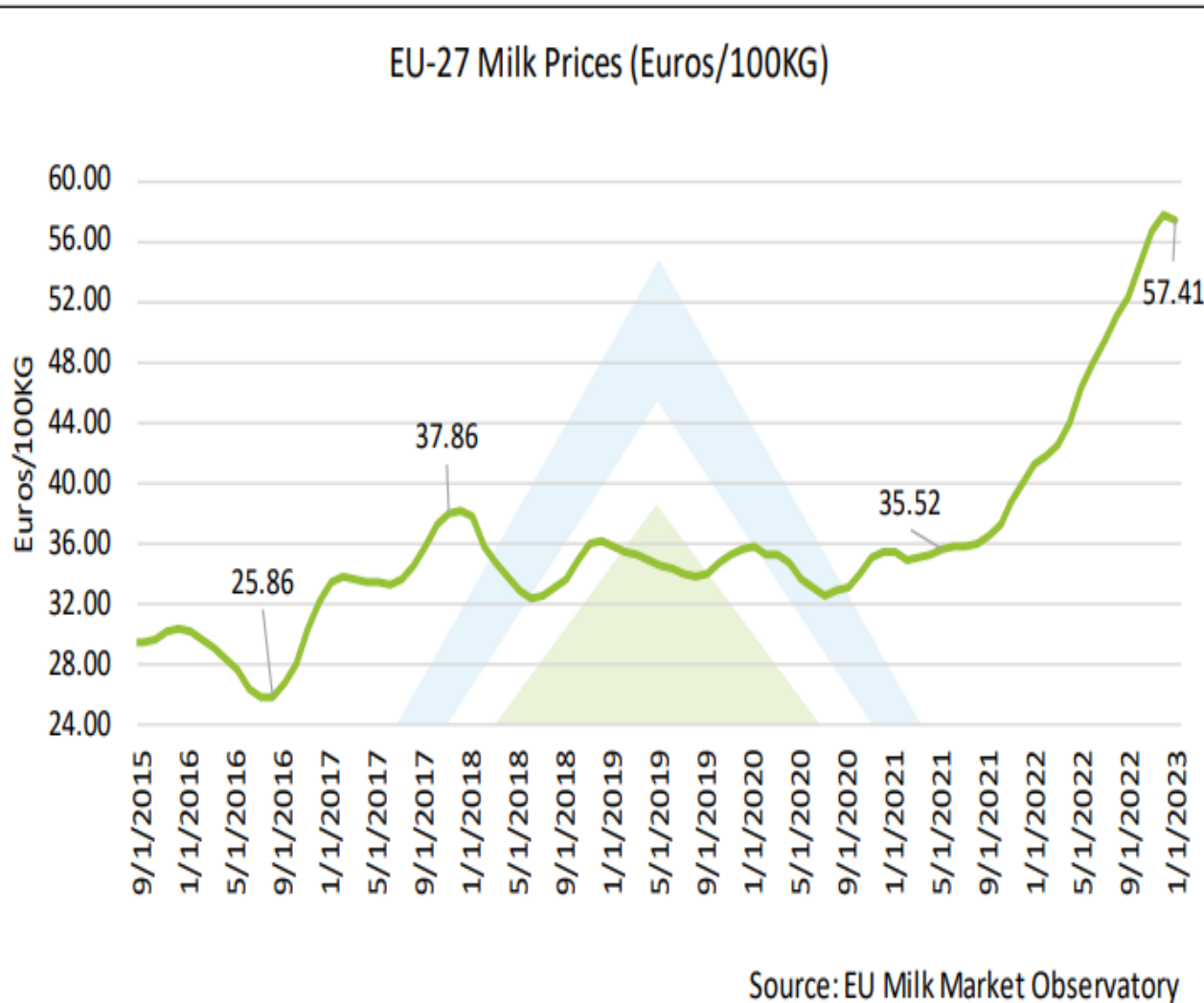
•Cheese exports declined 10% year on year (-6,948MT), the fifth consecutive decline for the world's largest cheese exporting region, marking the lowest volume of cheese exports in January since 2019, and the lowest monthly cheese export since December 2018. The United States became the largest destination of EU cheese, although exports fell 2% YoY (-159MT). Meanwhile, cheese destined for Japan fell 36% (-3,413MT) from Jan '22, which was previously Europe's largest destination. Export volumes to Ukraine slumped 53% YoY (-2,355MT).

•Infant formula exports to all destinations leapt in January, +25% YoY (+9,106MT), with volume to China UP 43% (+7,190MT), making up the bulk of the increase. Exports to Alegria gained 71% (+752MT) as did volumes to United Arab Emirates, +296% (+887MT). Infant formula exports from EU have been steady around the 44,000MT mark for three months now.

•Fluid milk and cream exports shrunk 21% in January versus prior year, with only 73,920MT (-19,841MT) shipped, the smallest monthly volume since March 2017. Exports to China were the key driver of this decline, DOWN 50% YoY (-23,317MT).



## Is This Trend Going to Continue?



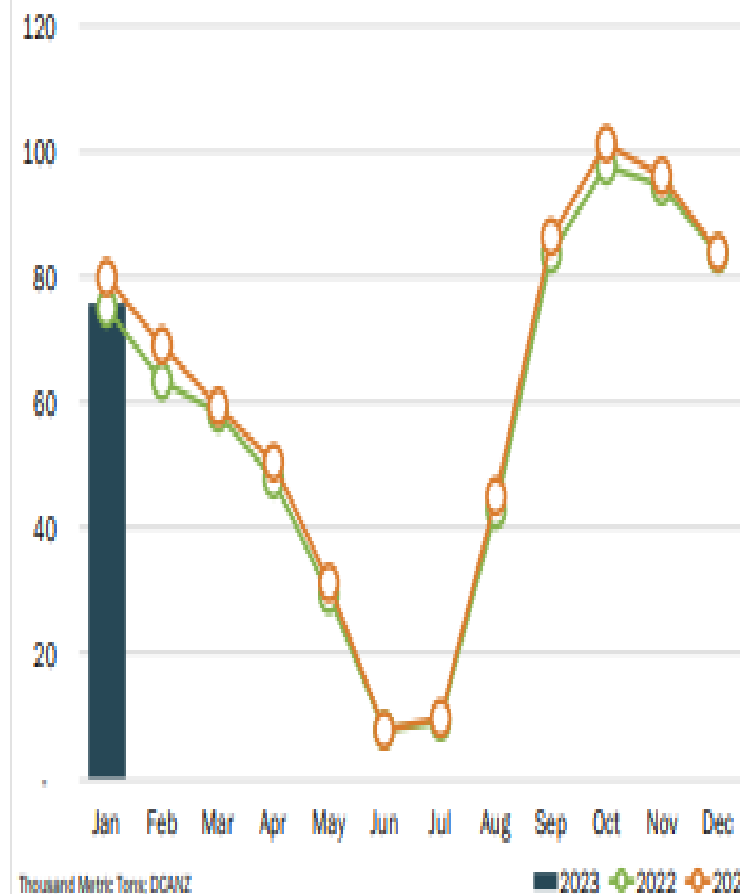
Headline EU-27+UK milk production in December is estimated up 1.1% from the previous year. That is a big slowdown from the 1.9% growth in November. However, the amount of fat and protein in the milk was very strong in December, pulling component adjusted production up 1.9%, which is an acceleration from the 1.5% component adjusted growth in November. That makes the production story for Europe a little murky. The headline numbers have been a little disappointing with headline growth decelerating (which likely continued into Jan/Feb), but with the strong components, there are still plenty of solids available for processing. Anecdotally, there is no shortage of milk.

These ~1% growth levels will be obtainable and realized throughout first half 2023, especially against unimpressive prior year comparable but tighter margins and the high probability for another summer drought with limit incremental milk into the second half of the year.

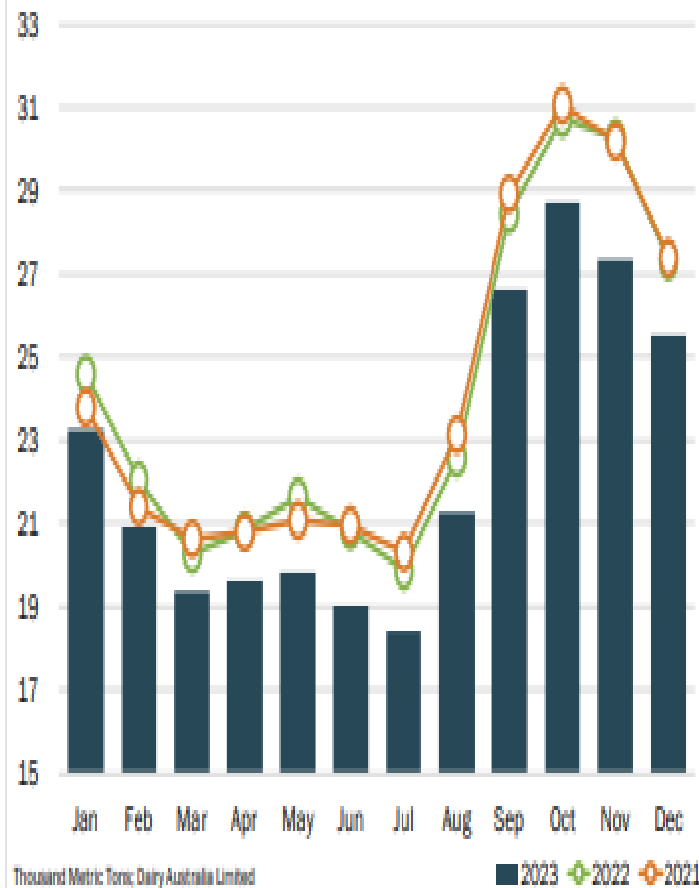


# Oceania Milk Production – “Winding Down”

Average Daily New Zealand Milk Production



Average Daily Australia Milk Production



Oceania Milk Production

	New Zealand		Australia	
	Output	YOY	Output	YOY
Feb-22	1,773	-8.2%	586	-5.2%
Mar-22	1,809	-1.9%	601	-4.3%
Apr-22	1,429	-5.6%	588	-5.8%
May-22	911	-6.5%	615	-8.4%
Jun-22	234	0.0%	570	-8.8%
Jul-22	288	-5.6%	570	-7.4%
Aug-22	1,329	-4.9%	660	-5.6%
Sep-22	2,507	-3.2%	798	-6.4%
Oct-22	3,025	-3.4%	890	-6.6%
Nov-22	2,834	-1.7%	820	-9.6%
Dec-22	2,588	-0.6%	791	-6.5%
Jan-23	2,352	+1.2%	695	-3.6%
12 - Months	21,079	-3.0%	8,183	-6.6%

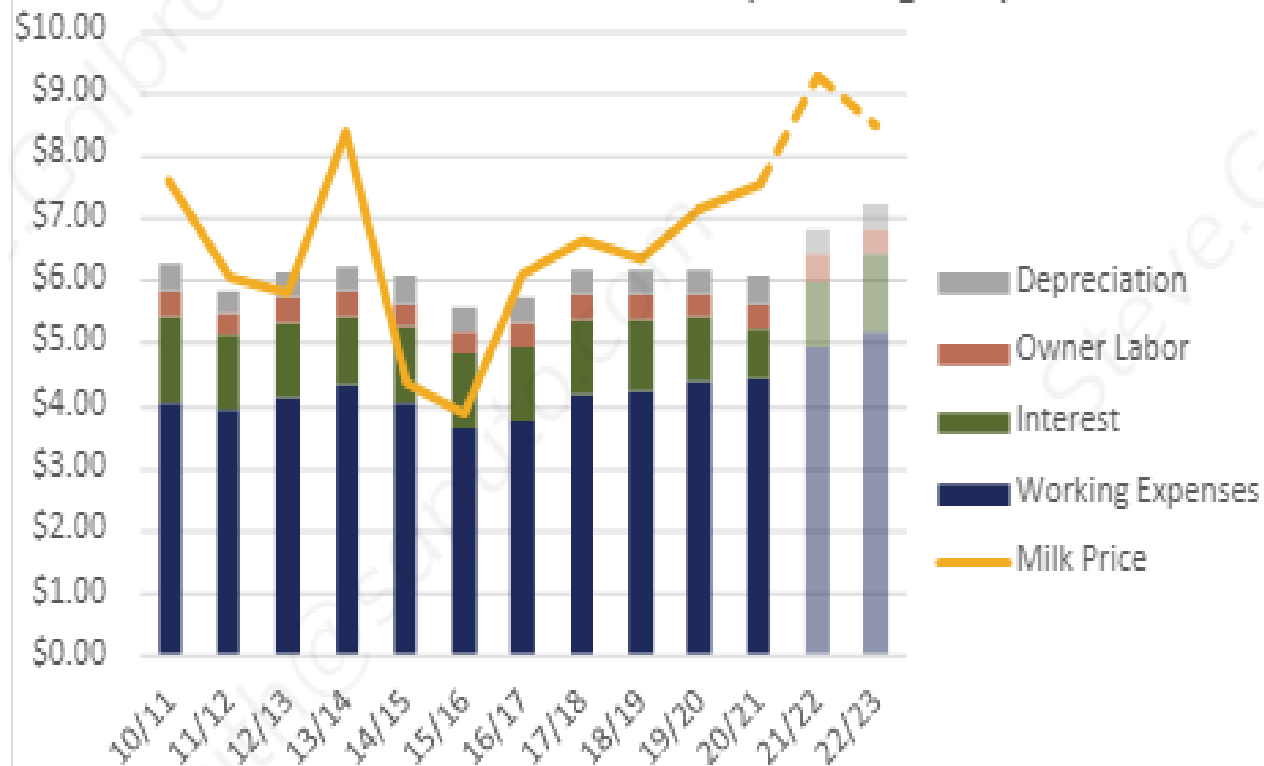
- Analysts expect New Zealand’s February output to top prior-year levels, thanks largely to good pasture conditions in key dairy-producing regions.
- In the wake of negative Global Dairy Trade events, NZX lowered its milk price forecast on the month. Estimates now sit at NZ\$8.57 per kilogram milk solids, down four cents versus the previous forecast.
- Australia’s streak of year-over-year drops continued in January, with higher supply chain costs weighing on margins. Output was down 3.6%. That’s the 14th straight month of declines, but it’s also the smallest drop since November 2021. Season-to-date, production is down 6.5% year-over-year and, so far, this is the lowest production year in five years.





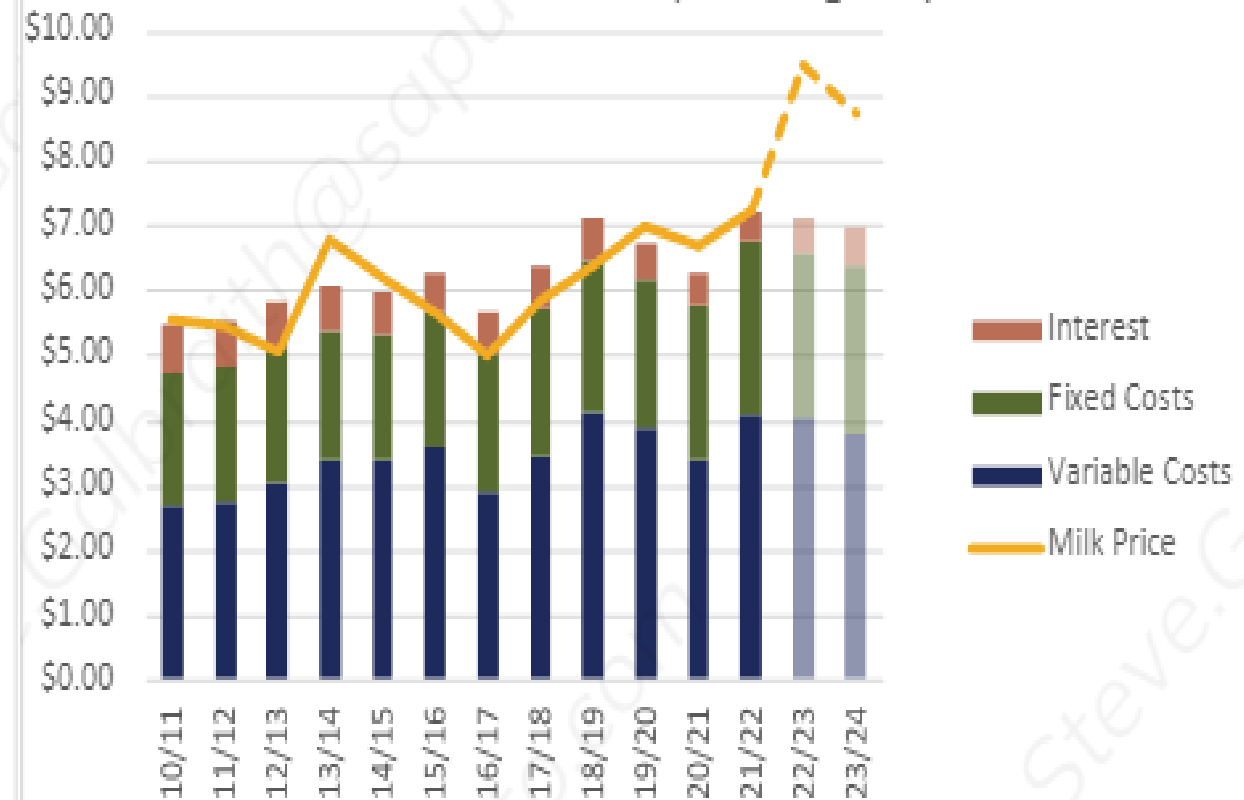
# Is This Trend Going to Continue?

## New Zealand Cost of Production and Fonterra Farm Gate Milk Price (NZD/Kg MS)



Source: DairyNZ, Fonterra, FRED, StoneX Calculations and Forecasts

## Victoria Australia Cost of Production and Farm Gate Milk Price (AUD/Kg MS)



Source: DairyAustralia, FRED, StoneX Calculations and Forecasts

New Zealand milk solids production for January was up 1.9% from last year, which was a little stronger than the +0.9% forecast. Production last January was down 6.1%, so most of the growth that we're seeing now is due to lapping over an easy comparison. The North Island turned very wet in late January with severe flooding while the South Island was trending dry. Cyclone Gabriel brought even more rain to the North Island in February. Despite that, February collections are expected to be up, but March will likely be down as we lap over very good weather in March of last year. The full season forecast is at -1.0% due to the uncertainties around the wet weather on the North Island, but with December and January coming in better than expected there is a chance the forecast could be revised higher.

Australia's headline milk production in December was a little stronger than expected, down 6.5% from the previous year compared to our forecast of -7.8%. Fat and protein levels in the milk were very close to year ago, putting component adjusted production down 6.5%, the same as the headline number. Dairy Australia made some regional revisions, moving milk out of Victoria and into Tasmania, but the national totals were unchanged. A smaller dairy herd and wet weather are continuing to hold back production this season. The full season forecast has slipped from -5.0% to -5.1%.



# Western Hemisphere– “Mixed”

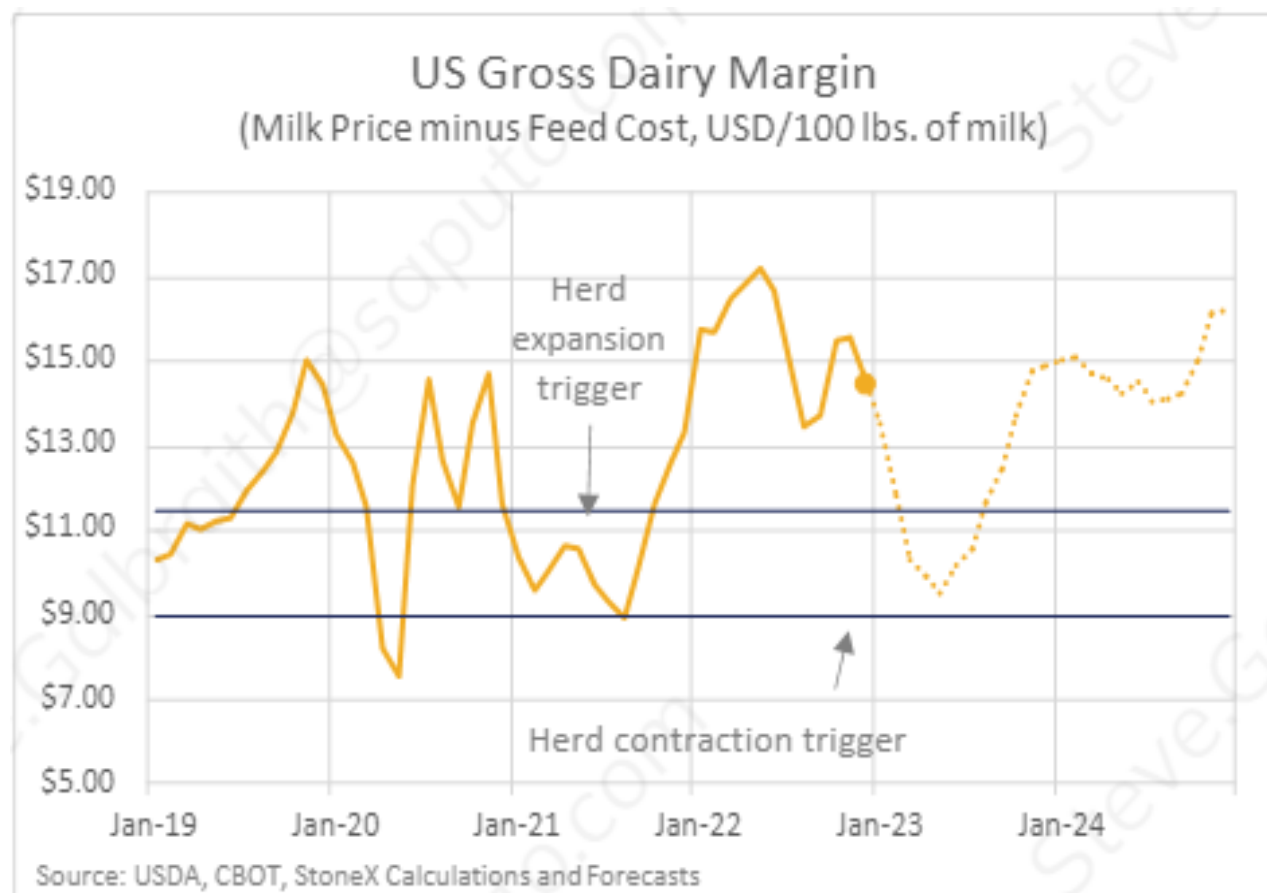
## North and South American Milk Production

	Canada		Mexico		Brazil		Argentina		Uruguay	
	Output	YOY	Output	YOY	Output	YOY	Output	YOY	Output	YOY
Mar-22	795	-1.9%	1,041	+2.1%	1,960	-9.9%	849	+2.5%	141	-1.8%
Apr-22	782	-0.5%	1,046	+1.6%	1,826	-6.2%	837	+2.0%	147	-1.7%
May-22	818	+0.9%	1,071	+2.5%	1,859	-5.2%	904	+0.4%	165	-2.1%
Jun-22	788	-0.2%	1,111	+1.8%	1,807	-6.5%	914	-0.7%	167	-1.1%
Jul-22	809	-0.7%	1,137	+1.7%	2,005	-1.7%	989	-1.0%	177	-4.4%
Aug-22	807	-0.1%	1,165	+2.1%	2,084	-0.2%	1,062	+0.6%	200	-1.7%
Sep-22	782	+1.0%	1,143	+2.3%	2,045	-1.6%	1,073	+0.3%	211	+2.1%
Oct-22	807	+2.2%	1,137	+1.5%	2,104	-1.7%	1,114	-0.2%	216	-1.7%
Nov-22	780	+2.5%	1,116	+1.0%	2,060	-4.4%	1,046	-2.9%	192	-0.9%
Dec-22	804	+3.7%	1,112	+1.7%	2,126	-3.6%	1,030	-1.6%	183	-1.8%
Jan-23			1,040	+1.6%			955	+3.5%	157	-1.3%
Feb-23			1,026	+1.7%						
12 - Months	9,480	+0.1%	13,144	+1.8%	23,854	-5.0%	11,590	+0.4%	2,087	-1.4%

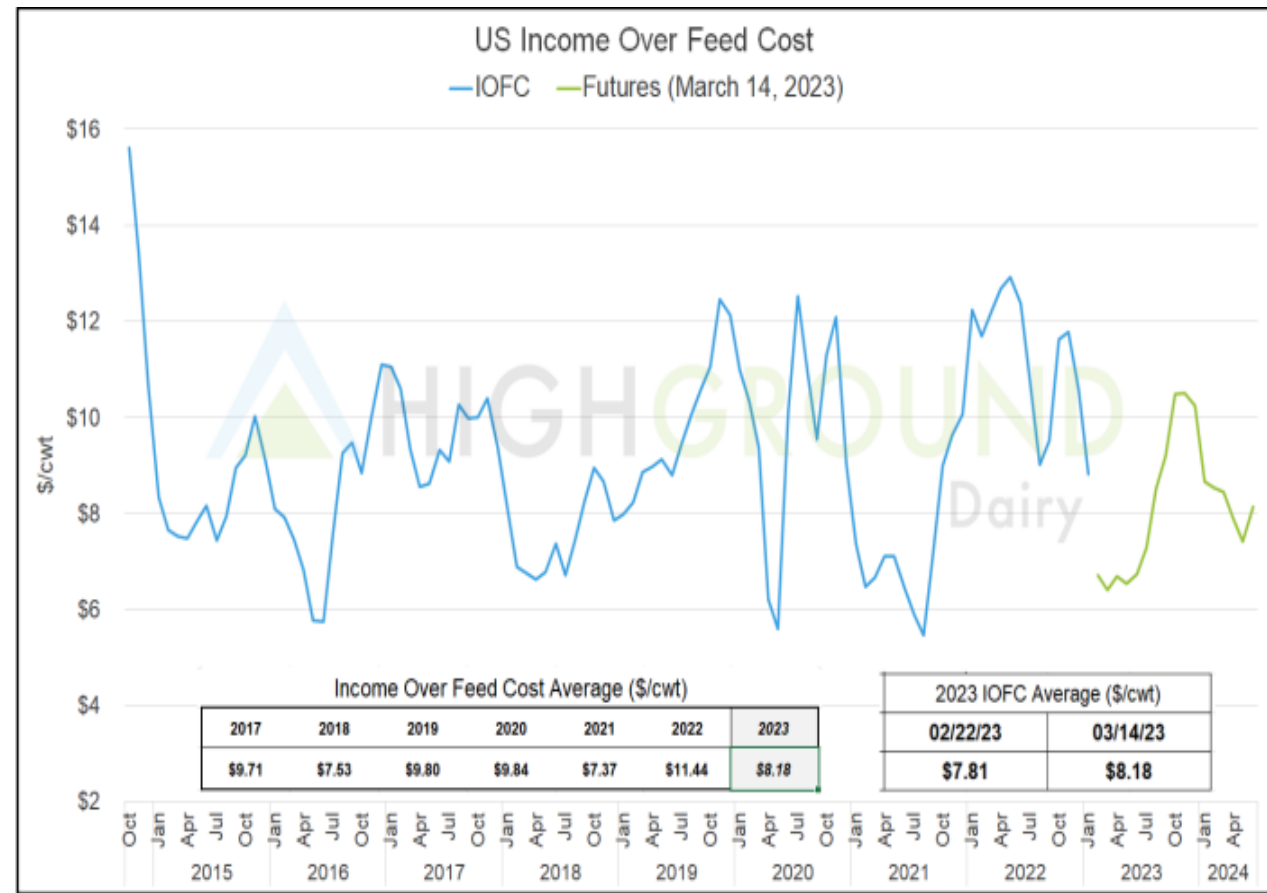
- Unfavorable weather continues to beleaguer Argentina, but milk prices remain firm, encouraging output – at least for now. Production climbed 3.5% in January, but analysts expect ongoing weather and production price challenges to cut into output in the months ahead.
- Dry conditions are squeezing dairy farm margins in Uruguay. Still, output for the month decreased 1.3% year-over-year, the fourth straight month of declines and the lowest January production total since 2020.
- Government data showed Mexico’s milk production advanced 1.7% in February. However, some reports continue to suggest the actual numbers may be lower, with the dairy industry undergoing some consolidation.



# Milk Production Should Be Growing?



January headline milk production for the U.S. was slightly weaker than forecast, up 1.3% compared to the forecast of +1.5%, and the USDA revised down December from +0.8% to +0.6%. The fat and protein content in the milk slipped in January, leaving component adjusted production up just 1.4%. The USDA also revised down the size of the dairy cow herd in November and December by 4,000 head, but cow numbers for January came in 6,000 head higher than forecast. The USDA is showing a 9,000-cow increase in the size of the dairy herd despite very strong dairy cow slaughter in January, which is a surprise. With margins falling we're still expecting the herd to decline through most of this year. We should still see decent year-over-year growth in February due to lapping over a weak comparable last year, but then milk production growth should slow significantly as we move through 2023



Income over feed costs (IOFC) for 2023 has improved since last month due to both a rally in Class III milk, but also a decline in corn prices. There is a steep curve in the deferred months, as milk futures trend higher while new crop corn is cheaper than nearby, creating more significant margins in the coming months. Q2 2023 estimated IOFC is \$6.65/cwt, with Q3 margins at \$8.33/cwt., and Q4 totaling \$10.41/cwt. (as of March 14th settlement). Q2 2023, if realized, would be the weakest figure since 2021, meaning margins will be tight for producers, and they will manage expenses and cow numbers to keep losses at a minimum. Current fundamentals suggest Q3 may decline from current levels. Furthermore, 2023's annual IOFC estimate is significantly lower than 2022 and in the bottom half of the range over the past six years.





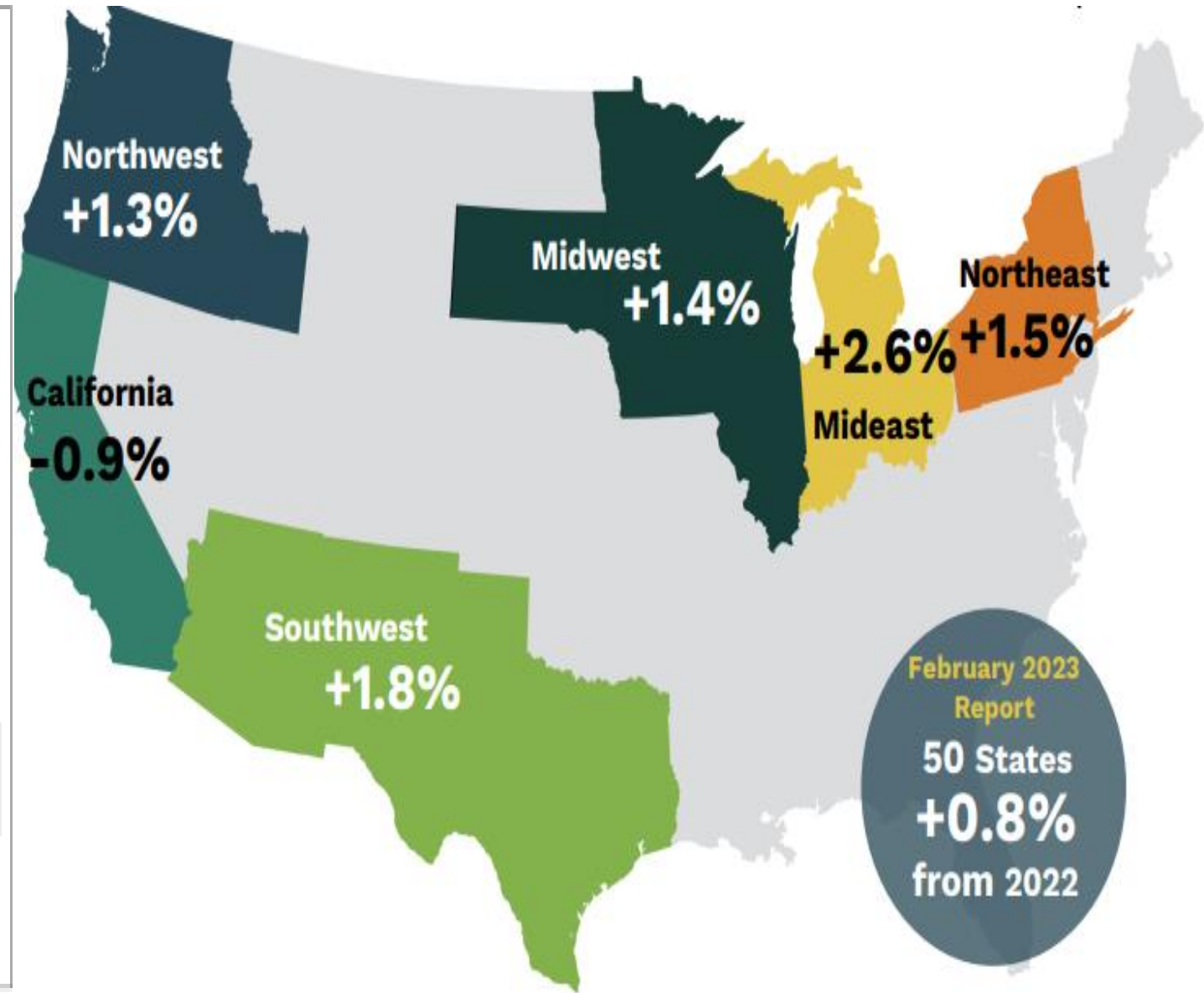
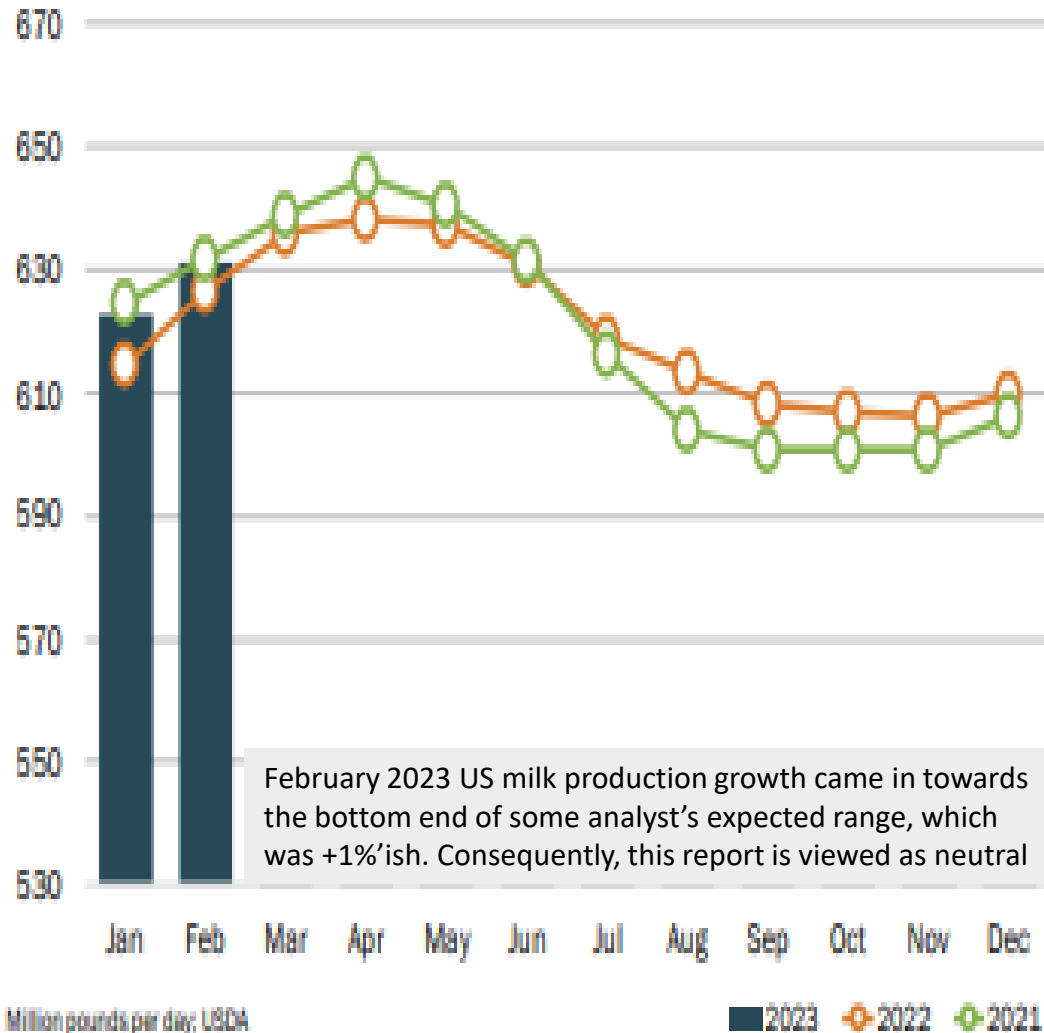
# Agenda

- Macro Economics
  - What's Different?
- Supply/Demand
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# February Milk Production “Mostly As Expected”

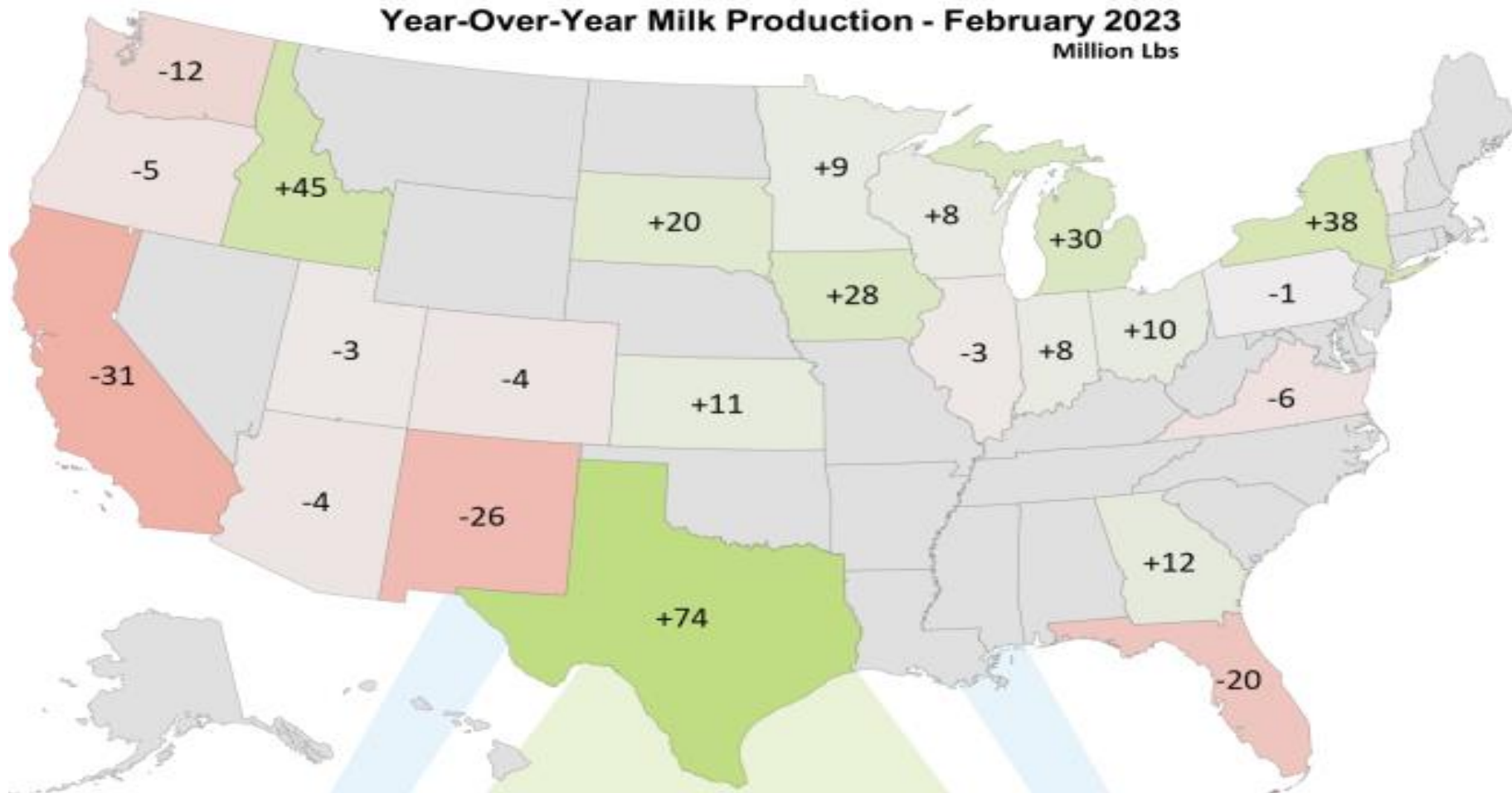
Average US Daily Milk Production



February 50-state milk production at 17.7 billion pounds, with daily output up 0.8% year-over-year.



# Milk Production Regionally “Mixed”?



Most of the Western US saw its milk production fall year-over-year. Arizona, California, Colorado, New Mexico, Oregon, and Washington's milk flows were 77 pounds less than in February 2022. Interestingly, milk per cow was mostly flat in all those states except California, where it decreased vs. prior year. Lower milk yields in the Golden State may have been driven by the wet weather at the end of January, carrying over in the form of herd health problems, e.g., mastitis and lowering output. Poor quality feed or cheaper rations could also impact productivity. So far in 2023, California's milk per cow has fallen in both months vs. 2022, and it was down annually in nine months of 2022, suggesting that producers may be managing costs at the expense of milk production. Idaho was the star of the West, as milk volumes soared 3.4% year-over-year due to both a strengthening milking herd and milk per cow growth as well.

Throughout the winter, spot load of milk in the Upper Midwest have been heavily discounted (\$4 to \$12/cwt under Class per last Dairy Market News report), and the basis is at a five-year low. February's milk production data reflect that sentiment with growth in those respective states. Indiana, Iowa, Michigan, Minnesota, South Dakota, and Wisconsin increased milk production annually. However, Wisconsin, the nation's number two dairy state, upped its milk volumes by a paltry 0.3% as herd size was smaller than in the same month in 2022. Milk per cow in America's Dairyland eked a gain of 0.5% from last year. Year-over-year increases in milk yields were <1% in Indiana, Iowa, and Minnesota, and they even declined in South Dakota. This suggests that heavily discounted spot loads may not entirely be a function of milk supplies, meaning processing plants may not be operating at full capacity, possibly due to weak demand or labor issues.

U.S. Milk production in February came within most forecasters' models to an anemic growth of 0.8% due to weaker Production Per Cow. Cow numbers overall were heavier than expected with the USDA reporting an increase of 12,000 head in February. Most experts were looking for a 1,000 head decline. For this report, the increase in cow herd could not compensate for the less than expected milk per cow. California posted the second month of lower YoY production in this report and Arizona has now joined them with lower production than last year. All told, twelve of twenty-four states saw weaker production versus February 2022. We'd place blame for the weaker-than-expected production on ration changes due to exorbitant costs of feeding animals coupled with poor weather (specifically California). Milk per cow realities may improve with better weather in the next few months (still questionable out in California), but the risk this report underscores is that production per cow is strained—likely due to on-farm economic circumstances—is occurring at a time when beef prices are quite strong in many regions of the country (specifically out West).

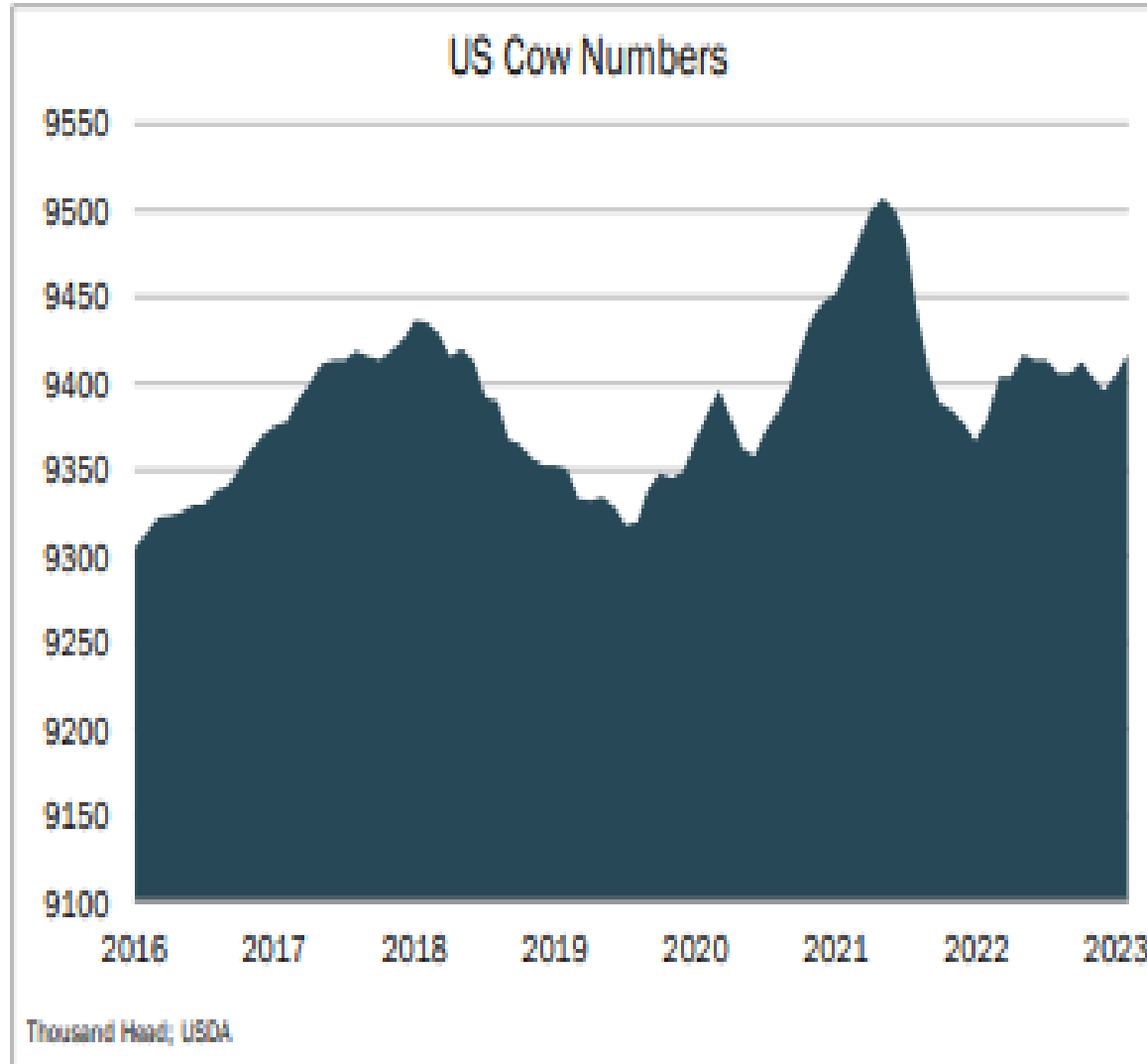


# Cow Numbers, Growth Rate Surprised Many

The biggest surprise was the continued increase in herd size on a monthly and annual basis. This was the second month in a row that numbers rose vs. prior month, now UP 21,000 head since the end of 2022. Most industry experts do not expect cow numbers to continue to grow past Q1 because of poor on-farm margins and the flooding in California, which will likely increase cull rates over time. The US milking herd will likely begin declining at some point in Q2.

Florida's cow numbers continue to shrink, while Georgia's are rising. At the start of 2022, Florida's herd was 103,000 cows, which has now fallen to 88,000. On the other hand, Georgia's cow numbers have increased by 7,000 during that time frame, totaling 94,000 as of the February report. With the proximity to each other, Florida cows may be moving to newer facilities in Georgia.

Texas also stood out, as production jumped 5.5% against Feb '22, and cow numbers stood at 655,000 head, climbing 3.5% annually. Texas cow numbers reached 655,000 for three months last year, the first time since the 1960s that the Lone Star State was home to that many dairy cows, indicative of the rapid expansion that has occurred in the last 15-20 years



## 50-State Cow Numbers:

- 9,417,000 head
- Up 12,000 head month-over-month
- Up 37,000 head year-over-year
- USDA also revised January's milk production slightly higher, the first positive revision to this report since July 2022

Neutral. US milk production increased 0.8% year-over-year, in line with our pre-report expectations.

Cow numbers increased 12,000 head month-over-month in February, in line with our model. It was both the largest monthly gain and largest herd size since May 2022. No major regional surprises. Solid growth in the Midwest and Southwest. The Mideast posted the largest year-over-year gain (+2.6%), though that compared against weakness last year.

**U.S. Milk Production UP 0.8% vs. Last Year**

**U.S. Milk Cows UP 12,000 vs. Last Month, UP 37,000 vs. Last Year**

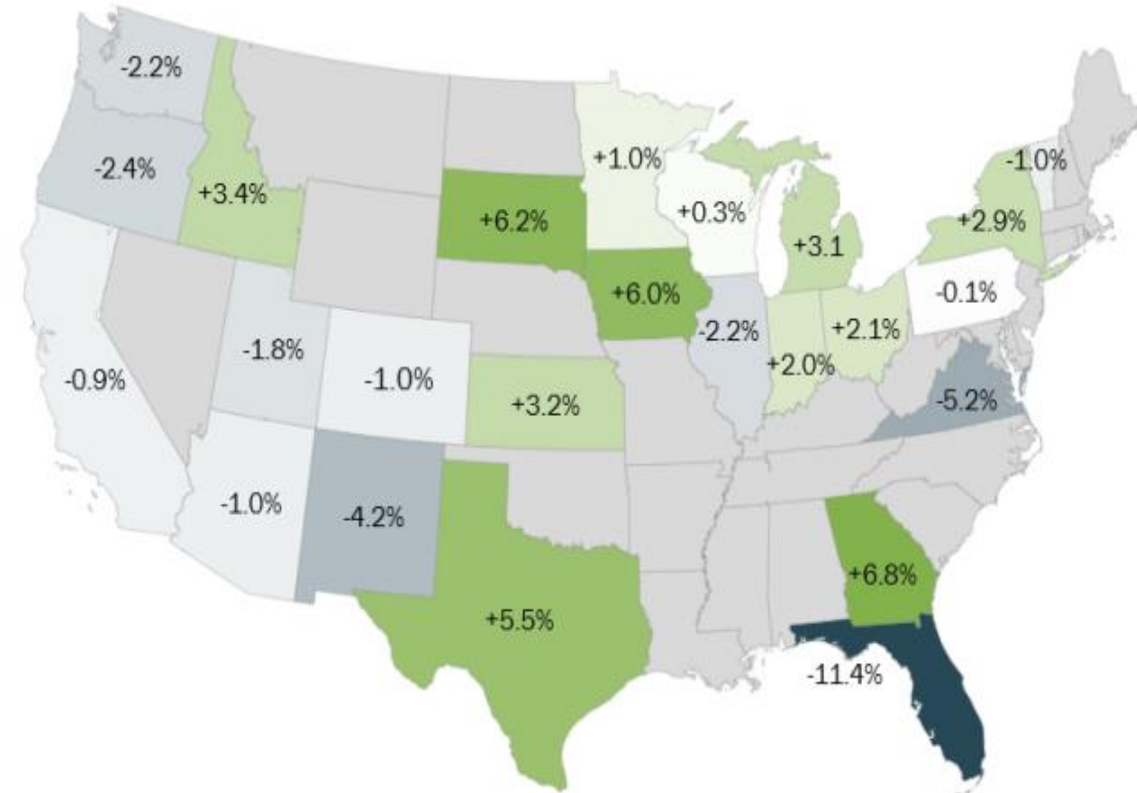
**U.S. Milk Per Cow UP 7 lbs. vs. Last Year**

**REVISION:** January 24 state number revised up 5 million lbs. or 0.1 percent

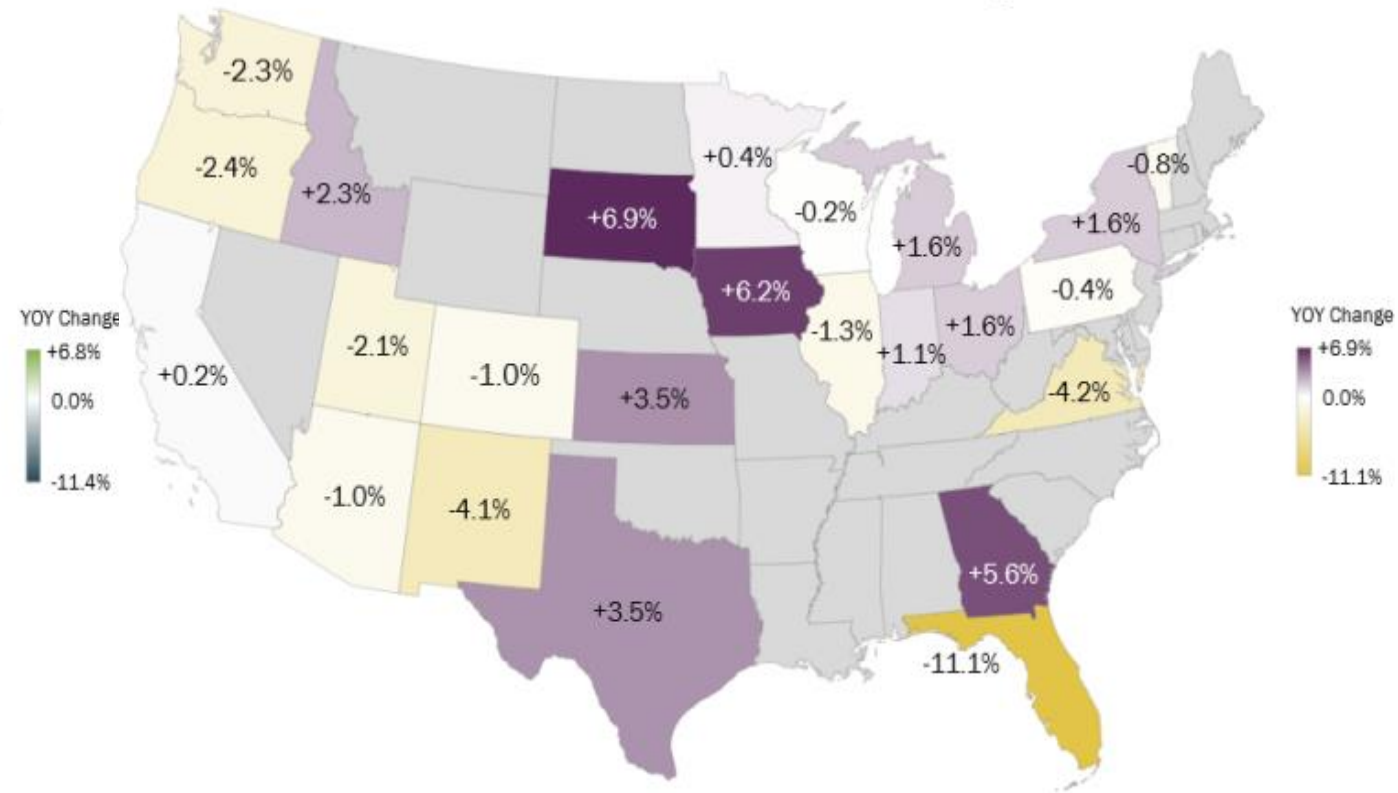


# Cow Numbers, Slowing Growth Rate???

Milk Production Year-over-Year Change



Cow Numbers Year-over-Year Change



Class III/cheese futures had recently been rallying, and Class IV commodities remain steady, but fundamentals do not necessarily support these prices. US milk production is increasing, albeit at less than 1%. USDA reports constant demand, but recent market chatter and data suggest demand is weakening. It will be difficult for 2023 to best 2022's record-setting exports, given that the US is not competitive from a pricing standpoint in all dairy commodities and macroeconomic concerns, particularly with the troubles in the banking sector. Milk & dairy commodity prices are not expected to make a material move higher any time soon.

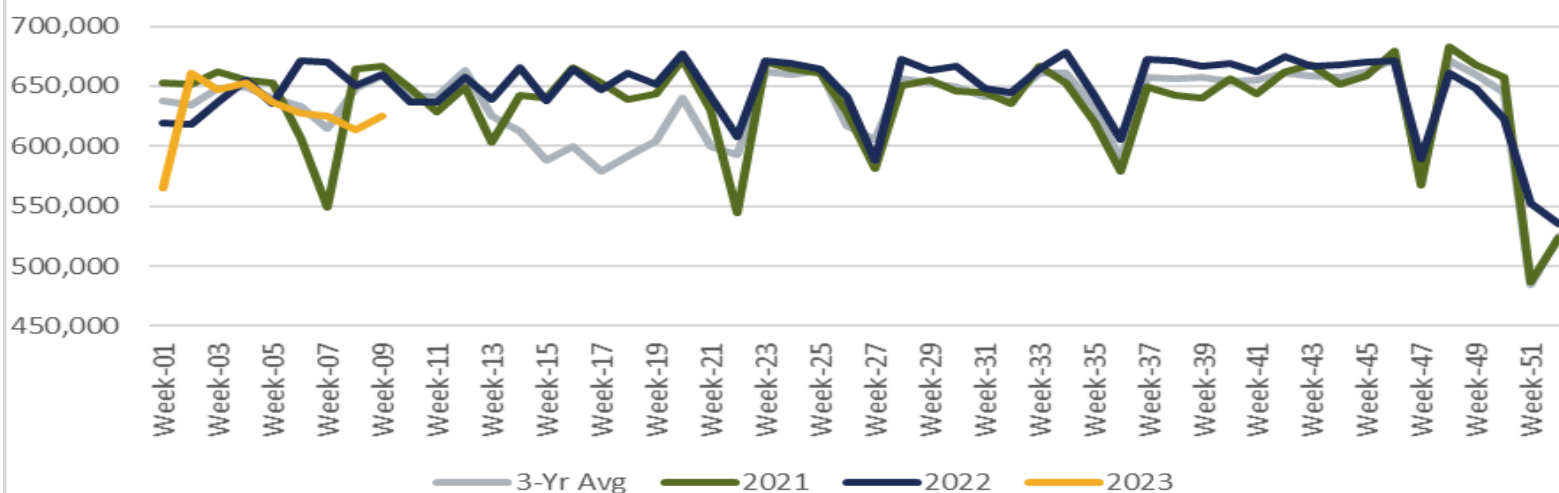
Will production per cow recovery this Spring or will high cull cow prices exacerbate milk production declines? We don't know the answer today, but this report reveals that the supply side of the dairy market may indeed be more supportive than originally thought. Most experts don't expect any wild rally for dairy markets based on the February report. We they do expect, however, that the dairy complex remain well- supported for now.

Dairy farmers are tackling the challenge of lower profitability this year, as milk prices are materially below 2022. They received a bit of a reprieve this past month, as corn prices have cooled in response to USDA increasing corn production/ acreage for 2023-24 and lowering exports for the current season. Still, income over feed costs remain lower than in four of the last six years, and producers are also experiencing higher prices for other expenses due to inflation. This means supply-side infrastructure remains unhealthy, and if supplies tighten up quickly later this year in response to unprofitability, demand could outweigh supply and push prices higher in the second half of 2023.



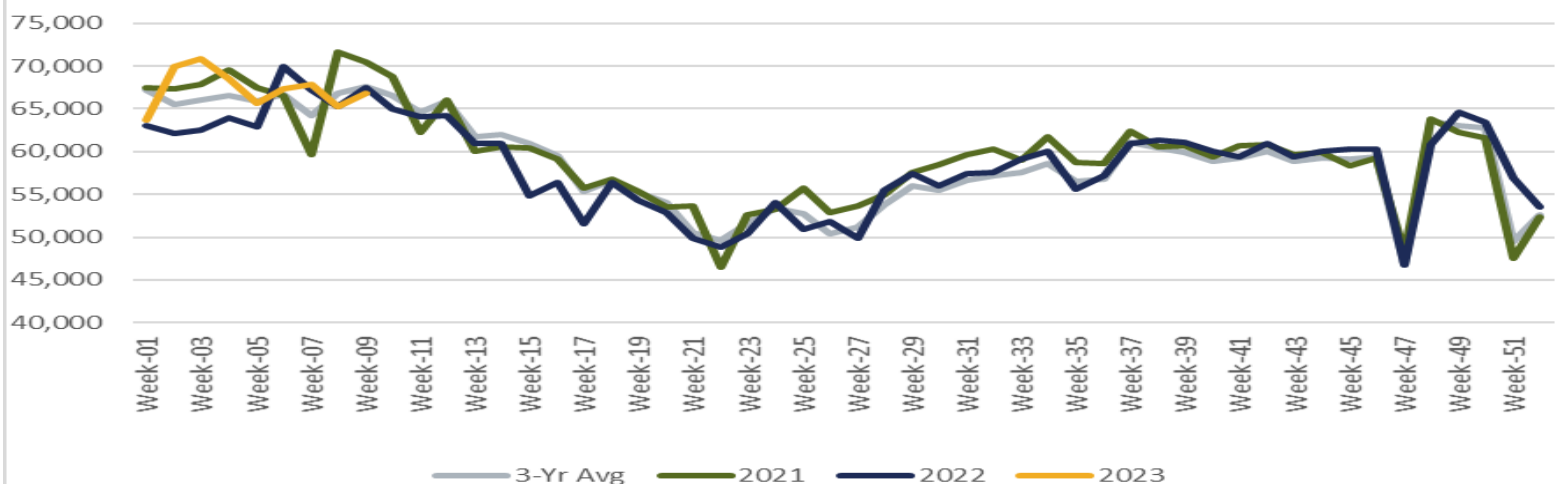
# Dairy Cows Numbers to Slaughterhouses??

## US Total Cattle Slaughter



Source: USDA, StoneX Calculations

## US Weekly Total Dairy Cow Slaughter

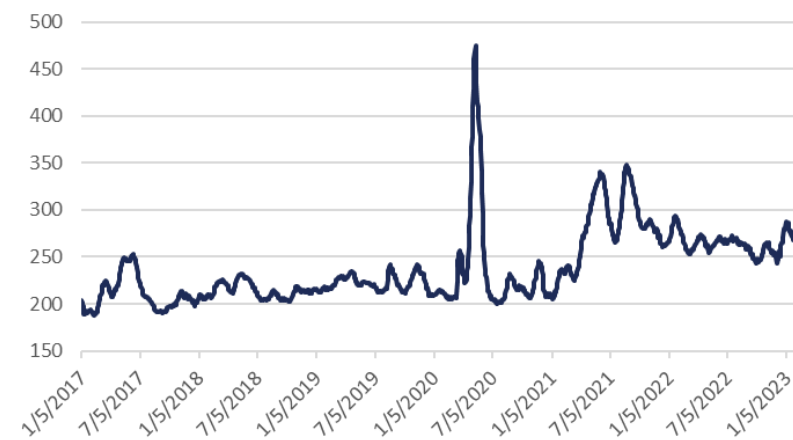


Source: USDA, StoneX Calculations

## US Weekly Dairy Cow Slaughter

Week Ending 04 March 2023								
Region	This Year	Last Year	% Change vs. LY	Difference in Head	YTD This Year	YTD Last Year	% Change vs. LY	Difference in Head
US Total	66,900	67,500	-0.9%	-600	606,100	584,400	+3.7%	+21,700
IX CA, NV, HI, AZ	16,400	16,000	+2.5%	+400	154,700	144,500	+7.1%	+10,200
V MN, WI, IL, MI, IN, OH	14,500	15,700	-7.6%	-1,200	132,400	131,600	+0.6%	+800
X WA, ID, OR, AK	9,500	9,600	-1.0%	-100	79,100	74,200	+6.6%	+4,900
VI NM, TX, LA, OK, AR	10,600	8,300	+27.7%	+2,300	86,900	70,500	+23.3%	+16,400

## Choice Cutout Values



Source: USDA, StoneX Calculations

## Cattle Slaughter Market Share by Class

	This Week	Last Week	Last Year
Dairy Cows	10.70%	10.60%	10.03%
Steers	44.40%	46.80%	47.20%
Heifers	33.40%	30.80%	30.20%
Bulls	1.40%	1.40%	1.60%
Beef Cows	10.10%	10.40%	11.07%

Source: USDA, UDM Data, StoneX Calculations

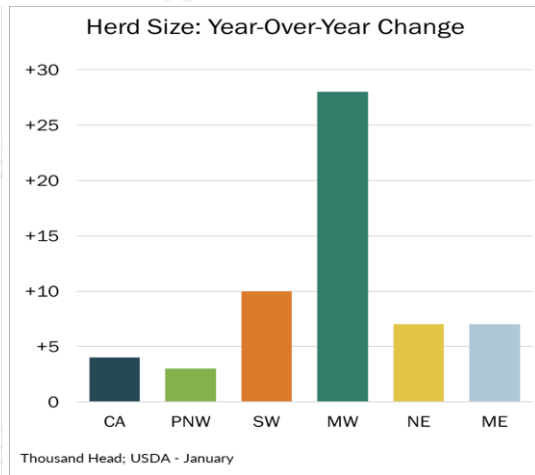
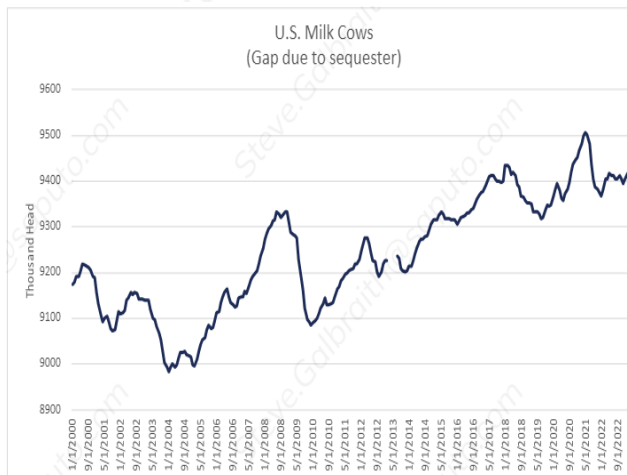




# Feb. Dairy Production / Cows Fluctuating

## February 2023 Milk Production

	Actual	Expected	% Change Prev Yr		% Change Prev Mo.	
			Actual	Expected	Actual	Expected
U.S. Production mil lbs	17,675	17,750	0.77%	1.19%	1.37%	1.82%
U.S. Milk Cows	9,417	9,404	0.39%	0.26%	0.13%	-0.01%
U.S. Milk Per Cow lbs	1,877	1,887	0.37%	0.93%	-8.57%	-8.03%

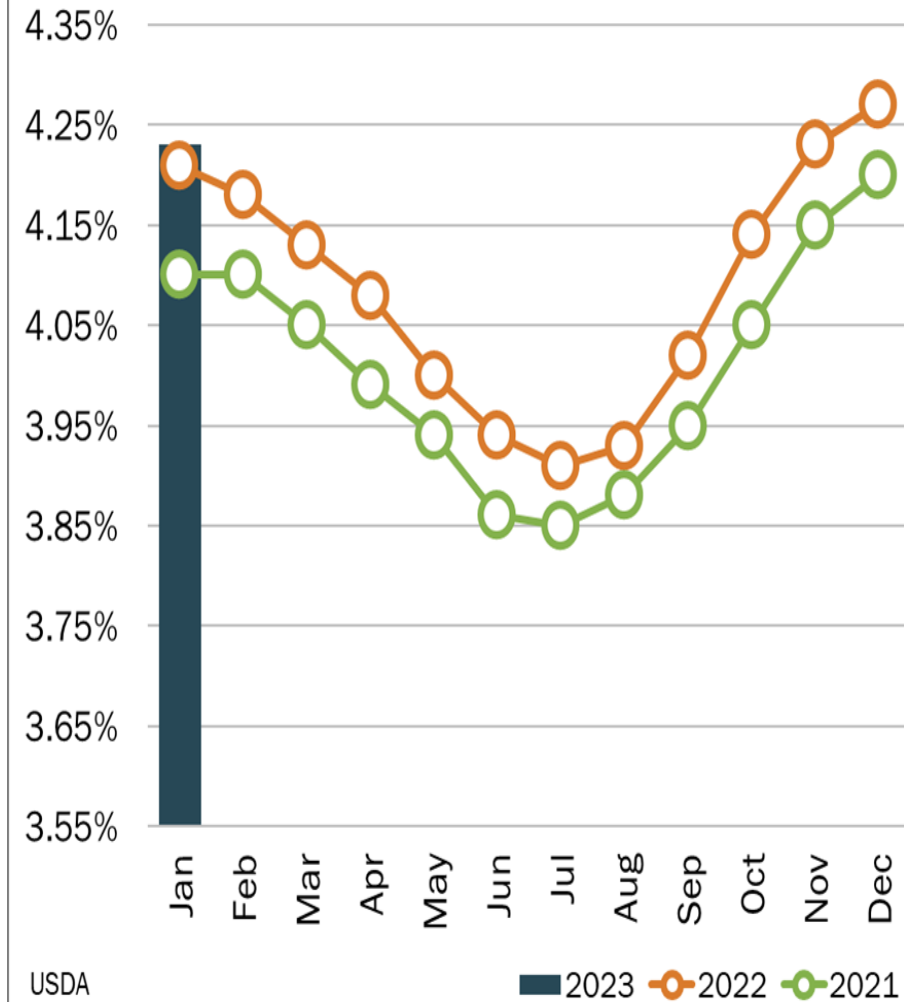


The market anticipated an increase in February's milk production report, with robust supplies in the Upper Midwest and steady production in other parts of the country reported throughout the month. The increased cow numbers in the January report indicated growth was not over quite yet, and US milk gained 0.8% in February, the eighth month in a row of a year-over-year increase. Relative to two years ago, though, milk flows slowed by 0.1%, reflecting the weak February 2022 comparison, when US milk production declined from 2021. Milk per cow was up a modest 0.4% relative to Feb 2022, which was the smallest increase since Dec 2022, and before that, it was comparable to May 2022. Of the top 24 states, eight held milk yields flat against February 2022, five saw declines, and the remaining eleven grew in productivity. The surprise was a second consecutive month of herd growth. From January to February, cow numbers swelled by 12,000 head and since December 2022, 21,000 cows have entered the herd. February's tally is back to April 2022 levels, the high-water mark last year. Juxtaposed against this is the largest year-to-date slaughter through the end of February in 39 years. It is possible that breeding decisions made last spring, when milk prices were higher, are being realized now. However, USDA data indicate heifer inventories are the lowest since 2004, making the increases all the more curious.

24 State	Milk Cows		Milk Per Cow		Milk Production		Percent Change from 2022
	2022	2023	2022	2023	2022	2023	
State	Head Thousands		LBS		Million LBS		
Arizona	196	194	2010	2010	394	390	-1.02%
California	1720	1723	1925	1905	3311	3282	-0.88%
Colorado	202	200	1990	1990	402	398	-1.00%
Florida	99	88	1675	1675	166	147	-11.45%
Georgia	89	94	1820	1840	162	173	6.79%
Idaho	652	667	1905	1925	1242	1284	3.38%
Illinois	80	79	1720	1710	138	135	-2.17%
Indiana	187	189	1830	1845	342	349	2.05%
Iowa	226	240	1910	1910	432	458	6.02%
Kansas	170	176	1850	1845	315	325	3.17%
Michigan	428	435	2100	2130	899	927	3.11%
Minnesota	453	455	1775	1785	804	812	1.00%
New Mexico	292	280	1955	1955	571	547	-4.20%
New York	620	630	1915	1940	1187	1222	2.95%
Ohio	248	252	1720	1730	427	436	2.11%
Oregon	127	124	1620	1620	206	201	-2.43%
Pennsylvania	468	466	1670	1675	782	781	-0.13%
South Dakota	175	187	1750	1740	306	325	6.21%
Texas	633	655	1985	2025	1257	1326	5.49%
Utah	94	92	1770	1770	166	163	-1.81%
Vermont	119	118	1660	1665	198	196	-1.01%
Virginia	71	68	1615	1610	115	109	-5.22%
Washington	263	257	1865	1865	490	479	-2.24%
Wisconsin	1273	1270	1915	1925	2438	2445	0.29%
Total	8885	8939	1831	1837	16750	16910	0.96%

# Dairy Farmers Breeding & Feeding For Butterfat

## Average US Milkfat Test



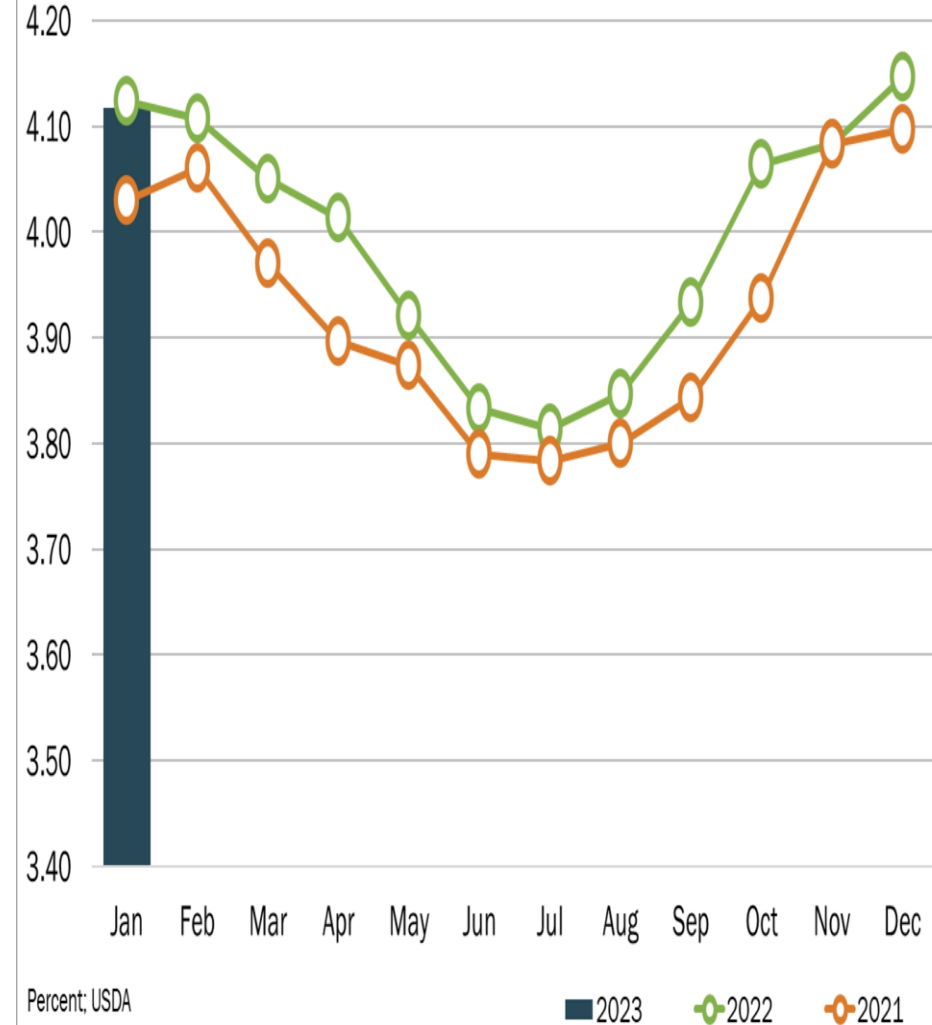
Average US Milkfat Test: USDA			
	2021	2022	2023
Jan	4.10%	4.21%	4.23%
Feb	4.10%	4.18%	
Mar	4.05%	4.13%	
Apr	3.99%	4.08%	
May	3.94%	4.00%	
Jun	3.86%	3.94%	
Jul	3.85%	3.91%	
Aug	3.88%	3.93%	
Sep	3.95%	4.02%	
Oct	4.05%	4.14%	
Nov	4.15%	4.23%	
Dec	4.20%	4.27%	
Average	4.01%	4.09%	4.23%

196  
Additional  
Nov Loads of  
Cream

Daily "Cream Loads" Estimated			
	2021	2022	2023
Jan	1,281	1,294	1,317
Feb	1,295	1,309	
Mar	1,293	1,313	
Apr	1,287	1,302	
May	1,262	1,275	
Jun	1,219	1,242	
Jul	1,186	1,210	
Aug	1,172	1,205	
Sep	1,186	1,222	
Oct	1,216	1,256	
Nov	1,246	1,282	
Dec	1,273	1,302	
Full Year	14,917	15,212	1,317
YTD Ch.		2.0%	-89.6%

690  
Total

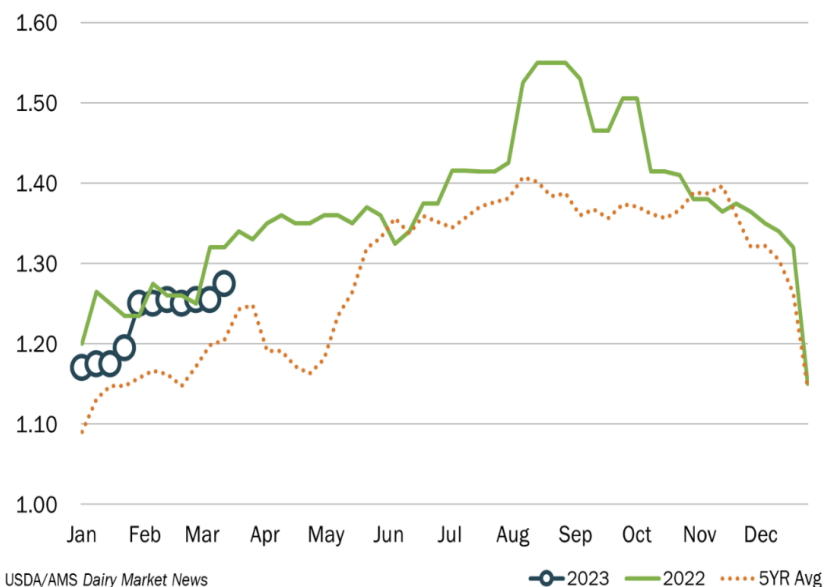
## Mideast Average Fat Test



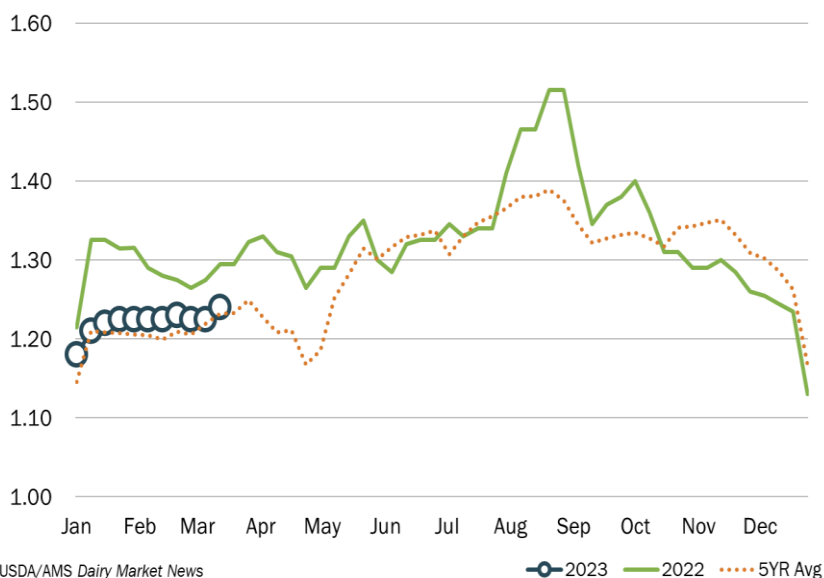


# Where is The Butterfat? – Cream???

Northeast Spot Cream



Midwest Spot Cream



Milk output varies from one area to the next, but spring levels of milk continue being reported ahead of the official seasonal change. Notable changes have not been reported in regard to bottling demand. Demand is meeting seasonal expectations but has yet to put a dent in the long availability of fluid milk. Cheesemakers continue to purchase spots as low as \$12 under Class III. They say offers have yet to slow down, as milk handlers continue to look to active seasonal cheese production as a destination for spots. Milk end users in the Dakotas and upper Midwest expect milk to remain similarly available into next week. **Cream availability has started to shore up multiples, based in part on strengthened seasonal demand ahead of the spring holidays. Butter churning is busy in the region and has been throughout most of 2023. Cream cheese and ice cream/soft serve manufacturing has ticked higher in recent weeks, as well. Cream end users have reported roughly a ten percent downtick in availability for each of the past two weeks.** Despite variant weather patterns throughout the southern areas of the region, winter wheat growth is reported, in certain areas, as strong. Areas of Texas and Oklahoma, though, are still notably dry, as farmers there are hopeful for some beneficial precipitation ahead of harvest.

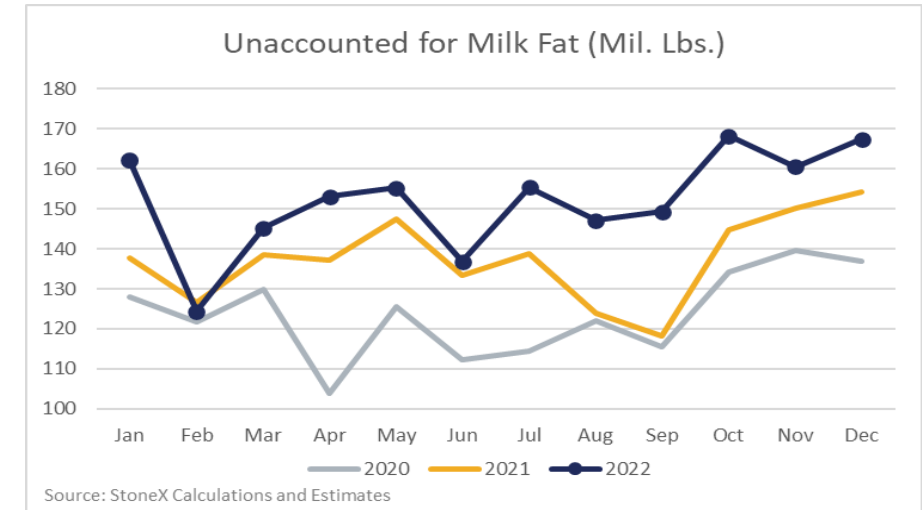
Milk production in the Northeast is steady. A nor'easter has brought up to three feet of snow to some areas of New England over the past several days, with some concerns regarding delays in milk pickups and transport due to poor road conditions. Prior to the severe weather, farm level milk output was seasonally steady. The southernmost locales of the Northeast and certain areas of the Mid-Atlantic continue to see near spring flush farm level milk outputs. In the Northeast and Mid-Atlantic, contacts note that bottling demand is steady. In the Southeast and Florida, farm level milk output is level. **Cream supplies are tightening across the region, namely as soft serve, ice cream, and cream cheese production ramps up ahead of spring holidays. Increased manufacturing has kept Class II cream multiples steady. Spot loads of cream are increasingly sparse.**

Condensed skim is readily available, and regional dryer challenges have freed up even more condensed skim for processing at balancing plants throughout the region. Regional spring break schedules are varied between now through mid-April and pauses in school milk orders will further free up fluid milk supplies. Regional milk supplies are able to match manufacturing needs, with little to no movement into or out of the Eastern states. In California, farm level milk output is steady. Stakeholders report current March milk production is up from last month, but also below forecasted levels. Milk volumes are available throughout the state. Processing capacity tightened with the snow in northern California and some regional flooding causing transportation delays and unplanned downtime at processing facilities. Contacts note spot load purchases and sales at below Class prices. Class I demand is lighter with educational institutions approaching their scheduled spring breaks. Demand for all other Classes continues to be steady. According to the California Department of Water Resources, as of March 14, 2023, the state has gotten 25.98 inches of precipitation for the current 2022-23 Water Year, up 8.02 inches from the historical average. According to the Department of Water Resources, as of March 15, 2023, the estimated total statewide reservoir storage was 25.70 million acre feet, which is 10 percent of the historical average for the month. Farm level milk output is steady in Arizona. Temperatures in the state reached the low 80s this week. Available milk volumes for bottling and other production needs are ample throughout the state. With spring breaks for educational facilities approaching, Class I demand has lightened. Demand for all other Classes is unchanged. In New Mexico, farm level milk output is steady. Throughout the state milk volumes are ample for processing needs. Demand for Class I is lighter with approaching spring breaks for educational facilities. Demand for all other Classes remains steady. Farm level milk output remains steady in the Pacific Northwest with continued favorable cow comfort weather. Stakeholders report production is higher than forecasted levels. Ample milk volumes continue to be available throughout the area for bottling and other production facilities. Contacts note spot load purchases and sales at below Class prices. Demand is steady for all Classes. In the mountain states of Idaho, Utah and Colorado, farm level output is steady. Milk volumes available throughout the area for processing are ample. Demand for Class I is lighter with approaching spring breaks for educational facilities. Demand for all other Classes remains steady. Demand for condensed skim demand is steady. Contract sales are steady, but spot market activity stays lighter. Condensed skim milk availability is mixed. Some stakeholders report balanced volumes, while others report tighter volumes with weather conditions causing unplanned downtime at processing facilities. **Cream volumes are plentiful and keeping production schedules strong. Cream multipliers moved up to a flat market on the bottom end this week.**



# Missing Butterfat (Class II)?

Reported Butterfat Production	Jan-22 to Dec-22	187,700,000
Reported Butterfat To Butter	Jan-22 to Dec-22	-12,100,000
Reported Butterfat To Class I	Jan-22 to Dec-22	-8,800,000
Reported Butterfat To Ice Cream	Jan-22 to Dec-22	-13,100,000
Reported Butterfat To Yogurt	Jan-22 to Dec-22	-2,100,000
Reported Butterfat To Sour Cream	Jan-22 to Dec-22	1,200,000
Reported Butterfat To Cheese	Jan-22 to Dec-22	65,300,000
Reported Butterfat To Whey	Jan-22 to Dec-22	1,100,000
Reported Butterfat To WMP	Jan-22 to Dec-22	-2,500,000
Reported Butterfat To AMF Exports	Jan-22 to Dec-22	-14,100,000
Reported Butterfat To Other Blends	Jan-22 to Dec-22	-1,000,000
Total Reported Fat		13,800,000
Missing Fat - Not Reported		173,900,000



Class II non-reported is largest piece of “Missing Fat”  
Chocolate/Ice Cream Mix/Cream/Whipping Cream /½ & ½ Custard

US Milk Fat Production and Usage (Mil. Lbs. of Fat)					
	12 Month Total To:		Change		
	Dec-21	Dec-22	Mil. Lbs.	Percent	
Fat Production	9,071	9,258	188	2.1%	
Fat Used	7,420	7,433	14	0.2%	
Unaccounted Fat	1,651	1,825	174	10.5%	
Butter	1,668	1,656	-12.1	-0.7%	
Cheese	3,838	3,904	65.3	1.7%	
Bottled Milk	912	904	-8.8	-1.0%	
Ice Cream	514	501	-13.1	-2.5%	
Yogurt	76	74	-2.1	-2.7%	
Whey	41	42	1.1	2.6%	
Sour Cream	295	296	1.2	0.4%	
WMP	40	37	-2.5	-6.3%	
Other	35	34	-1.0	-3.0%	
Net Exports	0	-14	-14.1	-5360.4%	

Missing fat in Nov. was up 10.5% from last year, a little weaker than the +16.4% in Oct.





# Agenda

- Macro Economics
  - What's Different?
- Supply/Demand
  - Global
  - US
- Deeper Dive
  - Butter
  - Cheese
- Pricing Implications / Forecast's



# December Commercial Disappearance

## January 2023 U.S. Dairy Product Supply and Utilization

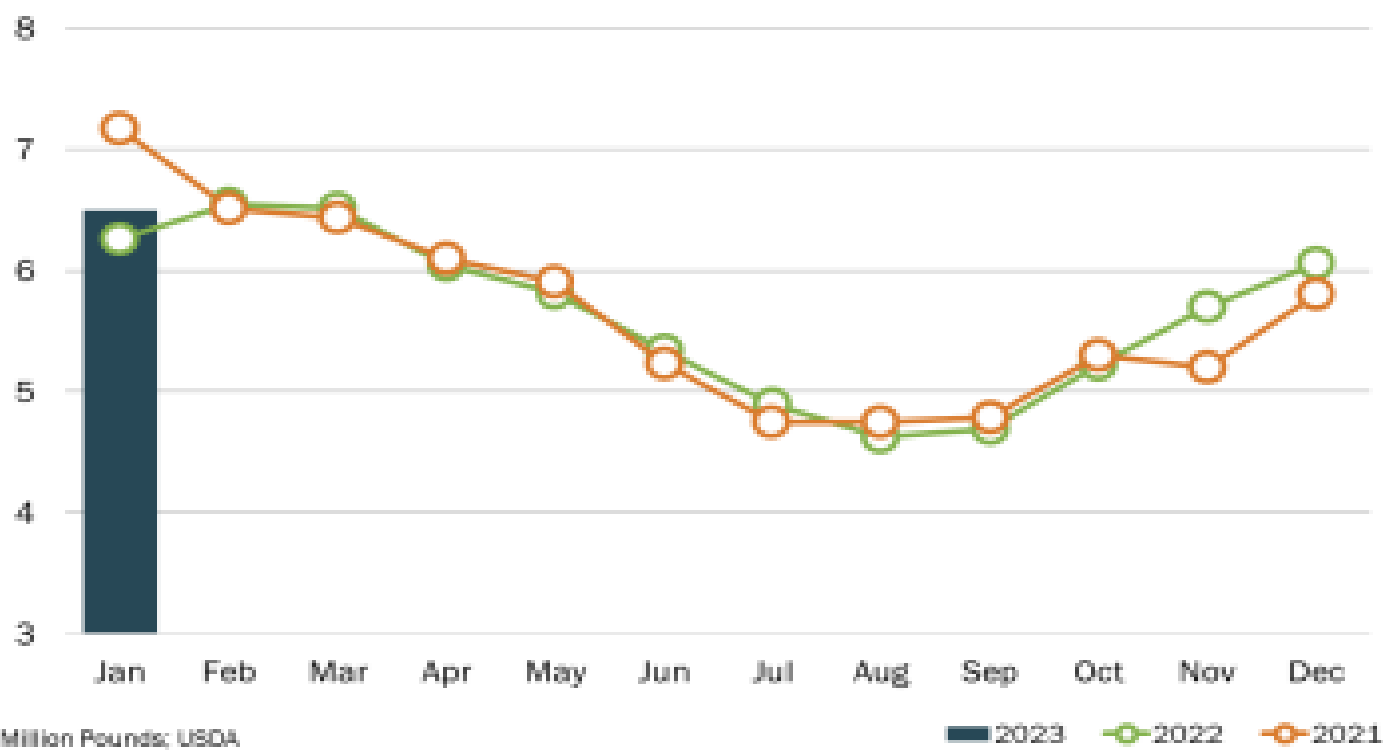
Commodity	Total					Domestic					Export				
	Million Pounds	Metric Tons	vs. last year	vs. last month	YTD vs. prior year	Million Pounds	Metric Tons	vs. last year	vs. last month	YTD vs. prior year	Million Pounds	Metric Tons	vs. last year	vs. last month	YTD vs. prior year
American Cheese	480.3	217,860	+ 0.3%	+ 0.9%	+ 0.3%	458.5	207,972	- 0.7%	+ 0.4%	- 0.7%	21.8	9,888	+ 24.6%	+ 14.1%	+ 24.6%
Other Cheese	718.0	325,679	+ 1.0%	- 1.4%	+ 1.0%	664.8	301,548	+ 0.2%	- 0.5%	+ 0.2%	53.2	24,131	+ 12.2%	- 11.0%	+ 12.2%
Total Cheese	1,198.3	543,540	+ 0.7%	- 0.5%	+ 0.7%	1,123.3	509,520	- 0.2%	- 0.2%	- 0.2%	75.0	34,019	+ 15.6%	- 4.9%	+ 15.6%
Butter	156.4	70,942	- 13.2%	- 13.2%	- 13.2%	148.9	67,540	- 13.6%	- 13.7%	- 13.6%	7.5	3,402	- 3.8%	N/C	- 3.8%
NDM & SMP	199.1	90,310	- 3.8%	- 11.9%	- 3.8%	48.7	22,090	- 35.8%	- 43.6%	- 35.8%	150.4	68,220	+ 14.8%	+ 7.7%	+ 14.8%
Dry Whey	81.0	36,741	+ 0.1%	+ 4.8%	+ 0.1%	52.0	23,587	- 4.1%	+ 36.8%	- 4.1%	29.0	13,154	+ 8.6%	- 26.2%	+ 8.6%
WPC	49.9	22,634	- 9.8%	+ 21.4%	- 9.8%	25.3	11,476	- 25.1%	+ 75.7%	- 25.1%	24.6	11,158	+ 14.4%	- 7.9%	+ 14.4%
Lactose	112.7	51,120	+ 13.8%	+ 17.6%	+ 13.8%	28.4	12,882	- 16.7%	+ 130.9%	- 16.7%	84.3	38,238	+ 29.9%	+ 1.0%	+ 29.9%

- Total cheese utilization eked above prior year levels driven by nearly flat year-over-year domestic demand while exports made up the bulk of growth climbing to an all-time high for the month of January.
- Butter utilization saw further weakness in January falling to the lowest volume since July 2020. The decline was primarily attributed a poor domestic consumption while exports remained unchanged from the prior month and only slightly below year ago levels.
- Total nonfat dry milk utilization dipped below the previous year due to domestic demand falling to the lowest January reading since 2020. In contrast, exports climbed to the highest January level since 2020.



# January Butter Production – “Better”

Daily US Butter Production



- Jan ‘23 butter production was neutral versus expectations. Last year’s January output was the weakest opening month of the year since 2018, so while the 4% year-on-year growth in January 2023 is certainly nothing to sneeze at, it is against a very easy comparison.
- Compared to January 2021 and 2020, this January’s production was smaller and similar to January 2019, four years ago.
- Stocks are building on a monthly and annual basis, as well, just ahead of the US spring flush. The guidance for butter remains at an expected range of \$2.20-\$2.50 per pound for at least the first half of the year. With the US priced out of the international butter market, exports will likely be lighter in the coming months, keeping prices from making material rallies as demand dries up and prices stabilize.
- If US prices get in line with their international counterparts, it is possible that export demand could pick up in the second half of the year but does not seem likely this will materialize.

- January butter production tipped the scales at 201 million pounds, up 3.8% from the previous year, the third consecutive year-on-year gain. From December to January, the five-year average build is +10%, and January 2023’s 7.3% rise aligns with these expectations.
- Churns were hard at work in the Central US, where milk was plentiful, producing 81 million pounds (representing 40% of the country’s share), soaring 7.5% YoY and UP 6.6% from Dec ‘22. California’s output was nearly 65 million pounds, increasing a more modest 3.2% vs. January 2022.

Butter Production million pounds		
Jan 2023	vs Last Month	+7.3%
201	vs Last Year	+3.8%

	Butter		
	2021	2022	2023
Jan	222	194	201
Feb	189	183	
Mar	200	202	
Apr	183	181	
May	183	180	
Jun	157	160	
Jul	147	152	
Aug	147	143	
Sep	144	141	
Oct	164	162	
Nov	156	171	
Dec	180	188	
Total	2,072	2,057	201

+3.8%  
YTD

## January 31 BUTTER production was 201 million pounds,

- Up 3.8% (+7.4 million pounds) year-over-year
- Up 7.3% (+13.6 million pounds) from December 2022.
- This compares to a five-year average month-to-month increase of 8.3 million pounds.

# Jan US Export Demand – Fat Demand Slowing

## January 2023 U.S. Dairy Export Volumes

Commodity	Metric Tons	Million Pounds	vs. Last Year	vs. Last Month**	YTD vs. Last Year**	vs. Two Years Ago
Cheddar Cheese	7,593.3	16.7	+ 37.5%	+ 15.1%	+ 37.5%	+ 137.5%
Total Cheese	34,015.2	75.0	+ 15.6%	- 5.0%	+ 15.6%	+ 35.1%
Butter	3,403.2	7.5	- 3.7%	- 0.2%	- 3.7%	+ 18.2%
Anhydrous Milkfat	865.5	1.9	- 36.9%	- 32.1%	- 36.9%	+ 133.2%
Nonfat Dry Milk/ Skim Milk Powder	68,210.7	150.4	+ 14.8%	+ 7.6%	+ 14.8%	+ 8.8%
Whole Milk Powder	1,044.9	2.3	- 47.3%	- 66.1%	- 47.3%	- 47.6%
*Dry Whey*	13,161.9	29.0	+ 8.6%	- 26.2%	+ 8.6%	- 27.8%
Whey Protein Concentrate < 80%	11,174.1	24.6	+ 14.8%	- 7.6%	+ 14.8%	+ 1.1%
Whey Protein Concentrate ≥ 80%	4,605.0	10.2	+ 14.1%	- 20.7%	+ 14.1%	- 8.8%
Lactose	38,231.9	84.3	+ 29.9%	+ 0.9%	+ 29.9%	+ 50.4%

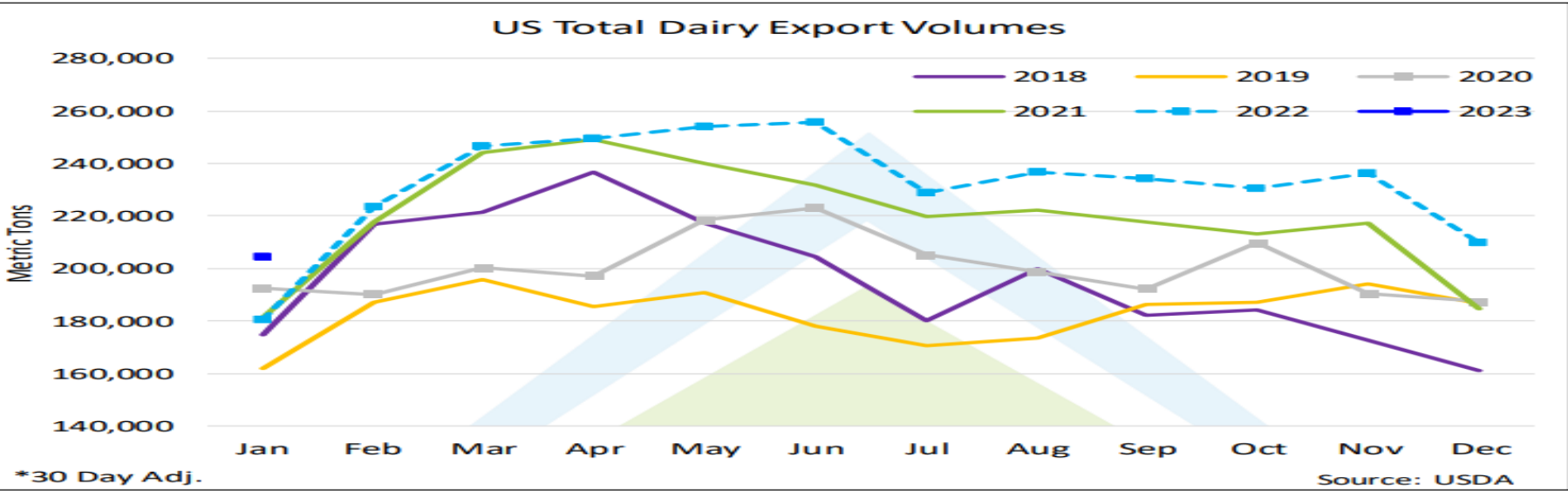
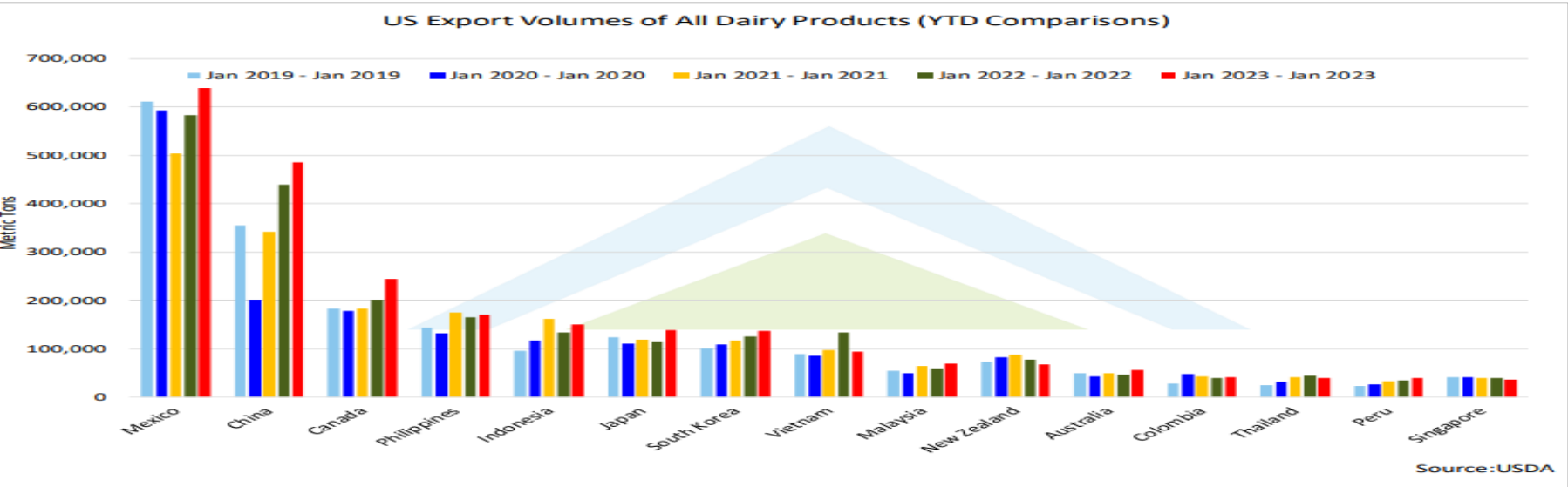
Total dairy exports to China expanded over prior year for the eighth consecutive month into Jan, which marked the third month in a row that achieved monthly highs. Much of the growth is in the form of dry whey (6,099MT, +75% YoY) but WPC<80 exports (5,202MT, +26% YoY) also remain notable, alongside lactose (9,091MT, +19% YoY). Meanwhile, shipments to Southeast Asia remained negative for the sixth month in a row, dragged down by lower skim milk powder volumes (20,319MT, -22% YoY).

- January cheese exports reached an all-time high for the month as cheese sailing to Mexico also kicked off the calendar year at a record pace (9,159MT, +21% YoY). Shipments fell to South Korea (4,819MT, -7% YoY), the second largest destination market, but strength to Japan (3,750MT, +35% YoY), Bahrain (807MT, +412% YoY) and Australia (3,150MT, +25% YoY) helped to offset losses elsewhere. Despite discounted cheese throughout Europe, the US also continued to see strong cheddar exports in January as well, driven by the larger sales shown into Japan (2,618MT, +67% YoY) and Australia (1,439MT, +116% YoY).
- Nonfat dry milk exports were impressive with Mexico's market share continuing to swell above 50%, reaching 53.5% in January, the highest reported since August 2019. Maintaining similar strong volumes throughout the second half of 2022, the US reported the strongest January shipments to Mexico on record (36,520MT, +75% YoY). Other notable gains were shown to Thailand (2,577MT, +639% YoY) and Colombia (2,981MT, +100% YoY).





# YTD US Export Demand – Improving



- Even though the US started to lose its edge on competitive dairy pricing against Europe and Oceania, depending on the commodity, January shipments impressed to the upside. Fats and whole milk powder (WMP) were the only products to decline, which makes sense given the premium over the rest of the world. The strong increase on NFDM was due to the clear effort from Mexico to secure needs after months of price deterioration and a recovery in the country's economic situation. US whey prices had also been experiencing the same downward pressure as NFDM, which encouraged international buyers to commit to some volume as well. On cheese, January was likely the final month of elevated exports given the discounted rates shown throughout Europe, which kept CME spot prices higher that month
- Nonfat dry milk (NFDM) exports were impressive with Mexico's market share continuing to swell above 50%, reaching 53.5% in January, the highest reported since August 2019.
- Shipments to Southeast Asia remained negative for the sixth month in a row, dragged down by lower skim milk powder volumes (20,319MT, -22% YoY). Exports to the Philippines have been struggling for six months.
- Weaker volume to Southeast Asia is driven by losses to the Philippines and Vietnam, but it is worth mentioning that higher exports are being shown to other key regions such as Thailand, Singapore and Indonesia – though mostly in the form of lactose

January exports surpassed expectations but help to explain why cheese values did not move lower during the month like anticipated. These were likely Q4 contracts that carried over into 2023 and given recent price behavior, these strong export levels are not expected to have sustained throughout the rest of the first half of 2023. Jan. cheese exports reached an all-time high for the month as cheese sailing to Mexico also kicked off the calendar year at a record pace.



# January US Dairy Imports

## January 2023 U.S. Dairy Import Volumes

Commodity	Metric Tons	Million Pounds	vs. Last Year	vs. Last Month**	YTD vs. Last Year**	vs. Two Years Ago
Total Cheese	13,872.1	29.6	+4.3%	-5.1%	+4.3%	+4.9%
Butter	4,513.5	9.6	+49.4%	-8.7%	+49.4%	+149.3%
Anhydrous Milkfat	3,171.7	6.8	+172.7%	+16.9%	+172.7%	+139.2%
Fat Blends	1.0	0.00	-97.2%	-71.4%	-97.2%	-84.0%
*MPC >40%	2,995.5	6.4	+5.9%	-21.9%	+5.9%	-17.6%
MPC 90%	5,793.7	12.4	+201.4%	-6.9%	+201.4%	+1407.1%
Casein, non MPC	4,681.5	10.0	-7.3%	-42.0%	-7.3%	+8.9%
Caseinates	3,519.8	7.5	+98.2%	+57.7%	+98.2%	+126.0%

Milk protein concentrate imports continued to be very strong with Ireland accounting for 95% of market share. Another 100MT was brought in from the Ukraine versus 80MT a year ago. January marked the fifth consecutive month of notable import gains, all of which has primarily been represented by product from Ireland.

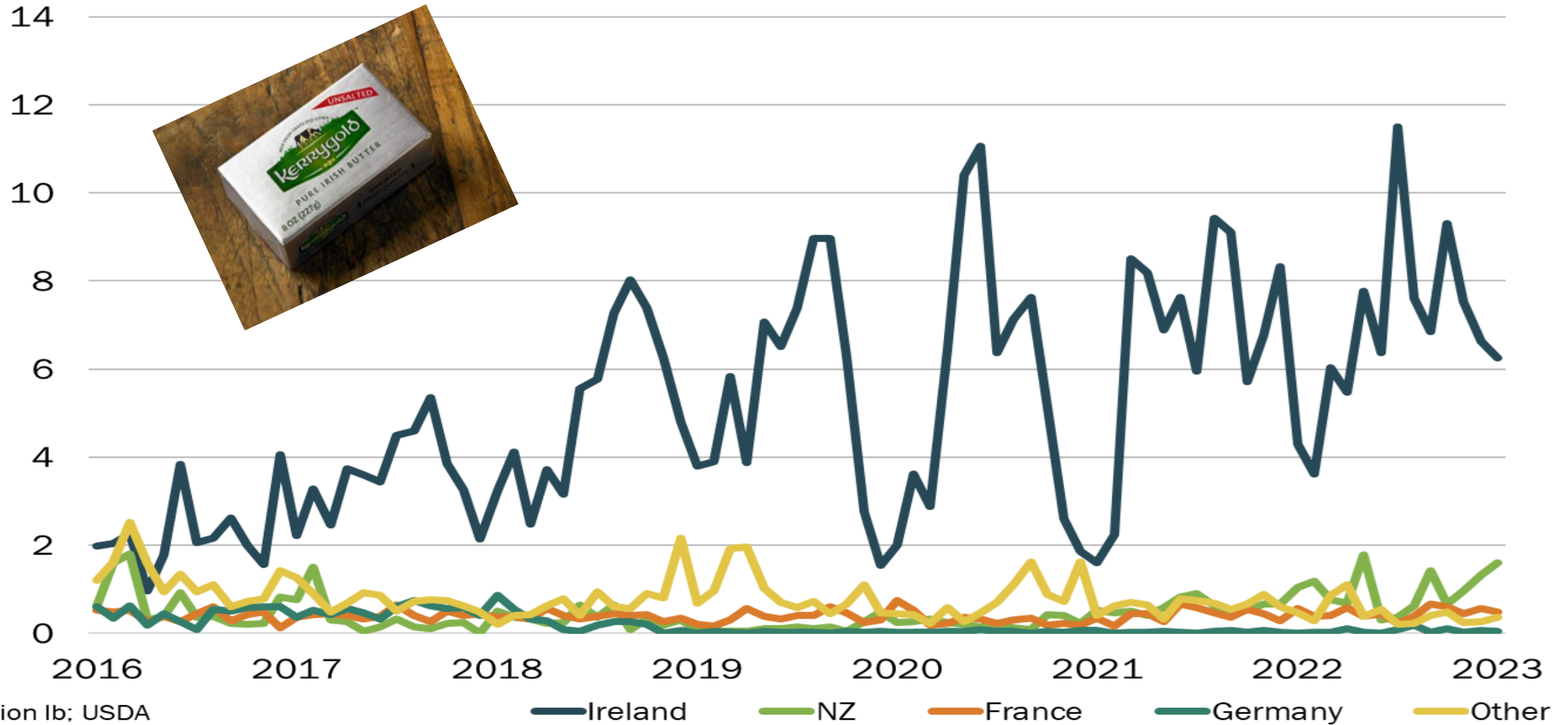
Caseinate imports reached multi-year highs that have not been met since April 2014. The biggest share was from Denmark (1,332MT, +253% YoY), followed by the Netherlands (809MT, +90% YoY) and Poland (718MT, +330% YoY). Volume from New Zealand nearly halved from a year ago, DOWN 45% YoY to 399MT.

By volume, butter imports from Ireland recorded the biggest jump from the prior year, UP 883MT YoY to 2,833MT. Ireland's market share still fell slightly as stronger butter demand was recorded from New Zealand against a year ago as well. The US imported 1,183MT of butter versus 492MT last year. Anhydrous milkfat imports from New Zealand were even stronger, UP 1,256MT from the prior year to 1,333MT as buyers take advantage of discount fat from the region. 58



# US Butter Imports – “Ireland”

## US Butter Imports

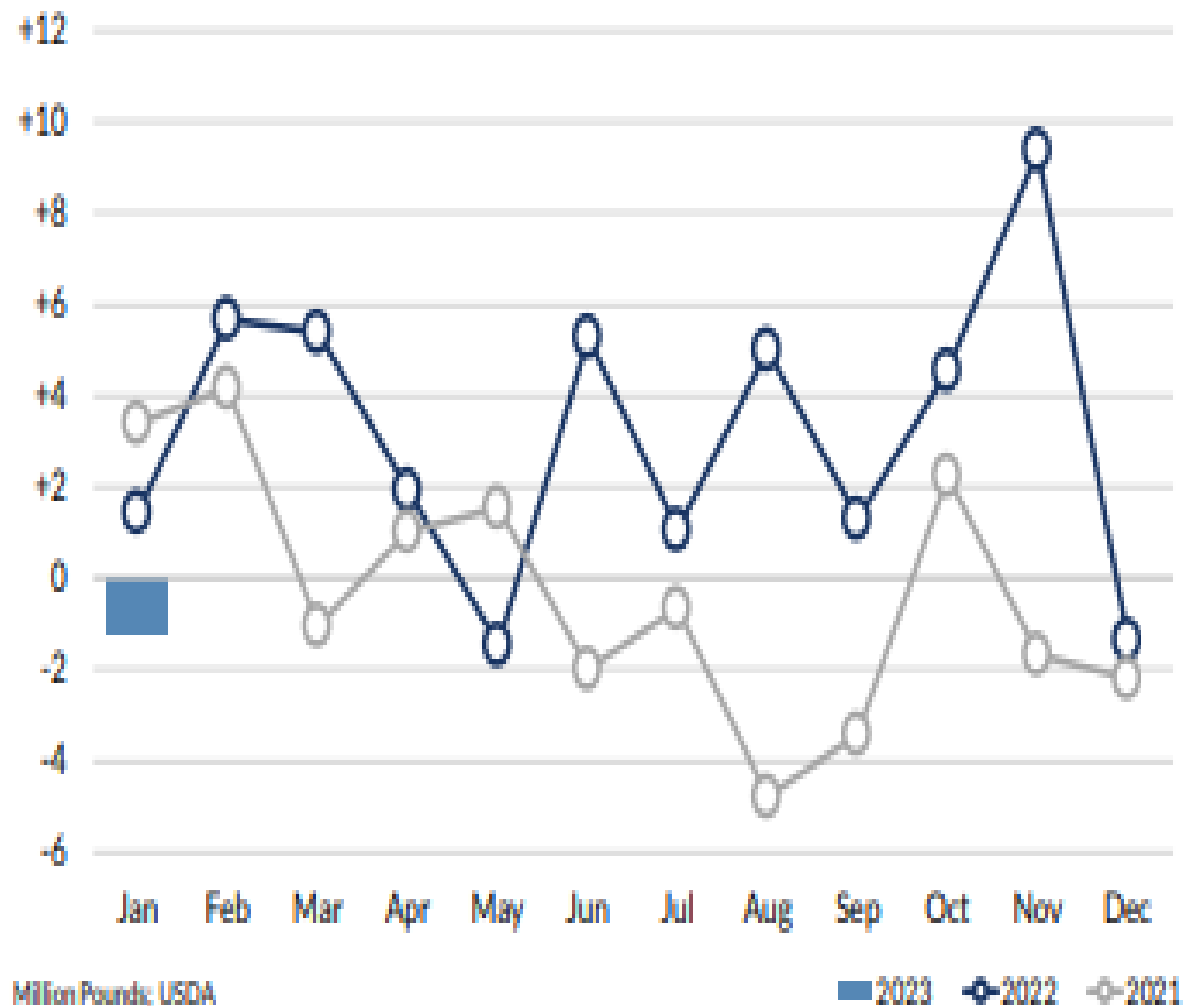


65% of imported butter came from Ireland – 6.25 million pounds – A big jump from prior year levels

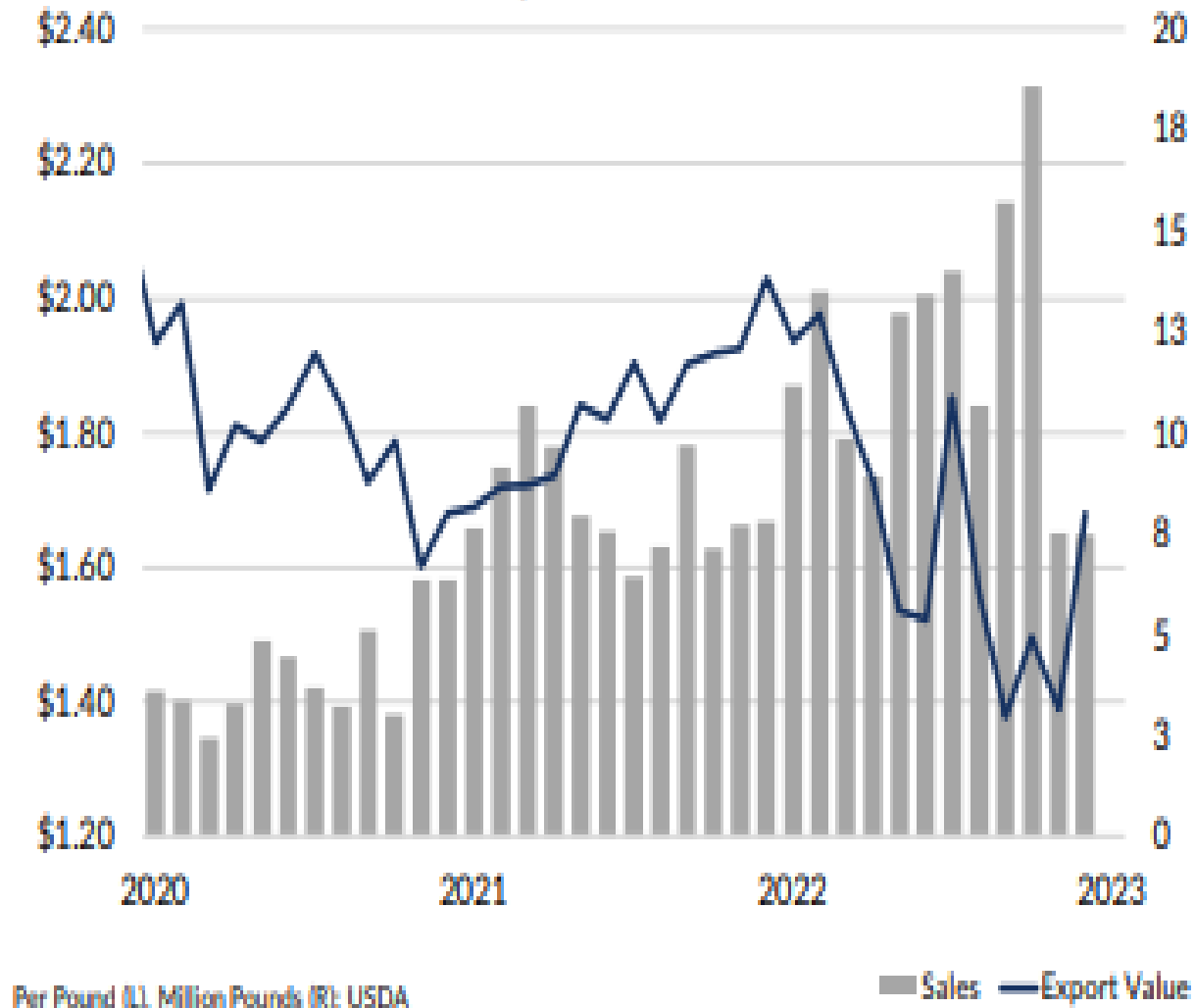


# US Butter Exports – “Volume Declining”

## US Butter Net Trade



## US Butter Export Values and Volume



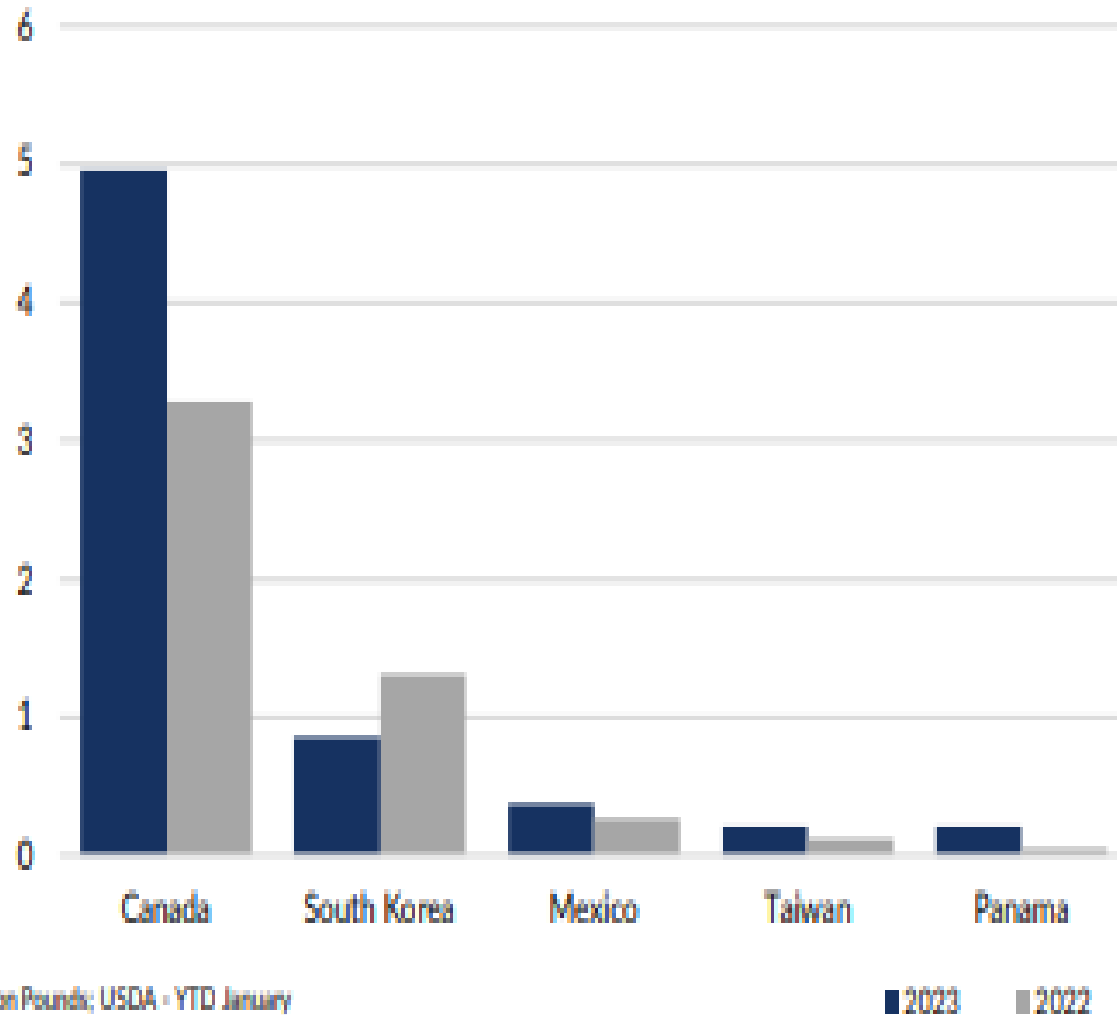
- January butter exports slowed amid still-high prices. Sales for the month reached 8 million pounds, down 4% year-over-year and the lowest monthly volume since November 2021.



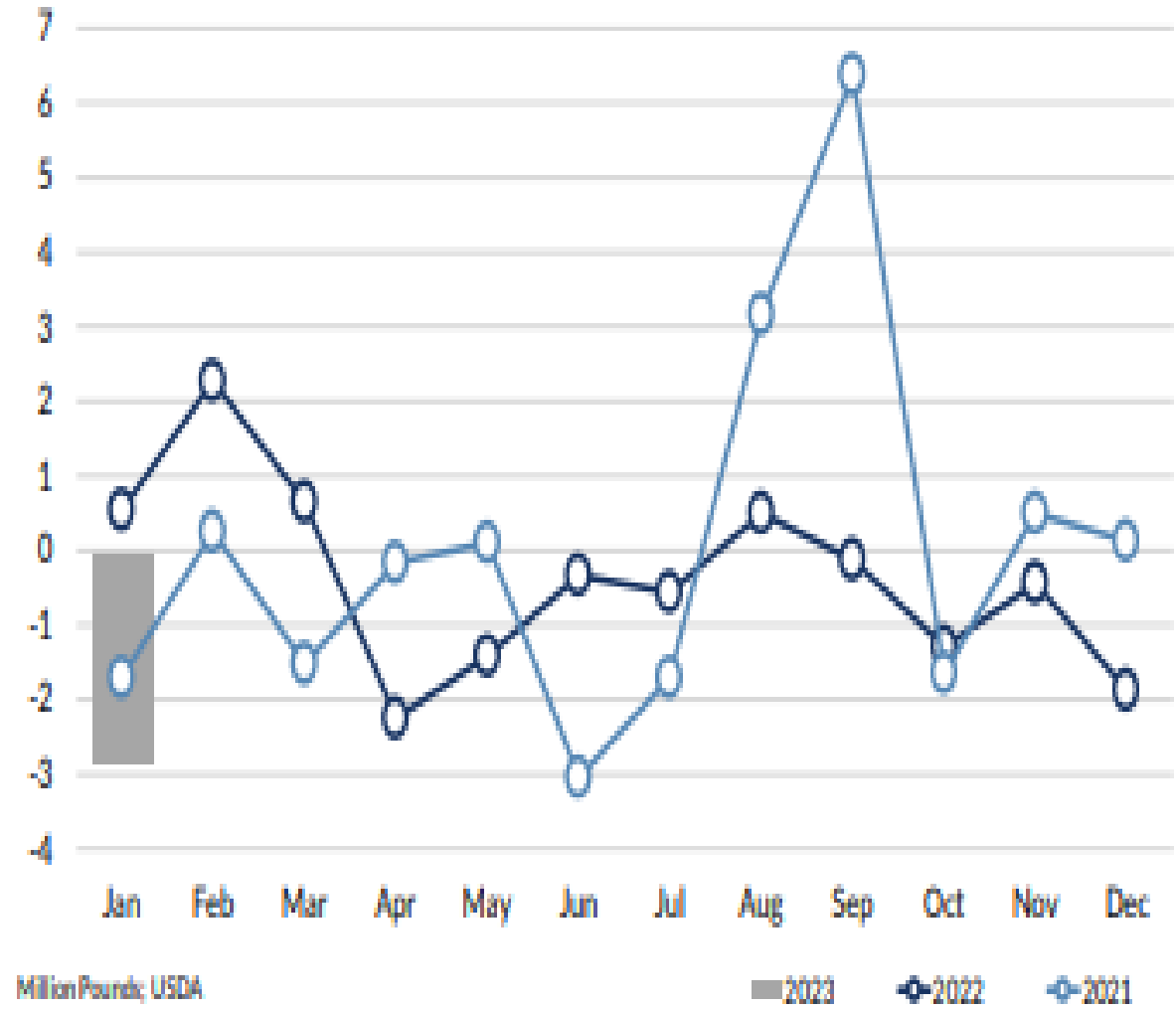


## Destination - YTD Exports – “Canada”

YTD US Butter Exports by Destination



US Net AMF Trade



- Shipments to Canada remained strong at 5 million pounds, a 51% increase year-over-year.
- AMF exports slowed to 2 million pounds, a decrease of 37% on the year



# US Butter Exports – “Net Exporter?”

	US Butter Exports			US Butter Imports			US AMF Exports			US AMF Imports		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	6.3	7.8	7.5	2.9	6.4	8.7	0.8	3.0	1.9	2.5	2.5	4.7
Feb	7.6	11.2		3.5	5.5		0.9	3.7		0.6	1.4	
Mar	9.2	13.5		10.2	8.1		0.9	2.4		2.4	1.8	
Apr	10.7	9.8		9.7	7.9		1.1	5.1		1.2	7.3	
May	9.7	8.9		8.1	10.3		2.5	2.2		2.4	3.6	
Jun	7.9	12.9		9.9	7.7		1.0	3.4		4.1	3.7	
Jul	7.5	13.4		8.2	12.4		2.5	3.0		4.2	3.5	
Aug	6.4	14.0		11.2	9.0		3.7	3.4		0.5	2.9	
Sep	7.2	10.7		10.6	9.4		7.5	1.7		1.1	1.8	
Oct	9.7	15.7		7.4	11.2		1.5	3.3		3.2	4.6	
Nov	7.2	18.6		8.8	9.2		3.1	2.1		2.6	2.5	
Dec	7.7	7.5		9.9	8.9		3.0	2.8		2.9	4.7	
Total	97.1	144.1	7.5	100.5	105.9	8.7	28.5	36.0	1.9	27.7	40.3	4.7
YTD	6.3	7.8	7.5	2.9	6.4	8.7	0.8	3.0	1.9	2.5	2.5	4.7
Change		23%	-4%		117%	37%		269%	-37%		-2%	92%

Butter imports outpaced outbound shipments at 9 million pounds, up 37% over prior-year levels. Inbound shipments of AMF climbed to 5 million pounds for the month, an 88% jump versus 2022



# US Retail Butter Sales – “Slowing”

Time	Base Volume Sales	Incremental Volume	Wt.. Avg. Base Price Per Vol.
	Total US - Multi Outlet	Total US - Multi Outlet	Total US - Multi Outlet
4 Weeks Ending 01-31-21	53,489,748	9,577,495	\$3.85
4 Weeks Ending 02-28-21	53,719,852	12,597,546	\$3.88
4 Weeks Ending 03-28-21	50,010,444	13,278,998	\$3.96
4 Weeks Ending 04-25-21	46,671,555	13,488,893	\$3.97
4 Weeks Ending 05-23-21	45,539,508	7,543,015	\$3.89
4 Weeks Ending 06-20-21	45,249,325	10,673,381	\$3.92
4 Weeks Ending 07-18-21	45,443,876	8,747,822	\$3.93
4 Weeks Ending 08-15-21	46,593,103	8,201,924	\$3.97
4 Weeks Ending 09-12-21	47,884,756	9,790,322	\$3.94
4 Weeks Ending 10-10-21	49,042,175	8,306,317	\$3.97
4 Weeks Ending 11-07-21	54,023,375	11,873,793	\$3.92
4 Weeks Ending 12-05-21	67,465,969	36,339,394	\$4.00
4 Weeks Ending 01-02-22	68,260,390	29,030,725	\$3.95
4 Weeks Ending 01-30-22	50,391,100	8,671,067	\$4.08
4 Weeks Ending 02-27-22	49,598,874	10,892,363	\$4.25
4 Weeks Ending 03-27-22	48,100,734	7,901,456	\$4.47
4 Weeks Ending 04-24-22	47,901,392	15,856,944	\$4.61
4 Weeks Ending 05-22-22	44,861,008	6,363,928	\$4.63
4 Weeks Ending 06-19-22	46,414,460	7,596,725	\$4.68
4 Weeks Ending 07-17-22	46,342,291	8,111,545	\$4.83
4 Weeks Ending 08-14-22	47,852,196	5,574,550	\$4.96
4 Weeks Ending 09-11-22	49,421,496	8,227,421	\$4.98
4 Weeks Ending 10-09-22	51,889,758	8,317,954	\$5.14
4 Weeks Ending 11-06-22	56,396,288	9,313,193	\$5.27
4 Weeks Ending 12-04-22	70,133,463	29,380,457	\$5.38
4 Weeks Ending 01-01-23	69,367,978	24,663,076	\$5.40
4 Weeks Ending 01-29-23	48,185,410	6,319,651	\$5.38
4 Weeks Ending 02-26-23	48,331,189	10,423,741	\$5.44
<b>TOTAL</b>	<b>1,448,581,712</b>	<b>347,063,694</b>	<b>\$4.45</b>

## US Retail Sales – Prior 13 Periods

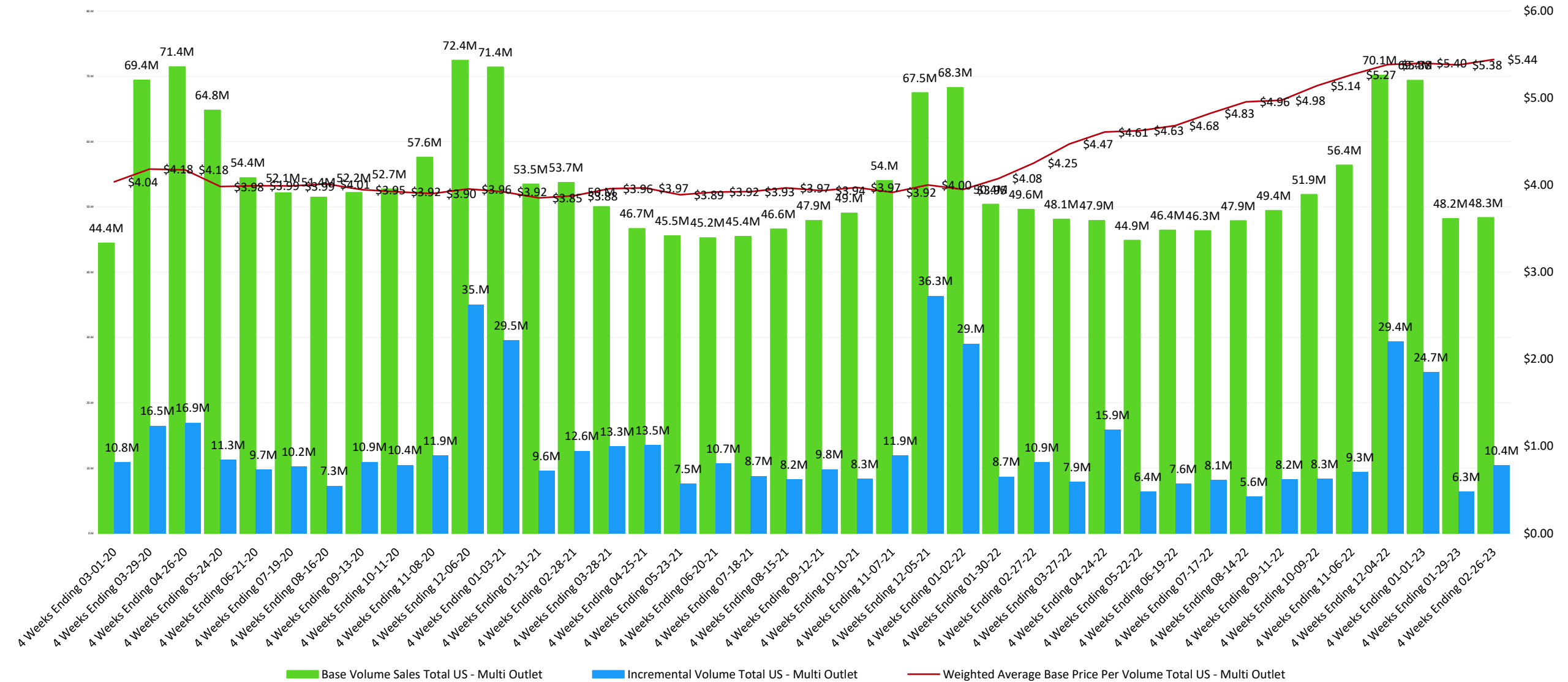
- Down 28.1 million Lbs.
- Down 3.1%

Year	Non-Promotional	Promotional	Total Sales
2021/22	723,785,175	188,120,691	911,905,866
2022/23	724,796,537	158,943,003	883,739,540
Total	0.14%	-15.51%	-3.09%

3 wks end 2/27/22 vs.2/28/21	-8.79%
4 wks end 3/27/22 vs.3/28/21	-11.51%
4 wks end 4/24/22 vs.4/25/21	5.98%
4 wks end 5/22/22 vs.5/23/21	-3.50%
4 wks end 6/19/22 vs.6/20/21	-3.42%
4 wks end 7/17/22 vs.7/18/21	0.48%
4 wks end 8/14/22 vs.8/15/21	-2.50%
4 wks end 9/11/22 vs.9/12/21	-0.05%
4 wks end 10/9/22 vs.10/10/21	4.99%
4 wks end 11/6/22 vs.11/7/21	-0.28%
4 wks end 12/4/22 vs.12/5/21	-4.13%
4 wks end 1/1/23 vs.1/2/22	-3.35%
4 wks end 1/29/23 vs.1/30/22	-7.72%
4 wks end 2/26/23 vs.2/27/22	-2.87%



# US Retail Butter Sales – “Still Soft”

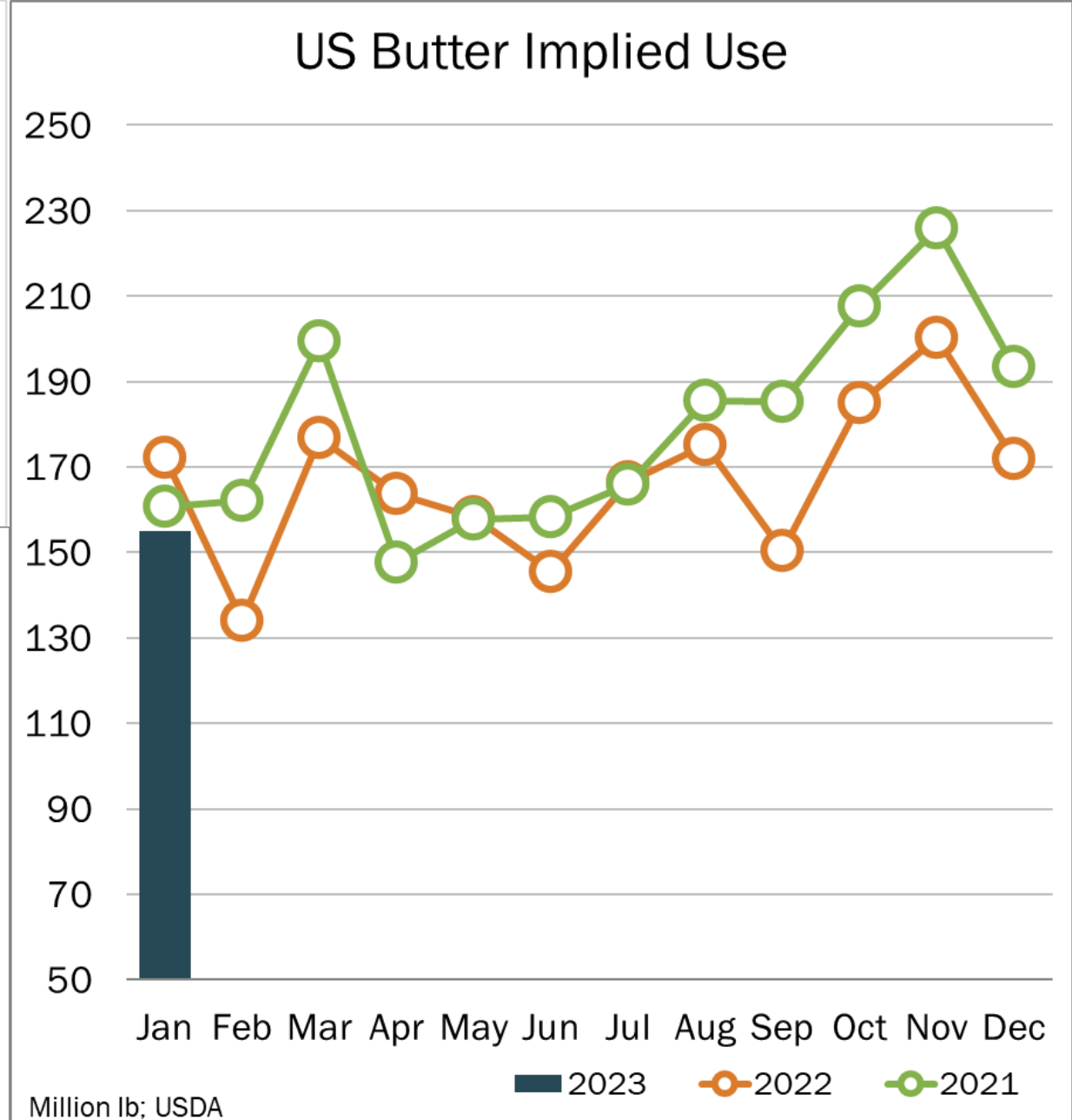
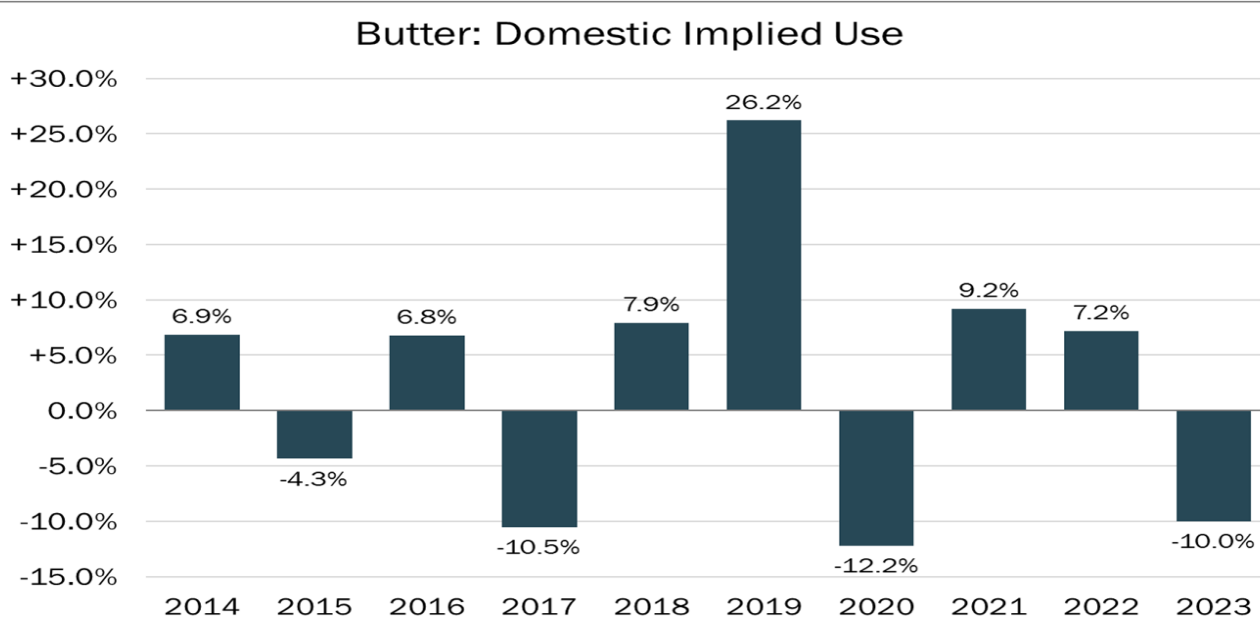
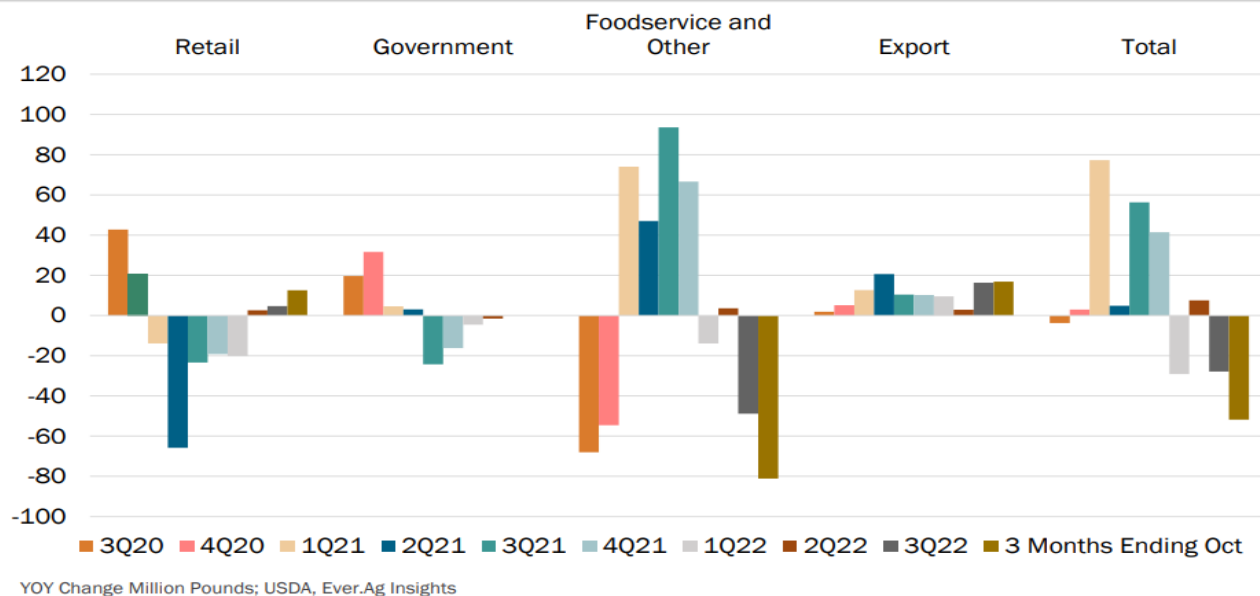


Down 3.1% versus Prior 13 Periods



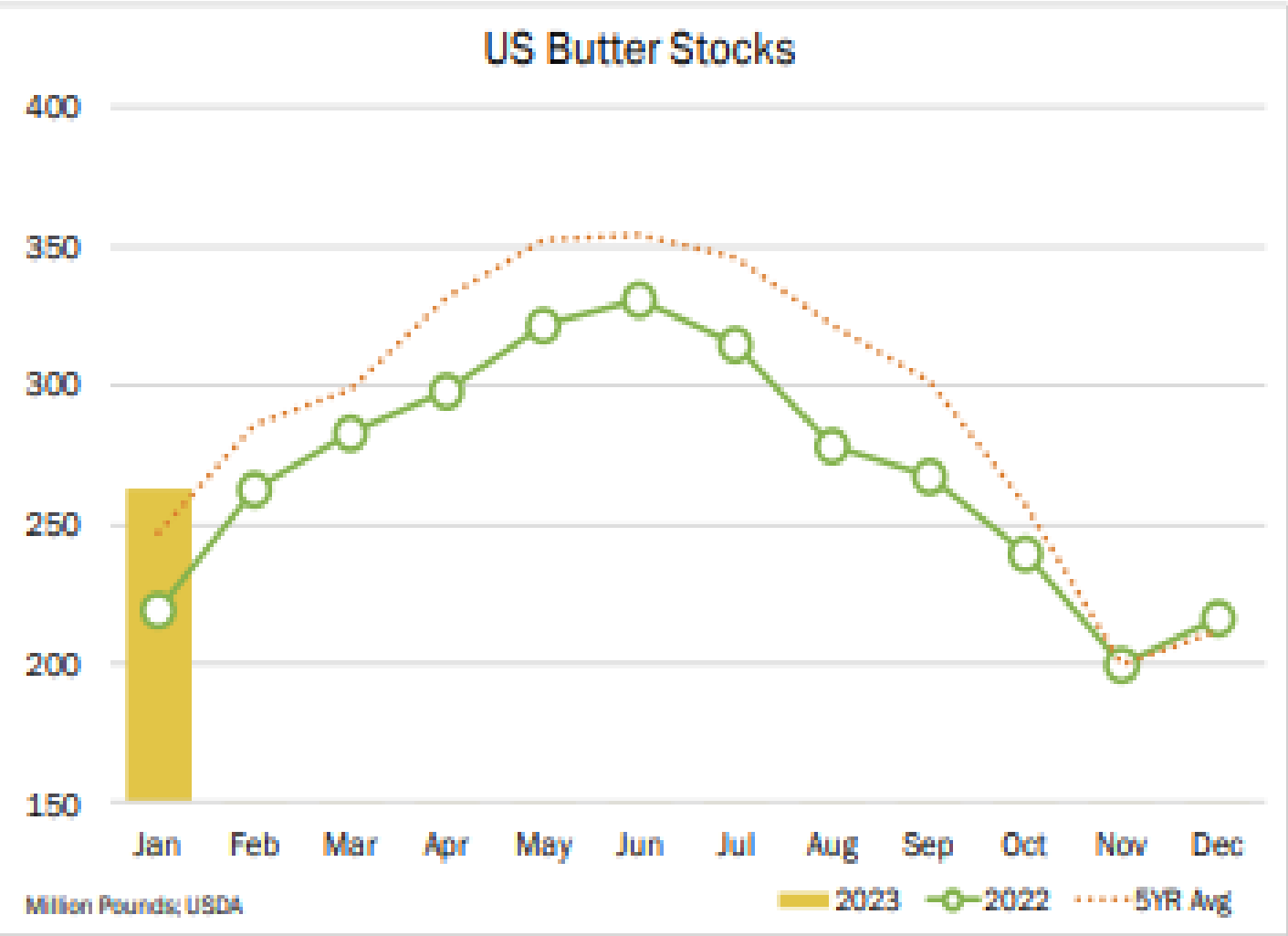


# Higher Prices are Causing a Slowdown in Domestic Demand





# Butter Stocks – Increasing Above Expectations?



**January 31 BUTTER stocks were 263 million pounds -**

- Up 19.7% year-over-year – 44 million lbs.
- Up 21.4% from December 2022 – 47 million lbs.
- Inventory increased by 46.4 million pounds from December to January
- This compares to a five-year average of +45.2 million pounds

Butter	
Million Pounds • USDA	
Jan 263	vs Last Month +21.4%
	vs Last Year +19.7%

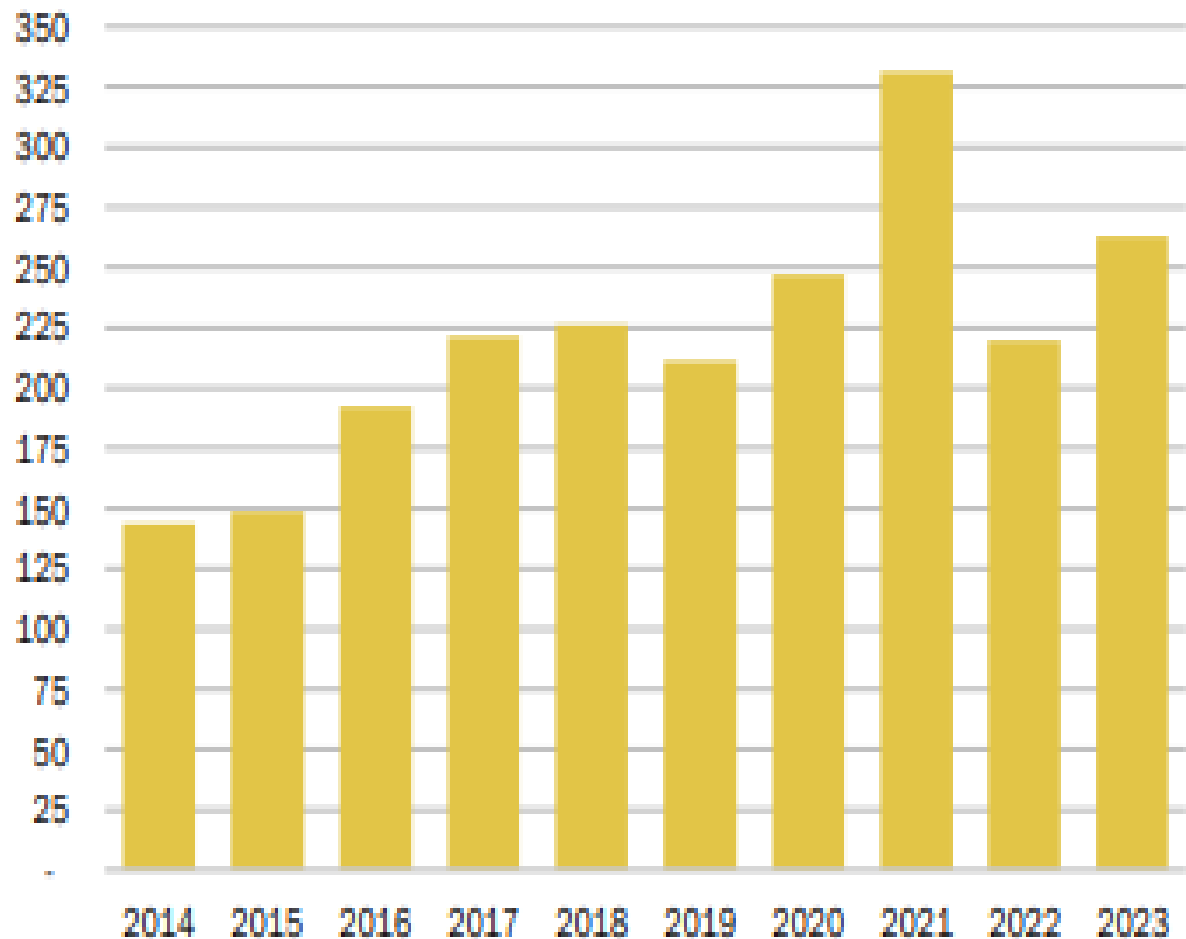
+19.7%

US Butter Stocks					
million pounds • USDA					
	2022	2023	MOM Change	5YR MOM	YOY Change
Jan	219	263	+46.4	+45.2	+19.7%
Feb	263		0.0	+38.4	
Mar	283		0.0	+12.6	
Apr	298		0.0	+33.5	
May	322		0.0	+20.9	
Jun	331		0.0	+1.5	
Jul	315		0.0	-8.0	
Aug	278		0.0	-24.6	
Sep	267		0.0	-19.8	
Oct	240		0.0	-45.0	
Nov	200		0.0	-57.4	
Dec	216		0.0	+12.2	

- US butter stocks rose to 263 million pounds at the end of January, slightly more than most expected.
- Inventory grew by 46.4 million pounds (+21.4%) versus December, just ahead of the five-year average between the months (+45.2 million).

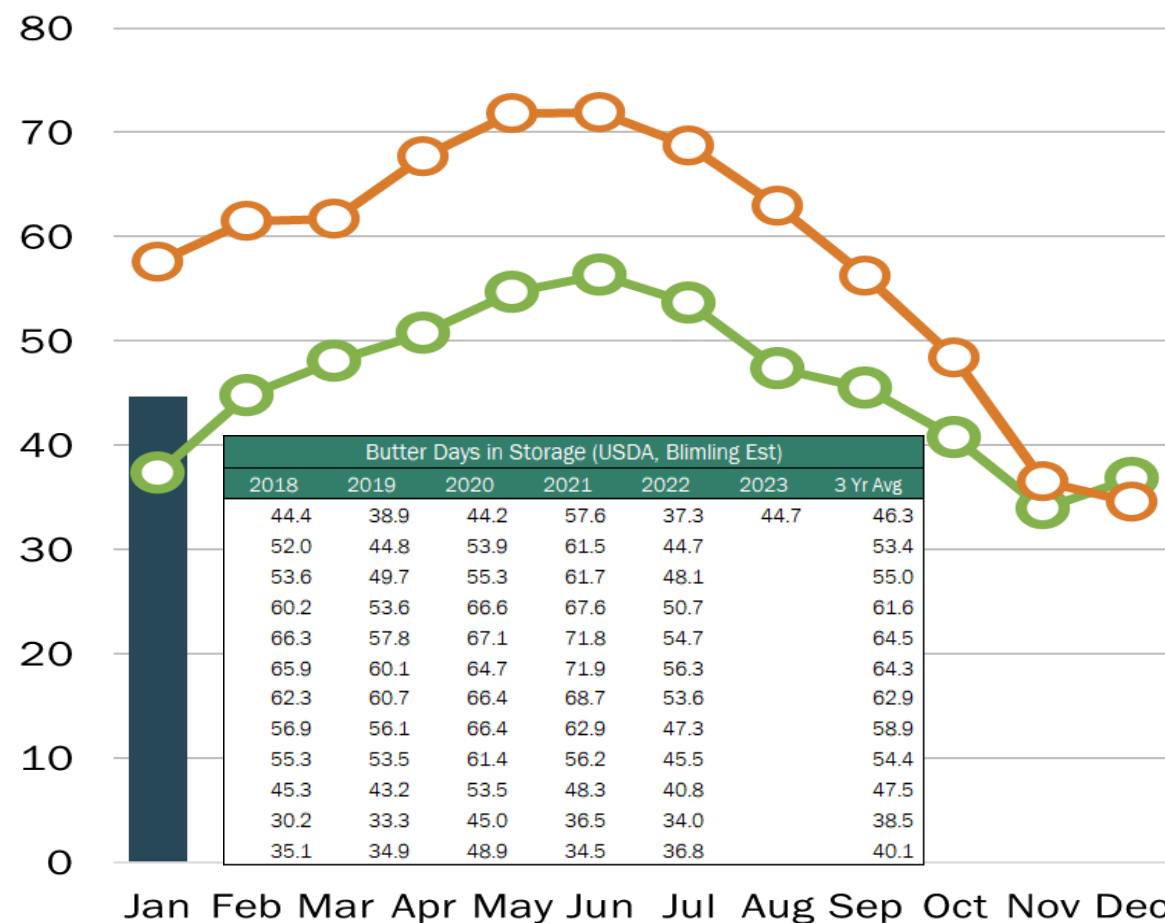
# January Butter Stocks – Better vs Expectations

US Butter Stocks: January



Million Pounds; USDA

Butter Days in Storage



Butter Days in Storage (USDA, Blimling Est)							
2018	2019	2020	2021	2022	2023	3 Yr Avg	
44.4	38.9	44.2	57.6	37.3	44.7	46.3	
52.0	44.8	53.9	61.5	44.7		53.4	
53.6	49.7	55.3	61.7	48.1		55.0	
60.2	53.6	66.6	67.6	50.7		61.6	
66.3	57.8	67.1	71.8	54.7		64.5	
65.9	60.1	64.7	71.9	56.3		64.3	
62.3	60.7	66.4	68.7	53.6		62.9	
56.9	56.1	66.4	62.9	47.3		58.9	
55.3	53.5	61.4	56.2	45.5		54.4	
45.3	43.2	53.5	48.3	40.8		47.5	
30.2	33.3	45.0	36.5	34.0		38.5	
35.1	34.9	48.9	34.5	36.8		40.1	

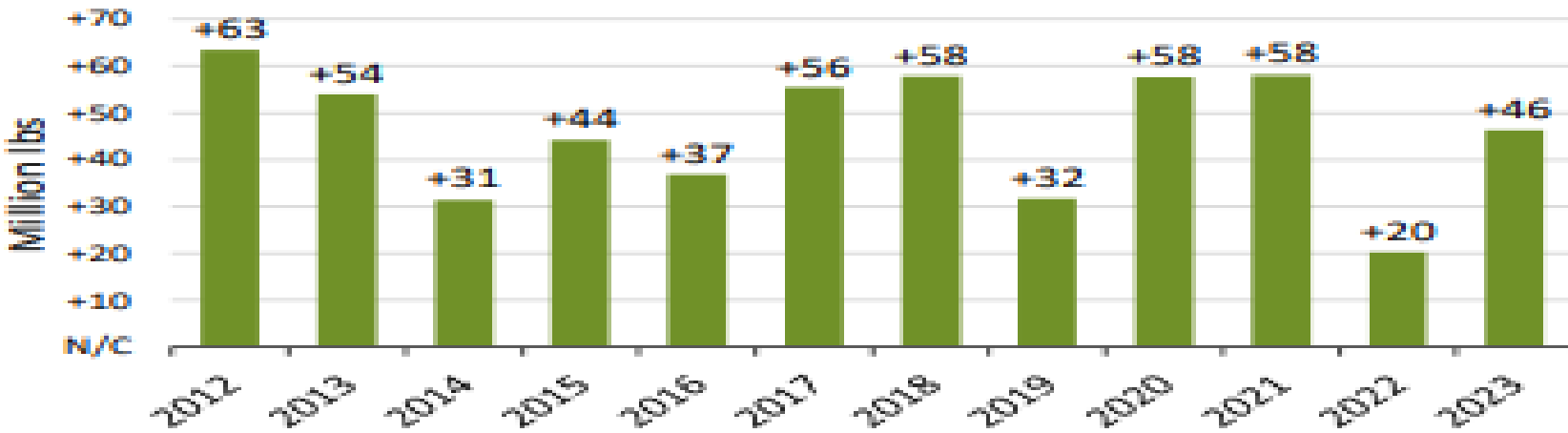
Days Supply; USDA, Blimling Est.

- Stocks were up 19.7% over January 2022, the largest year-over-year gain since January 2021
- Churns were busy last month, and their output is showing up in the freezer.
- As supply keeps coming through the spring, growing stocks may give buyers comfort that they will be able to find what they need when they need it.



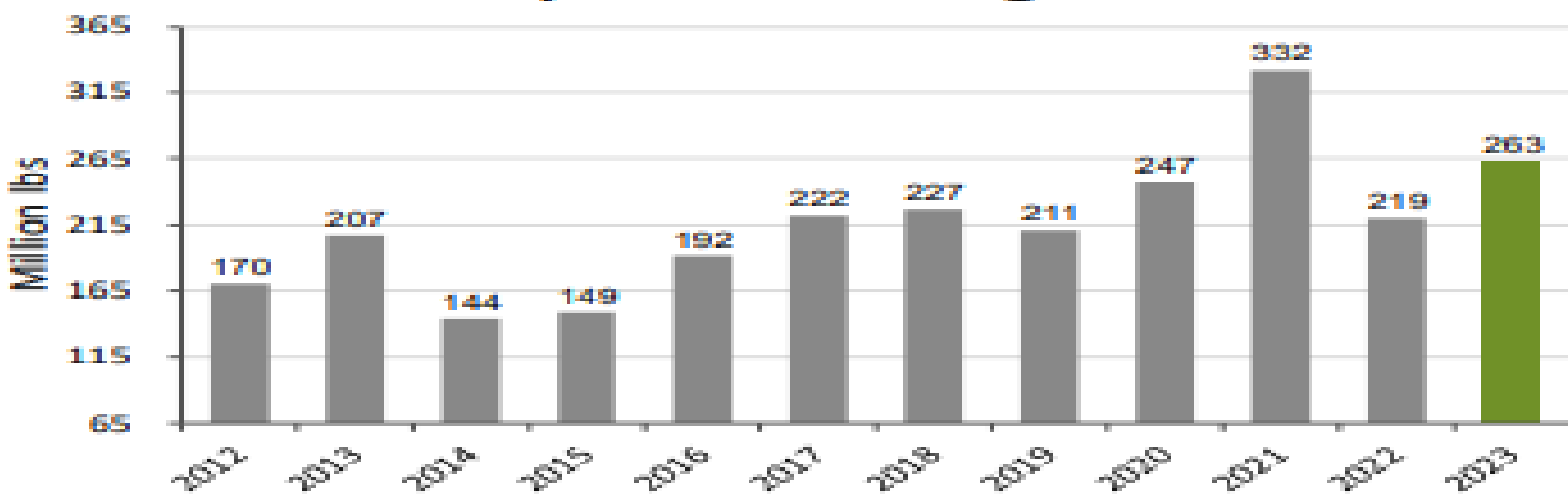
# January Butter Stocks – Commentary

## December to January Butter Inventory Change



Source: USDA

## January Butter Ending Stocks



Source: USDA

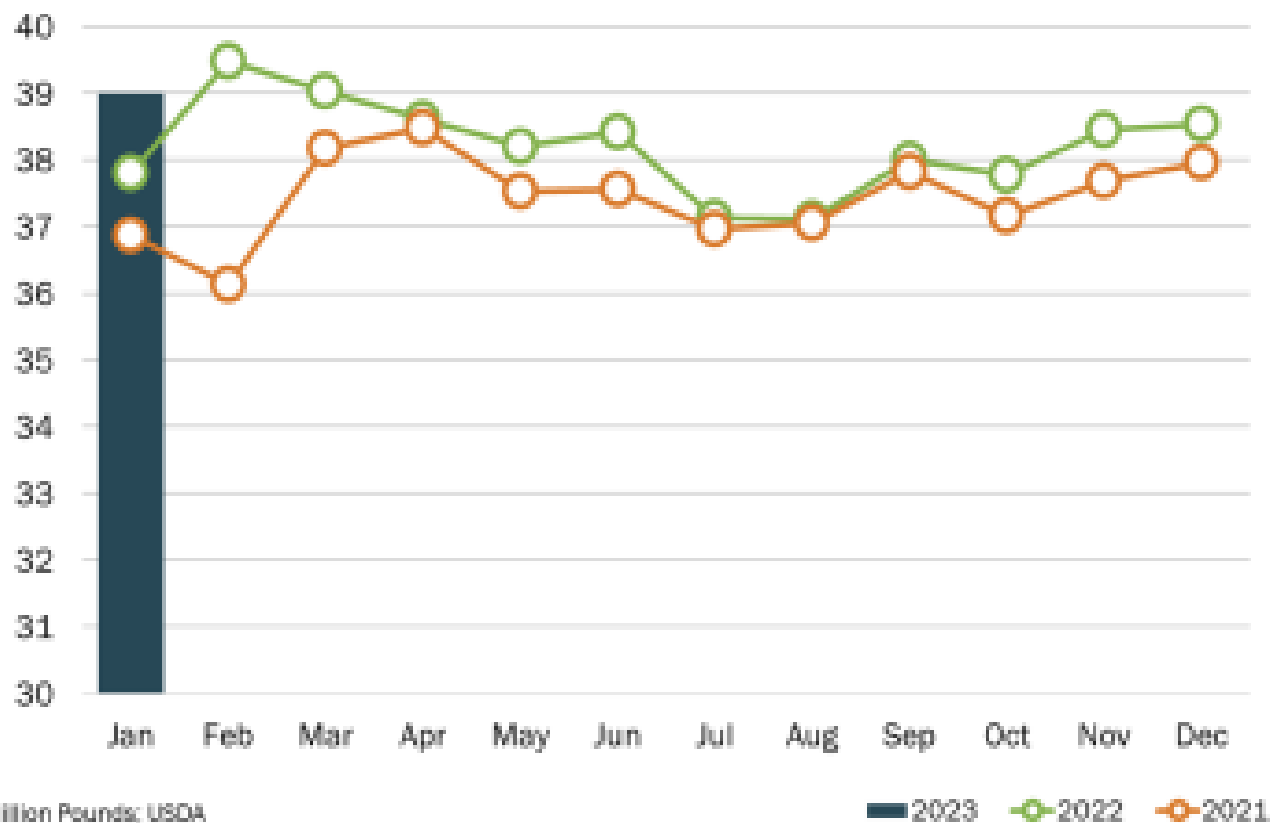
- January butter stocks were UP by 46.4 million pounds from December, close to the five-year seasonal build of 45.2 million pounds and neutral to expectations. While January 2023 stocks increased vs. January 2022, average stocks in 2022 were much weaker than 2021 and 2020 levels, making for an easy comparison. However, January 2023 butter in storage was 69 million pounds less than January 2021, which boasted the most significant January butter number since 1993.
- For the second month in a row, butter stocks were ABOVE prior year, nearly 20% vs. January 2022, the biggest YoY increase since June 2021, likely due to weaker export demand after the high prices in 2022. U.S. butter prices were at a premium to Oceania from June 2022 onward and were higher than European butter, a rarity, beginning in October 2022.
- Butter inventories continue to build, signaling that the weaker butter price in 2023 is warranted. The historically high prices throughout 2022, particularly in the fall, curbed export opportunities for US product. Domestic retail demand has also suffered, with IRI data showing butter and butter blend sales down 2.0% during the last four weeks of 2022 versus prior year, and that could continue in 2023 as shoppers deal with inflation. For foodservice, diners may opt to stay home or forgo sit-down restaurants, which use more butter and cream, and instead enjoy quick-service food. With US milk production growth continuing through at least first half 2023, and US products pricing at a premium to the rest of the world, the stage is set for a lower price band, with most analysts re-affirming expectations of a \$2.20-\$2.50 per pound range during the first half of the year.





# January Total Cheese Production –“Plus”

Daily US Total Cheese Production



Total cheese production in the US soared to 1.2 billion pounds, an increase of 3.2% against January 2022 and the 27th month in a row of an annual increase, lending credence to reports throughout the month that milk was abundant, particularly in the country's Central region. Production grew from December to January by 1.2%, against the five-year average of -0.2% decline. This was the highest January on record and the second-highest month of total cheese production in the United States (calculated on a daily avg basis). Analysts believe the low-to-mid \$1.80s for Cheddar blocks will provide support throughout the year but could dip below that mark briefly if domestic demand does not materialize during the high points of seasonal milk output.

Total Cheese Production  
million pounds

Jan 2023	vs Last Month	+1.2%
1,209	vs Last Year	+3.2%

Total Cheese

	2021	2022	2023
Jan	1,143	1,172	1,209
Feb	1,048	1,105	
Mar	1,183	1,210	
Apr	1,155	1,159	
May	1,163	1,184	
Jun	1,127	1,152	
Jul	1,146	1,151	
Aug	1,149	1,150	
Sep	1,134	1,140	
Oct	1,152	1,171	
Nov	1,130	1,154	
Dec	1,176	1,195	
Total	13,707	13,944	1,209

+3.2%  
YTD

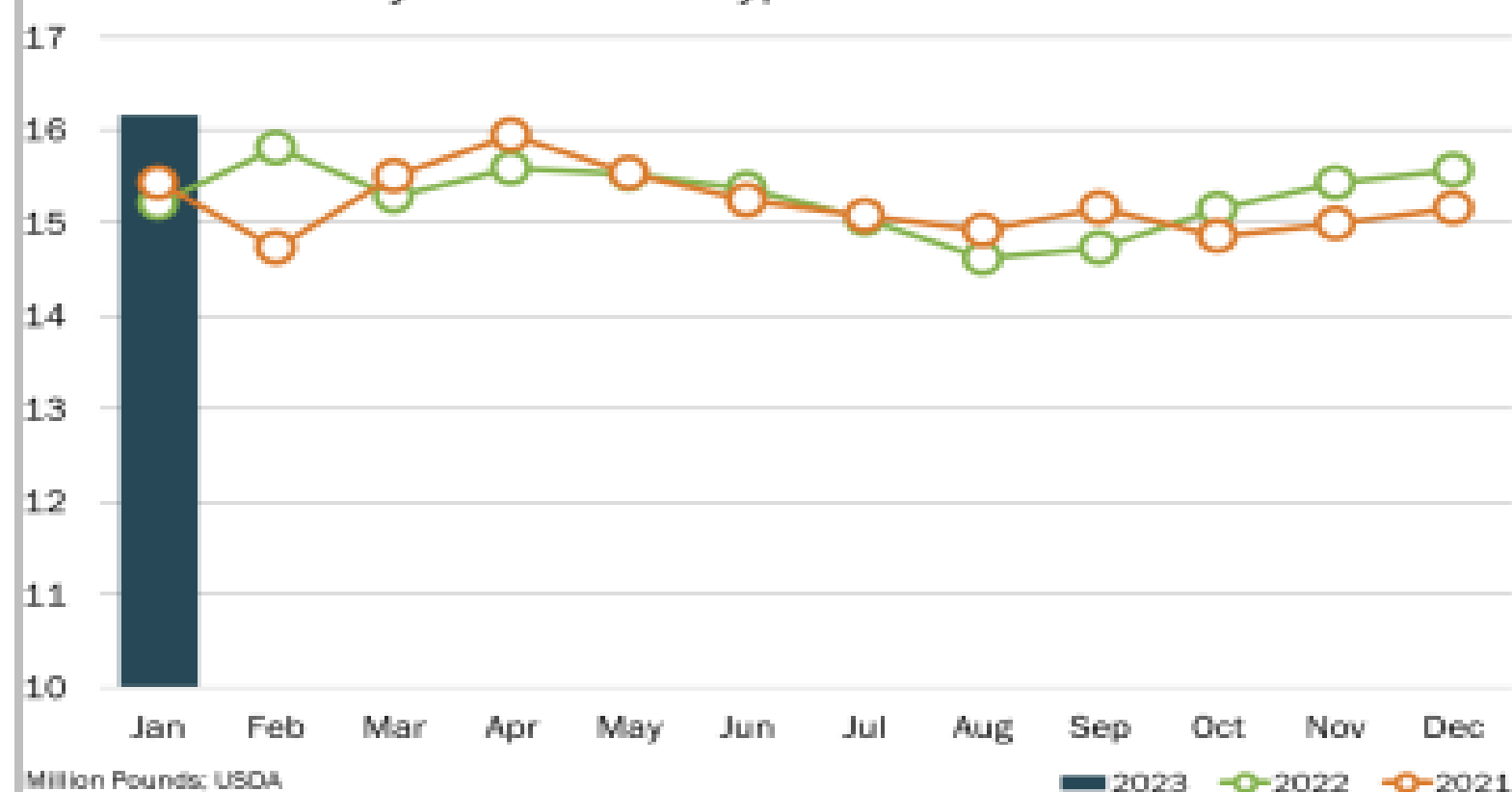
January cheese production provided bearish context to the market. New January highs were set for total cheese and Cheddar cheese production and Cheddar set a new all-time high. Dairy Market News reported loads of milk going for as low as \$10/cwt under Class III for multiple weeks in 2023, a very steep discount, indicative of too much milk and insufficient demand. That said, USDA's January Cold Storage data showed that cheese stocks fell versus both prior year and month, suggestive demand was quite robust. Perhaps the late Super Bowl kept demand humming during the first half of January, when prices were volatile and spent nearly all of its time above \$2.00 per pound. January trade data will be issued on Wednesday, March 8, helping to paint the picture on the demand side of the balance sheet.

**January 31 TOTAL CHEESE production was 1.209 billion pounds,**

- Up 3.2% (+37.0 million pounds) year-over-year
- Up 1.2% (+14.4 million pounds) from December 2022.
- This compares to a five-year average month-to-month decrease of 24.1 million pounds.

# January American Cheese Production – “Strong”

Daily US American-Type Cheese Production



American-Type Production <i>million pounds</i>		
Jan 2023	vs Last Month	+3.8%
501	vs Last Year	+6.2%

+6.2%  
YTD

	American Type Cheese		
	2021	2022	2023
Jan	478	472	501
Feb	427	443	
Mar	481	474	
Apr	478	468	
May	482	481	
Jun	457	461	
Jul	467	466	
Aug	462	453	
Sep	455	442	
Oct	461	469	
Nov	450	463	
Dec	470	483	
Total	5,568	5,574	5,501

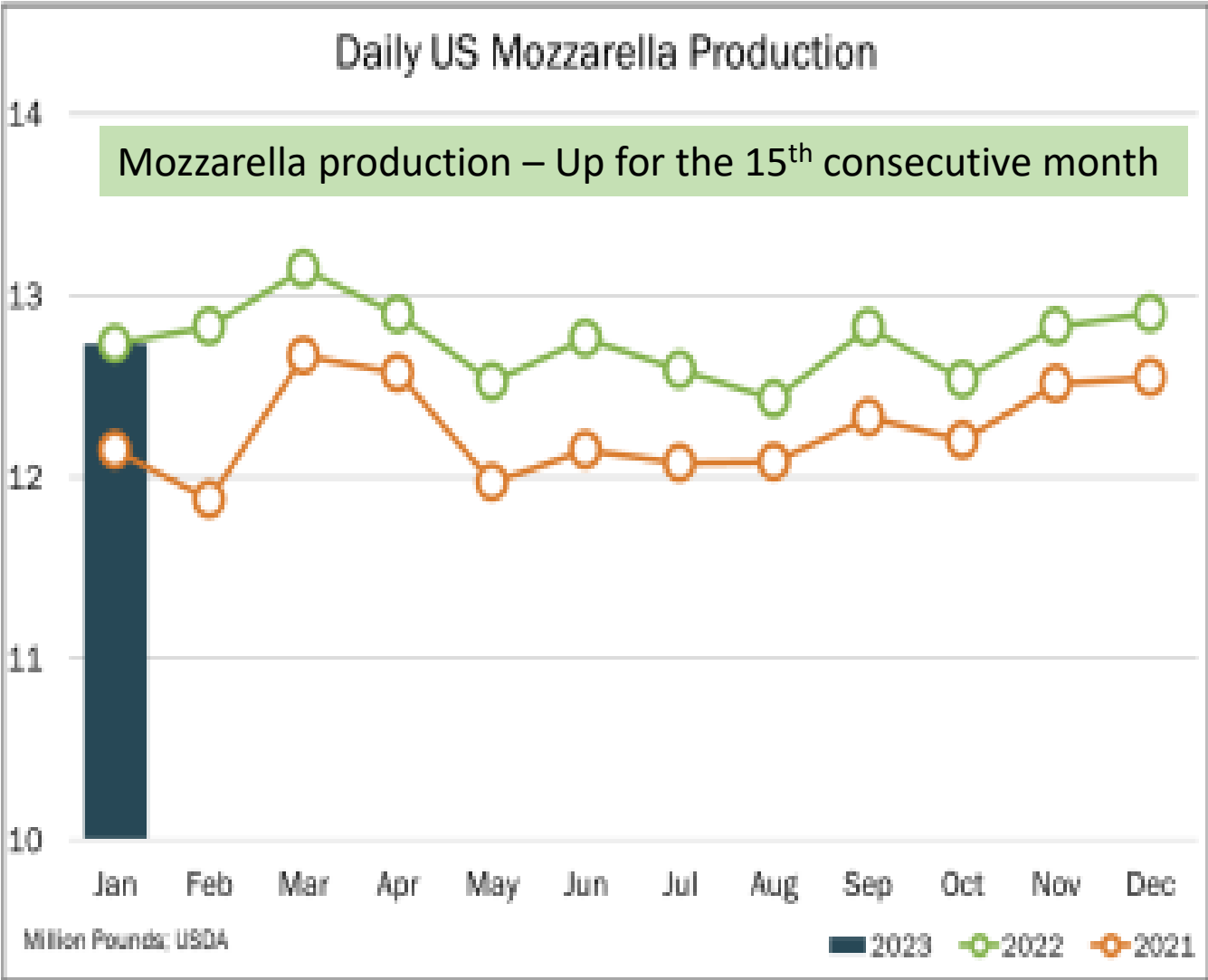
Cheese production in the Central region totaled nearly 585 million pounds, climbing by almost 20 million pounds from the previous January. Western and Eastern cheese production also increased, with the Atlantic area turning out 138 million pounds, 4.5% more than prior-year levels, and the Western US producing 486.5 million pounds, up 2.5% against January 2022. California generated almost 204 million pounds of cheese, five million pounds less (-2.3%) than in January 2022. According to USDA data, milk production in California in January was flat, so it makes sense that cheese production did make increases within the state. California is included in USDA’s Western US region, but strong production elsewhere, e.g., New Mexico (+13.6%), Washington, or Idaho (+39.%), drove the increased total cheese quantities

**January 31 AMERICAN-TYPE CHEESE production was 501 million pounds,**

- Up 6.2% (+29.3 million pounds) year-over-year
- Up 3.8% (+18.3 million pounds) from December 2022.
- This compares to a five-year average month-to-month decrease of 5.2 million pounds.



# January Mozzarella Cheese Production – “Flat”



- January Mozzarella production was flat vs January 2022, with a negligible drop of just 65,000 pounds.
- Because Mozzarella is a fresh cheese, it is often made to meet orders and not for sale later, like Cheddar.
- No growth in this category is suggestive of waning pizza demand (and potentially lower exports as well).
- The lower than-expected fourth quarter revenues and sales from some of the nation’s largest pizza chains provide context to the numbers.
- That said, the Central region’s Mozz output was up by 4.3 million pounds (+5.7%) versus Jan ’22, the only region to show growth.

	Mozzarella		
	2021	2022	2023
Jan	377	395	395
Feb	344	359	
Mar	393	407	
Apr	377	387	
May	371	388	
Jun	364	383	
Jul	374	390	
Aug	375	385	
Sep	370	385	
Oct	378	389	
Nov	375	385	
Dec	389	400	
Total	4,488	4,653	395

0.0%  
YTD

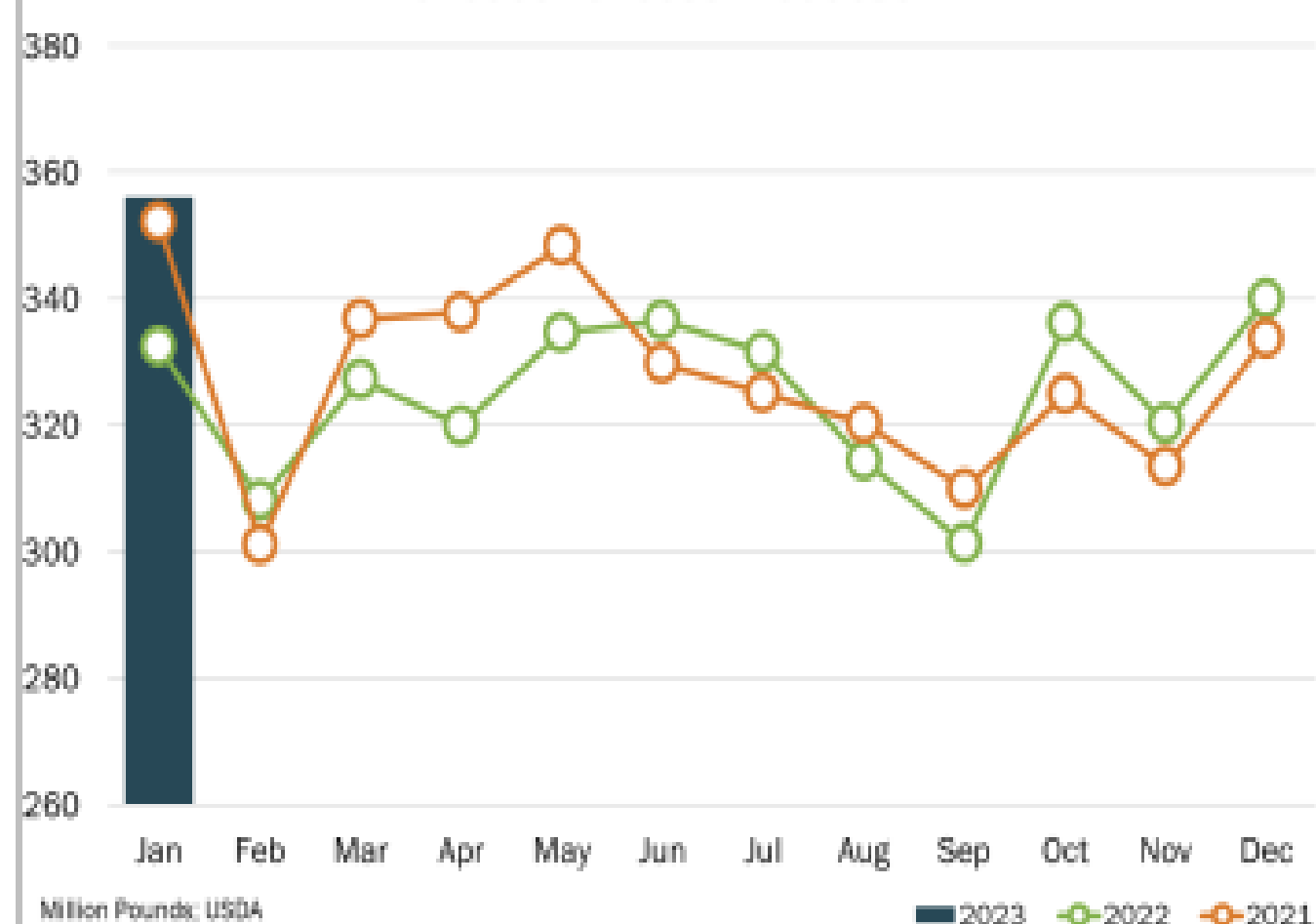
- Mild winter weather in the Midwest and Plains states made conditions ideal for producing milk. Any extra milk there went to open processing capacity causing the production of storable dairy commodities to tick up in this region

**January 31 MOZZARELLA production was 395 million pounds,**

- Essentially unchanged (-100,000 pounds) year-over-year
- Down 1.3% (-5.2 million pounds) from December 2022.
- This compares to a five-year average month-to-month decrease of 6.0 million pounds.

# January Cheddar Cheese Production –“Stronger”

Cheddar Cheese Production



Cheddar set a new high for January as well as all-time production, with more than 356 million pounds made, up 7.1%, year-on-year. With ample milk supplies, cheese processors pushed the extra to the Cheddar vats to produce a more storable product than other varieties like Mozzarella. Cheddar makers in all three regions produced more in January 2023 versus prior year. Again, California's numbers failed to impress, totaling 20.6 million pounds DOWN nearly 12% compared to one year earlier. However, the Western region produced almost 139 million pounds of Cheddar (CA just 15% share of Western's total), an 8.3% YoY gain

**+ 7.2%  
YTD**

	Cheddar		
	2021	2022	2023
Jan	352	332	356
Feb	301	308	
Mar	337	327	
Apr	338	320	
May	348	335	
Jun	330	337	
Jul	325	332	
Aug	320	314	
Sep	310	301	
Oct	325	336	
Nov	314	320	
Dec	334	340	
Total	3,933	3,903	356

**January 31 CHEDDAR CHEESE production was 356 million pounds,**

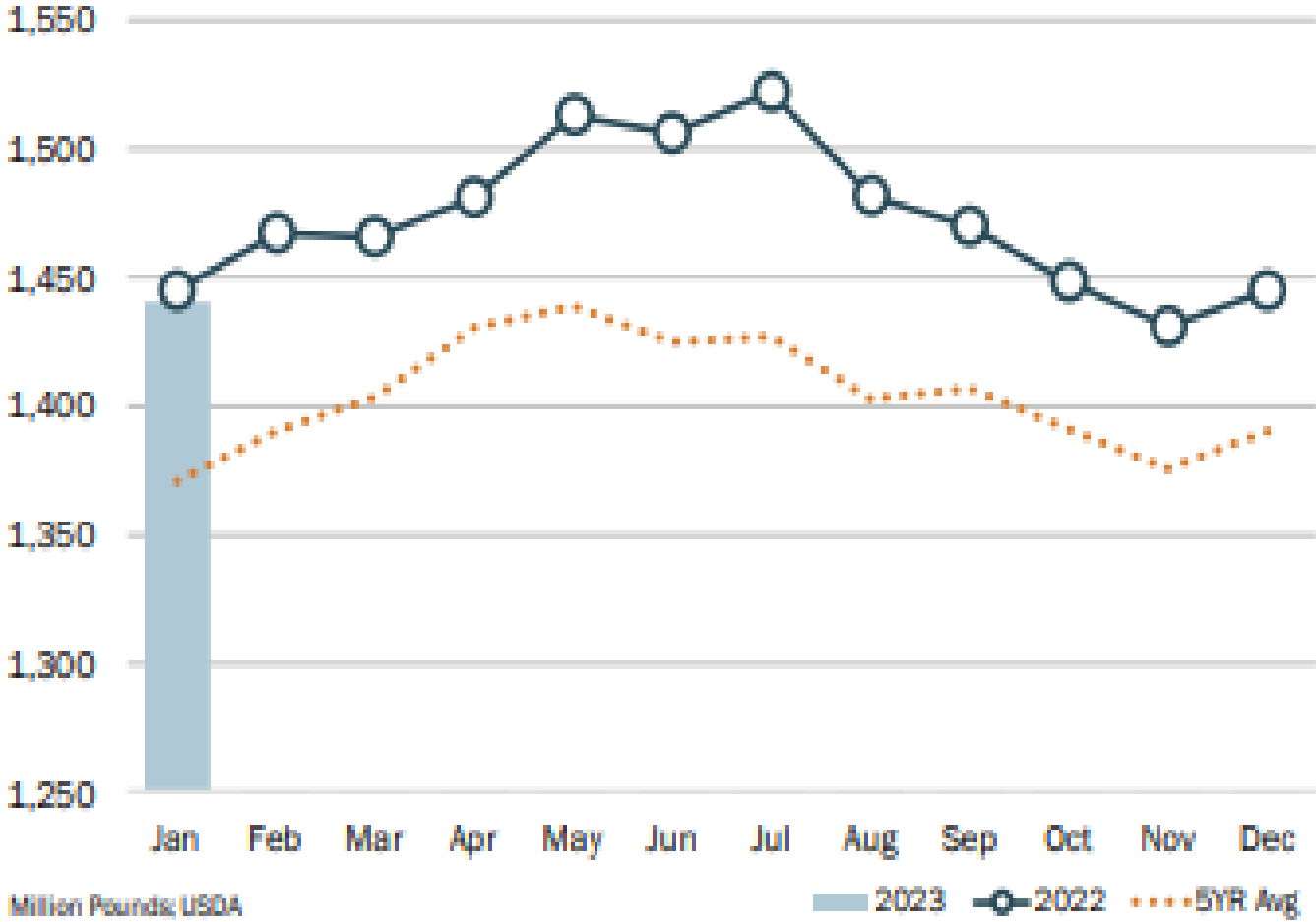
- Up 7.1% (+23.6 million pounds) year-over-year
- Up 4.7% (+16.1 million pounds) from December 2022
- This compares to a five-year average month-to-month decrease of 1.0 million pounds.

- Two new January records were set in total cheese and Cheddar production, with Cheddar output also setting an all-time high
- Cheese production was 24 million lbs. heavier than expected, most of it coming in the way of cheddar, but December was revised down 7.7 millions lbs.
- Mozzarella production was 5 million lbs. lighter than expected at 395 million lbs.
- Most analysts believe the increased production in January is reflected well in the current cheese prices.
- In February over 5 million lbs. of barrel cheese was brought to the CME spot market—more than 3.5 million lbs. above February 2022.



# January Total Cheese Stocks – “Lower vs PY”

US Total Cheese Stocks



**January 31 TOTAL CHEESE stocks were 1.441 billion pounds,**

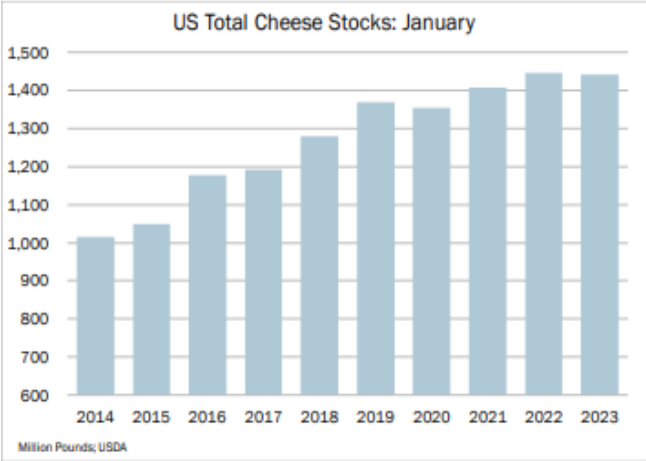
- Down 0.3% year-over-year – 4 million lbs.
- Down 0.3% from December 2022. – 4 million lbs.
- Inventory decreased by 4.1 million pounds from December to January
- This compares to a five-year average of +13.9 million pounds

**Total Cheese**  
Million Pounds • USDA

Jan  
1,441

vs Last Month  
-0.3%

vs Last Year  
-0.3%



Total US cheese inventories fell to 1.441 billion pounds in January, well below pre-report expectations.

Total cheese stocks declined 4.1 million pounds from December (-0.3%) and down 0.3% year-over-year. The month-to-month decline contrasts sharply with what was a five-year average increase of 13.9 million pounds between December and January.

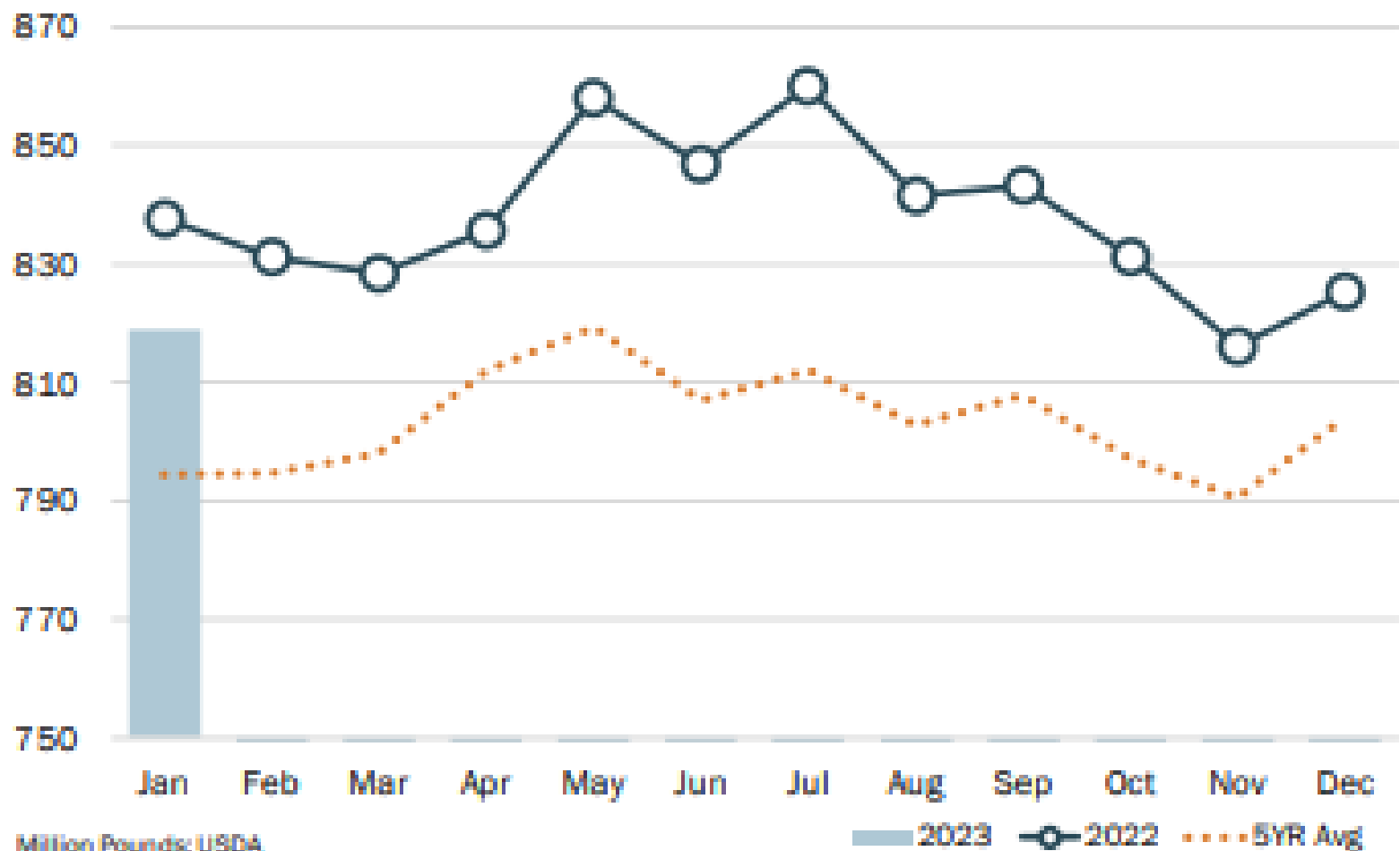
We’ve not seen a December to January decline since 2018 and this was the largest since 2008.

-0.3%

US Total Cheese Stocks					
million pounds • USDA					
	2022	2023	MOM Change	5YR MOM	YOY Change
Jan	1,445	1,441	-4.1	+13.9	-0.3%
Feb	1,467		0.0	+19.0	
Mar	1,466		0.0	+13.7	
Apr	1,481		0.0	+26.6	
May	1,513		0.0	+9.0	
Jun	1,506		0.0	-13.9	
Jul	1,522		0.0	+2.0	
Aug	1,481		0.0	-24.7	
Sep	1,470		0.0	+4.4	
Oct	1,448		0.0	-16.0	
Nov	1,431		0.0	-15.7	
Dec	1,445		0.0	+14.7	

# January American Cheese Stocks – “Weak”

US American-Type Cheese Stocks



## January 31 AMERICAN-TYPE CHEESE stocks were 819 million pounds -

- Down 2.2% year-over-year – 19 million lbs.
- Down 0.8% from December 2022 – 6 million lbs.
- Inventories decreased by 6.5 million pounds from December to January
- This compares to a five-year average of +6.0 million pounds).

## American-Type Cheese

Million Pounds • USDA

**Jan**  
**819**

vs Last Month  
-0.8%

vs Last Year  
-2.2%

## US American-Type Cheese Stocks

million pounds • USDA

	2022	2023	MOM Change	5YR MOM	YOY Change
Jan	838	819	-6.5	+6.0	-2.2%
Feb	831		0.0	+0.2	
Mar	828		0.0	+3.6	
Apr	836		0.0	+13.8	
May	858		0.0	+7.4	
Jun	847		0.0	-12.4	
Jul	860		0.0	+5.1	
Aug	842		0.0	-9.3	
Sep	843		0.0	+5.0	
Oct	831		0.0	-10.5	
Nov	816		0.0	-6.7	
Dec	825		0.0	+13.6	

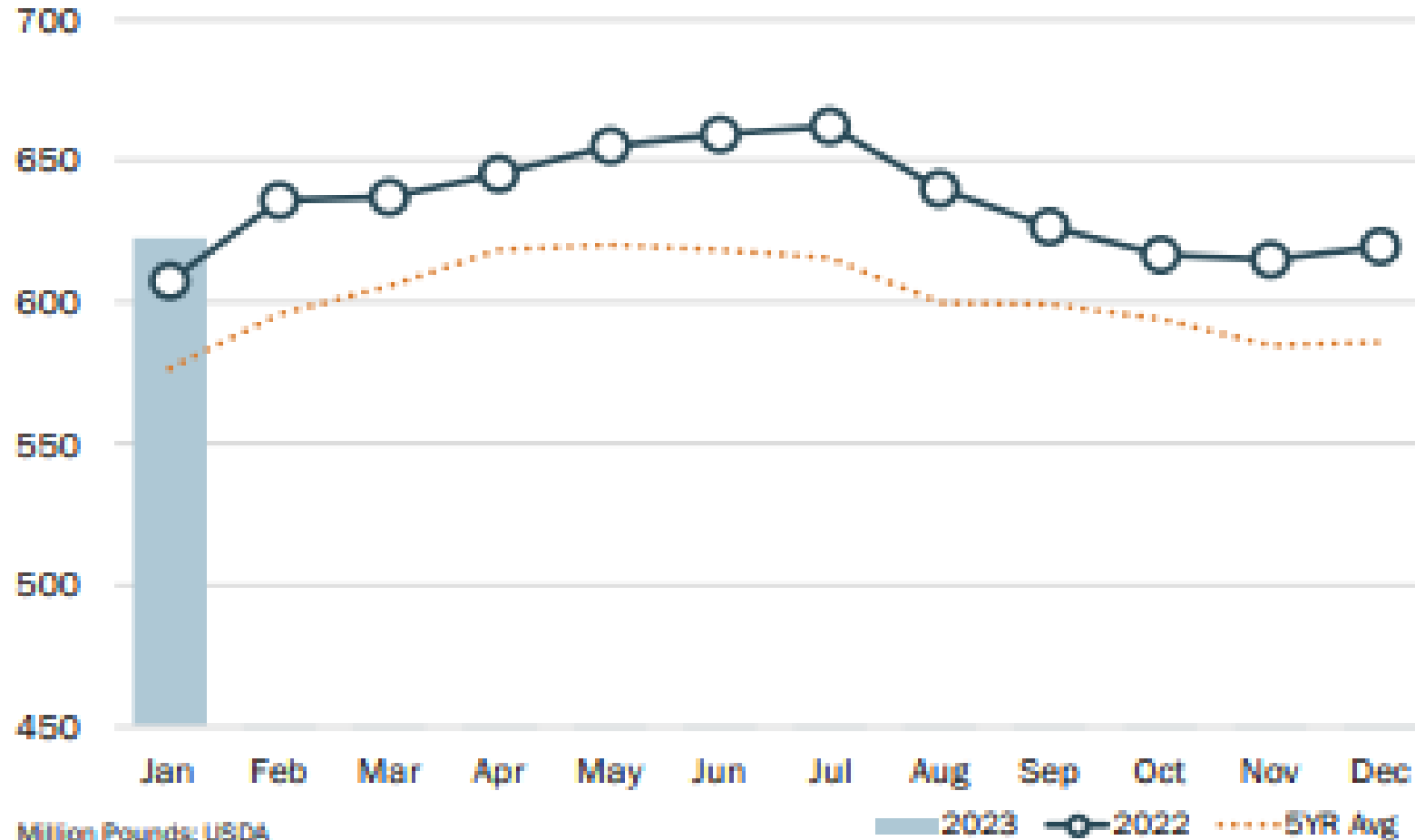
-2.2%

- American-type cheese stocks fell to 819 million pounds, decreasing by 6.5 million pounds (-0.8%) from December and down 2.2% versus a year ago.
- This is well short of most analyst's expectations of 845 million pounds.



# January Other Cheese Stocks - “Better”

US Other-Type Cheese Stocks



Million Pounds: USDA

2023 2022 5YR Avg

## January 31 OTHER CHEESE stocks were 622 million pounds

- Up 2.4% year-over-year – 15 million lbs.
- Up 0.4% from December 2022 – 2 million lbs.
- Inventory increased by 2.4 million pounds from December to January
- This compares to a five-year average of +7.9 million pounds

US Other-Type Cheese Stocks

million pounds • USDA

	2022	2023	MOM Change	5YR MOM	YOY Change
Jan	607	622	+2.4	+7.9	+2.4%
Feb	636		0.0	+18.9	
Mar	637		0.0	+10.1	
Apr	645		0.0	+12.8	
May	655		0.0	+1.6	
Jun	660		0.0	-1.5	
Jul	662		0.0	-3.1	
Aug	640		0.0	-15.4	
Sep	627		0.0	-0.6	
Oct	617		0.0	-5.6	
Nov	615		0.0	-8.9	
Dec	620		0.0	+1.1	

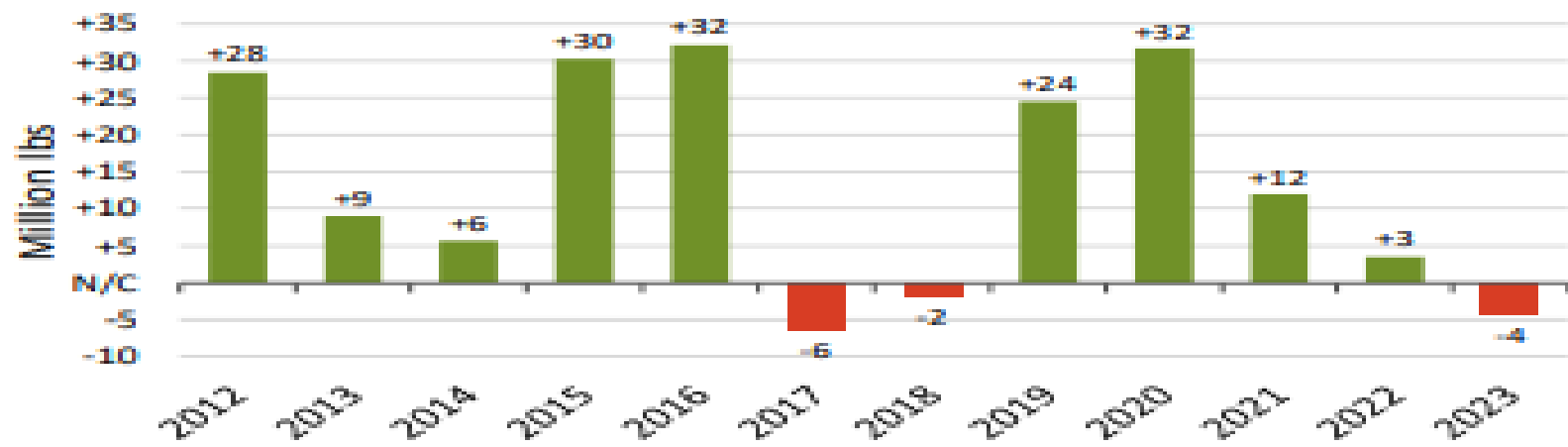
+2.4%

While supplies seem ample day-to-day, these numbers confirm that there's some more pipeline filling to do in the weeks ahead.



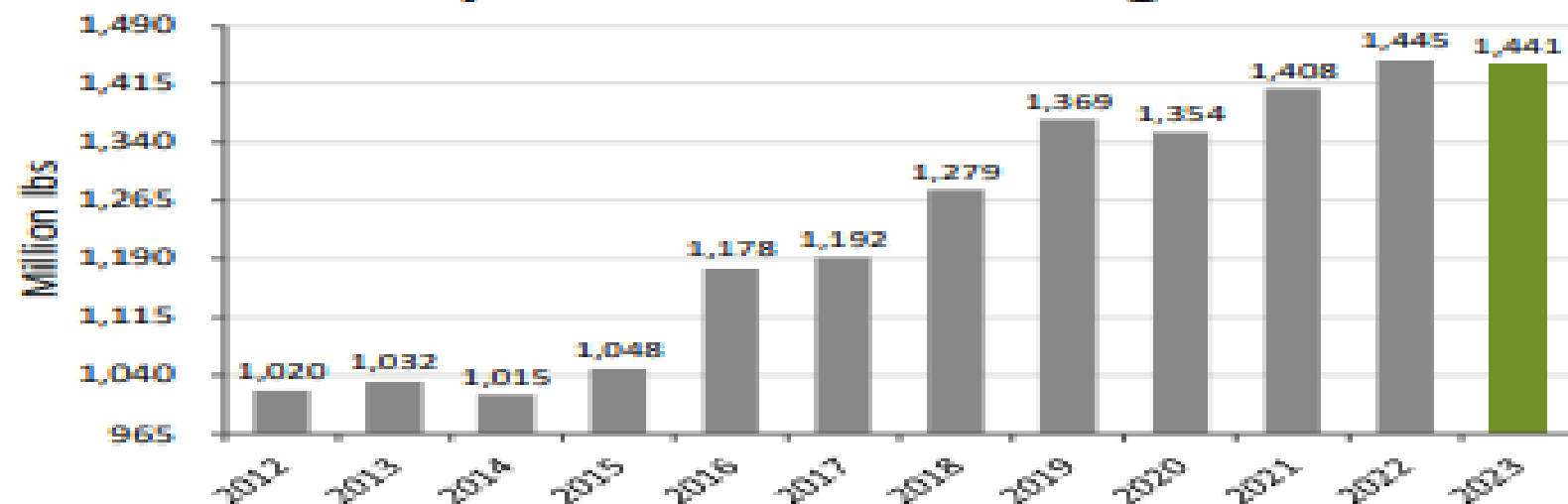
# January Cheese Stocks Commentary

## December to January Total Cheese Inventory Change



Source: USDA

## January Total Cheese Ending Stocks



Source: USDA

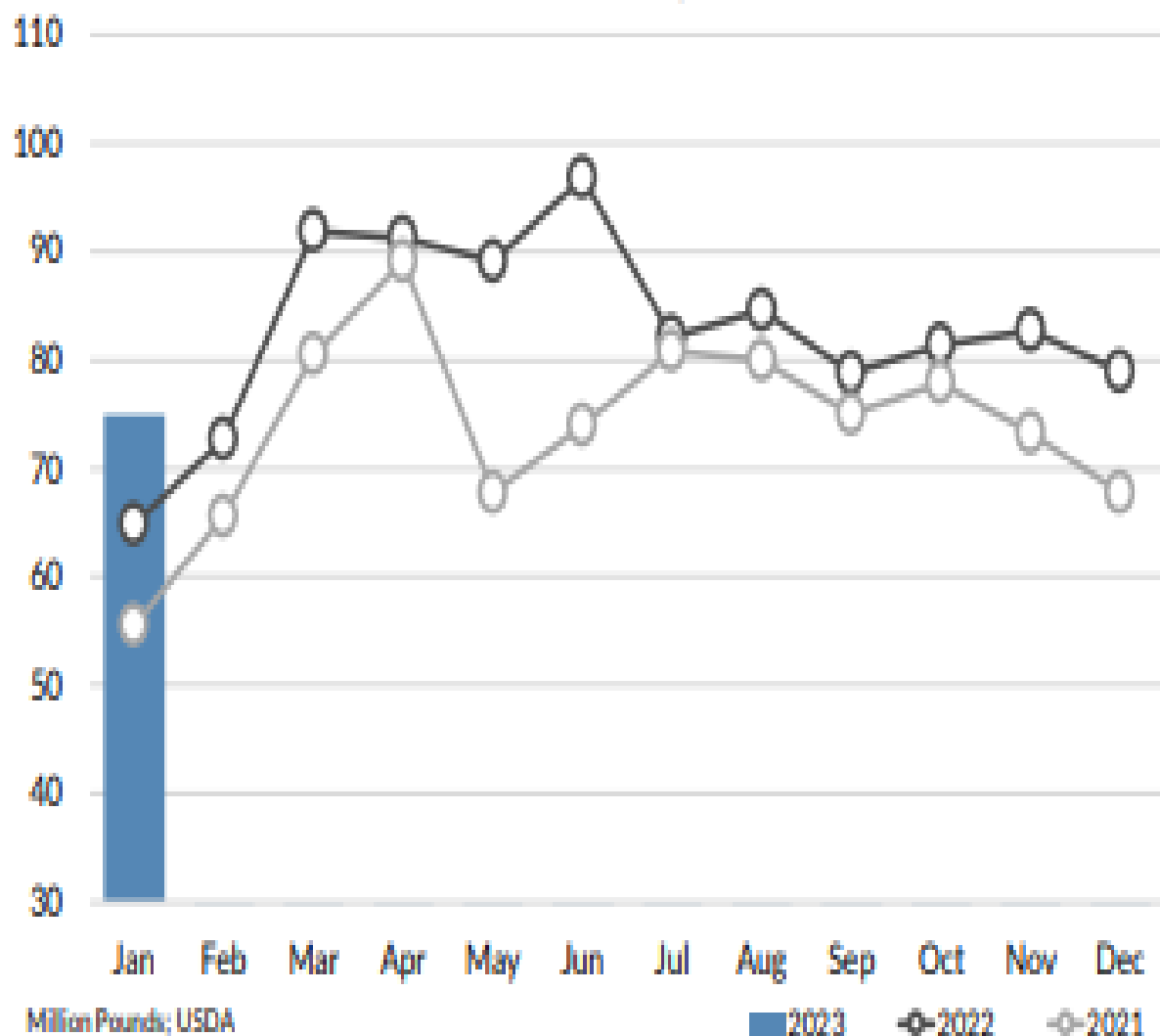
- January total cheese stocks DECLINED 4.1 million pounds from December to January, bucking the seasonal trend. The 5-year average December to January is a nearly 14 million build.
- Natural American cheese stocks were DOWN 6.5 million pounds against December 2022, going against the seasonal trend, with a five-year average increase of six million pounds from December to January. Against January 2022, American cheese inventories were DOWN 18.8 million pounds, or -2.2%, which marked the fifth consecutive month that American cheese stocks fell relative to prior year numbers.
- Other-than-American cheese inventories grew above the previous year for the 20th straight month. January's levels were an all-time high for the month but the growth of 2.4 million pounds from December was smaller than the typical 7.9-million-pound build
- Declining cheese stocks would usually support markets; however, with world prices sitting at a discount to the US, this data may not provide immediate price support. January milk production was above prior year in 19 of the 24 major milk-producing states, many of which are Class III heavy, suggesting that vats were at capacity and weak production was not the reason for the smaller inventories. Demand is the likely culprit here, with January being a cheese-consumption-heavy month due to major sporting events. The lack of export business into potentially weaker domestic demand during the remainder of Q1 could be the primary price driver these next four weeks



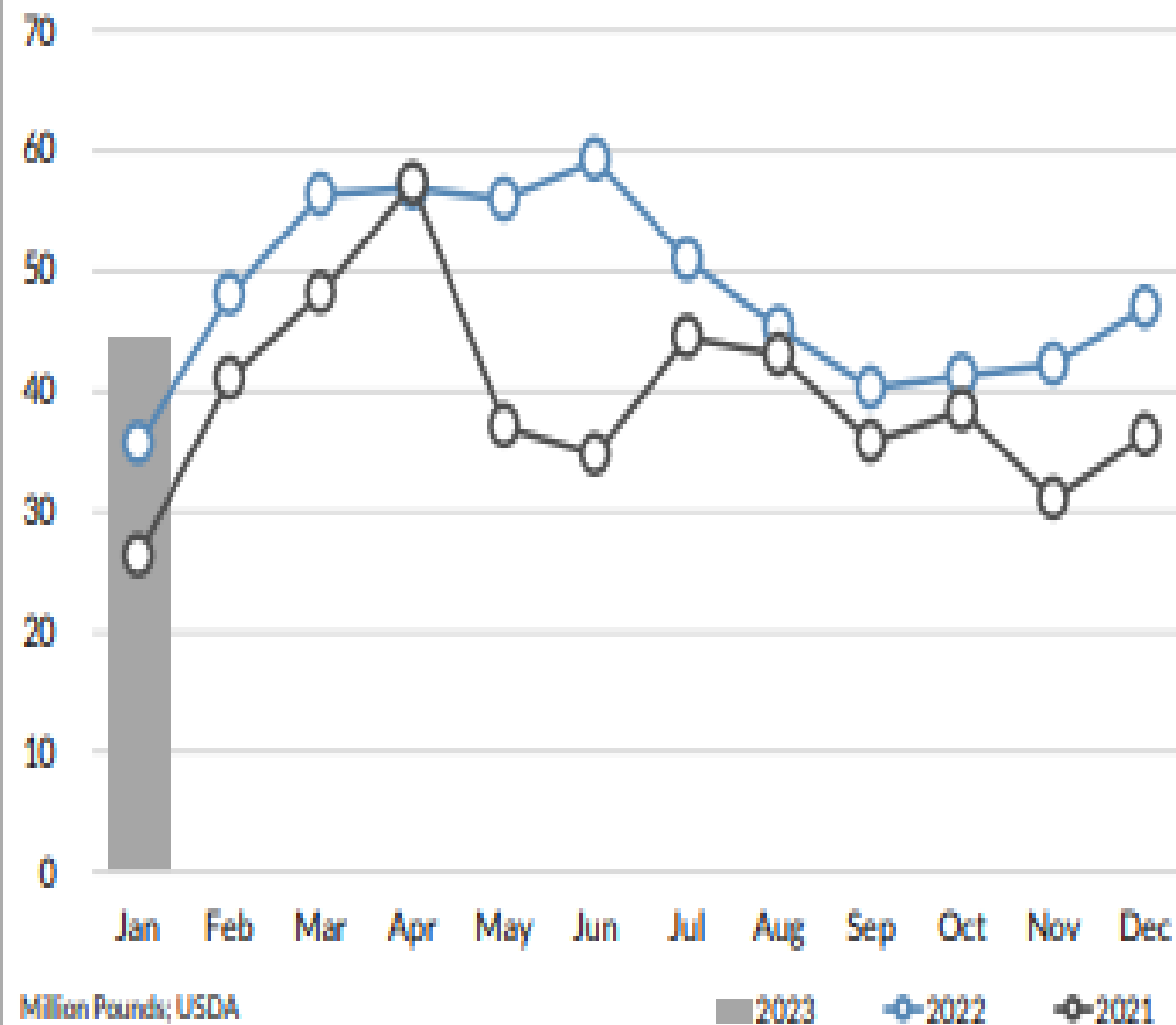


# US Cheese Exports – Continue “Stronger”

## US Cheese Exports



## US Net Cheese Trade

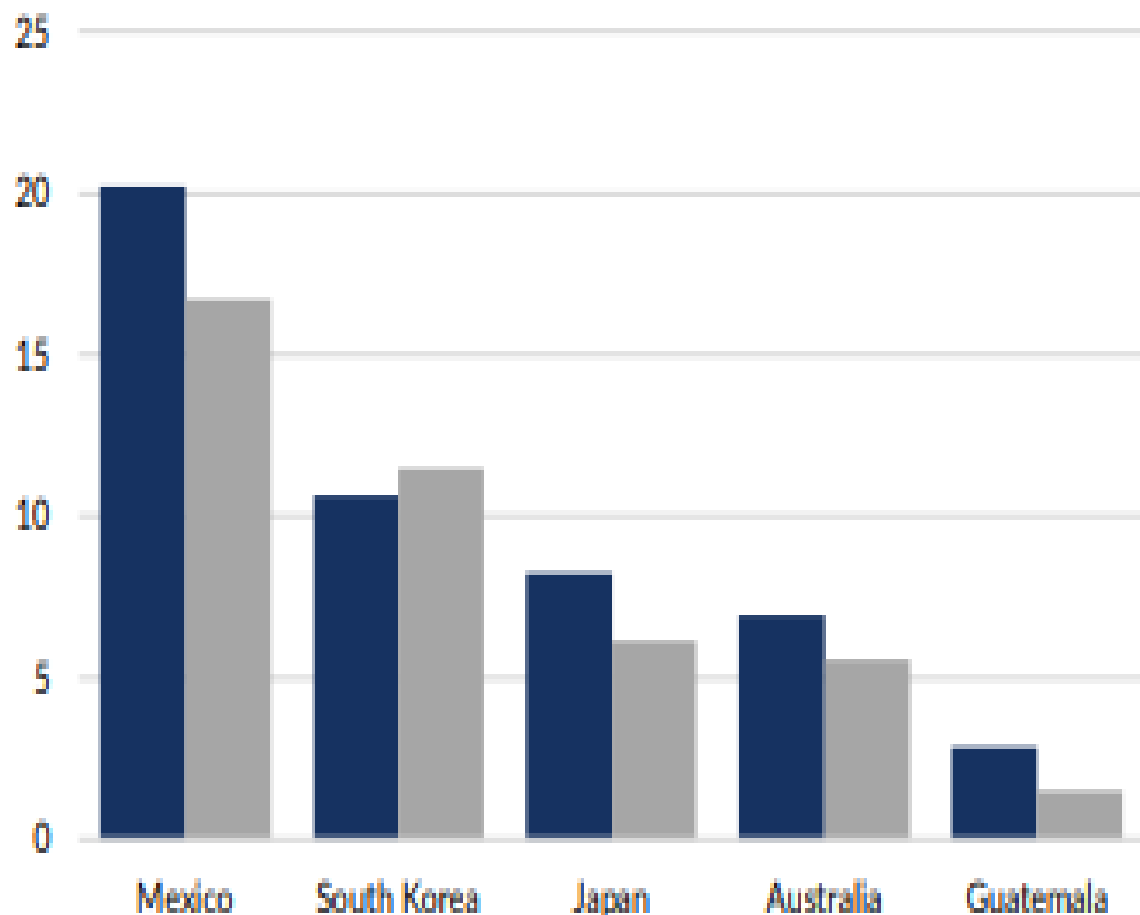


- US cheese exports totaled 75 million pounds in January, up 16% year-over-year and the strongest volume for the month in more than 20 years.
- Cheese imports also climbed to 31 million pounds, up 5% on the year.



# US Exports – Cheese “Where To?”

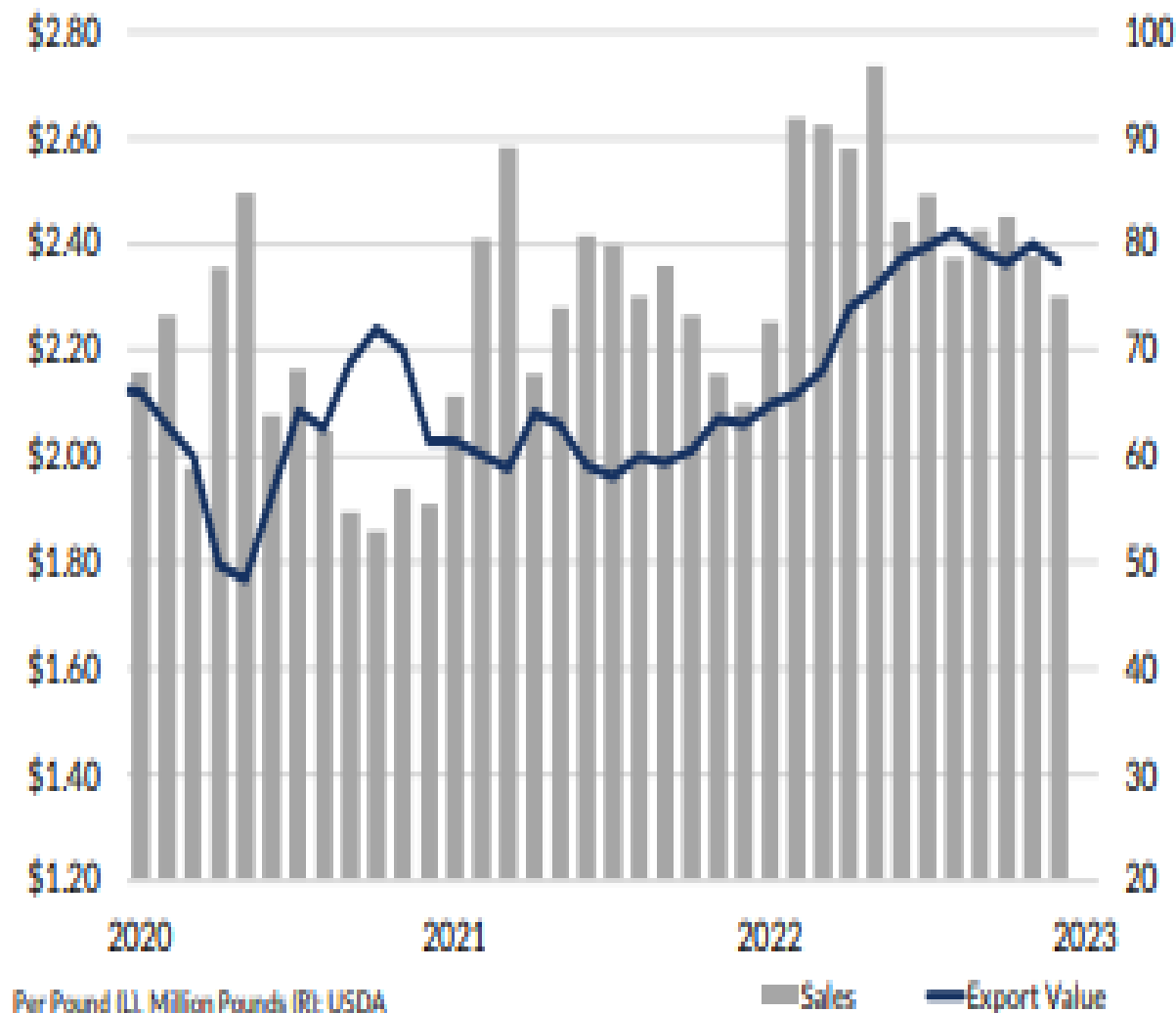
## YTD US Cheese Exports by Destination



Million Pounds; USDA - YTD January

■ 2023 ■ 2022

## US Cheese Export Values and Volume



Per Pound (L), Million Pounds (R); USDA

■ Sales — Export Value

- Japan and Mexico were among the biggest buyers, with shipments to the two regions rising 35% and 21%, respectively, over prior-year levels.



# US Cheese Exports – “Edging Higher”

	US Cheese Exports			US Cheese Imports			Net Cheese Trade			US Exports to Mexico		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	55.5	64.9	75.0	29.2	29.2	30.5	26.3	35.7	44.5	9.6	16.7	20.2
Feb	65.6	72.6		24.5	24.6		41.1	48.1		18.9	19.8	
Mar	80.5	91.9		32.3	35.6		48.2	56.3		21.4	26.9	
Apr	89.1	91.2		31.9	34.4		57.2	56.9		21.3	23.1	
May	67.8	89.0		30.7	33.1		37.1	55.9		18.2	20.7	
Jun	74.0	96.8		39.3	37.5		34.7	59.3		22.9	25.6	
Jul	80.8	82.2		36.4	31.2		44.5	50.9		21.4	25.1	
Aug	79.9	84.6		37.0	39.4		43.0	45.2		21.1	26.0	
Sep	75.0	78.8		39.2	38.6		35.8	40.2		19.6	21.7	
Oct	78.0	81.5		39.5	40.1		38.4	41.4		17.3	19.4	
Nov	73.2	82.7		42.2	40.4		31.0	42.2		19.8	22.8	
Dec	67.8	78.9		31.5	31.9		36.3	47.0		19.0	24.6	
Total	887.3	995.1	75.0	413.7	416.1	30.5	473.5	579.0	44.5	230.5	272.4	20.2
YTD	55.5	64.9	75.0	29.2	29.2	30.5	26.3	35.7	44.5	9.6	16.7	20.2
Change		17%	16%		0%	4%		36%	25%		74%	21%



# US Retail Cheese Sales – “Turning?”

Time	Base Volume Sales	Incremental Volume	Wgt. Avg. Base Price Per Vol.
	Total US - Multi Outlet	Total US - Multi Outlet	Total US - Multi Outlet
4 Weeks Ending 01-31-21	254,853,976	29,268,121	\$5.51
4 Weeks Ending 02-28-21	254,304,513	34,852,404	\$5.56
4 Weeks Ending 03-28-21	236,779,559	30,168,576	\$5.59
4 Weeks Ending 04-25-21	235,528,989	31,419,527	\$5.58
4 Weeks Ending 05-23-21	230,965,772	26,905,368	\$5.58
4 Weeks Ending 06-20-21	231,141,227	31,253,670	\$5.62
4 Weeks Ending 07-18-21	234,231,334	31,802,088	\$5.61
4 Weeks Ending 08-15-21	236,440,880	27,031,952	\$5.61
4 Weeks Ending 09-12-21	240,762,355	32,194,066	\$5.62
4 Weeks Ending 10-10-21	239,218,649	27,808,357	\$5.53
4 Weeks Ending 11-07-21	242,171,568	28,909,496	\$5.50
4 Weeks Ending 12-05-21	261,102,189	44,465,842	\$5.48
4 Weeks Ending 01-02-22	281,803,812	46,908,204	\$5.50
4 Weeks Ending 01-30-22	251,894,597	26,304,948	\$5.58
4 Weeks Ending 02-27-22	247,693,199	32,868,723	\$5.62
4 Weeks Ending 03-27-22	238,956,922	25,144,161	\$5.67
4 Weeks Ending 04-24-22	238,844,211	32,615,691	\$5.75
4 Weeks Ending 05-22-22	229,638,028	22,887,717	\$5.88
4 Weeks Ending 06-19-22	230,317,185	28,997,366	\$6.03
4 Weeks Ending 07-17-22	233,647,831	28,734,380	\$6.12
4 Weeks Ending 08-14-22	235,558,069	26,515,899	\$6.17
4 Weeks Ending 09-11-22	240,474,664	29,122,121	\$6.22
4 Weeks Ending 10-09-22	241,288,658	27,048,762	\$6.16
4 Weeks Ending 11-06-22	243,483,058	30,167,122	\$6.16
4 Weeks Ending 12-04-22	262,602,866	45,539,653	\$6.13
4 Weeks Ending 01-01-23	280,962,599	47,707,571	\$6.15
4 Weeks Ending 01-29-23	243,983,972	25,829,764	\$6.17
4 Weeks Ending 02-26-23	244,402,581	33,070,270	\$6.20
<b>TOTAL</b>	<b>6,843,053,264</b>	<b>885,541,819</b>	<b>\$5.80</b>

## US Retail Sales – Prior 13 Periods

- Down 32.4.M Lbs.
- Down 0.83%

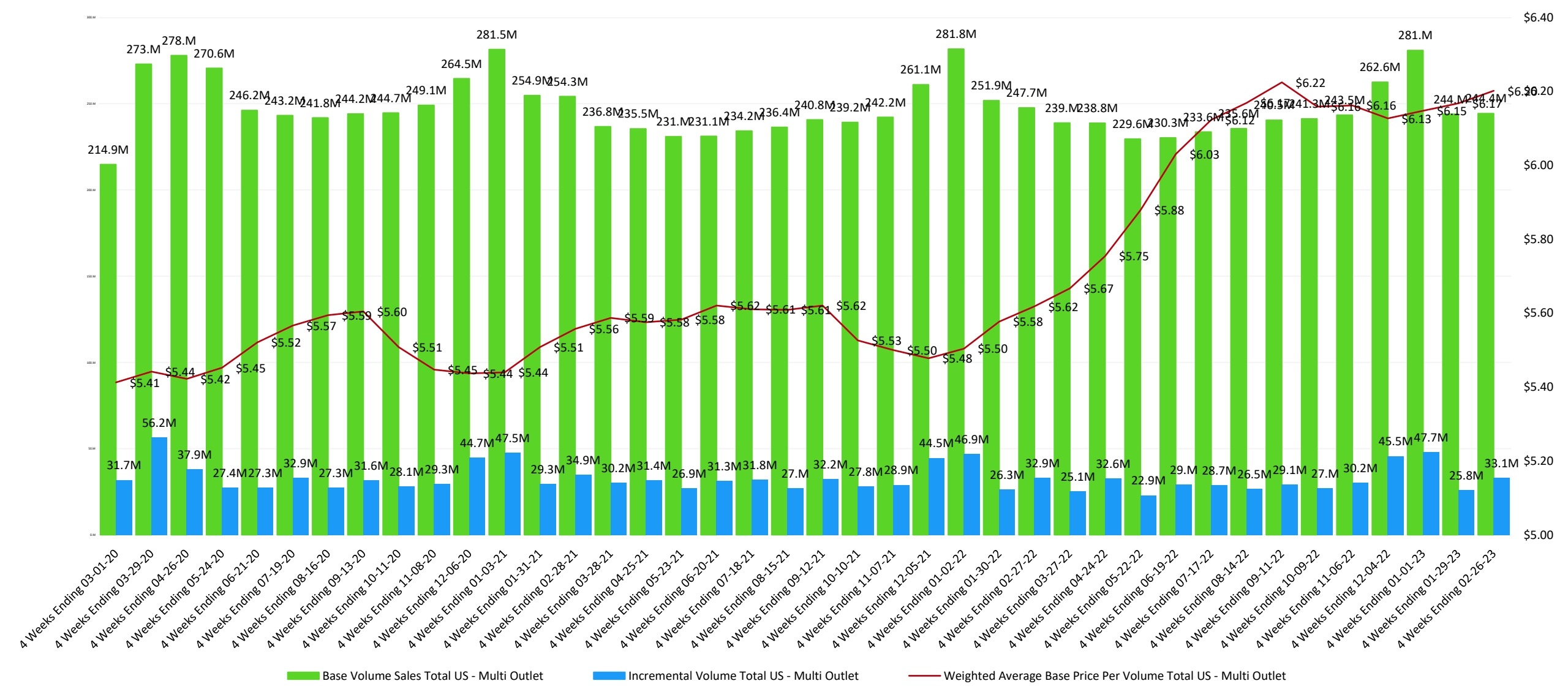
Year	Non-Promotional	Promotional	Total Sales
2021/22	3,431,199,420	449,292,619	3,880,492,039
2022/23	3,411,853,843	436,249,200	3,848,103,044
Total	-0.56%	-2.90%	-0.83%

3 wks end 2/27/22 vs.2/28/21	-2.97%
4 wks end 3/27/22 vs.3/28/21	-1.07%
4 wks end 4/24/22 vs.4/25/21	1.69%
4 wks end 5/22/22 vs.5/23/21	-2.07%
4 wks end 6/19/22 vs.6/20/21	-1.17%
4 wks end 7/17/22 vs.7/18/21	-1.37%
4 wks end 8/14/22 vs.8/15/21	-0.53%
4 wks end 9/11/22 vs.9/12/21	-1.23%
4 wks end 10/9/22 vs.10/10/21	0.49%
4 wks end 11/6/22 vs.11/7/21	0.95%
4 wks end 12/4/22 vs.12/5/21	0.84%
4 wks end 1/1/23 vs.1/2/22	-0.01%
4 wks end 1/29/23 vs.1/30/22	-3.01%
4 wks end 2/26/23 vs.2/27/22	-1.10%





# US Retail Cheese Sales – “Slowing”

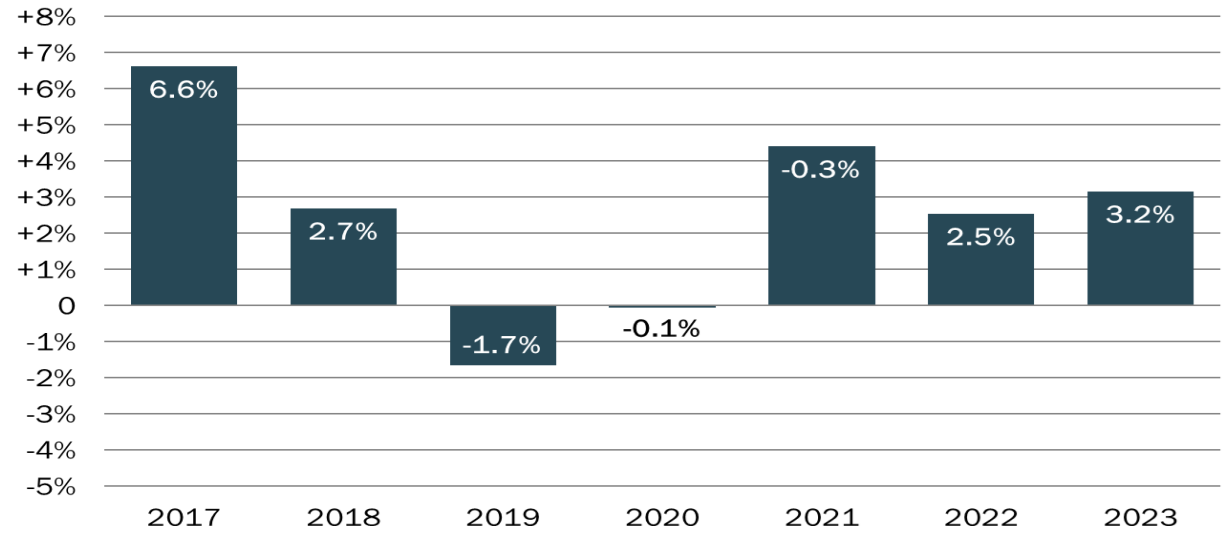


Down 0.83% versus Prior 13 Periods



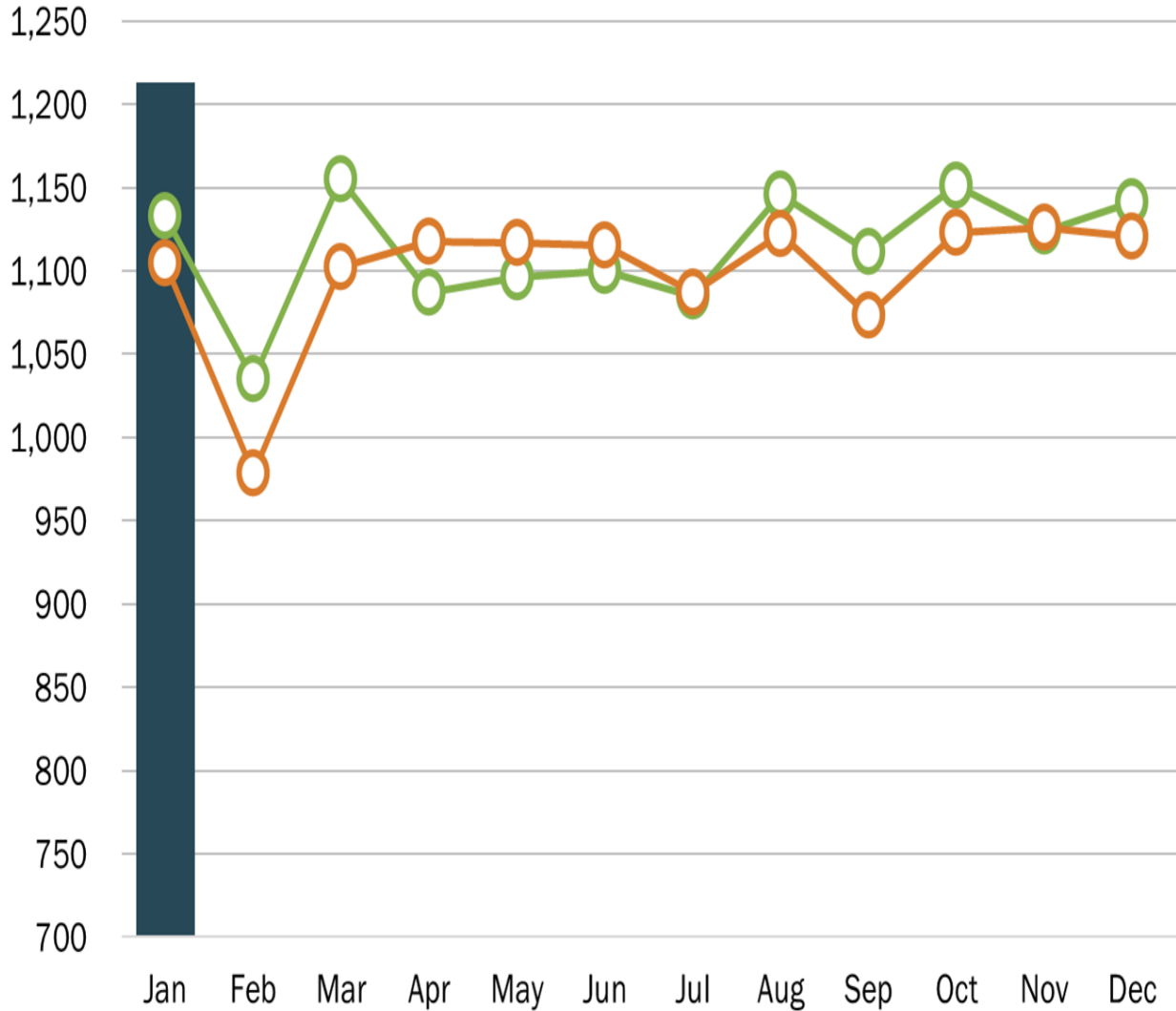
# US - Cheese “Domestic Use Good”

Cheese: Domestic Implied Use



USDA: Ever.Ag Insights YTD January

US Total Cheese Implied Use



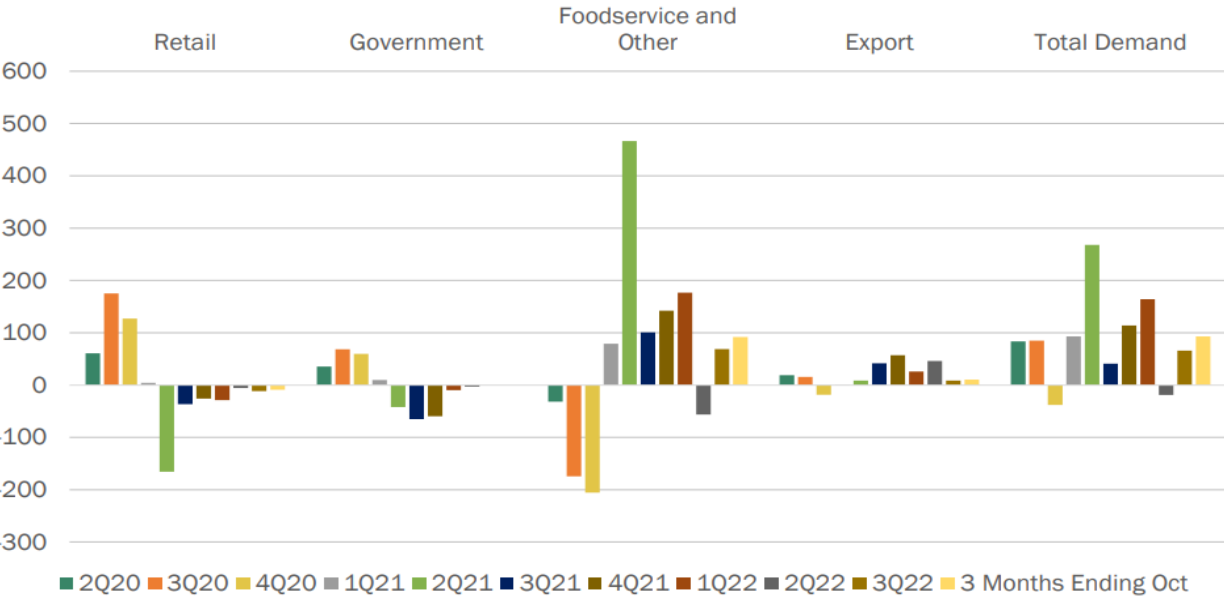
Million pounds; USDA

2023

2022

2021

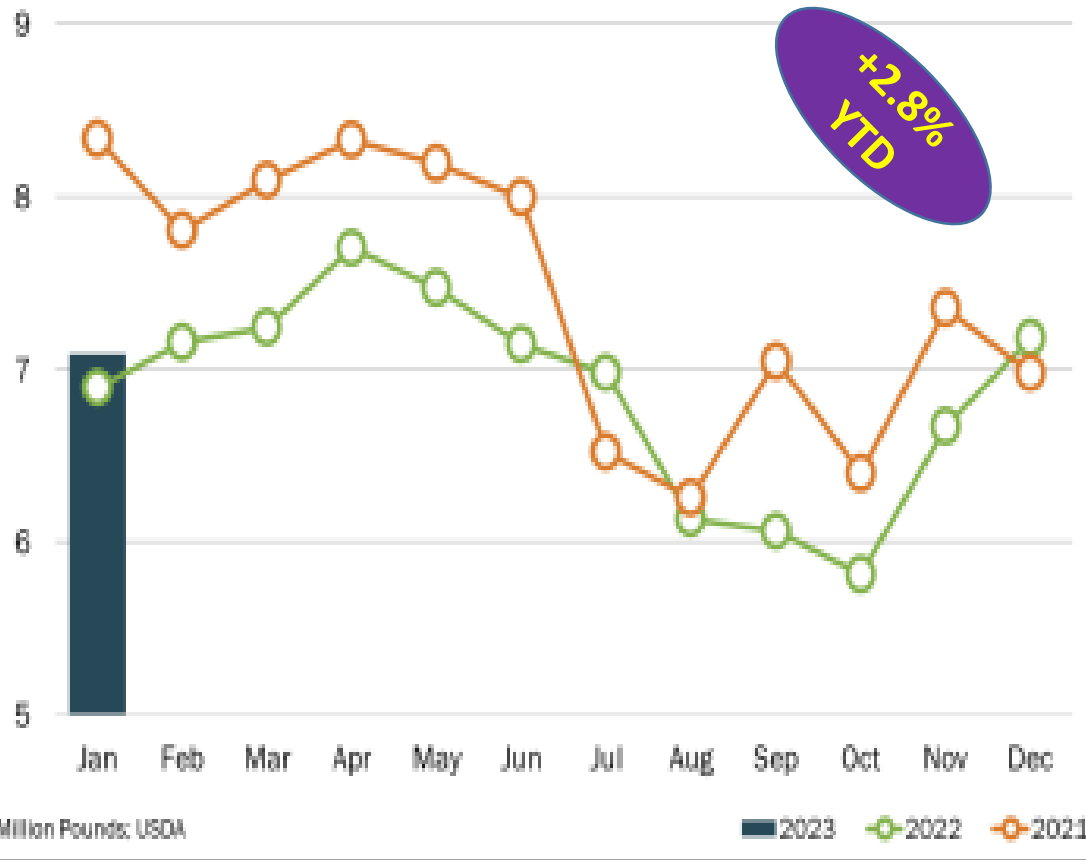
82



YOY Change Million Pounds; USDA, Ever.Ag Insights

# January NFD/SM Powder – Production – “UP”

Daily US NDM + SMP Production



## NDM + SMP Production

million pounds

Jan 2023

220

vs Last Month -1.2%

vs Last Year +2.8%

January 31 COMBINED NDM/SMP prod. 220 mm lbs.

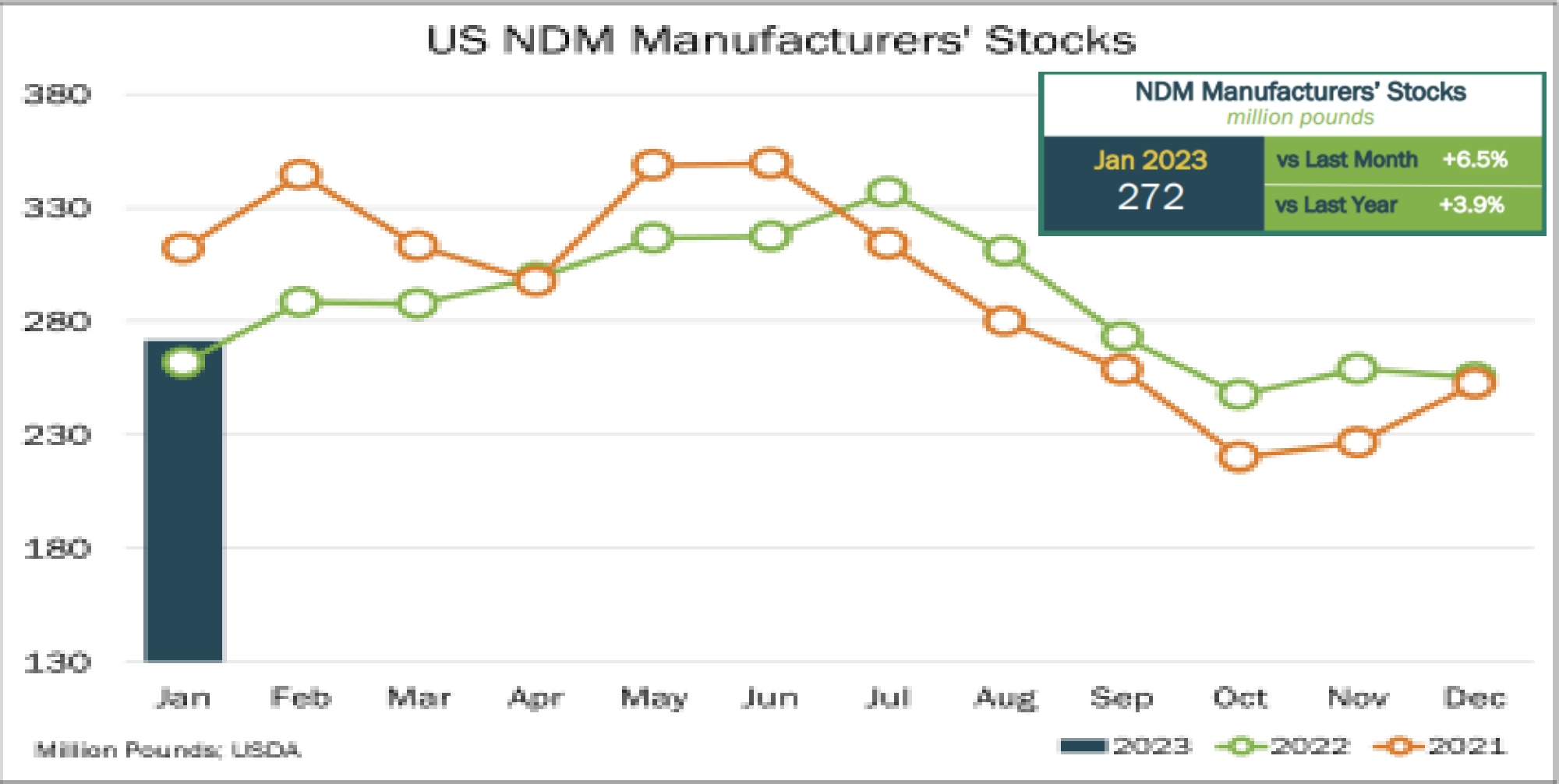
- Up 2.8% (+6.1 million pounds) year-over-year
- Down 1.2% (-2.8 million pounds) from December 2022.
- This compares to a five-year average month-to-month decrease of 5.2 million pounds.

	NDM			SMP			NDM + SMP Combined		
	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	210	170	177	48	43	43	258	214	220
Feb	182	171		44	30		226	200	
Mar	198	191		53	33		251	224	
Apr	194	196		56	35		250	231	
May	205	193		48	39		254	232	
Jun	186	169		54	45		240	214	
Jul	138	166		64	51		202	216	
Aug	122	134		72	56		194	190	
Sep	139	123		72	58		212	182	
Oct	121	124		78	56		198	180	
Nov	161	160		60	40		221	200	
Dec	168	168		49	55		216	223	
<b>Total</b>	<b>2,024</b>	<b>1,965</b>	<b>177</b>	<b>698</b>	<b>542</b>	<b>43</b>	<b>2,722</b>	<b>2,507</b>	<b>220</b>

- NFD/SM production grew 4% to 177 million pounds in January. Like the other commodities, the Central region of the US led the charge, with a dramatic increase of almost 29% vs. January 2022 (+8.9 million pounds), reflecting the solid milk production there. That said, the Central region only represents 22.6% of the total US NFD/SM output. California, the nation's top NFD/SM producer, saw its production fall by 0.3% year over year. This is a good showing for January, but it is important to note that January 2023 NFD/SM quantities are down against both 2021 and 2020 and are similar to January 2019, just like butter.
- SMP production near 43 million pounds was down 1.5% from a year ago. This continues a lower volume trend from 2022. In every month of 2022 except December, driers turned out less SMP than in 2021, reflecting lower export demand. USDA revised NDM and SMP production from December, taking the Dec NFD/SM numbers down by 8.8 million pounds while raising the SMP number by 6.1 million pounds, both of which are sizable revisions, -3.4% and +11%, respectively.
- Combined NDM/SMP production grew 2.8% and NFD/SM stocks are building as well and have been since July 2022. It seems as if there is more room for powder prices to decline in the coming weeks.
- US trade data released on March 8 will provide a window into demand. However, with prices flat to decreasing on Global Dairy Trade and reports in Europe are suggestive the nearby correction is over, demand remains tepid into increasing seasonal supply



# January NFDM Stocks – “Building”



	NDM Manufacturers' Stocks		
	2021	2022	2023
Jan	312	262	272
Feb	344	288	
Mar	313	288	
Apr	297	299	
May	349	316	
Jun	349	317	
Jul	314	337	
Aug	280	311	
Sep	259	273	
Oct	220	248	
Nov	227	259	
Dec	253	255	
Total	3,516	3,453	272

NFDM stocks rose 3.9% to nearly 272 million pounds vs prior year and followed the seasonal pattern of increasing from December to January, with a month-over-month build of 6.5%, slightly more than the five-year average of 5%. With weaker demand for milk powders abroad, it is not surprising that this metric has grown on a year-over-year basis for the past seven months

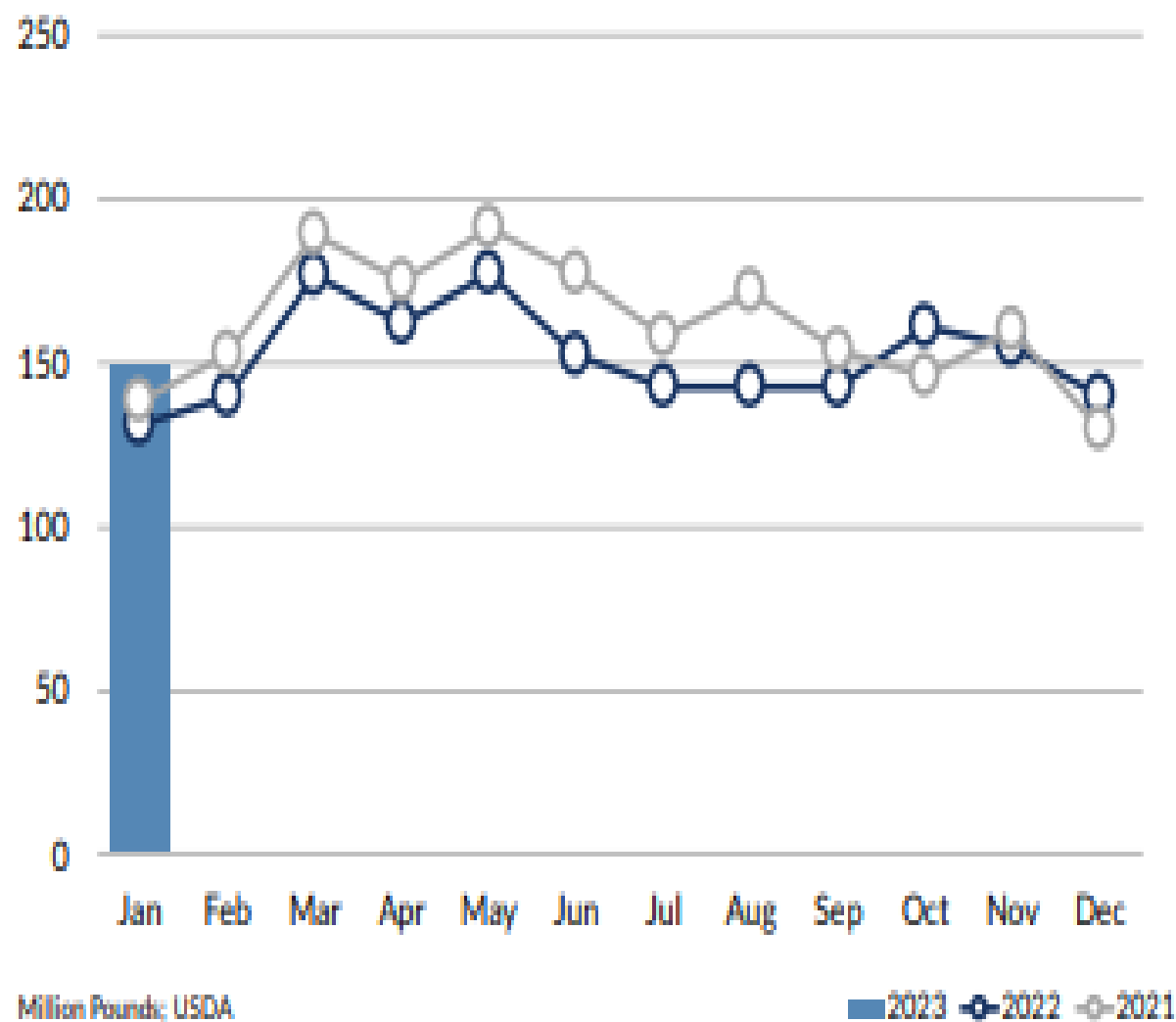
NFDM+SMP production was inline with most expectations at 220 million lbs. and up 2.8% YoY. The increase in production helps (but is not the only cause) of the 3.9% increase in stocks held by manufacturers, which was 5 million lbs. heavier than we expected. We view this report as reflecting the current price action for NFDM quite well and do not expect much of a market reaction from the January report.



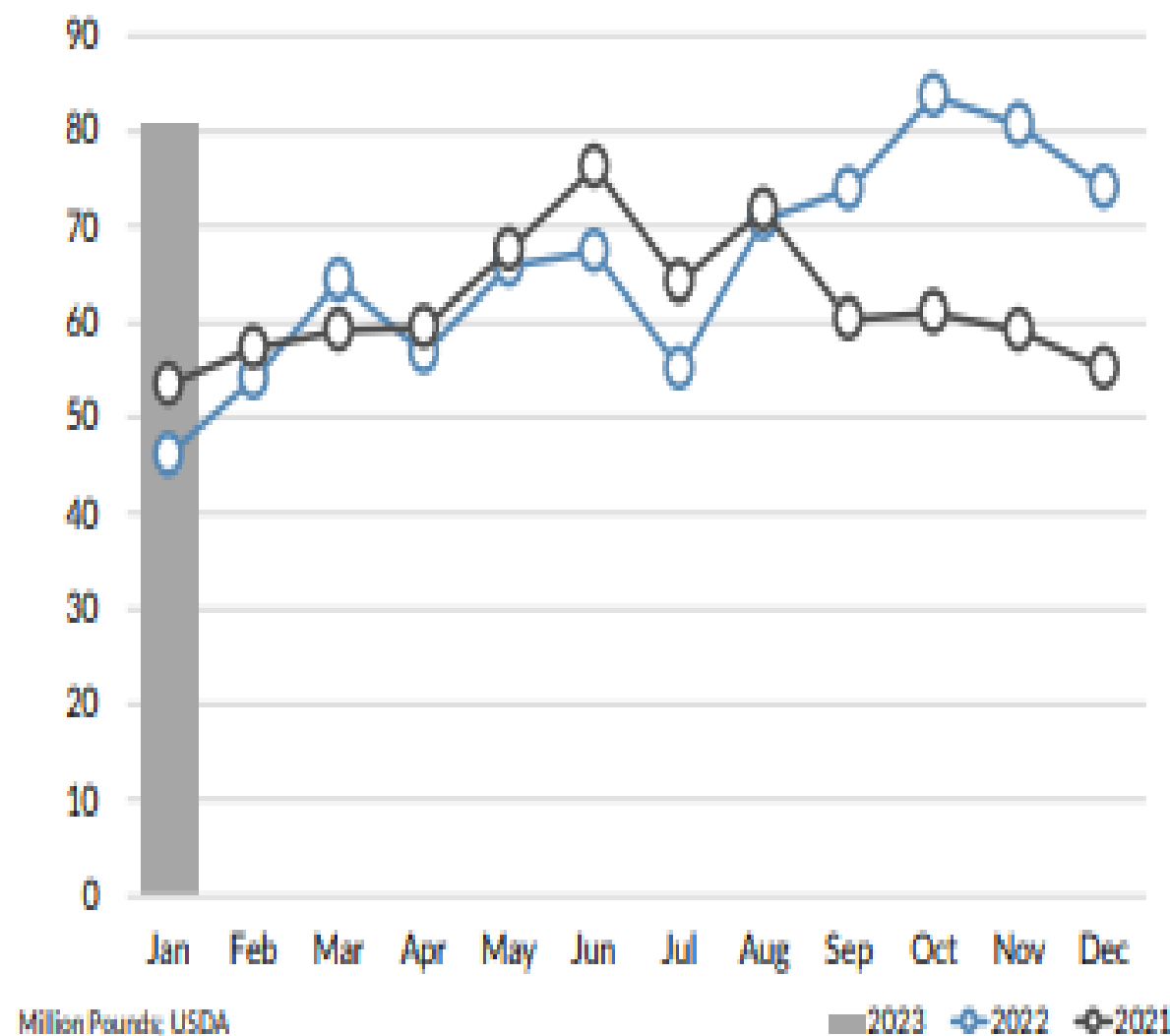


# US Exports – NFDM Powder “No Excitement”

## US NDM/SMP Exports



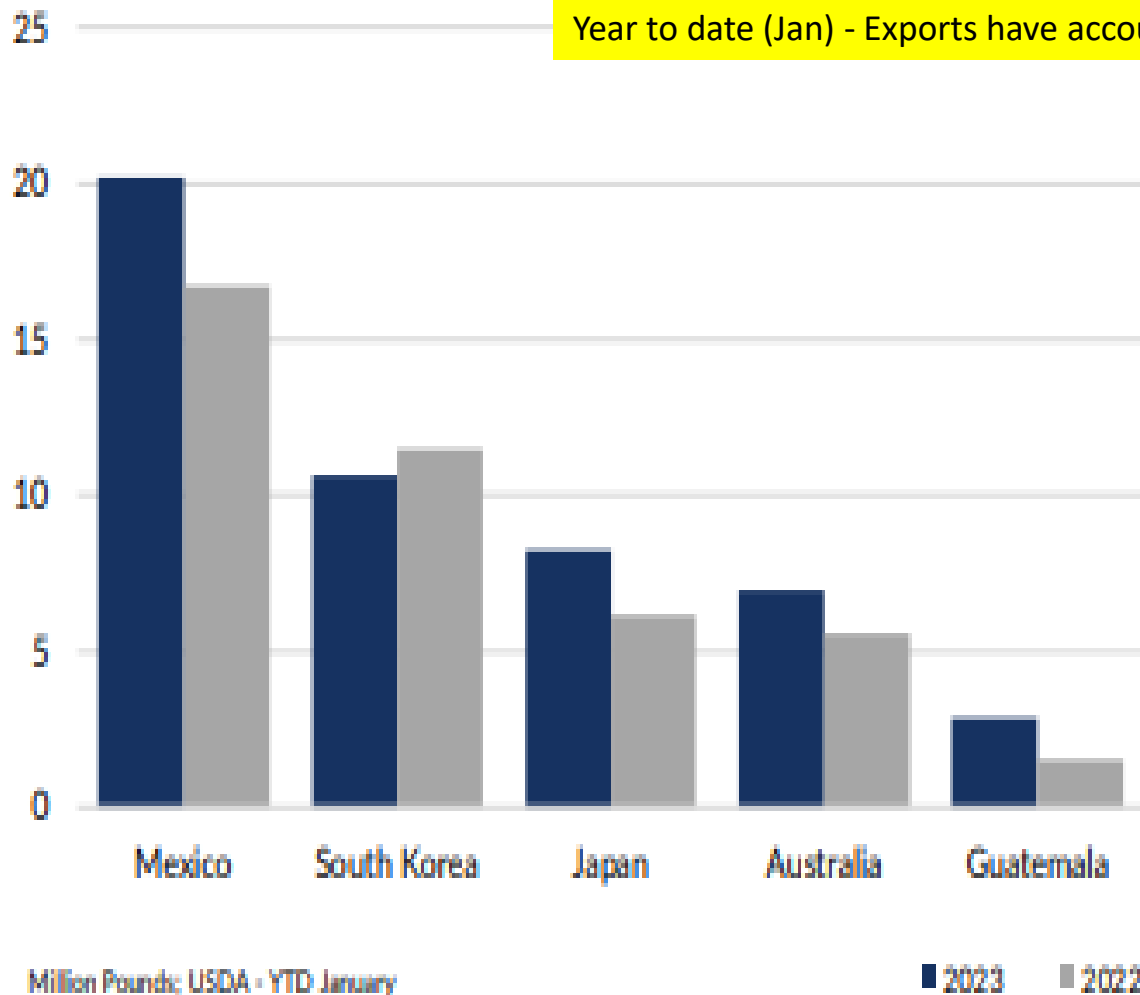
## US NDM/SMP Exports to Mexico



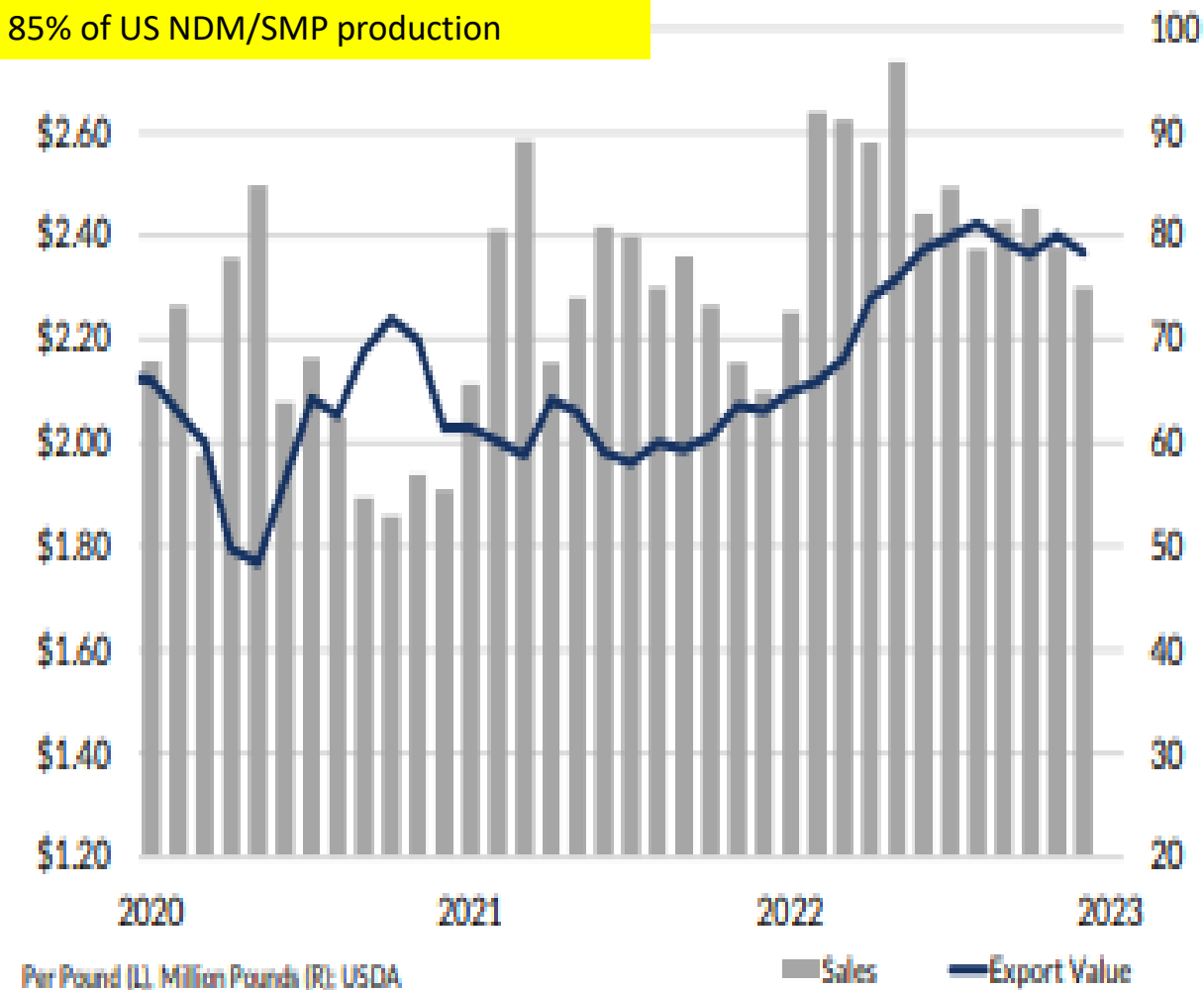
- US NDM/SMP exports improved in January, rising to 150 million pounds, up 15% from the year prior. That was the strongest start to the year since 2020.

# US Exports – NFDM Powder “Where To?”

## YTD US Cheese Exports by Destination



## US Cheese Export Values and Volume



- Volume to Mexico picked up, reaching 81 million pounds, up 75% year-over-year.
- But shipments to the Philippines and China slowed, down 38% and 4%, respectively, compared to last year.



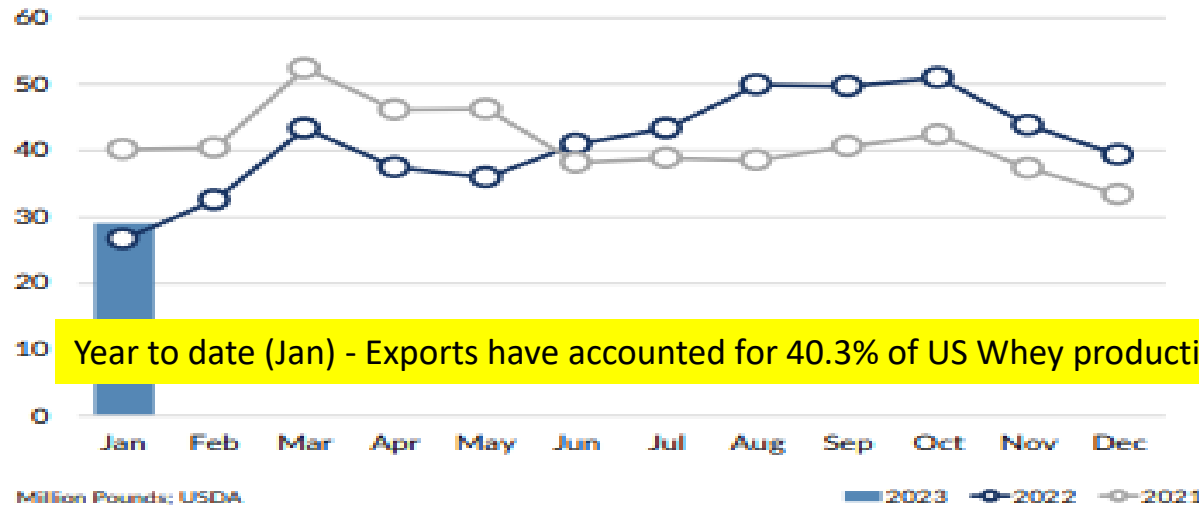
# US Exports – NFDN Powder “Slipping”

	US NDM Exports			NDM Exports to Mexico			US WMP Exports			US WMP Imports		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	138.3	131.0	150.4	53.5	46.1	80.5	4.4	4.4	2.3	1.9	1.9	3.0
Feb	152.7	139.7		57.3	54.1		7.2	7.1		2.1	3.0	
Mar	189.5	176.7		59.2	64.4		10.3	8.3		3.4	2.9	
Apr	174.7	162.1		59.5	56.7		10.2	8.8		3.0	3.6	
May	191.3	177.3		67.5	65.9		8.7	10.7		2.6	2.8	
Jun	177.4	152.6		76.2	67.4		4.4	8.2		2.0	0.7	
Jul	158.2	142.8		64.2	55.2		9.2	6.0		1.6	3.7	
Aug	172.0	142.7		71.6	70.6		6.0	9.2		1.7	3.7	
Sep	153.7	142.8		60.4	73.9		6.2	3.7		2.5	3.6	
Oct	145.9	161.3		60.9	83.5		5.1	3.9		2.0	3.6	
Nov	160.0	155.2		59.2	80.6		4.4	6.4		1.1	1.1	
Dec	129.4	139.7		55.1	74.0		8.9	6.8		1.9	3.7	
Total	1,943.2	1,823.9	150.4	744.5	792.4	80.5	85.1	83.4	2.3	25.7	34.2	3.0
YTD	138.3	131.0	150.4	53.5	46.1	80.5	4.4	4.4	2.3	1.9	1.9	3.0
Change		-5%	15%		-14%	75%		-1%	-47%		0%	60%

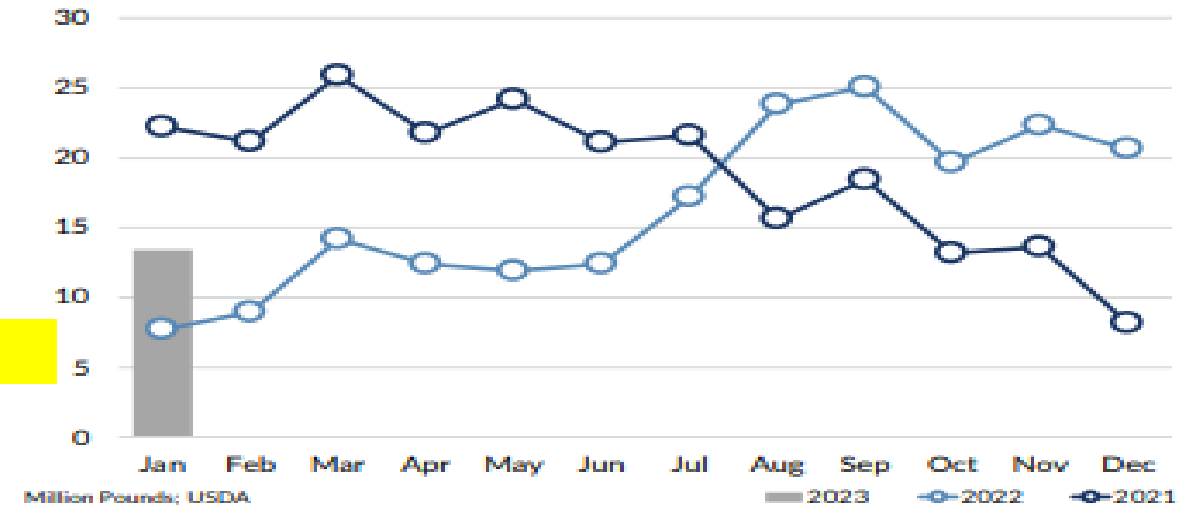


# Whey Exports – Supporting Class III Pricing

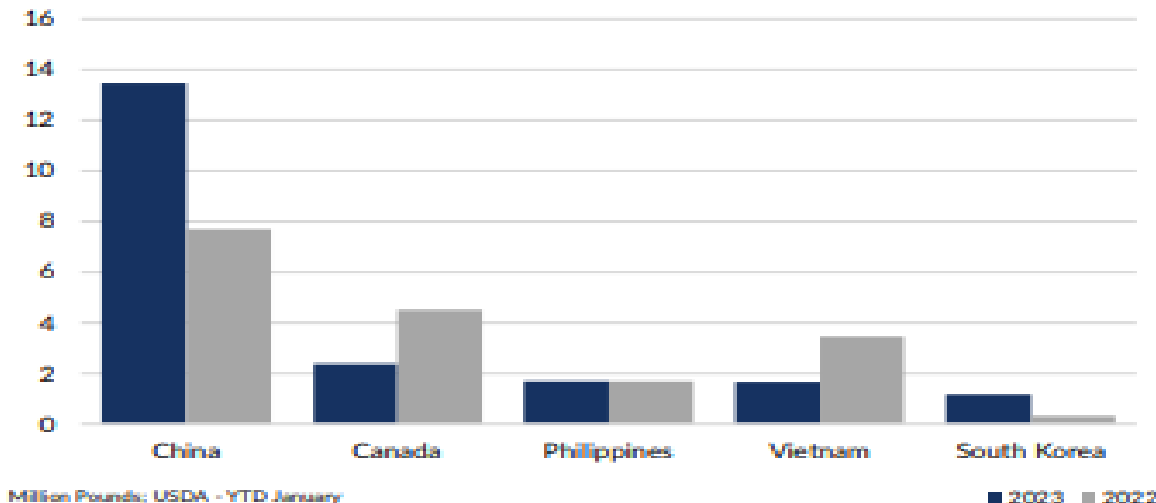
## US Dry Whey Exports



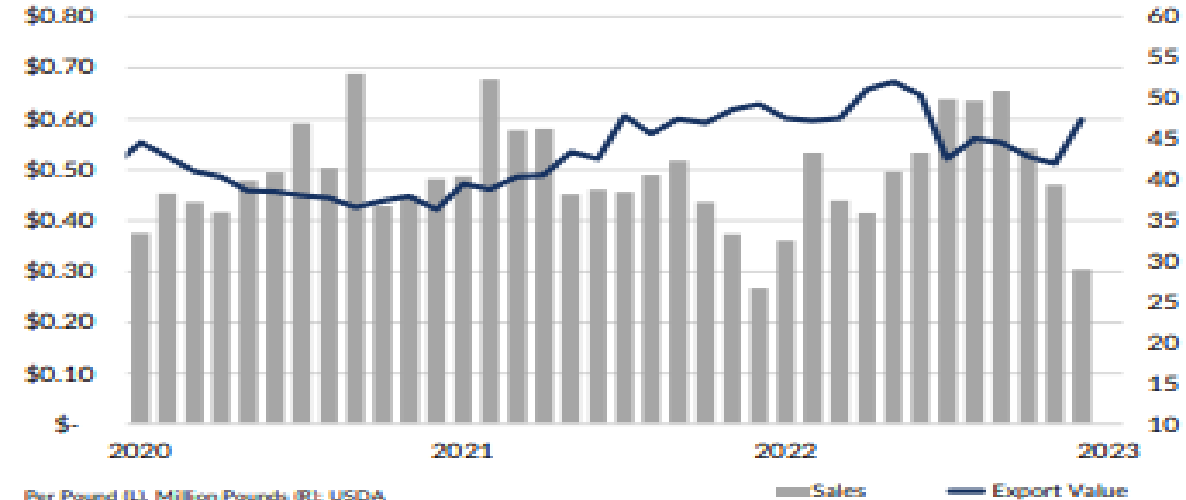
## US Dry Whey Exports to China



## YTD US Whey Exports by Destination



## US Dry Whey Export Values and Volume



- January whey exports rose to 29 million pounds, up 9% year-over-year. That was driven in part by healthy shipments to China, which reached 13 million pounds for the month, a 74% gain over prior-year levels.





# Whey/Other Exports – Supporting Pricing??

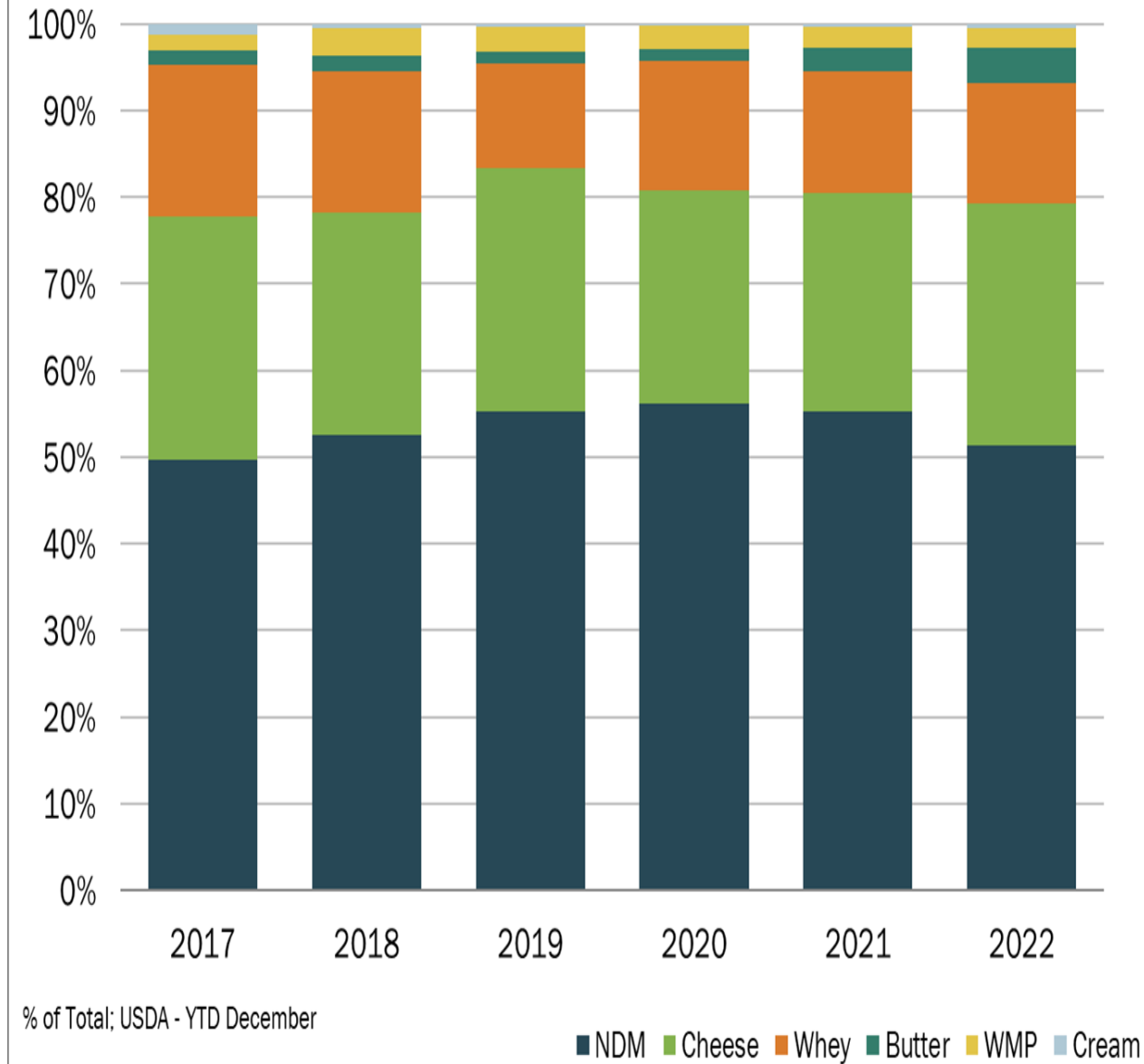
	US Whey Exports			US Whey Exports to China			US WPC Exports			US WPC 80+ Exports		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	40.2	26.7	29.0	22.2	7.7	13.4	24.4	21.5	24.6	11.1	8.9	10.2
Feb	40.4	32.5		21.1	9.0		30.6	29.5		12.1	11.6	
Mar	52.4	43.3		25.9	14.2		29.2	33.7		11.4	11.6	
Apr	46.1	37.5		21.8	12.4		23.4	28.9		11.1	12.2	
May	46.3	35.9		24.2	11.9		23.9	34.8		14.1	12.2	
Jun	38.2	41.0		21.1	12.4		25.2	35.9		13.9	13.1	
Jul	38.8	43.3		21.6	17.2		29.7	32.4		13.5	12.6	
Aug	38.5	49.9		15.6	23.8		25.8	34.8		13.7	10.8	
Sep	40.6	49.7		18.4	25.1		22.5	33.6		12.6	11.5	
Oct	42.4	50.9		13.2	19.6		25.6	27.3		9.5	13.0	
Nov	37.3	43.8		13.6	22.3		24.0	31.8		8.9	11.6	
Dec	33.4	39.3		8.2	20.6		19.5	26.7		9.5	12.8	
Total	494.6	494.0	29.0	227.0	196.2	13.4	303.9	370.8	24.6	141.3	141.7	10.2
YTD	40.2	26.7	29.0	22.2	7.7	13.4	24.4	21.5	24.6	11.1	8.9	10.2
Change		-34%	9%		-65%	75%		-12%	15%		-20%	14%

- Sales of WPC and WPC 80+ also climbed 14% and 15%, respectively, on the year

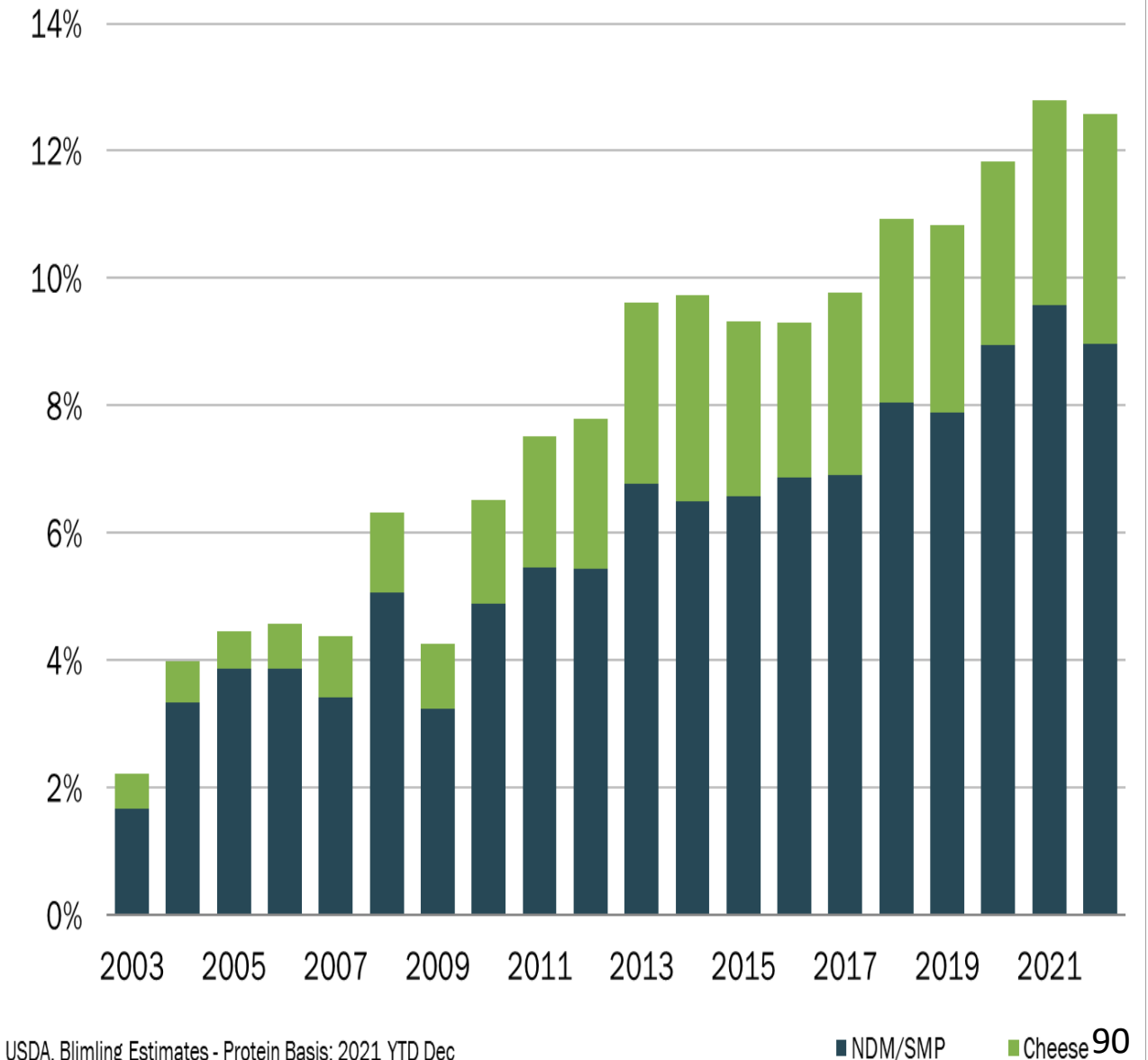


# US Export Demand - Summary

## US Export Breakdown

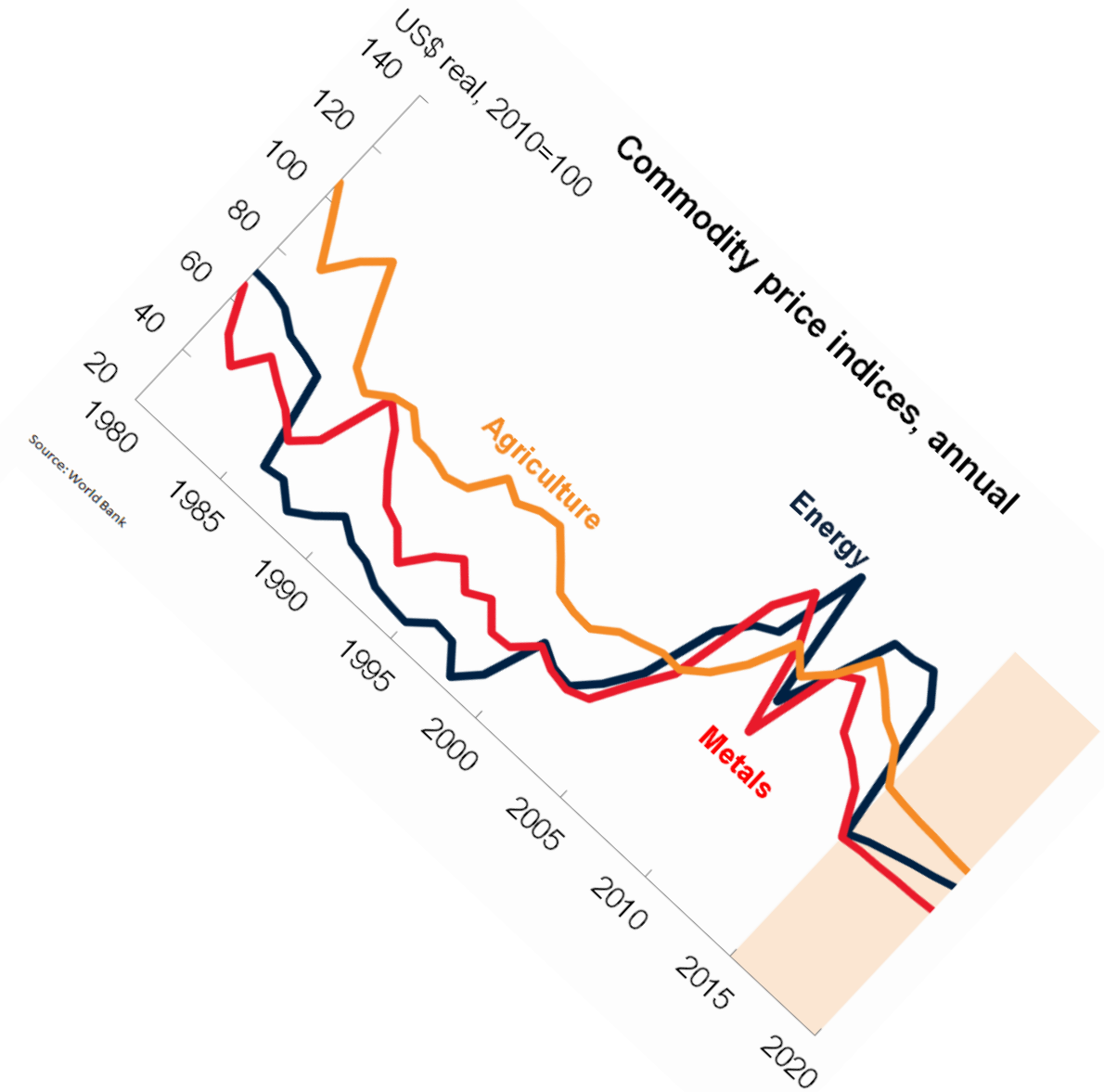
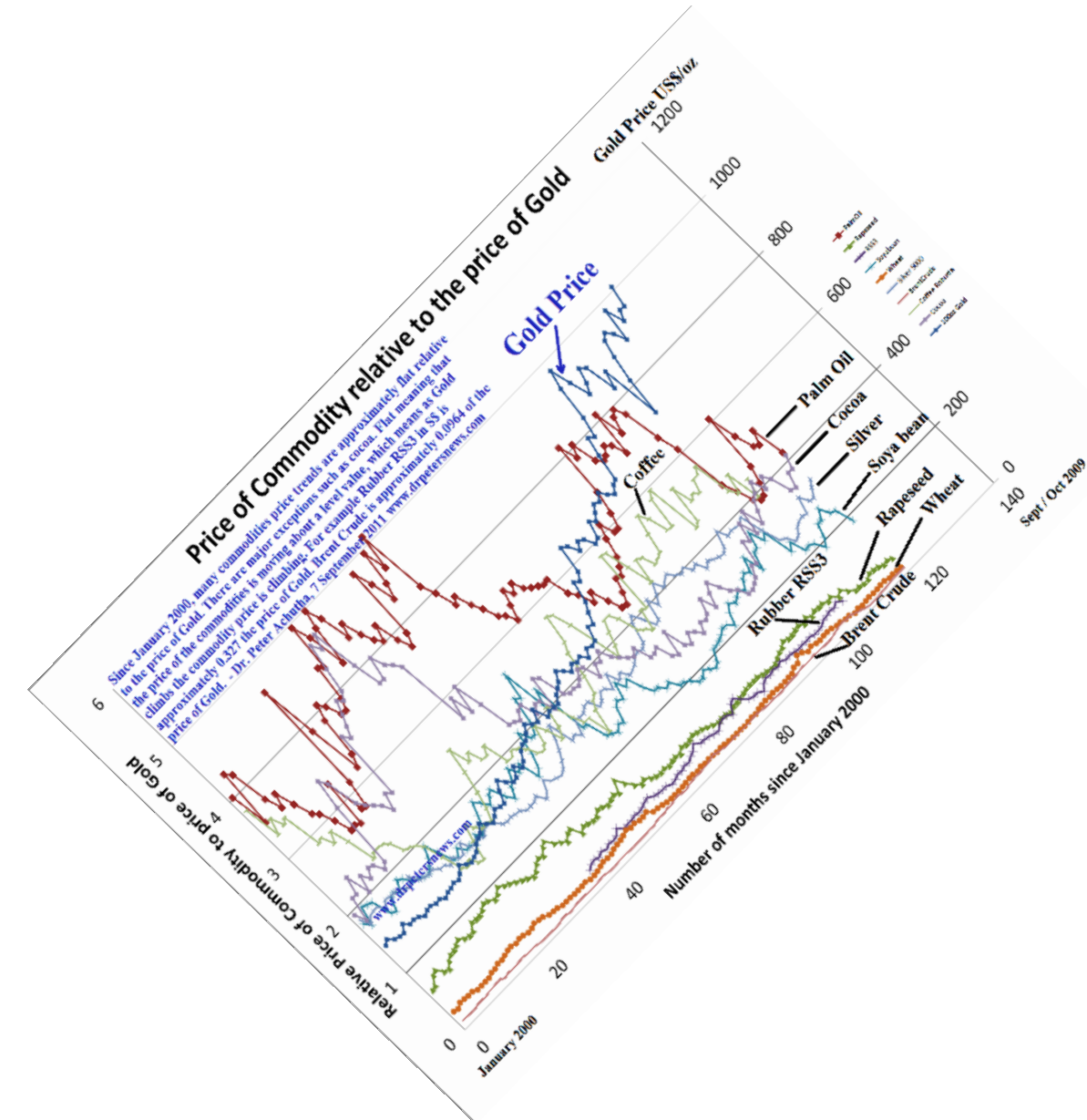


## US Exports as % of Milk Output





# Pricing Implications



# Global Values “Values Still Higher YTD”?

Cheese	Report Date	\$ / LB	\$ / MT	% Change vs. Last Report	% Change vs. Same Time Last Year	YTD Avg Price (\$/LB)	YTD Avg Price (\$/MT)	YTD Avg % Change vs. Last Yr
US Cheddar Block: CME Spot	17-Mar-23	\$ 1.9290	\$ 4,253	5.3%	-8.7%	\$ 1.9347	\$ 4,265	-1.0%
US Cheddar Barrel: CME Spot	17-Mar-23	\$ 1.8740	\$ 4,131	10.1%	-6.7%	\$ 1.5852	\$ 3,495	-15.1%
Cheddar Curd (EEX)	15-Mar-23	\$ 1.9274	\$ 4,249	-0.5%	-12.5%	\$ 2.0124	\$ 4,437	-17.9%
Mild Cheddar (EEX)	15-Mar-23	\$ 1.9800	\$ 4,365	-0.1%	-8.2%	\$ 2.0636	\$ 4,549	-14.7%
Young Gouda (EEX)	15-Mar-23	\$ 1.5322	\$ 3,378	0.1%	-27.2%	\$ 1.5431	\$ 3,402	-30.8%
Mozzarella (EEX)	15-Mar-23	\$ 1.4656	\$ 3,231	-0.5%	-22.5%	\$ 1.4843	\$ 3,272	-30.7%
German Edam (Kempten)	15-Mar-23	\$ 1.6086	\$ 3,546	-0.2%	-30.0%	\$ 1.7781	\$ 3,920	-19.9%
Global Dairy Trade Cheddar C2	7-Mar-23	\$ 2.0525	\$ 4,525	-7.8%	-30.9%	\$ 2.1782	\$ 4,802	-17.1%
USDA Oceania Midpoint	16-Mar-23	\$ 2.1092	\$ 4,650	-7.5%	-24.7%	\$ 2.2292	\$ 4,915	-15.1%
Butterfat	Report Date	\$ / LB	\$ / MT	% Change vs. Last Report	% Change vs. Same Time Last Year	YTD Avg Price (\$/LB)	YTD Avg Price (\$/MT)	YTD Avg % Change vs. Last Yr
US Butter: CME Spot	17-Mar-23	\$ 2.3880	\$ 5,265	2.2%	-12.6%	\$ 2.3739	\$ 5,233	-10.7%
German Butter	15-Mar-23	\$ 2.2729	\$ 5,011	2.2%	-28.8%	\$ 2.2501	\$ 4,960	-26.1%
Dutch Butter	15-Mar-23	\$ 2.2968	\$ 5,064	0.0%	-30.4%	\$ 2.2648	\$ 4,993	-27.2%
French Butter	15-Mar-23	\$ 2.3159	\$ 5,106	0.5%	-27.8%	\$ 2.4704	\$ 5,446	-22.8%
USDA Western Europe Midpoint	16-Mar-23	\$ 2.2907	\$ 5,050	-4.3%	-28.1%	\$ 2.4911	\$ 5,492	-19.9%
USDA Oceania Midpoint	16-Mar-23	\$ 2.2340	\$ 4,925	0.2%	-29.4%	\$ 2.1264	\$ 4,688	-27.0%
GDT Unsalted Butter C2	7-Mar-23	\$ 2.2022	\$ 4,855	-1.3%	-31.8%	\$ 2.1242	\$ 4,683	-27.3%
GDT Premium AMF C2	7-Mar-23	\$ 2.4154	\$ 5,325	-1.8%	-24.6%	\$ 2.4553	\$ 5,413	-20.7%
Milk Powders	Report Date	\$ / LB	\$ / MT	% Change vs. Last Report	% Change vs. Same Time Last Year	YTD Avg Price (\$/LB)	YTD Avg Price (\$/MT)	YTD Avg % Change vs. Last Yr
USDA National WMP	16-Mar-23	\$ 2.1500	\$ 4,740	-0.5%	-4.9%	\$ 2.1964	\$ 4,842	2.2%
German Whole Milk Powder	15-Mar-23	\$ 1.6795	\$ 3,703	-0.8%	-33.0%	\$ 1.7788	\$ 3,922	-25.0%
Dutch Whole Milk Powder	15-Mar-23	\$ 1.6317	\$ 3,597	0.0%	-33.2%	\$ 1.6994	\$ 3,747	-26.6%
USDA W. Europe Midpoint: WMP	16-Mar-23	\$ 1.6670	\$ 3,675	-1.0%	-32.4%	\$ 1.7785	\$ 3,921	-24.1%
GDT WMP C2	7-Mar-23	\$ 1.4733	\$ 3,248	0.2%	-31.3%	\$ 1.4636	\$ 3,227	-24.5%
USDA Oceania WMP Midpoint	16-Mar-23	\$ 1.4799	\$ 3,263	-0.8%	-29.6%	\$ 1.4714	\$ 3,244	-24.6%
USDA S. America WMP Midpoint	16-Mar-23	\$ 1.7917	\$ 3,950	0.0%	-12.7%	\$ 1.7671	\$ 3,896	-0.2%
US Nonfat Dry Milk: CME Spot	17-Mar-23	\$ 1.1805	\$ 2,603	0.8%	-36.1%	\$ 1.2157	\$ 2,680	-32.6%
German Skim Milk Powder	15-Mar-23	\$ 1.2585	\$ 2,774	-0.7%	-37.4%	\$ 1.2773	\$ 2,816	-32.0%
Dutch Skim Milk Powder	15-Mar-23	\$ 1.1867	\$ 2,616	-4.6%	-40.7%	\$ 1.2444	\$ 2,743	-33.6%
French Skim Milk Powder	15-Mar-23	\$ 1.2632	\$ 2,785	1.2%	-34.0%	\$ 1.2691	\$ 2,798	-30.7%
USDA W. Europe Midpoint: SMP	16-Mar-23	\$ 1.2417	\$ 2,738	-2.2%	-37.2%	\$ 1.2871	\$ 2,838	-30.8%
GDT SMP C2	7-Mar-23	\$ 1.2383	\$ 2,730	-1.1%	-39.9%	\$ 1.2728	\$ 2,806	-31.6%
USDA Oceania SMP Midpoint	16-Mar-23	\$ 1.2474	\$ 2,750	-2.7%	-40.1%	\$ 1.2956	\$ 2,856	-31.6%
USDA S. America SMP Midpoint	16-Mar-23	\$ 1.6783	\$ 3,700	0.0%	-8.4%	\$ 1.6178	\$ 3,567	-1.0%
US NDPSR Nonfat Dry Milk	15-Mar-23	\$ 1.2146	\$ 2,678	1.0%	-32.3%	\$ 1.2924	\$ 2,849	-24.2%
Proteins	Report Date	\$ / LB	\$ / MT	% Change vs. Last Report	% Change vs. Same Time Last Year	YTD Avg Price (\$/LB)	YTD Avg Price (\$/MT)	YTD Avg % Change vs. Last Yr
US Dry Whey: CME Spot	17-Mar-23	\$ 0.4510	\$ 994	2.3%	-40.5%	\$ 0.4043	\$ 891	-48.8%
US Dry Whey (Central)	16-Mar-23	\$ 0.4300	\$ 948	2.4%	-45.0%	\$ 0.3936	\$ 868	-47.9%
US Dry Whey (West)	16-Mar-23	\$ 0.4400	\$ 970	2.3%	-42.9%	\$ 0.4160	\$ 917	-45.8%
US WPC-34 (Central & West)	16-Mar-23	\$ 1.3375	\$ 2,949	-3.8%	-21.3%	\$ 1.5307	\$ 3,375	0.2%
German Whey Powder	15-Mar-23	\$ 0.3206	\$ 707	0.0%	-54.1%	\$ 0.3438	\$ 758	-48.7%
Dutch Whey Powder	15-Mar-23	\$ 0.3158	\$ 696	1.6%	-54.8%	\$ 0.3441	\$ 759	-49.3%
French Whey Powder	15-Mar-23	\$ 0.3062	\$ 675	-12.3%	-55.5%	\$ 0.3699	\$ 815	-43.7%
USDA W. Europe Midpoint: SWP	16-Mar-23	\$ 0.3856	\$ 850	-1.4%	-46.9%	\$ 0.4063	\$ 896	-39.9%
US Casein: Rennet	16-Mar-23	\$ 5.8700	\$ 12,941	0.0%	15.1%	\$ 5.9245	\$ 13,061	18.9%
US Casein: Acid	16-Mar-23	\$ 6.1750	\$ 13,613	-1.2%	-5.0%	\$ 6.4000	\$ 14,109	8.6%
US Lactose (Central & West)	16-Mar-23	\$ 0.3500	\$ 772	-6.0%	-13.6%	\$ 0.4214	\$ 929	4.0%
GDT Lactose C2	7-Mar-23	\$ 0.5044	\$ 1,112	0.5%	-31.9%	\$ 0.5136	\$ 1,132	-29.4%





# Global Values “Mixed???”

## Skim Milk Powder

Average Price (MT)	Average Price (LB)	Change from Last
\$2,648	\$1.20	-3.3%

## Whole Milk Powder

Average Price (MT)	Average Price (LB)	Change from Last
\$3,228	\$1.46	-1.5%

## Anhydrous Milk Fat

Average Price (MT)	Average Price (LB)	Change from Last
\$5,150	\$2.34	-3.6%

## Cheddar Cheese

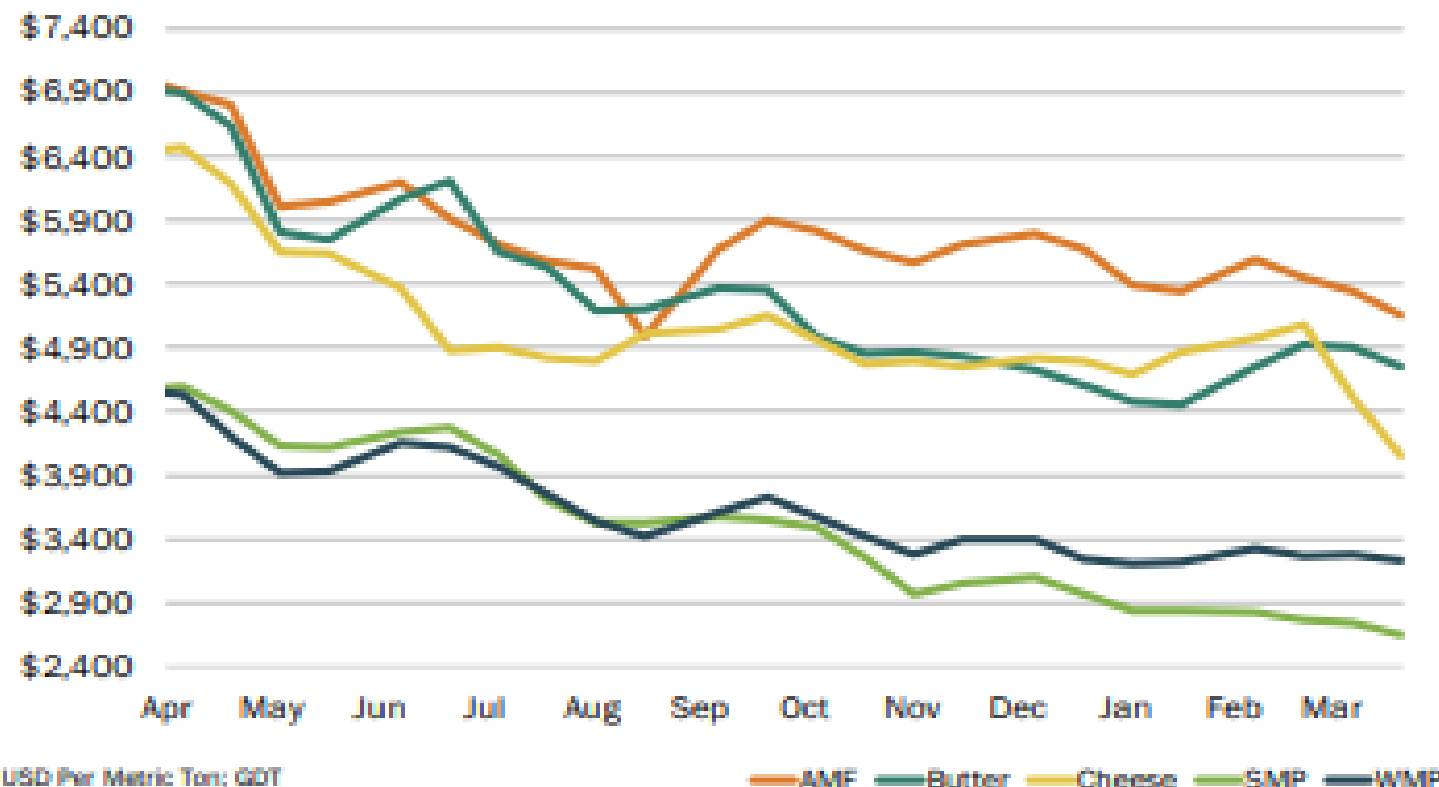
Average Price (MT)	Average Price (LB)	Change from Last
\$4,052	\$1.84	-10.1%

## Butter

\*Adjusted to 80%

Average Price (MT)	Average Price (LB)	Change from Last
\$4,748	\$2.15	-3.1%

## Global Dairy Trade Results



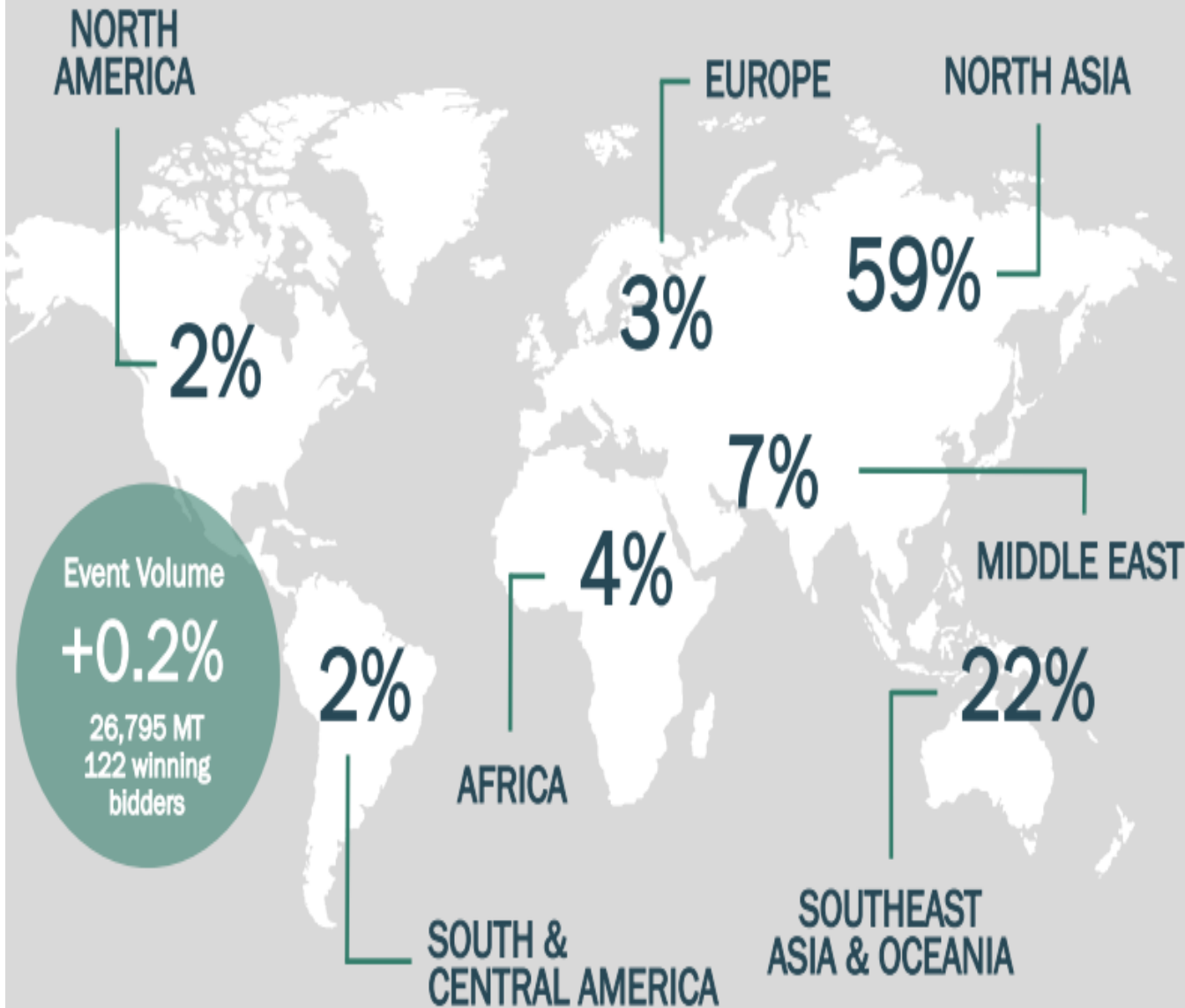
It has been a difficult time getting optimistic heading into this GDT event, even with the positive SGX signals, given that supply and demand fundamentals seem to be balancing each other out. There is an overarching theme that global milk supplies will remain ample throughout Q2 due to the Northern Hemisphere Spring Flush and ample moisture conditions throughout New Zealand's North Island that will aid end of season milk production. Additionally, demand signals continue to be lackluster nearby from key purchasing regions. From China, Beijing is taking a cautious approach with their economic growth target of 5%, the lowest target in decades. Consumer spending is still sluggish and unemployment rates are concerning. Recently released trade data from China, which is still very much an export-driven economy, leaned bearish with overall exports and imports continuing to contract into the January-February data. Supply/demand ratios were weak as buyers were unwilling to combat for product, taking a wait-and-see approach to at this event. The path of least resistance continues to be to sideways to lower until buyers receive a signal that milk supplies are tightening, which may not occur until the end of Q2.



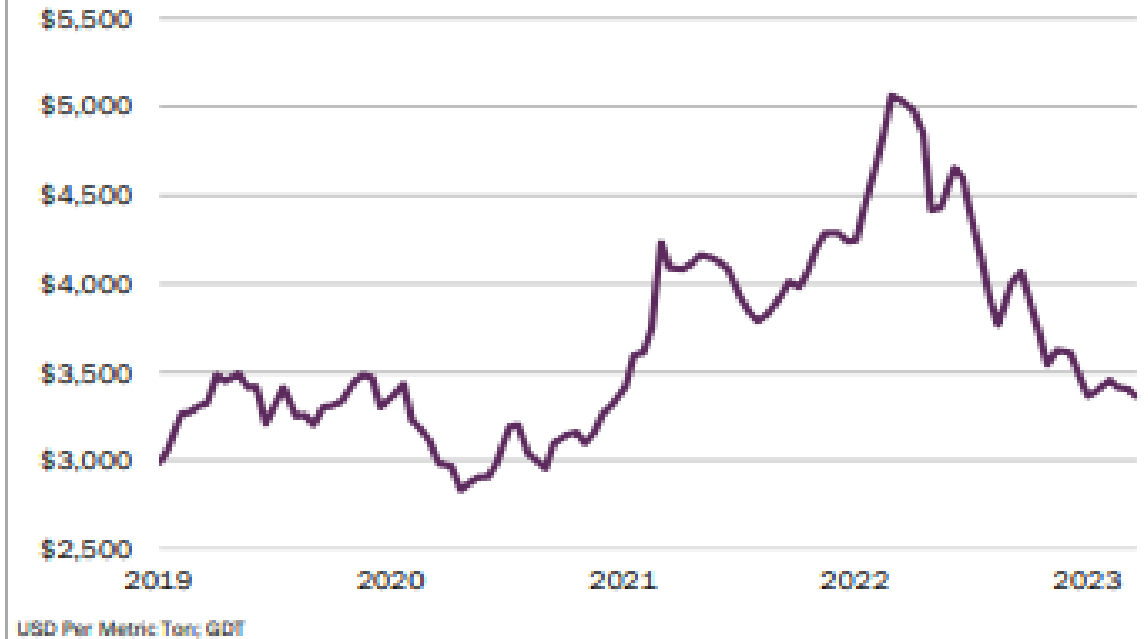


# Global Values “Finding Demand”

## GDT Share of Volume by Region



## Global Dairy Trade Auction Index



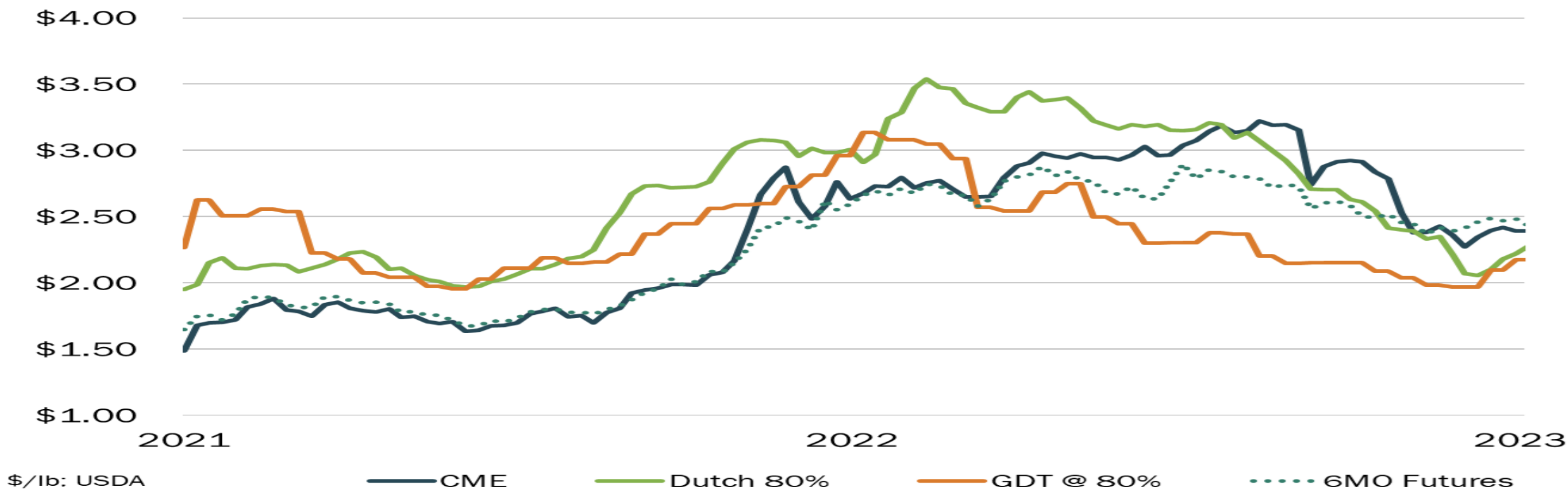
Another WMP auction resulting in an ever so slightly lifting forward curve is supportive of current expectations that the second half of 2023 will see more support for dairy commodities than the first half.

Lackluster demand is somewhat clear when looking into the bidding round information, with only twice the volume of demand arriving from SMP buyers at the outset of the auction, which only hung on for a total of two rounds before stepping away. Buyer apprehension was also clear within the EU/Arla SMP sell through data, with only 70% of volume offered being sold, while 97.8% of the Fonterra SMP volume was sold through. A common theme despite negative macro headlines, North Asian buyers increased their purchases of butter at this event compared to the last event, boosting their volumes by 50%, which resulted in this region dominating market share. Southeast Asia/Oceania buyers also increased volume, up 37% on the previous auction. It must be noted that offer volumes eased 33% from the last event, making these purchases more poignant for the milk fats market, and a continuation of the trend of high demand for milk fats in Asia.



# US Butter Prices— Following Europe?

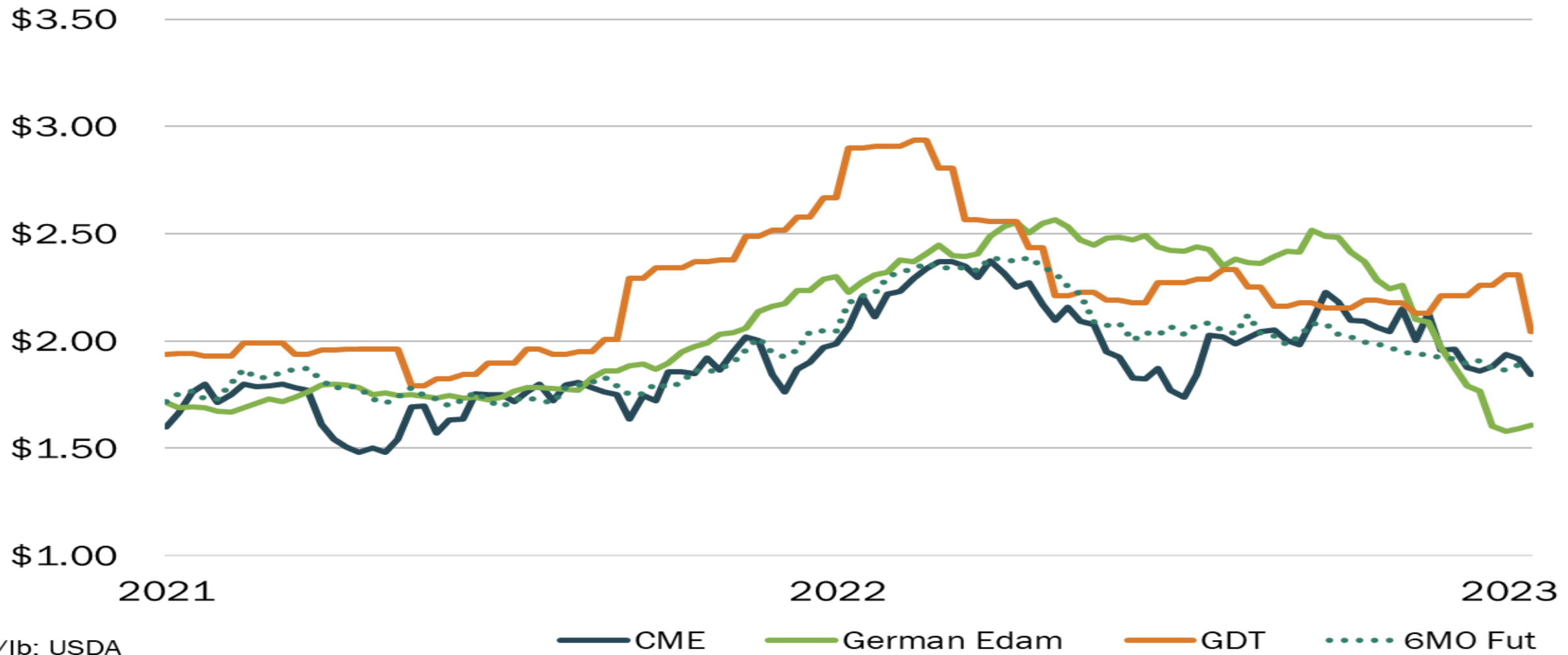
## Global Butter Prices



- A 0.3% price slide for the GDT butter index keeps prices within the range that it has bounced in over the last five months, the sub \$5,000/MT mark. Alike to both milk powders, buyers were willing to pay a premium for deferred butter contracts, with salted butter to ship in August 2023 demanding a \$265/MT premium over the C2 price. AMF purchases were somewhat evenly split by Southeast Asia/Oceania, Latin America and North Asia, with Middle Eastern buyers managing to grab a significant chunk also. With AMF offer volumes at this event 16% lower than the previous event, a 95.3% sell through rate is somewhat encouraging, even after looking through the dismal bidding information.
- A common theme despite negative macro headlines, North Asian buyers increased their purchases of butter at this event compared to the last event, boosting their volumes by 50%, which resulted in this region dominating market share. Southeast Asia/Oceania buyers also increased volume, up 37% on the previous auction. It must be noted that offer volumes eased 33% from the last event, making these aggressive purchases more poignant for the milk fats market, and a continuation of last year's trend of high demand for milk fats in Asia.
- Fonterra's buttermilk powder values sank to lows not seen since 1 Sep 2020 with demand from North Asia notable, doubling over prior year levels.
- AMF's larger comparative price slide builds the milk fat value basis premium further in butter's favor; a great result for kiwi processors with butter and SMP capacity this late in the NZ dairy season. However, while talking stream returns, WMP prices seem to be holding up better than the synthetic options trajectory currently, with this auction again pushing the valorization equation closer together. Looking into the coming season, processors will be wanting some solid direction to plan with, something that GDT pricing is refusing to supply.

# US Cheese Prices— Somewhat Competitive?

## Global Cheese Prices

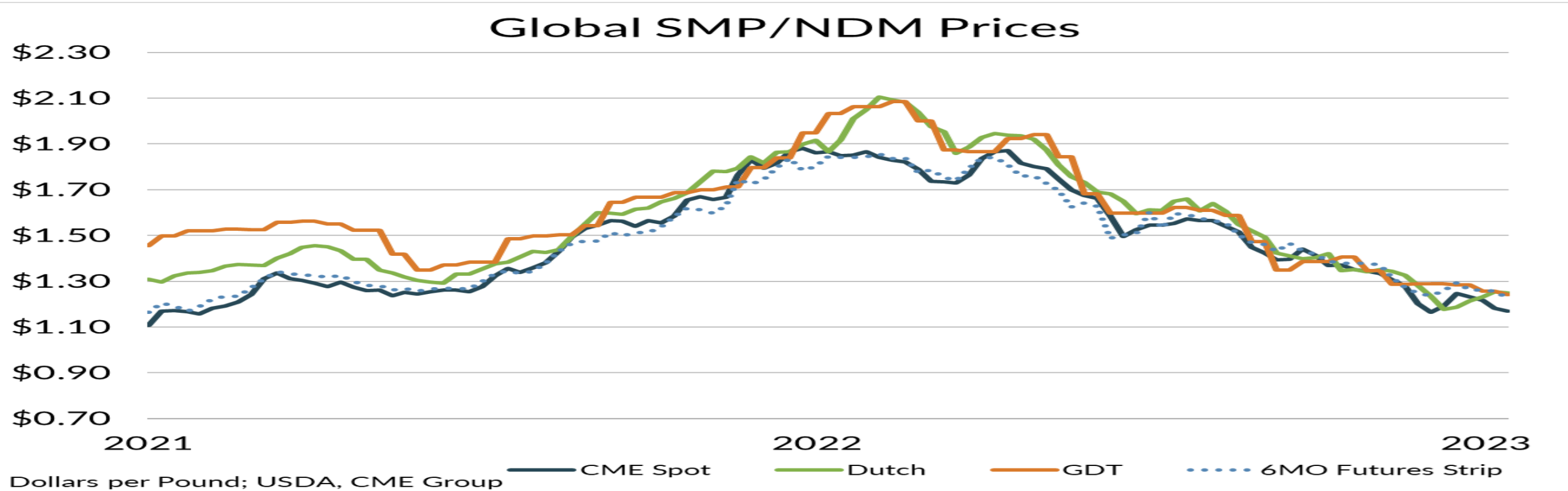


After trending higher for three consecutive events across the overall index, Cheddar cheese sank to the lowest levels observed since 19 Oct 2021. C1 and C2 had been weaker though, as it was the deferred months that found support throughout February. All contracts moved lower with the C2 young settlement recording the steepest decline since 18 Aug 2020.

Asia was the only region to show up to secure Cheddar, both North Asia and Southeast Asia/Oceania, though it continues to be possible that a bulk of the volume is being absorbed by Australia. North Asia's volume jumped 171% against prior year levels while SEA/Oceania increased 83% from a year ago.



# US NFDM Prices– Reflect Global Commodity Values?

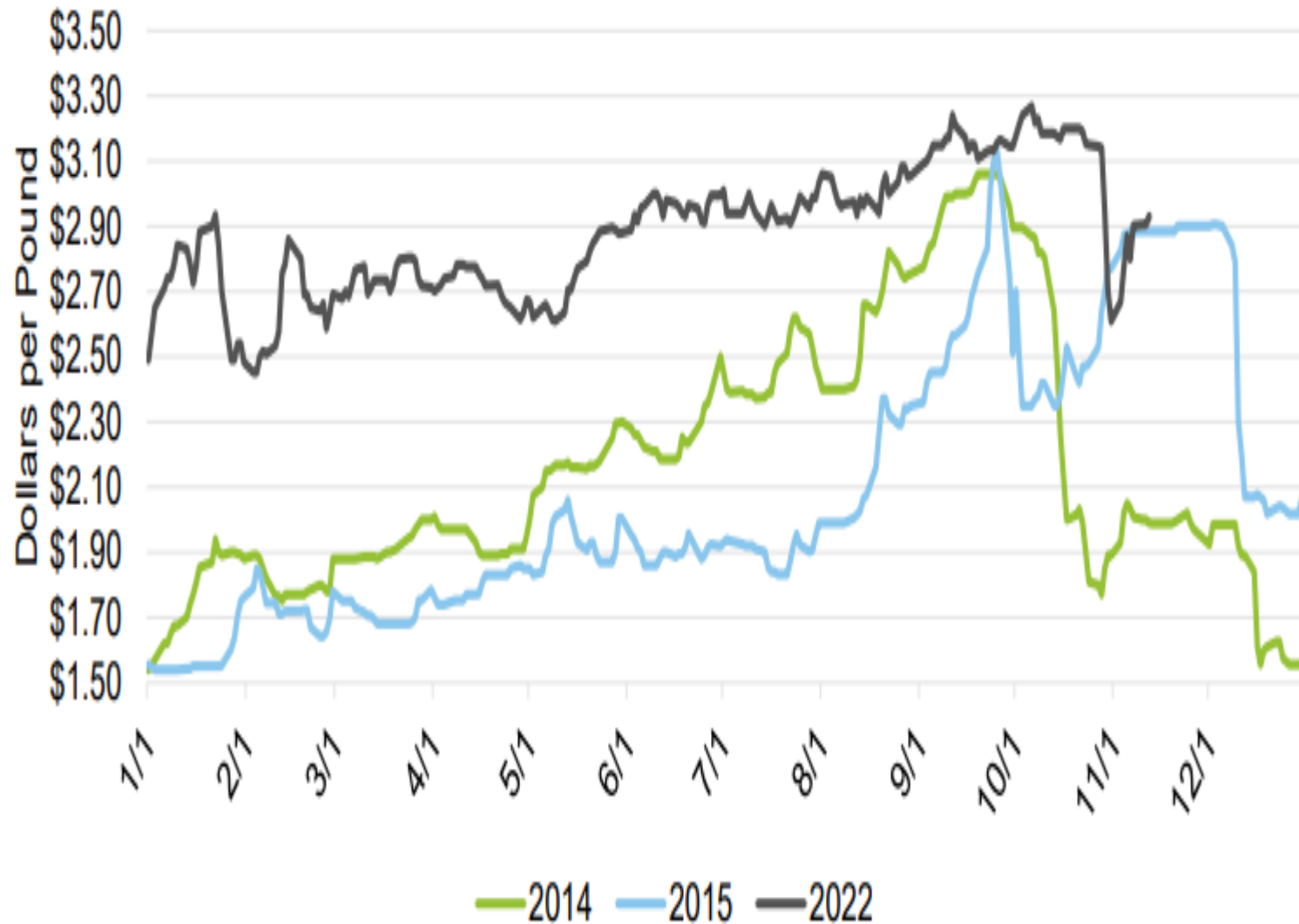


- The global market has been bearish Skim Milk Powder (SMP) prices since EU milk production, and subsequent SMP production, started to flow well above expectations in the tail end of 2022. This global downward pressure from the Northern Hemisphere remains firmly on top of GDT SMP prices. Fonterra medium heat SMP prices eased across the board, with the largest decline coming for the second contract (C2) period. C2 also offers the largest volume of SMP, something that will be weighing on the GDT SMP index. The mostly flat forward sales curve is an upside surprise, considering the expectation that Northern Hemisphere SMP will be more abundant in the months to come, and EU warehouses are reportedly already at capacity. SGX SMP futures expectations fell short, supporting the fact that the carry priced into the futures market is not to be dismissed in a hurry. This mark in the sand will surely see the SGX SMP futures curve slide lower again during the interim between GDT auctions, most likely sparking a further sell down across the CME and EEX NFDM/SMP markets.
- Lackluster demand is clear when looking into the bidding round information, with only twice the volume of demand arriving from SMP buyers at the outset of the auction, which only hung on for a total of two rounds before stepping away. Buyer apprehension was also clear within the EU/Arla SMP sell through data, with only 70% of volume offered being sold, while 97.8% of the Fonterra SMP volume was sold through.
- It took only 11 rounds for the SMP auction to settle out, with prices shifting at snail's pace in the middle contracts, at some points only adding \$3/MT per round. Fonterra MH SMP managed a small premium over EU & US reported prices, \$46/MT over EU product, and \$56/MT over US product, in aligning contract periods.
- North Asia again purchased the most SMP, most likely without much challenge during the bidding rounds. European buyers secured another large volume of SMP at this event, albeit half the purchase volume of the last event. Middle Eastern buyers were hungry for SMP as well, increasing their SMP purchases compared to the previous event by around ten times.



# Is This 2015 All Over Again?

CME Spot Butter Price: 2014, 2015, 2022



- After setting a new record high price of \$3.2675 per pound on October 6, the CME spot butter price stayed relatively supported throughout most of the remainder of the month. However, on three trading days between October 31-November 2, the price lost 53 cents in value before recovering slightly into mid-November. Overall, volatility is expected in the near term.
- The price peak on October 6 this year came slightly later versus highs noted in previous years with firm butter prices, like 2014 and 2015. In 2014, CME spot butter peaked at \$3.06 per pound over five days between September 19-25, while in 2015 butter peaked at \$3.1350 on September 25.
- In both 2014 and 2015, the value recovered slightly after its initial steep decline. In both years, the price held in a fairly steady range throughout November before noting another steep decline into early December

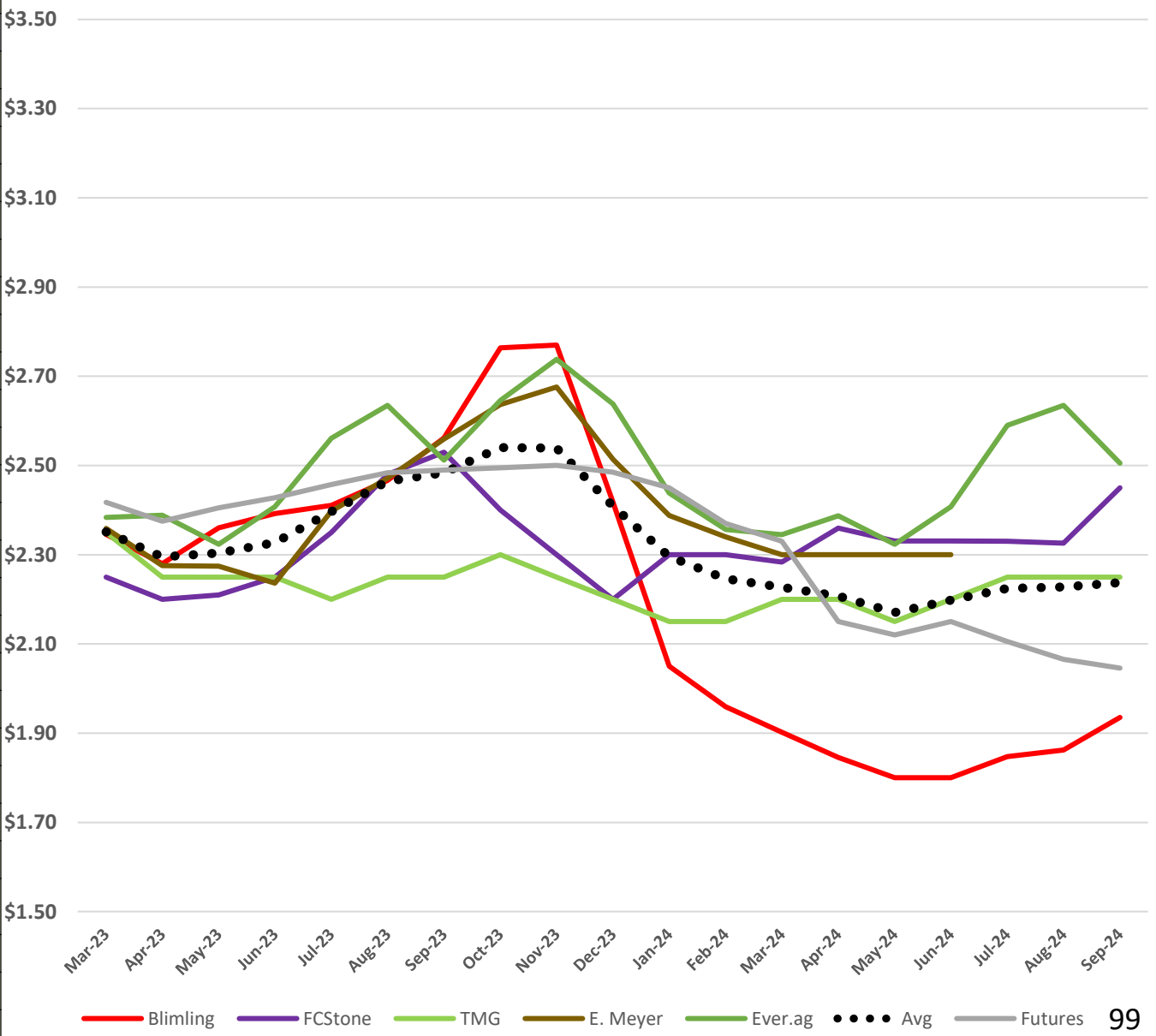




# Butter Price – Forecast

12	Butter CME or AMS								
	Blimling	Ever.ag	FCStone	TMG	E. Meyer	Futures	High	Low	Avg
Fcast Date	03/20/23	03/21/23	03/06/23	03/21/23	03/16/23	03/17/23			
Mar-23	\$2.3454	\$2.3838	\$2.2500	\$2.3500	\$2.3589	\$2.4175	\$2.4175	\$2.2500	\$2.3509
Apr-23	\$2.2800	\$2.3886	\$2.2000	\$2.2500	\$2.2757	\$2.3750	\$2.3886	\$2.2000	\$2.2949
May-23	\$2.3600	\$2.3231	\$2.2100	\$2.2500	\$2.2743	\$2.4050	\$2.4050	\$2.2100	\$2.3037
Jun-23	\$2.3923	\$2.4076	\$2.2500	\$2.2500	\$2.2359	\$2.4275	\$2.4275	\$2.2359	\$2.3272
Jul-23	\$2.4108	\$2.5608	\$2.3500	\$2.2000	\$2.3979	\$2.4575	\$2.5608	\$2.2000	\$2.3962
Aug-23	\$2.4666	\$2.6345	\$2.4800	\$2.2500	\$2.4716	\$2.4838	\$2.6345	\$2.2500	\$2.4644
Sep-23	\$2.5617	\$2.5119	\$2.5300	\$2.2500	\$2.5592	\$2.4900	\$2.5617	\$2.2500	\$2.4838
Oct-23	\$2.7637	\$2.6458	\$2.4000	\$2.3000	\$2.6367	\$2.4950	\$2.7637	\$2.3000	\$2.5402
Nov-23	\$2.7700	\$2.7378	\$2.3000	\$2.2500	\$2.6756	\$2.5000	\$2.7700	\$2.2500	\$2.5389
Dec-23	\$2.4176	\$2.6376	\$2.2000	\$2.2000	\$2.5135	\$2.4850	\$2.6376	\$2.2000	\$2.4090
Jan-24	\$2.0500	\$2.4382	\$2.3000	\$2.1500	\$2.3878	\$2.4500	\$2.4500	\$2.0500	\$2.2960
Feb-24	\$1.9595	\$2.3563	\$2.3000	\$2.1500	\$2.3400	\$2.3700	\$2.3700	\$1.9595	\$2.2460
Mar-24	\$1.9024	\$2.3446	\$2.2835	\$2.2000	\$2.3000	\$2.3300	\$2.3446	\$1.9024	\$2.2267
Apr-24	\$1.8455	\$2.3874	\$2.3595	\$2.2000	\$2.3000	\$2.1500	\$2.3874	\$1.8455	\$2.2071
May-24	\$1.8000	\$2.3231	\$2.3310	\$2.1500	\$2.3000	\$2.1200	\$2.3310	\$1.8000	\$2.1707
Jun-24	\$1.8000	\$2.4076	\$2.3310	\$2.2000	\$2.3000	\$2.1500	\$2.4076	\$1.8000	\$2.1981
Jul-24	\$1.8476	\$2.5897	\$2.3300	\$2.2500		\$2.1055	\$2.5897	\$1.8476	\$2.2246
Aug-24	\$1.8620	\$2.6345	\$2.3260	\$2.2500		\$2.0655	\$2.6345	\$1.8620	\$2.2276
Sep-24	\$1.9353	\$2.5054	\$2.4500	\$2.2500		\$2.0458	\$2.5054	\$1.9353	\$2.2373
Apr 23-June 23	\$2.3441	\$2.3731	\$2.2200	\$2.2500	\$2.2620	\$2.4025	\$2.4025	\$2.2200	\$2.3086
July 23-Sept 23	\$2.4797	\$2.5691	\$2.4533	\$2.2333	\$2.4762	\$2.4771	\$2.5691	\$2.2333	\$2.4481
Oct 23-Dec 23	\$2.6504	\$2.6737	\$2.3000	\$2.2500	\$2.6086	\$2.4933	\$2.6737	\$2.2500	\$2.4960
Jan 24 - Sept - 24	\$1.8891	\$2.4430	\$2.3346	\$2.2000	\$2.3213	\$2.1985	\$2.4430	\$1.8891	\$2.2311
High	\$2.7700	\$2.7378	\$2.5300	\$2.3500	\$2.6756	\$2.5000	\$2.7700	\$2.3500	\$2.5939
Low	\$1.8000	\$2.3231	\$2.2000	\$2.1500	\$2.2359	\$2.0458	\$2.3231	\$1.8000	\$2.1258
Total Avg.	\$2.1984	\$2.4852	\$2.3253	\$2.2289	\$2.3954	\$2.3328	\$2.4852	\$2.1984	\$2.3277

Butter Forecasts By Month

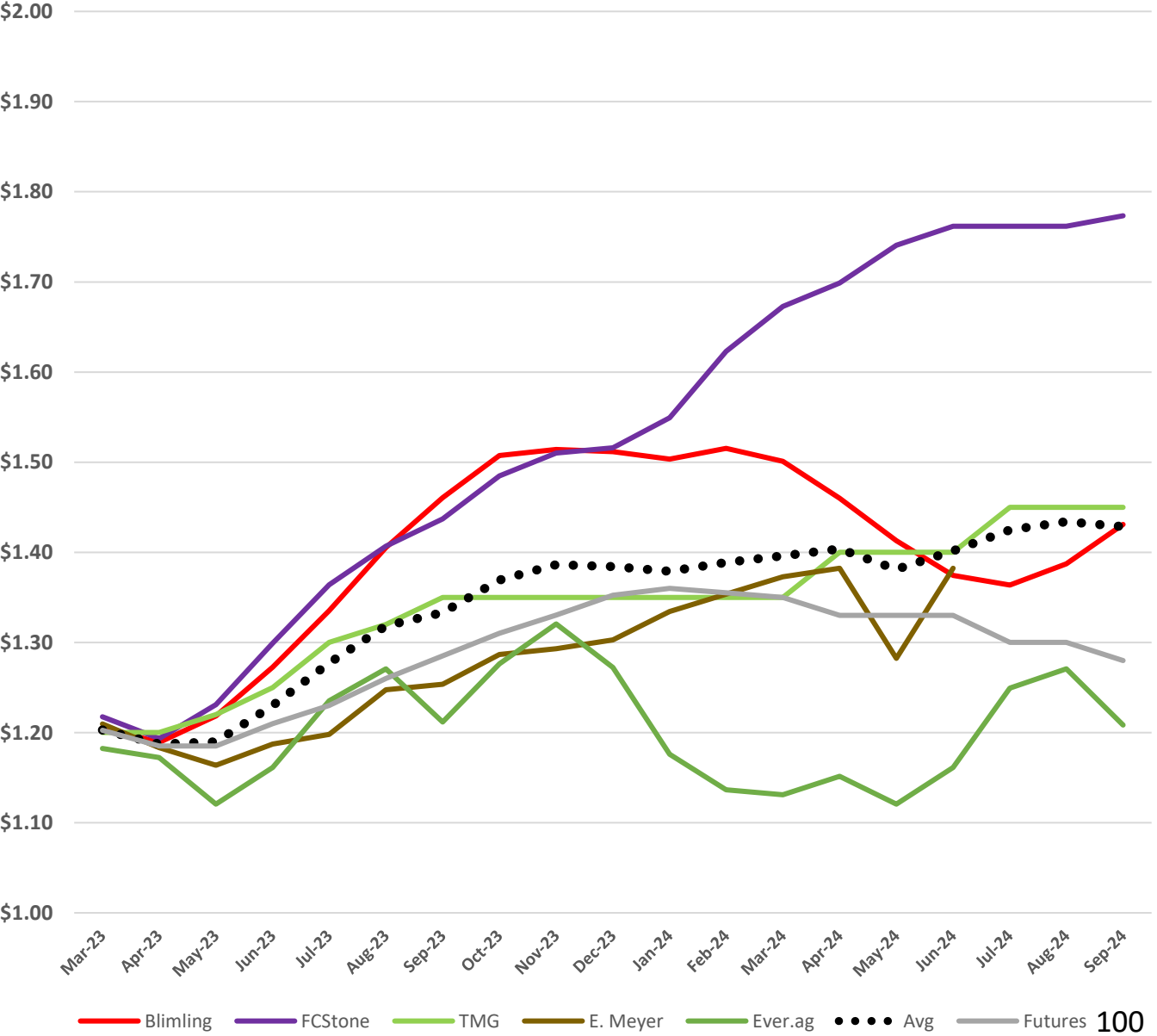




# NFDM – Forecast

12	NFDM CME or AMS								
	Blimling	Ever.ag	FCStone	TMG	E. Meyer	Futures	High	Low	Avg
Fcast Date	03/09/23	03/21/23	03/06/23	03/21/23	03/16/23	03/17/23			
Mar-23	\$1.2056	\$1.1825	\$1.2177	\$1.2000	\$1.2097	\$1.2025	\$1.2177	\$1.1825	\$1.2030
Apr-23	\$1.1891	\$1.1724	\$1.1935	\$1.2000	\$1.1834	\$1.1850	\$1.2000	\$1.1724	\$1.1872
May-23	\$1.2184	\$1.1206	\$1.2310	\$1.2200	\$1.1639	\$1.1850	\$1.2310	\$1.1206	\$1.1898
Jun-23	\$1.2727	\$1.1614	\$1.2993	\$1.2500	\$1.1872	\$1.2100	\$1.2993	\$1.1614	\$1.2301
Jul-23	\$1.3353	\$1.2353	\$1.3640	\$1.3000	\$1.1980	\$1.2300	\$1.3640	\$1.1980	\$1.2771
Aug-23	\$1.4054	\$1.2708	\$1.4069	\$1.3200	\$1.2474	\$1.2600	\$1.4069	\$1.2474	\$1.3184
Sep-23	\$1.4606	\$1.2117	\$1.4371	\$1.3500	\$1.2536	\$1.2850	\$1.4606	\$1.2117	\$1.3330
Oct-23	\$1.5074	\$1.2762	\$1.4847	\$1.3500	\$1.2866	\$1.3103	\$1.5074	\$1.2762	\$1.3692
Nov-23	\$1.5140	\$1.3206	\$1.5102	\$1.3500	\$1.2931	\$1.3303	\$1.5140	\$1.2931	\$1.3864
Dec-23	\$1.5117	\$1.2723	\$1.5160	\$1.3500	\$1.3028	\$1.3525	\$1.5160	\$1.2723	\$1.3842
Jan-24	\$1.5035	\$1.1761	\$1.5493	\$1.3500	\$1.3344	\$1.3600	\$1.5493	\$1.1761	\$1.3789
Feb-24	\$1.5152	\$1.1366	\$1.6230	\$1.3500	\$1.3536	\$1.3550	\$1.6230	\$1.1366	\$1.3889
Mar-24	\$1.5009	\$1.1310	\$1.6728	\$1.3500	\$1.3728	\$1.3500	\$1.6728	\$1.1310	\$1.3962
Apr-24	\$1.4601	\$1.1516	\$1.6987	\$1.4000	\$1.3824	\$1.3300	\$1.6987	\$1.1516	\$1.4038
May-24	\$1.4130	\$1.1206	\$1.7406	\$1.4000	\$1.2824	\$1.3300	\$1.7406	\$1.1206	\$1.3811
Jun-24	\$1.3745	\$1.1614	\$1.7618	\$1.4000	\$1.3824	\$1.3300	\$1.7618	\$1.1614	\$1.4017
Jul-24	\$1.3636	\$1.2492	\$1.7618	\$1.4500		\$1.3000	\$1.7618	\$1.2492	\$1.4249
Aug-24	\$1.3871	\$1.2708	\$1.7618	\$1.4500		\$1.3000	\$1.7618	\$1.2708	\$1.4339
Sep-24	\$1.4310	\$1.2085	\$1.7734	\$1.4500		\$1.2800	\$1.7734	\$1.2085	\$1.4286
Apr 23-June 23	\$1.2267	\$1.1515	\$1.2413	\$1.2233	\$1.1782	\$1.1933	\$1.2413	\$1.1515	\$1.2024
July 23-Sept 23	\$1.4004	\$1.2392	\$1.4026	\$1.3233	\$1.2330	\$1.2583	\$1.4026	\$1.2330	\$1.3095
Oct 23-Dec 23	\$1.5110	\$1.2897	\$1.5036	\$1.3500	\$1.2942	\$1.3310	\$1.5110	\$1.2897	\$1.3799
Jan 24 - Sept - 24	\$1.4388	\$1.1784	\$1.7048	\$1.4000	\$1.3513	\$1.3261	\$1.7048	\$1.1784	\$1.3999
High	\$1.5152	\$1.3206	\$1.7734	\$1.4500	\$1.3824	\$1.3600	\$1.7734	\$1.3206	\$1.4669
Low	\$1.1891	\$1.1206	\$1.1935	\$1.2000	\$1.1639	\$1.1850	\$1.2000	\$1.1206	\$1.1754
Total Avg.	\$1.3984	\$1.2016	\$1.5265	\$1.3416	\$1.2771	\$1.2887	\$1.5265	\$1.2016	\$1.3390

NFDM Forecasts By Month

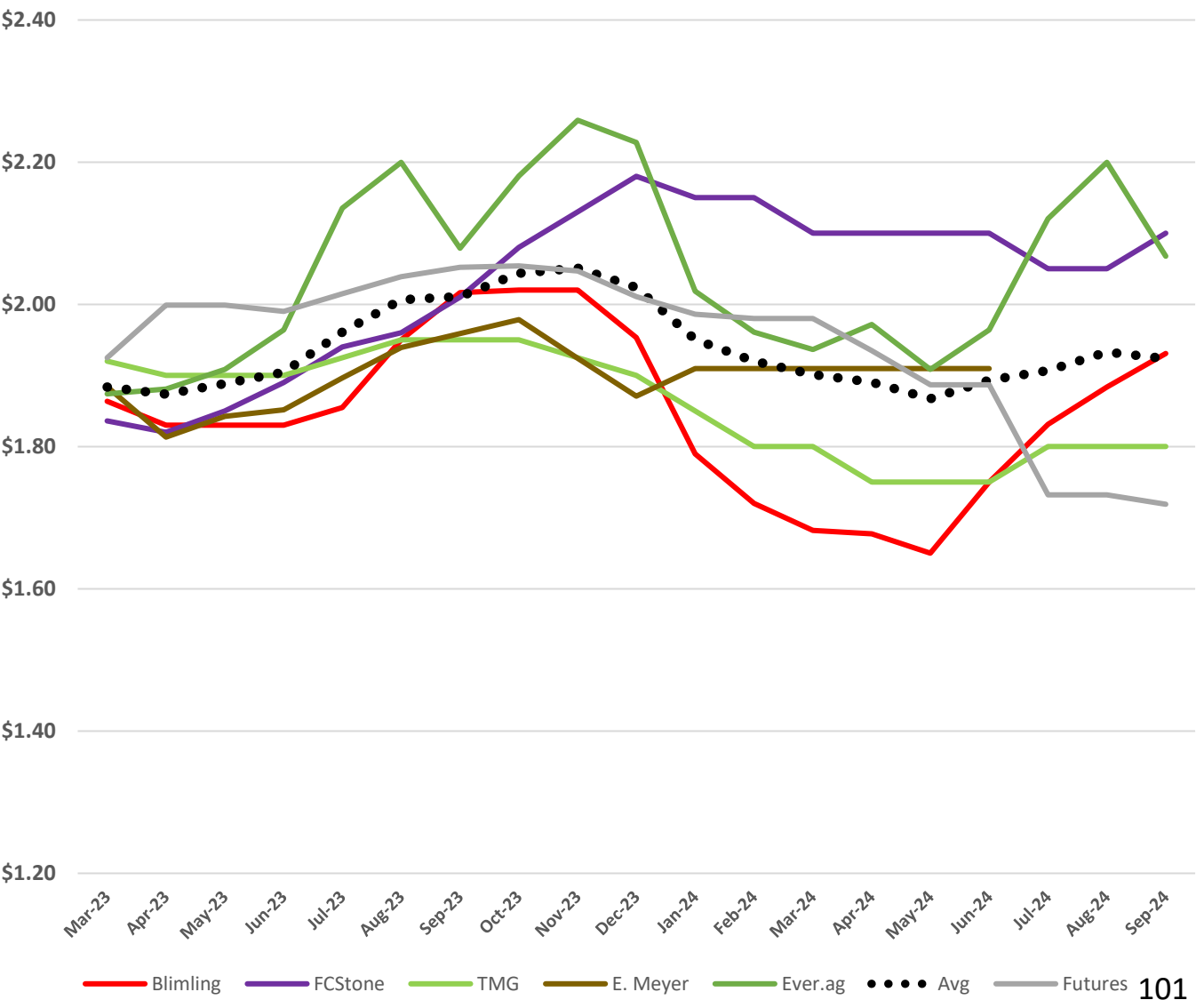




# Block Cheese – Forecast

12	Block Cheese CME or AMS								
	Blimling	Ever.ag	FCStone	TMG	E. Meyer	Futures	High	Low	Avg
Fcast Date	03/20/23	03/21/23	03/06/23	03/21/23	03/16/23	03/17/23			
Mar-23	\$1.8638	\$1.8743	\$1.8360	\$1.9200	\$1.8840	\$1.9250	\$1.9250	\$1.8360	\$1.8838
Apr-23	\$1.8300	\$1.8808	\$1.8200	\$1.9000	\$1.8133	\$1.9990	\$1.9990	\$1.8133	\$1.8738
May-23	\$1.8300	\$1.9084	\$1.8500	\$1.9000	\$1.8425	\$1.9990	\$1.9990	\$1.8300	\$1.8883
Jun-23	\$1.8300	\$1.9641	\$1.8900	\$1.9000	\$1.8518	\$1.9900	\$1.9900	\$1.8300	\$1.9043
Jul-23	\$1.8548	\$2.1352	\$1.9400	\$1.9250	\$1.8963	\$2.0150	\$2.1352	\$1.8548	\$1.9611
Aug-23	\$1.9500	\$2.1996	\$1.9600	\$1.9500	\$1.9394	\$2.0390	\$2.1996	\$1.9394	\$2.0063
Sep-23	\$2.0167	\$2.0788	\$2.0100	\$1.9500	\$1.9588	\$2.0520	\$2.0788	\$1.9500	\$2.0110
Oct-23	\$2.0200	\$2.1806	\$2.0800	\$1.9500	\$1.9784	\$2.0540	\$2.1806	\$1.9500	\$2.0438
Nov-23	\$2.0200	\$2.2587	\$2.1300	\$1.9250	\$1.9239	\$2.0470	\$2.2587	\$1.9239	\$2.0508
Dec-23	\$1.9533	\$2.2275	\$2.1800	\$1.9000	\$1.8708	\$2.0110	\$2.2275	\$1.8708	\$2.0238
Jan-24	\$1.7896	\$2.0186	\$2.1500	\$1.8500	\$1.9095	\$1.9860	\$2.1500	\$1.7896	\$1.9506
Feb-24	\$1.7200	\$1.9608	\$2.1500	\$1.8000	\$1.9095	\$1.9800	\$2.1500	\$1.7200	\$1.9201
Mar-24	\$1.6819	\$1.9363	\$2.1000	\$1.8000	\$1.9095	\$1.9800	\$2.1000	\$1.6819	\$1.9013
Apr-24	\$1.6773	\$1.9719	\$2.1000	\$1.7500	\$1.9095	\$1.9350	\$2.1000	\$1.6773	\$1.8906
May-24	\$1.6500	\$1.9084	\$2.1000	\$1.7500	\$1.9095	\$1.8870	\$2.1000	\$1.6500	\$1.8675
Jun-24	\$1.7500	\$1.9641	\$2.1000	\$1.7500	\$1.9095	\$1.8870	\$2.1000	\$1.7500	\$1.8934
Jul-24	\$1.8311	\$2.1205	\$2.0500	\$1.8000		\$1.7320	\$2.1205	\$1.7320	\$1.9067
Aug-24	\$1.8837	\$2.1996	\$2.0500	\$1.8000		\$1.7320	\$2.1996	\$1.7320	\$1.9331
Sep-24	\$1.9310	\$2.0676	\$2.1000	\$1.8000		\$1.7190	\$2.1000	\$1.7190	\$1.9235
Apr 23-June 23	\$1.8300	\$1.9177	\$1.8533	\$1.9000	\$1.8359	\$1.9960	\$1.9960	\$1.8300	\$1.8888
July 23-Sept 23	\$1.9405	\$2.1379	\$1.9700	\$1.9417	\$1.9315	\$2.0353	\$2.1379	\$1.9315	\$1.9928
Oct 23-Dec 23	\$1.9978	\$2.2223	\$2.1300	\$1.9250	\$1.9244	\$2.0373	\$2.2223	\$1.9244	\$2.0395
Jan 24 - Sept - 24	\$1.7683	\$2.0164	\$2.1000	\$1.7889	\$1.9095	\$1.8709	\$2.1000	\$1.7683	\$1.9090
High	\$2.0200	\$2.2587	\$2.1800	\$1.9500	\$1.9784	\$2.0540	\$2.2587	\$1.9500	\$2.0735
Low	\$1.6500	\$1.8743	\$1.8200	\$1.7500	\$1.8133	\$1.7190	\$1.8743	\$1.6500	\$1.7711
Total Avg.	\$1.8465	\$2.0450	\$2.0314	\$1.8589	\$1.9010	\$1.9457	\$2.0450	\$1.8465	\$1.9381

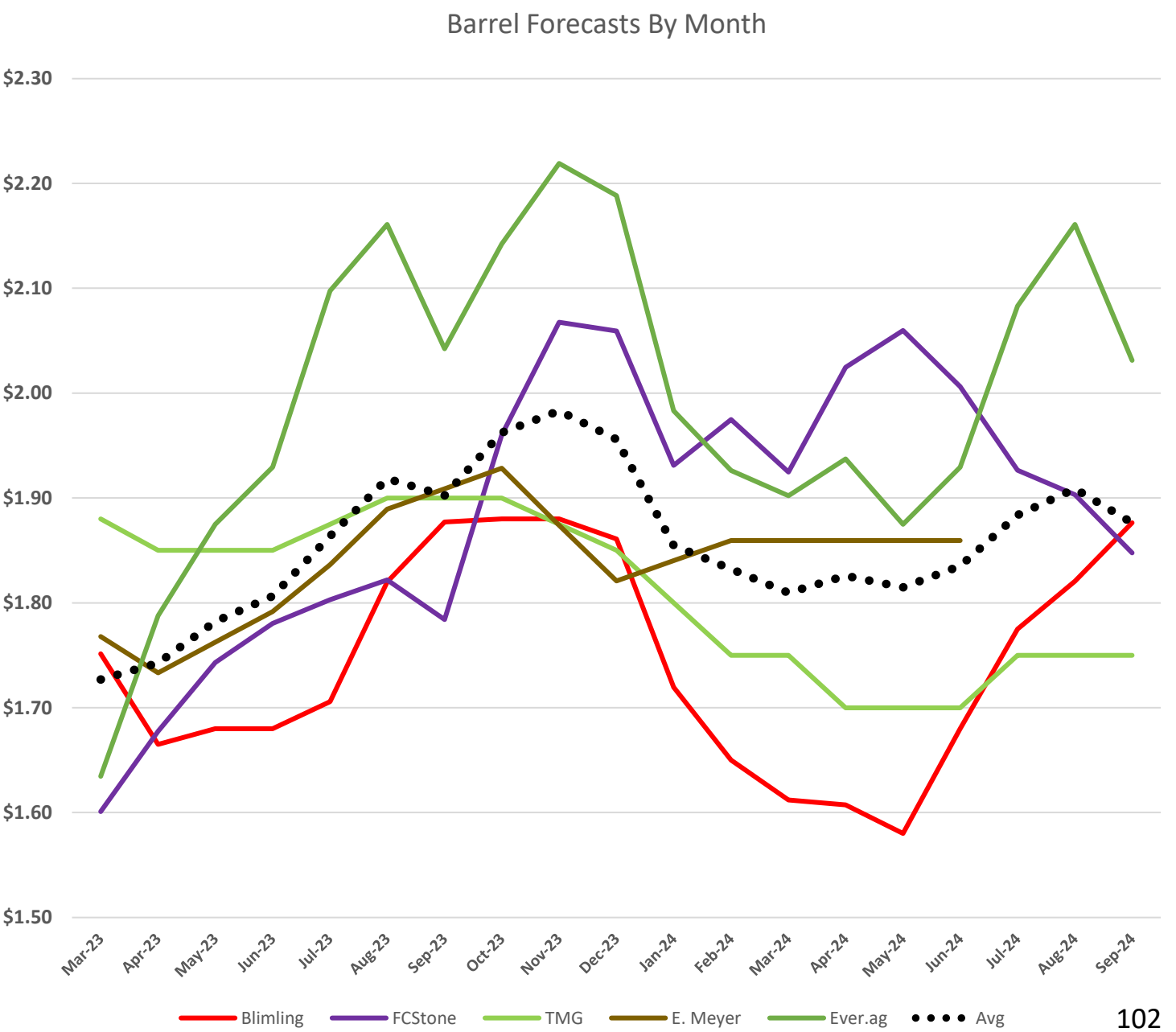
Block Forecasts By Month





# Barrel Cheese – Forecast

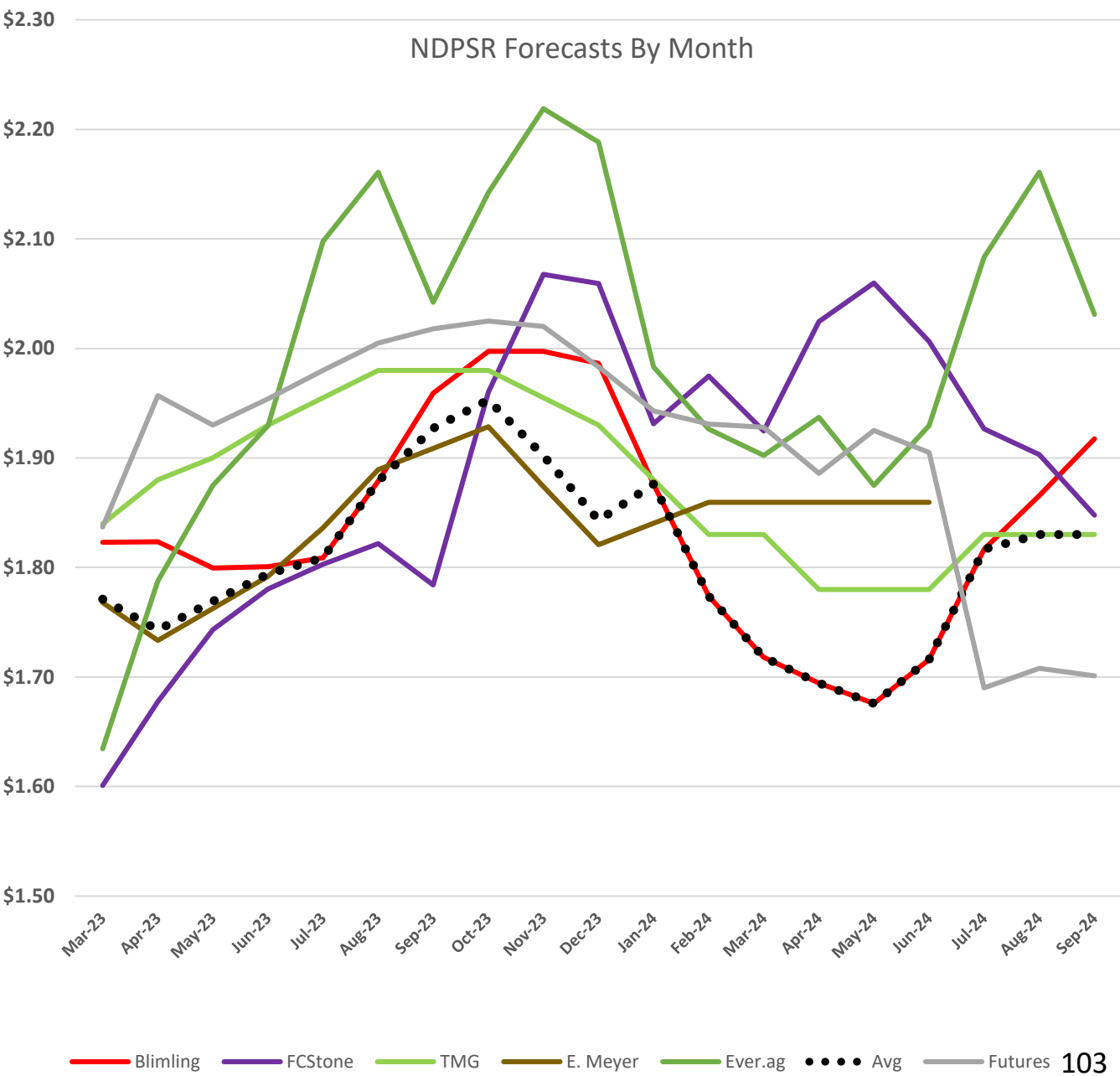
12	Barrel Cheese CME or AMS							
	Blimling	Ever.ag	FCStone	TMG	E. Meyer	High	Low	Avg
Fcast Date	03/20/23	03/21/23	03/06/23	03/21/23	03/16/23			
Mar-23	\$1.7515	\$1.6345	\$1.6010	\$1.8800	\$1.7680	\$1.8800	\$1.6010	\$1.7270
Apr-23	\$1.6650	\$1.7878	\$1.6775	\$1.8500	\$1.7333	\$1.8500	\$1.6650	\$1.7427
May-23	\$1.6800	\$1.8748	\$1.7432	\$1.8500	\$1.7625	\$1.8748	\$1.6800	\$1.7821
Jun-23	\$1.6800	\$1.9295	\$1.7804	\$1.8500	\$1.7918	\$1.9295	\$1.6800	\$1.8063
Jul-23	\$1.7057	\$2.0976	\$1.8029	\$1.8750	\$1.8363	\$2.0976	\$1.7057	\$1.8635
Aug-23	\$1.8200	\$2.1608	\$1.8218	\$1.9000	\$1.8894	\$2.1608	\$1.8200	\$1.9184
Sep-23	\$1.8771	\$2.0422	\$1.7840	\$1.9000	\$1.9088	\$2.0422	\$1.7840	\$1.9024
Oct-23	\$1.8800	\$2.1422	\$1.9602	\$1.9000	\$1.9284	\$2.1422	\$1.8800	\$1.9622
Nov-23	\$1.8800	\$2.2189	\$2.0676	\$1.8750	\$1.8739	\$2.2189	\$1.8739	\$1.9831
Dec-23	\$1.8610	\$2.1883	\$2.0592	\$1.8500	\$1.8208	\$2.1883	\$1.8208	\$1.9558
Jan-24	\$1.7196	\$1.9830	\$1.9311	\$1.8000	\$1.8404	\$1.9830	\$1.7196	\$1.8548
Feb-24	\$1.6500	\$1.9263	\$1.9748	\$1.7500	\$1.8595	\$1.9748	\$1.6500	\$1.8321
Mar-24	\$1.6119	\$1.9022	\$1.9247	\$1.7500	\$1.8595	\$1.9247	\$1.6119	\$1.8097
Apr-24	\$1.6073	\$1.9371	\$2.0246	\$1.7000	\$1.8595	\$2.0246	\$1.6073	\$1.8257
May-24	\$1.5800	\$1.8748	\$2.0596	\$1.7000	\$1.8595	\$2.0596	\$1.5800	\$1.8148
Jun-24	\$1.6800	\$1.9295	\$2.0063	\$1.7000	\$1.8595	\$2.0063	\$1.6800	\$1.8350
Jul-24	\$1.7750	\$2.0831	\$1.9265	\$1.7500		\$2.0831	\$1.7500	\$1.8837
Aug-24	\$1.8207	\$2.1608	\$1.9031	\$1.7500		\$2.1608	\$1.7500	\$1.9087
Sep-24	\$1.8763	\$2.0311	\$1.8476	\$1.7500		\$2.0311	\$1.7500	\$1.8763
Apr 23-June 23	\$1.6750	\$1.8640	\$1.7337	\$1.8500	\$1.7625	\$1.8683	\$1.6487	\$1.7770
July 23-Sept 23	\$1.8010	\$2.1002	\$1.8029	\$1.8917	\$1.8782	\$2.1002	\$1.8010	\$1.8948
Oct 23-Dec 23	\$1.8737	\$2.1831	\$2.0290	\$1.8750	\$1.8744	\$2.1831	\$1.8737	\$1.9670
Jan 24 - Sept - 24	\$1.7023	\$1.9809	\$1.9554	\$1.7389	\$1.8563	\$1.9809	\$1.7023	\$1.8468
High	\$1.8800	\$2.2189	\$2.0676	\$1.9000	\$1.9284	\$2.2189	\$1.8800	\$1.9990
Low	\$1.5800	\$1.6345	\$1.6010	\$1.7000	\$1.7333	\$1.7333	\$1.5800	\$1.6498
Total Avg.	\$1.7432	\$1.9950	\$1.8893	\$1.8095	\$1.8407	\$1.9950	\$1.7432	\$1.8555





# Cash Settled Cheese (NDPSR) – Forecast

12	NDPSR Cheese								
	Blimling	Ever.ag	FCStone	TMG	E. Meyer	Futures	High	Low	Avg
Fcast Date	03/20/23	03/21/23	03/06/23	03/21/23	02/15/23	03/17/23			
Mar-23	\$1.8231	\$1.7862	\$1.7866	\$1.8400	\$1.7710	\$1.8370	\$1.8400	\$1.7710	\$1.8073
Apr-23	\$1.8234	\$1.8543	\$1.7695	\$1.8800	\$1.7430	\$1.9570	\$1.9570	\$1.7430	\$1.8379
May-23	\$1.7995	\$1.9069	\$1.8092	\$1.9000	\$1.7690	\$1.9300	\$1.9300	\$1.7690	\$1.8524
Jun-23	\$1.8006	\$1.9621	\$1.8541	\$1.9300	\$1.7940	\$1.9540	\$1.9621	\$1.7940	\$1.8825
Jul-23	\$1.8089	\$2.1320	\$1.8927	\$1.9550	\$1.8600	\$1.9800	\$2.1320	\$1.8089	\$1.9381
Aug-23	\$1.8788	\$2.1959	\$1.9220	\$1.9800	\$1.9010	\$2.0050	\$2.1959	\$1.8788	\$1.9805
Sep-23	\$1.9592	\$2.0761	\$1.9356	\$1.9800	\$1.9270	\$2.0180	\$2.0761	\$1.9270	\$1.9826
Oct-23	\$1.9974	\$2.1771	\$1.9985	\$1.9800	\$1.9530	\$2.0250	\$2.1771	\$1.9530	\$2.0218
Nov-23	\$1.9974	\$2.2546	\$2.1040	\$1.9550	\$1.9020	\$2.0200	\$2.2546	\$1.9020	\$2.0388
Dec-23	\$1.9864	\$2.2237	\$2.1571	\$1.9300	\$1.8430	\$1.9830	\$2.2237	\$1.8430	\$2.0205
Jan-24	\$1.8761	\$2.0163	\$2.1303	\$1.8800	\$1.8780	\$1.9430	\$2.1303	\$1.8761	\$1.9539
Feb-24	\$1.7737	\$1.9589	\$2.0976	\$1.8300	\$1.8760	\$1.9310	\$2.0976	\$1.7737	\$1.9112
Mar-24	\$1.7180	\$1.9346	\$2.0853	\$1.8300	\$1.8740	\$1.9280	\$2.0853	\$1.7180	\$1.8950
Apr-24	\$1.6944	\$1.9699	\$2.0821	\$1.7800	\$1.8860	\$1.8860	\$2.0821	\$1.6944	\$1.8825
May-24	\$1.6759	\$1.9069	\$2.1179	\$1.7800	\$1.8860	\$1.9250	\$2.1179	\$1.6759	\$1.8733
Jun-24	\$1.7161	\$1.9621	\$2.1146	\$1.7800	\$1.8860	\$1.9050	\$2.1146	\$1.7161	\$1.8918
Jul-24	\$1.8167	\$2.1174	\$2.0686	\$1.8300		\$1.6900	\$2.1174	\$1.8167	\$1.9582
Aug-24	\$1.8655	\$2.1959	\$2.0274	\$1.8300		\$1.7080	\$2.1959	\$1.8300	\$1.9797
Sep-24	\$1.9174	\$2.0649	\$2.0197	\$1.8300		\$1.7010	\$2.0649	\$1.8300	\$1.9580
Apr 23-June 23	\$1.8078	\$1.9078	\$1.8109	\$1.9033	\$1.7687	\$1.9470	\$1.9470	\$1.7687	\$1.8227
July 23-Sept 23	\$1.8823	\$2.1347	\$1.9168	\$1.9717	\$1.8960	\$2.0010	\$2.1347	\$1.8823	\$1.9167
Oct 23-Dec 23	\$1.9937	\$2.2184	\$2.0865	\$1.9550	\$1.8993	\$2.0093	\$2.2184	\$1.8993	\$1.9836
Jan 24 - Sept -24	\$1.7838	\$2.0141	\$2.0826	\$1.8189	\$1.8810	\$1.8463	\$2.0826	\$1.7838	\$1.9200
High	\$1.9974	\$2.2546	\$2.1571	\$1.9800	\$1.9530	\$2.0250	\$2.2546	\$1.9530	\$2.0684
Low	\$1.6759	\$1.7862	\$1.7695	\$1.7800	\$1.7430	\$1.6900	\$1.7862	\$1.6759	\$1.7509
Total Avg.	\$1.8383	\$2.0366	\$1.9986	\$1.8789	\$1.8593	\$1.9119	\$2.0366	\$1.8383	\$1.9206



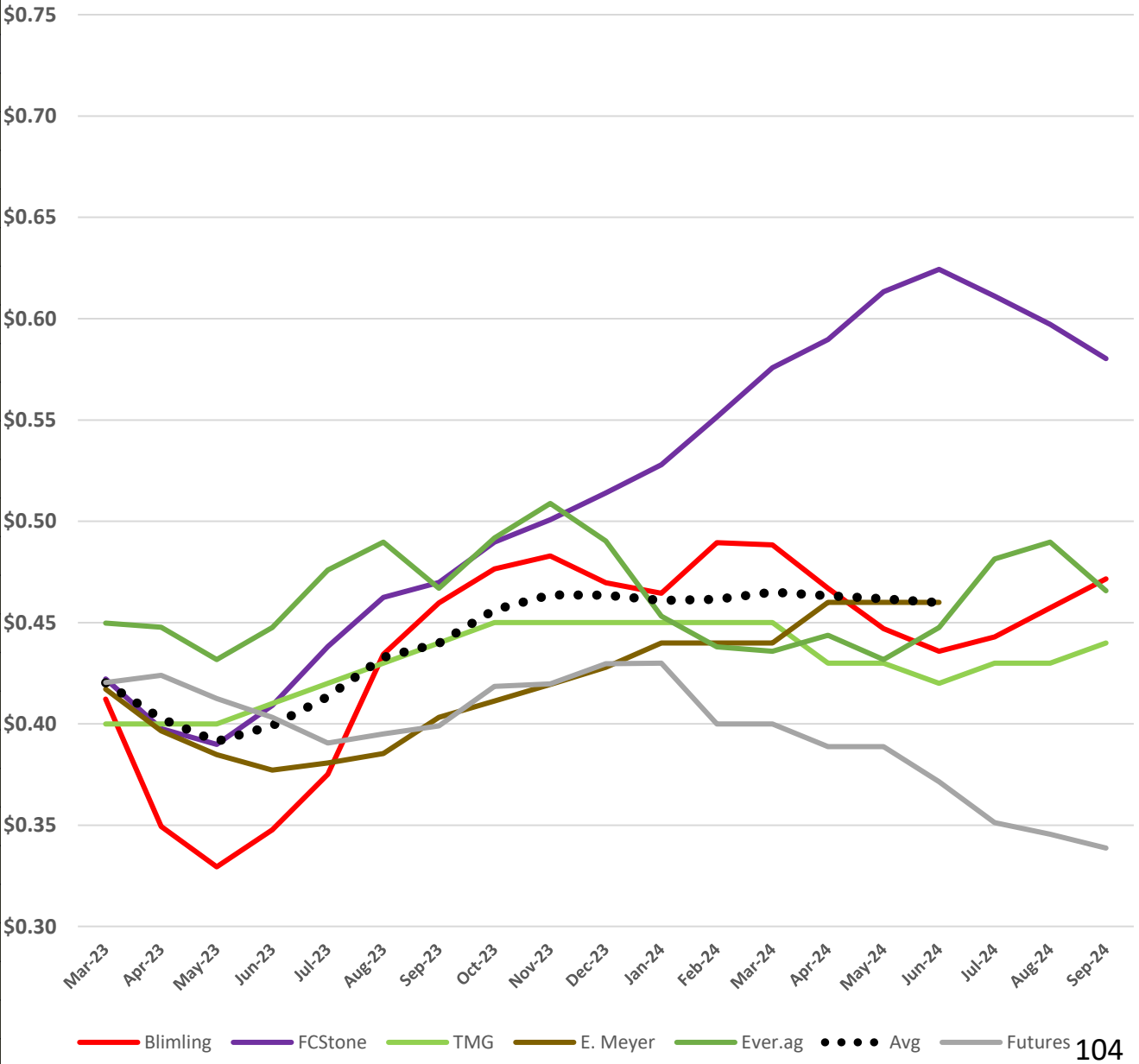




# Whey – Forecast

12	Whey CME or AMS								
	Blimling	Ever.ag	FCStone	TMG	E. Meyer	Futures	High	Low	Avg
Fcast Date	03/20/23	03/21/23	03/06/23	03/21/23	03/16/23	03/17/23			
Mar-23	\$0.4122	\$0.4498	\$0.4222	\$0.4000	\$0.4171	\$0.4205	\$0.4498	\$0.4000	\$0.4203
Apr-23	\$0.3494	\$0.4477	\$0.3976	\$0.4000	\$0.3965	\$0.4240	\$0.4477	\$0.3494	\$0.4025
May-23	\$0.3294	\$0.4318	\$0.3898	\$0.4000	\$0.3849	\$0.4125	\$0.4318	\$0.3294	\$0.3914
Jun-23	\$0.3477	\$0.4475	\$0.4091	\$0.4100	\$0.3772	\$0.4033	\$0.4475	\$0.3477	\$0.3991
Jul-23	\$0.3752	\$0.4760	\$0.4382	\$0.4200	\$0.3808	\$0.3905	\$0.4760	\$0.3752	\$0.4134
Aug-23	\$0.4343	\$0.4897	\$0.4625	\$0.4300	\$0.3854	\$0.3950	\$0.4897	\$0.3854	\$0.4328
Sep-23	\$0.4597	\$0.4669	\$0.4699	\$0.4400	\$0.4033	\$0.3990	\$0.4699	\$0.3990	\$0.4398
Oct-23	\$0.4765	\$0.4918	\$0.4897	\$0.4500	\$0.4113	\$0.4185	\$0.4918	\$0.4113	\$0.4563
Nov-23	\$0.4829	\$0.5089	\$0.5008	\$0.4500	\$0.4195	\$0.4198	\$0.5089	\$0.4195	\$0.4636
Dec-23	\$0.4697	\$0.4903	\$0.5140	\$0.4500	\$0.4279	\$0.4298	\$0.5140	\$0.4279	\$0.4636
Jan-24	\$0.4645	\$0.4532	\$0.5280	\$0.4500	\$0.4400	\$0.4300	\$0.5280	\$0.4300	\$0.4609
Feb-24	\$0.4894	\$0.4380	\$0.5515	\$0.4500	\$0.4400	\$0.4000	\$0.5515	\$0.4000	\$0.4615
Mar-24	\$0.4883	\$0.4358	\$0.5758	\$0.4500	\$0.4400	\$0.4000	\$0.5758	\$0.4000	\$0.4650
Apr-24	\$0.4670	\$0.4438	\$0.5898	\$0.4300	\$0.4600	\$0.3888	\$0.5898	\$0.3888	\$0.4632
May-24	\$0.4470	\$0.4318	\$0.6133	\$0.4300	\$0.4600	\$0.3888	\$0.6133	\$0.3888	\$0.4618
Jun-24	\$0.4358	\$0.4475	\$0.6244	\$0.4200	\$0.4600	\$0.3715	\$0.6244	\$0.3715	\$0.4599
Jul-24	\$0.4429	\$0.4814	\$0.6111	\$0.4300		\$0.3513	\$0.6111	\$0.3513	\$0.4633
Aug-24	\$0.4573	\$0.4897	\$0.5972	\$0.4300		\$0.3455	\$0.5972	\$0.3455	\$0.4639
Sep-24	\$0.4716	\$0.4657	\$0.5802	\$0.4400		\$0.3388	\$0.5802	\$0.3388	\$0.4593
Apr 23-June 23	\$0.3422	\$0.4424	\$0.3989	\$0.4033	\$0.3862	\$0.4133	\$0.4424	\$0.3422	\$0.3977
July 23-Sept 23	\$0.4231	\$0.4775	\$0.4568	\$0.4300	\$0.3898	\$0.3948	\$0.4775	\$0.3898	\$0.4287
Oct 23-Dec 23	\$0.4764	\$0.4970	\$0.5015	\$0.4500	\$0.4196	\$0.4227	\$0.5015	\$0.4196	\$0.4612
Jan 24 - Sept - 24	\$0.4626	\$0.4541	\$0.5857	\$0.4367	\$0.4500	\$0.3794	\$0.5857	\$0.3794	\$0.4614
High	\$0.4894	\$0.5089	\$0.6244	\$0.4500	\$0.4600	\$0.4300	\$0.6244	\$0.4300	\$0.4938
Low	\$0.3294	\$0.4318	\$0.3898	\$0.4000	\$0.3772	\$0.3388	\$0.4318	\$0.3294	\$0.3778
Total Avg.	\$0.4369	\$0.4625	\$0.5139	\$0.4305	\$0.4190	\$0.3962	\$0.5139	\$0.3962	\$0.4432

Whey Forecasts By Month





## “Unknown Risks”



- China remains a critical question mark regarding overall global demand in the coming months. A variety of occurrences are colluding to make demand forecasting more difficult.
- While COVID restrictions are easing, citizens are still concerned about returning to “normal” life with COVID and other viruses spreading quickly.
- Protests have erupted in some cities, with some escalating to violence. Easing restrictions should, at its surface, imply increased dairy demand in the coming months, but WMP and SMP stocks remain elevated with buyers still not returning to purchase in recent weeks even as prices have increasingly represented a value buy.
- Weaker global economic growth could also negatively impact China, where factories are being idled and shipping issues have broadly ended globally. Overall, Chinese demand will drive global dairy values, but more questions than answers remain at present.
- From a supply perspective, growth has firmly returned in the Northern Hemisphere, with US milk output expected to approach 2% year over year growth, and EU milk well above the weak prior year levels.
- The market continues to shrug off the weakness in both Australia and New Zealand, with struggling production seasons still not creating a bullish reaction at GDT auctions. As long as buyers remain concerned about economic growth and overall dairy needs into 2023, supply will not be a driving price factor, but any sudden changes could skew the current outlook.

**RECESSION**

**Demand  
Rationing**



## “Da Bull / Da Bear”



*Saputo*  
Dairy Foods USA

- US milk production slows quickly due to one or more events –
  - Feed costs reverse trend and move higher
    - Weather – Argentine or Northern Hemisphere
    - Import Increase (China)
    - Export Decrease (Russia/Black Sea)
- US Export expands at faster rate
  - China demand resumes 2020/21 run rate or
  - New Zealand production doesn't recover– demand shifts to US
  - European production reverses trend – demand shifts to US

From a timing perspective – weather factors or decreased export activity could have a more immediate impact in 2 - 3 months

US projected production not likely to change in the next 3 months –

European projected production not likely to change in next 60 days

- Spring flush needs to paly out

New Zealand projected production not likely to change in next 5 months

- Peak season not starting until August

- Energy prices spike

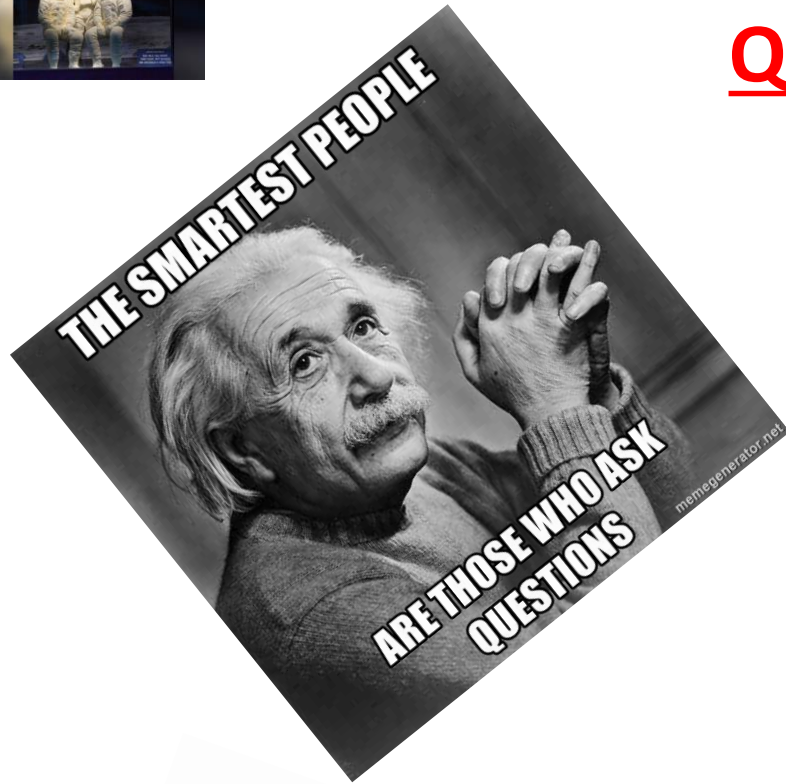
- Forward curves anticipating lower production

- Demand stays timid while supply remains robust
  - Exports may see improvement but against a weak 2022 comparable
- Recession fears play out and global demand suffers first followed by domestic demand pull-back.
- Feed prices continue to come down as the North American growing season unfolds without incident while export demand for grain weakens
- New cheese plants not able to start up and producers continue to produce,
  - Existing cheese plants continue to purchase “excess milk” at discounted prices
- Energy prices decline



# QUESTIONS/COMMENTS

## Appendix Slides



**A WISE MAN  
CAN LEARN MORE  
FROM A FOOLISH QUESTION  
THAN A FOOL CAN LEARN  
FROM A WISE ANSWER.**

BRUCE LEE

statify





# Global Milk Highlights

## US

Dairy culling is on the rise as margins are pressured. Record exports must persist to drive price recovery into 2H 2023.

## EU

Milk prices in the EU are currently in the middle of a large price correction, which will result in tighter on-farm margins from Q2 onward.

## China

Destocking has started and will extend into 1H 2023. China may start to buy more in 2H 2023 at the earliest, and we expect a mild year-on-year increase in imports in 2H 2023.

## South America

Drought in southern Brazil, Uruguay, and Argentina is impacting production in Q1 2023.

## Australia

Ample feed and water will be on hand moving into a new season. Farm sector consolidation continues to constrain milk supply.

## New Zealand

Production has taken an about turn and has shown signs of recovery. Yet Cyclone Gabrielle is likely to put a dampener on this – along with pouring more fuel on inflationary cost pressure.



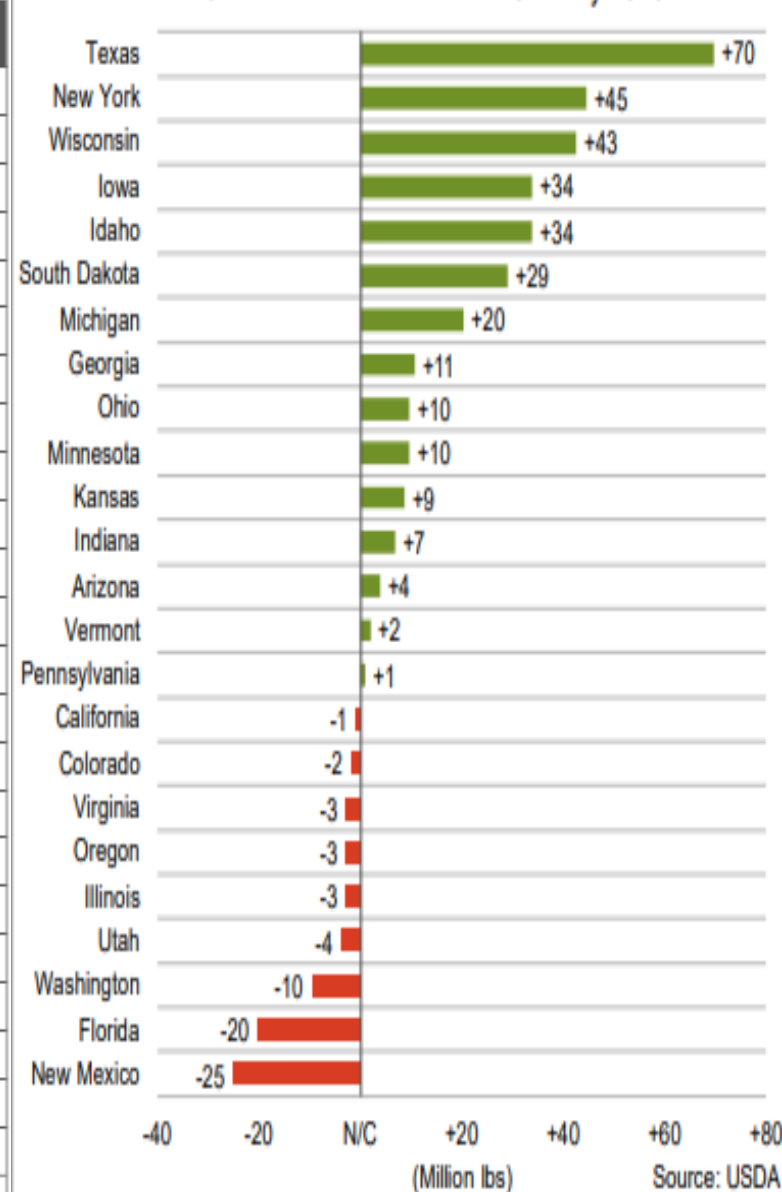


# US Milk Milk Production – More Details

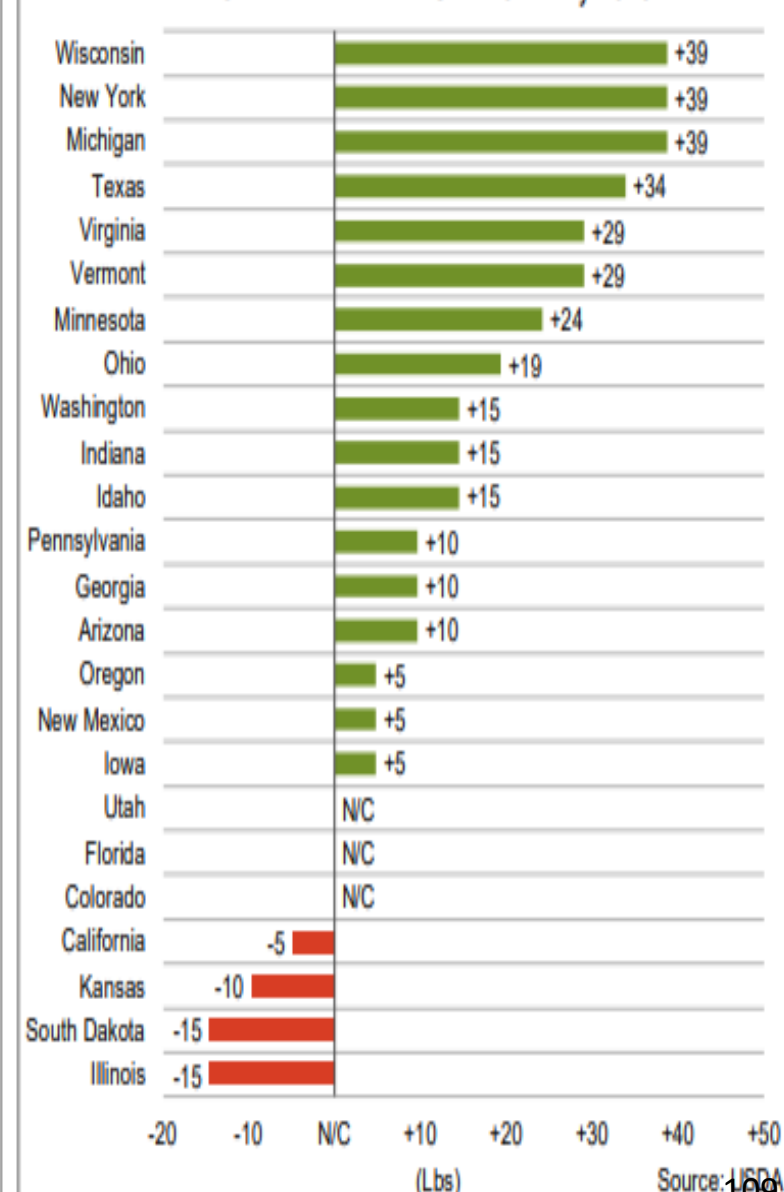
## Milk Production by State January 2023

State	Milk Production	vs. Last Year	vs. Two Years Ago	Milk Cows	vs. Last Year	Milk Per Cow	vs. Last Year
California	3,534	-0.0%	-1.9%	1,724	+4	2,050	-0.2%
Wisconsin	2,711	+1.6%	+1.3%	1,270	-3	2,135	+1.9%
Texas	1,450	+5.2%	+8.9%	650	+22	2,230	+1.6%
Idaho	1,401	+2.6%	+3.2%	664	+12	2,110	+0.7%
New York	1,342	+3.5%	+2.2%	630	+10	2,130	+1.9%
Michigan	1,004	+2.1%	-1.2%	432	+2	2,325	+1.8%
Minnesota	892	+1.1%	-0.1%	455	-1	1,960	+1.3%
Pennsylvania	848	+0.1%	-3.0%	466	-2	1,820	+0.6%
New Mexico	608	-4.1%	-15.7%	282	-13	2,155	+0.2%
Washington	517	-1.9%	-8.7%	254	-7	2,035	+0.7%
Iowa	506	+7.4%	+8.4%	241	+16	2,100	+0.2%
Ohio	473	+2.2%	-2.1%	251	+3	1,885	+1.1%
Colorado	443	-0.4%	-1.6%	201	-1	2,205	N/C
Arizona	414	+1.0%	-4.2%	195	+1	2,125	+0.5%
Indiana	382	+1.9%	-2.1%	188	+2	2,030	+0.7%
South Dakota	360	+9.1%	+29.5%	187	+17	1,925	-0.8%
Kansas	355	+2.6%	-1.1%	174	+5	2,040	-0.5%
Vermont	218	+0.9%	-0.9%	118	-1	1,845	+1.7%
Oregon	216	-1.4%	-1.8%	123	-2	1,755	+0.3%
Georgia	185	+6.3%	+18.6%	92	+5	2,010	+0.5%
Utah	178	-2.2%	-4.3%	92	-2	1,935	N/C
Florida	164	-11.4%	-17.6%	91	-12	1,800	N/C
Illinois	146	-2.0%	-6.4%	79	-1	1,850	-0.8%
Virginia	122	-2.4%	-6.2%	68	-3	1,790	+1.7%

## Year-Over-Year Milk Production - January 2023



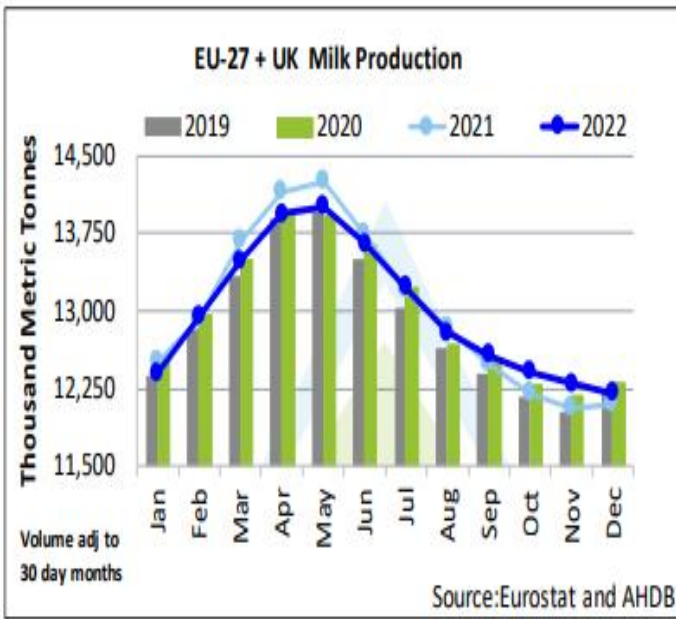
## Year-Over-Year Milk Per Cow - January 2023



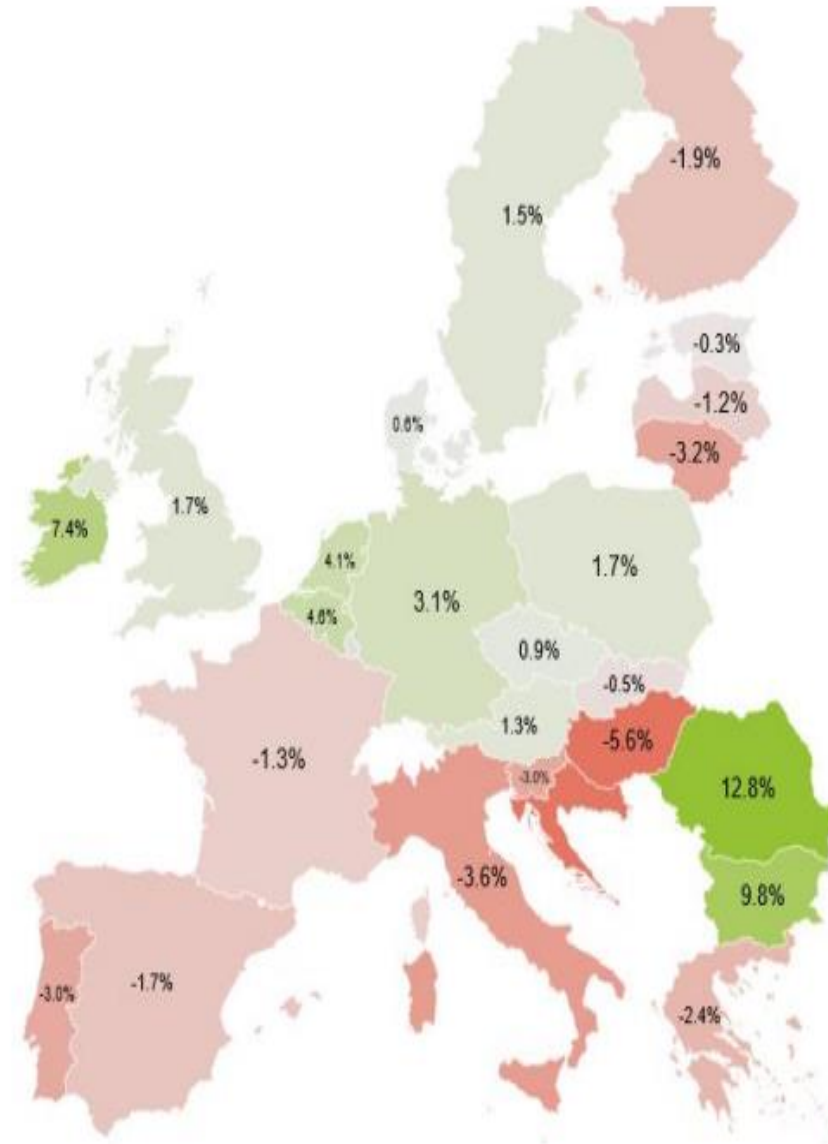


# European Milk Production – Where is it?

EU-27+UK December 2022 Milk Production: 0.9%



**Note:** Some figures are being reported as 'preliminary' from Eurostat and subject to change; Sweden and Spain remain delayed.



Gains backed off from the 2% growth observed in November, though rates continued to be solid into the end of the calendar year, which ended nearly flat over 2021. Some of the key changes from the month prior were France turning back negative, and Italy, as well as the UK, reporting counter-seasonal production trends.

Overall, gains on a volume basis were most notable from Germany (+79,050MT YOY) but strength also continued from the Netherlands (+46,500MT YoY), and to a lesser extent, Ireland (+19,750MT YoY), the UK (+19,510MT YoY) and Poland (+17,430MT YoY).

Italy's collections dropped month-over-month in December (30-day month basis) when production should be ramping up, with losses over prior year the steepest since last May. Cow cull data had been aggressive in 2022 from the country – through November, Italy's cow cull rate is UP 8.6% or 43,580 head from prior year to 550,710 head.

In the UK, while production gains have been maintained, deteriorating farmgate milk prices, labor shortages, and rising interest rates, combined with the continued burden of high input costs on working capital requirements are expected to begin squeezing output on farm in the coming months. The UK economy is dealing with a cost-of-living crisis, which is expected to limit consumer spending as well.

Following years of sustainability efforts within the Netherlands, it continues to be impressive to watch their growth, which has been supported by the mild winter conditions and strong milk prices that are affording producers the ability to buy supplemental feed. This is also likely a push to get as much milk out as possible before the government starts to buy out or shut down farms.

Irish milk remained strong, but as processors begin cutting milk prices in response to lower commodity values, farmers are increasingly concerned about margins as input costs are not easing at the same pace – this is a widespread concern for much of the world at present.

Polish butterfat production reached record levels in December of 23,630MT, +6.4% from prior year





# European Supply – Component Production???

December 2022 EU Cheese Production

State	Production (1,000 MT)	Million Pounds	vs. Last year	YTD (1,000 MT)	YTD vs. last year	YTD last year change (1,000 MT)
Germany	195.0	429.79	-1.8%	2,428.6	-1.7%	-41.6
France	140.7	310.17	-1.2%	1,715.1	-0.1%	-1.9
Italy	101.2	223.15	-0.5%	1,201.2	0.3%	3.8
Poland	80.8	178.20	-1.0%	945.0	0.3%	3.2
Netherlands	80.4	177.25	2.7%	942.3	-0.5%	-4.5
Denmark	41.0	90.39	10.2%	467.7	2.9%	13.2
Austria	17.9	39.46	-0.3%	220.7	2.8%	6.0
Spain	13.5	29.72	-9.8%	186.0	-7.5%	-15.1
Czech Republic	12.2	26.94	4.6%	153.9	0.3%	0.4
Belgium	9.4	20.79	5.0%	108.4	-0.8%	-0.8
Romania	7.3	16.14	5.0%	95.0	3.7%	3.4
Lithuania	7.7	17.04	-5.4%	95.4	-3.8%	-3.8
Bulgaria	7.4	16.23	8.1%	88.7	-4.7%	-4.4
Hungary	6.9	15.19	-11.7%	93.9	-1.3%	-1.2
Finland	6.9	15.26	-3.8%	82.1	-1.8%	-1.5
Sweden	6.4	14.02	-4.8%	78.5	-6.8%	-5.7
Portugal	5.6	12.37	2.2%	67.0	4.9%	3.1
Latvia	4.6	10.05	9.4%	52.2	-0.5%	-0.2
Estonia	4.2	9.26	0.0%	48.5	2.3%	1.1
Slovakia	3.1	6.77	-4.4%	37.5	-4.2%	-1.7
Croatia	2.7	5.97	5.0%	32.7	2.7%	0.9
Greece	2.5	5.49	5.1%	25.7	16.1%	3.6

December 2022 EU Butterfat Production

State	Production (1,000 MT)	Million Pounds	vs. Last year	YTD (1,000 MT)	YTD vs. last year (%)	YTD vs. last year (1,000 MT)
Germany	44.6	98.37	13.0%	472.6	0.3%	1.4
France	37.3	82.30	0.3%	403.9	-0.9%	-3.7
Poland	23.6	52.10	6.4%	243.1	5.0%	11.7
Ireland	13.9	30.67	14.3%	268.7	-2.5%	-6.9
Netherlands	11.0	24.25	-8.3%	138.3	0.4%	0.6
Belgium	9.4	20.70	6.1%	107.7	-1.8%	-1.9
Italy	9.0	19.86	-0.8%	100.5	2.1%	2.0
Denmark	8.5	18.74	41.7%	85.1	4.4%	3.6
Finland	4.7	10.30	-1.9%	57.0	-2.9%	-1.7
Austria	3.0	6.70	8.2%	34.4	-6.2%	-2.3
Czech Republic	2.3	5.09	-10.8%	25.3	-1.7%	-0.5
Portugal	2.5	5.51	-4.6%	27.5	-10.7%	-3.3
Spain	2.1	4.67	-18.1%	25.5	-25.2%	-8.6
Sweden	1.7	3.84	12.3%	20.1	11.8%	2.1
Lithuania	1.3	2.95	36.7%	11.1	3.5%	0.4
Hungary	1.1	2.34	26.2%	13.9	50.3%	4.6
Romania	1.1	2.49	5.6%	10.5	-6.3%	-0.7
Slovakia	1.0	2.09	0.0%	10.3	-2.6%	-0.3
Estonia	0.4	0.88	33.3%	4.4	12.8%	0.5
Croatia	0.4	0.97	10.0%	4.8	5.1%	0.2
Latvia	0.3	0.62	12.0%	2.7	-11.9%	-0.4

December 2022 EU SMP Production

State	Production (1,000 MT)	Million Pounds	vs. Last year	YTD (1,000 MT)	YTD vs. last year (%)	YTD vs. last year (1,000 MT)
Germany	32.6	71.83	17.3%	351.5	-0.3%	-1.1
France	30.2	66.54	-12.1%	377.6	-6.5%	-26.1
Belgium	15.5	34.11	29.5%	194.2	25.4%	39.3
Netherlands	8.6	18.96	4.9%	106.0	16.5%	15.0
Poland	11.1	24.54	-6.9%	151.4	-1.1%	-1.7
Finland	0.0	0.00		41.9	80.3%	18.7
Sweden	3.1	6.88	3.7%	37.1	1.2%	0.4
Denmark	3.6	7.94	16.1%	38.5	-6.6%	-2.7
Czech Republic	1.4	3.15	-10.6%	17.1	-6.0%	-1.1
Austria	0.5	0.99	60.7%	5.5	9.4%	0.5
Portugal	1.2	2.71	-39.1%	16.7	-32.6%	-8.1
Spain	0.4	0.90	-18.0%	5.9	-46.7%	-5.2

\*Reporting Countries

Source: Eurostat, AHDB

December 2022 EU Milk & Cream Powders Production

State	Production (1,000 MT)	Million Pounds	vs. Last year	YTD (1,000 MT)	YTD vs. last year	YTD vs last year (1,000 MT)
France	11.9	26.19	-4.7%	126.0	-1.2%	-1.5
Germany	12.78	28.18	15.8%	130.8	11.4%	13.4
Netherlands	7.7	16.98	1.3%	88.7	-24.9%	-29.4
Denmark	4.1	9.04	-39.7%	63.8	-14.1%	-10.5
Belgium	3.0	6.50	-40.3%	27.7	-31.2%	-12.5
Poland	2.9	6.44	-0.3%	29.8	-2.3%	-0.7
Sweden	2.5	5.40	0.0%	29.4	0.0%	0.0
Spain	4.7	10.30	114.2%	27.4	84.0%	12.5
Czech Republic	0.9	2.03	-4.2%	10.2	-7.3%	-0.8
Portugal	0.7	1.57	-29.7%	8.5	-22.4%	-2.3

# January - Other Dairy Production – “Mixed”

Gouda				Parmesan			Cream Cheese & Neufchatel			Cottage Cheese		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	5	6	5	41	46	43	79	87	95	51	52	56
Feb	5	5		38	45		73	85		52	53	
Mar	5	7		42	43		82	97		61	57	
Apr	4	5		41	40		82	84		53	52	
May	6	6		40	37		93	103		53	52	
Jun	5	6		40	37		87	94		54	54	
Jul	5	5		42	37		82	88		56	54	
Aug	5	4		38	37		95	95		56	59	
Sep	4	4		39	44		92	91		54	56	
Oct	4	4		41	42		87	90		52	51	
Nov	4	5		39	40		91	86		48	50	
Dec	4	5		45	43		93	92		51	51	
Total	56	62	5	483	492	43	1,036	1,092	95	642	641	56

Butter				Yogurt			Total Lowfat Ice Cream			Regular Hard Ice Cream		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	222	194	201	385	373	396	34	28	29	58	51	53
Feb	189	183		383	373		37	31		58	55	
Mar	200	202		443	432		47	40		69	66	
Apr	183	181		415	378		43	38		69	65	
May	183	180		394	399		44	40		61	62	
Jun	157	160		390	389		43	43		66	67	
Jul	147	152		401	378		43	40		64	59	
Aug	147	143		411	402		41	42		63	66	
Sep	144	141		410	392		36	35		56	61	
Oct	164	162		386	391		35	31		55	57	
Nov	156	171		355	347		29	28		52	54	
Dec	180	188		371	372		29	25		52	52	
Total	2,072	2,057	201	4,743	4,625	396	461	422	29	723	715	53





# January - Dairy Production/Stocks – “Mixed”

**Saputo**  
Dairy Foods USA

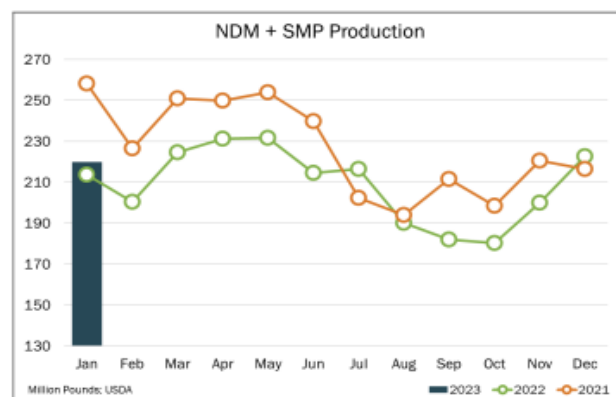
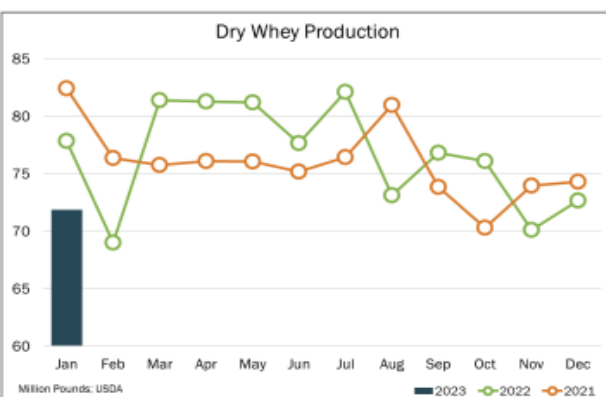
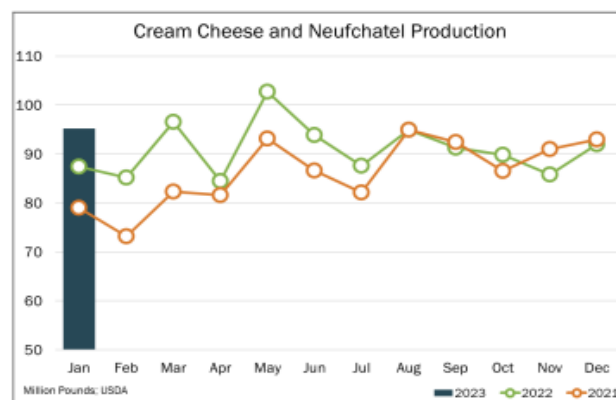
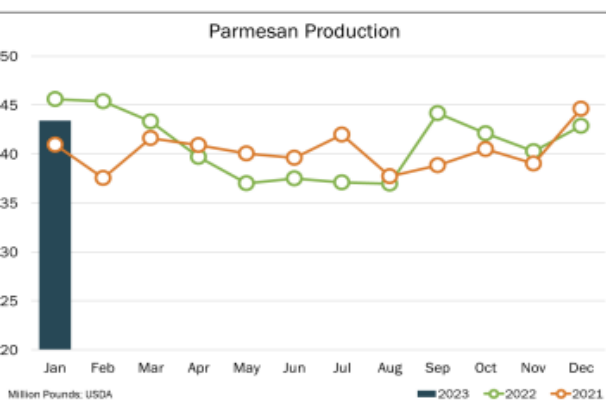
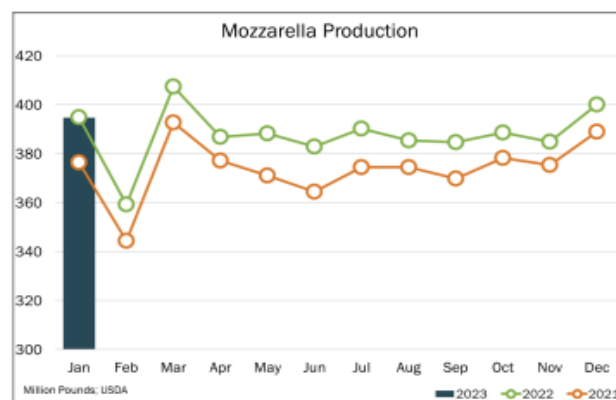
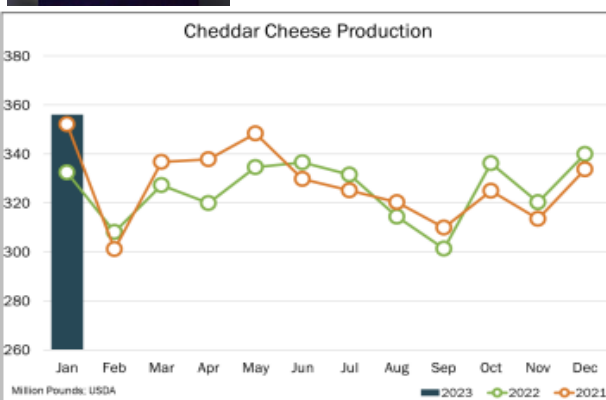
Dry Whey				WPC 25-49			WPC 50-89			WPI		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	82	78	72	15	17	16	26	30	27	11	12	10
Feb	76	69		13	14		23	27		11	11	
Mar	76	81		14	14		27	27		11	12	
Apr	76	81		20	16		30	29		10	13	
May	76	81		14	16		26	27		11	14	
Jun	75	78		13	15		26	28		10	13	
Jul	76	82		13	16		26	29		11	12	
Aug	81	73		14	16		28	27		11	13	
Sep	74	77		17	17		28	29		10	12	
Oct	70	76		17	18		30	29		11	12	
Nov	74	70		15	15		29	25		11	9	
Dec	74	73		16	15		30	27		12	10	
Total	912	919	72	180	188	16	329	335	27	130	141	10

Dry Whey Stocks				WPC 25-49 Stocks			WPC 50-89 Stocks			WPI Stocks		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
Jan	69	56	67	26	23	31	37	44	54	14	13	23
Feb	68	62		25	24		40	44		14	14	
Mar	63	68		23	22		38	45		14	14	
Apr	59	72		23	21		39	48		13	14	
May	67	70		24	21		39	49		12	15	
Jun	61	68		26	22		37	49		14	18	
Jul	65	68		26	23		38	53		13	19	
Aug	66	62		24	24		40	51		11	20	
Sep	60	65		25	25		39	48		11	21	
Oct	56	67		23	26		42	50		12	18	
Nov	58	72		24	26		45	49		12	22	
Dec	56	69		25	29		45	53		14	23	
Total	749	799	67	294	287	31	480	583	54	153	210	23



# January - Dairy Production/Stocks – “Mixed”

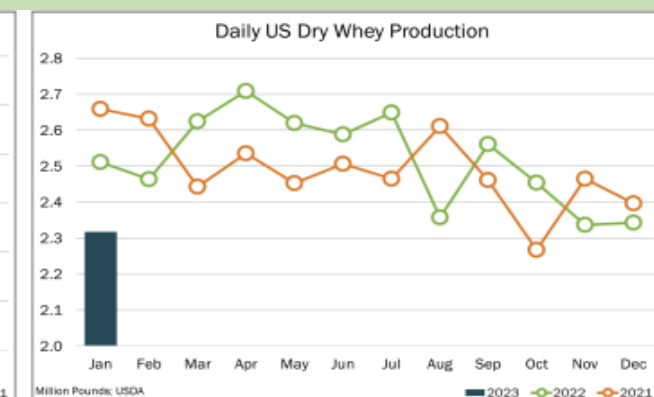
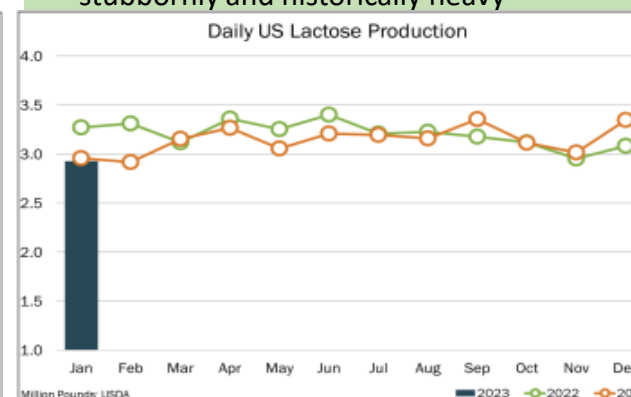
**Saputo**  
Dairy Foods USA



**January 31 HUMAN WHEY production was 72 million pounds,**

- Down 7.7% (-6.0 million pounds) year-over-year
- Down 1.1% (-0.8 million pounds) from December 2022.
- This compares to a five-year average month-to-month decrease of 5.7 million pounds.

- Dry whey production was the lowest since October 2021, summing to almost 72 million pounds and falling 7.7% against the previous year. Versus two years ago, January 2023 dry whey output was down nearly 13%. Whey production was even lower in the Central region (-11.3% vs. prior year), where milk was plentiful for processing. This is somewhat surprising given the strong cheese production within the region.
- Even with the small whey volumes, stocks built for the fifth consecutive month. In January, dry whey stocks of 67 million pounds climbed 19.5% relative to January 2022. However, stocks fell 3.5% against January 2021. From December to January, stocks declined by almost 4%, a slightly more significant decrease than the five-year average of 1.7%
- Whey production was not robust in January; however, stocks were not either. Spot prices have been rising at the CME, but most whey contracts are tied to NDPSR prices, which has been directionally moving lower since mid-2022. The steady grind downward despite increased stocks reveals that there is enough production, even at these weaker levels. If stocks are expanding on lowered production, it is a clear signal that demand is not healthy.
- NDPSR lactose average of the mostly (AOMs) price has been finding its way lower since early December 2022. It is possible demand has picked up slightly due to the lower prices, but industry takes are neutral on this report as one data point does not necessarily mean a new trend, WPC and WPI production are weak (needed for lactose production), and stocks are stubbornly and historically heavy



# January Other Dairy Production – “Mixed”

## January 2023 Dairy Products Production

Commodity	Million Pounds	Metric Tons	vs. Last Year*	vs. Two Years*	vs. Last Month*	YTD vs. Last Year*
Natural American	501.0	227,243.5	+ 6.2%	+ 4.7%	+ 3.8%	+ 6.2%
Cheddar	356.1	161,508.4	+ 7.1%	+ 1.1%	+ 4.7%	+ 7.1%
Other American	144.9	65,735.1	+ 4.1%	+ 14.8%	+ 1.6%	+ 4.1%
Gouda	4.6	2,099.2	- 22.3%	- 13.0%	- 7.6%	- 22.3%
Mozzarella	394.7	179,053.3	- 0.0%	+ 4.8%	- 1.3%	- 0.0%
Cream & Neufchatel	95.2	43,184.3	+ 8.9%	+ 20.5%	+ 3.5%	+ 8.9%
Parmesan	43.4	19,682.3	- 4.8%	+ 5.9%	+ 1.2%	- 4.8%
Total Cheese	1209.0	548,398.7	+ 3.2%	+ 5.8%	+ 1.2%	+ 3.2%
Butter	201.4	91,364.9	+ 3.8%	- 9.4%	+ 7.3%	+ 3.8%
Dry Whey (human)	71.9	32,591.5	- 7.7%	- 12.8%	- 1.1%	- 7.7%
Whey Protein Concentrate (WPC) (human)	41.6	18,855.8	- 8.6%	+ 3.3%	+ 0.0%	- 8.6%
Whey Protein Isolates (90%+)	9.8	4,440.7	- 15.7%	- 6.9%	+ 1.8%	- 15.7%
Lactose	90.7	41,134.5	- 10.6%	- 1.1%	- 5.1%	- 10.6%
Milk Protein Concentrate	22.6	10,242.1	+ 4.1%	+ 7.0%	+ 27.7%	+ 4.1%
Whole Milk Powder (WMP)	9.3	4,240.6	- 34.4%	- 14.2%	+ 10.8%	- 34.4%
Non-Fat Dry Milk (NDM)	177.0	80,301.7	+ 4.0%	- 15.8%	+ 5.6%	+ 4.0%
Skim Milk Powder (SMP)	42.8	19,402.4	- 1.5%	- 11.0%	- 22.2%	- 1.5%
Combined NDM/SMP	219.8	99,704.2	+ 2.8%	- 14.9%	- 1.2%	+ 2.8%

\*normalized for 30 day months

## Key Takeaways

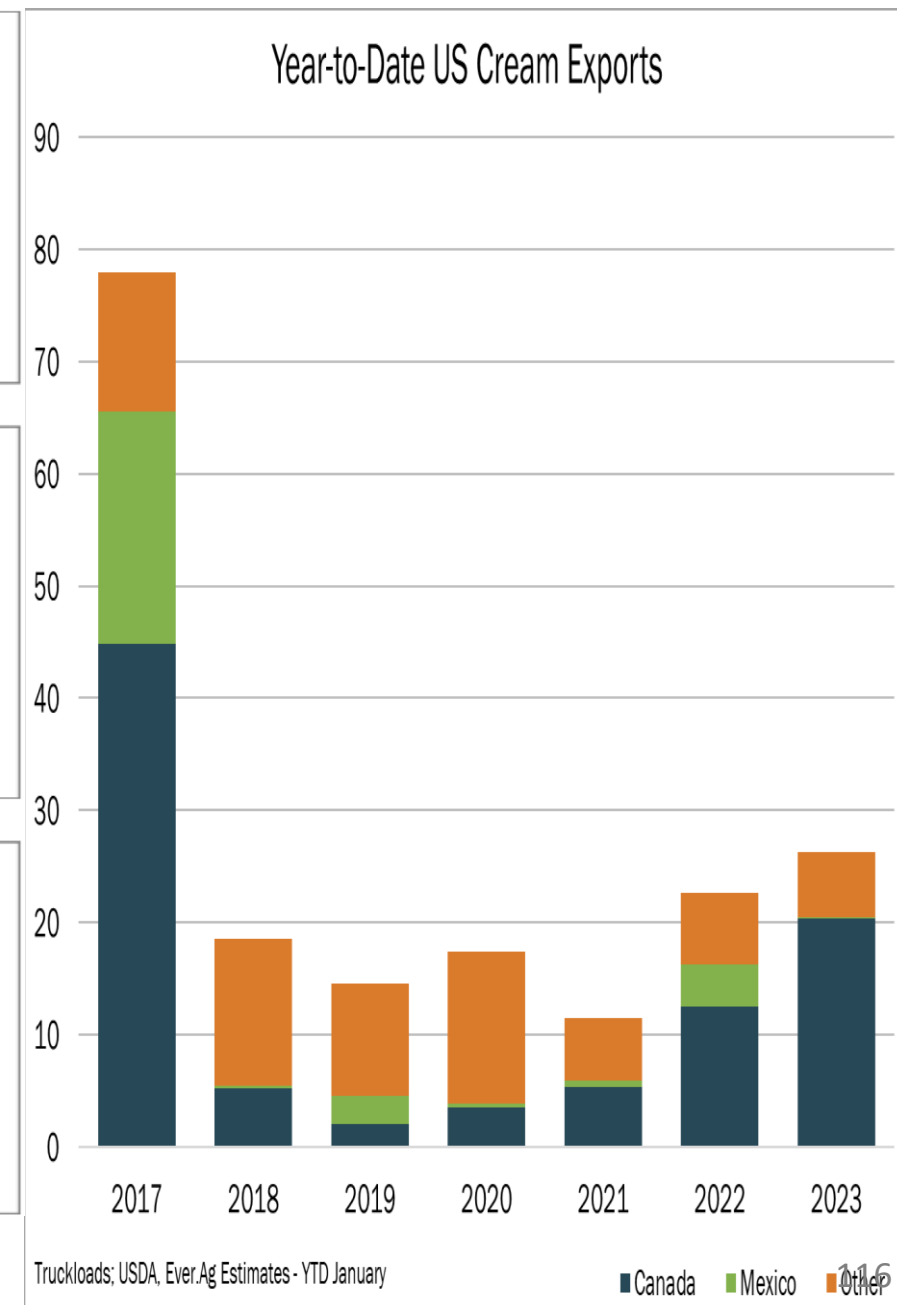
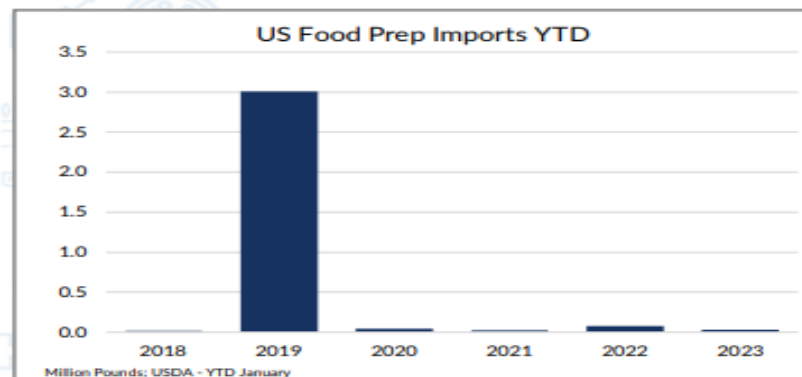
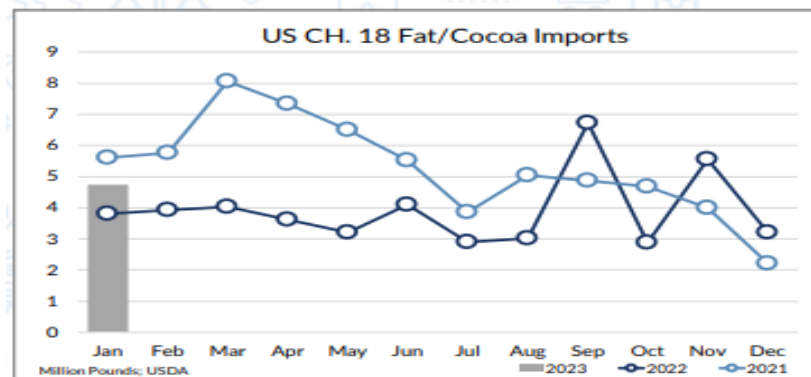
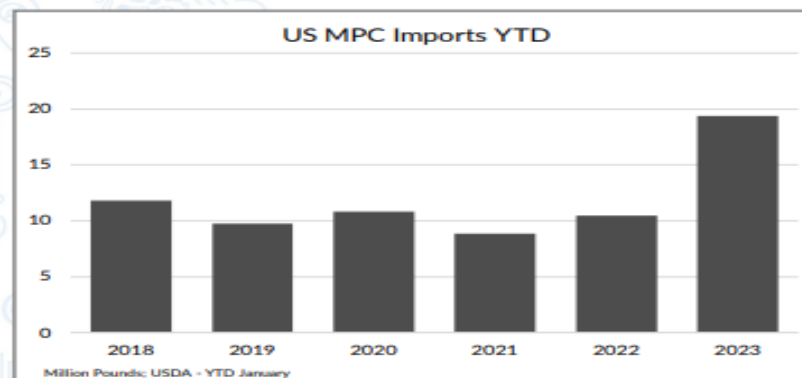
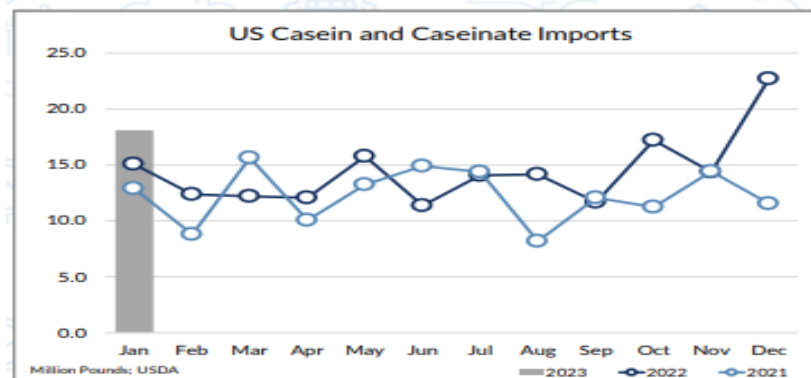
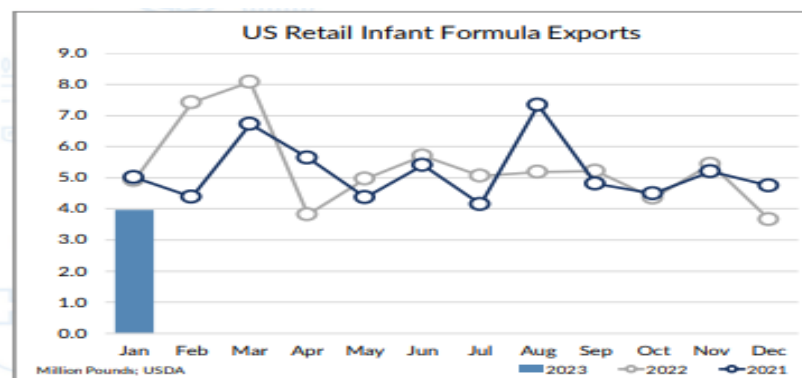
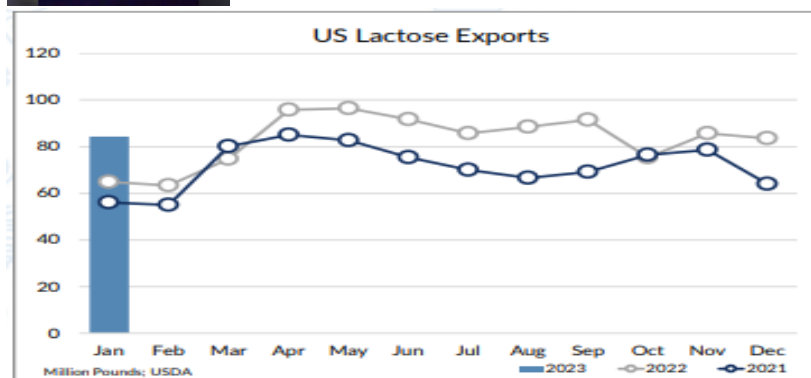
- Two new January records were set in total cheese and Cheddar production, with Cheddar output also setting an all-time high.
- USDA revised NDM and SMP production from December, taking the Dec NFDM numbers down by 8.8 million pounds while raising the SMP number by 6.1 million pounds, both of which are sizable, -3.4% and +11%, respectively.
- Dry whey, WPC, and WPI declined in volumes, with dry whey at its lowest level since October 2021. However, stocks increased.
- Mild winter weather in the Midwest and Plains states made conditions ideal for producing milk. Any extra milk there went to open processing capacity causing the production of storable dairy commodities to tick up in this region.

## January 2023 Dry Product Stocks

Commodity	Million Pounds	Metric Tons	vs. Last Year	vs. Two Years	vs. Last Month*
Dry Whey (human)	66.6	30,187.0	+ 19.5%	- 3.5%	- 3.8%
WPC (human)	83.9	38,051.4	+ 29.1%	+ 36.1%	+ 3.2%
WPI	23.5	10,656.7	+ 82.0%	+ 73.2%	+ 3.9%
Lactose	162.5	73,715.6	- 1.8%	+ 26.0%	- 6.0%
Buttermilk Powder	39.5	17,902.4	+ 76.8%	+ 75.6%	+ 12.9%
Nonfat Dry Milk	271.7	123,250.1	+ 3.9%	- 12.9%	+ 6.5%
Whole Milk Powder	16.1	7,319.6	- 40.4%	- 18.0%	+ 22.1%



# US Dairy / Dairy Products Trade

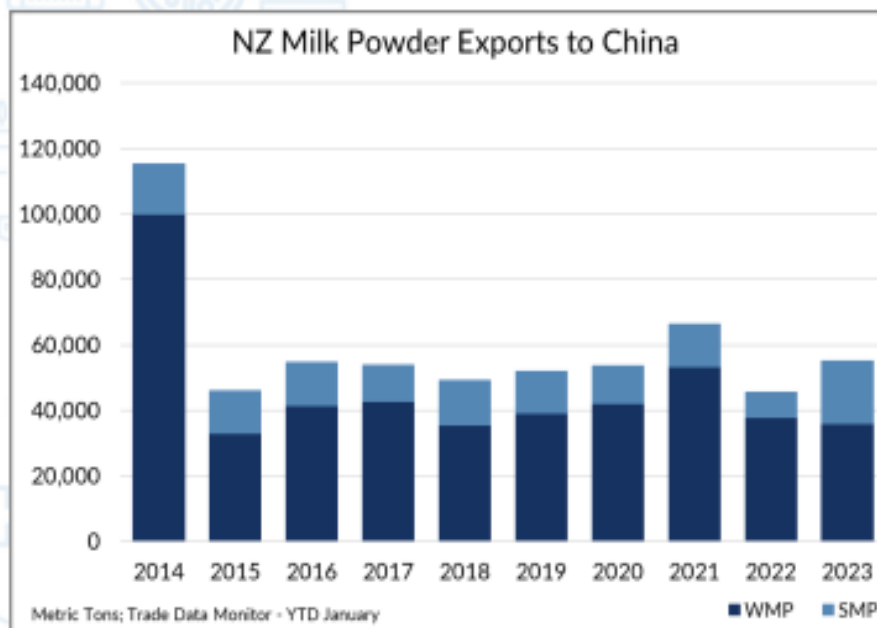
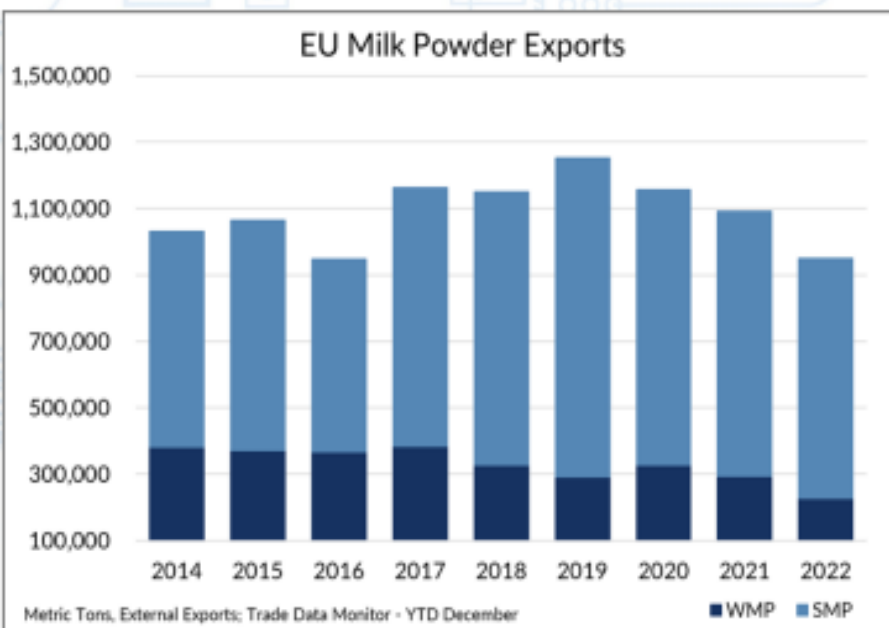
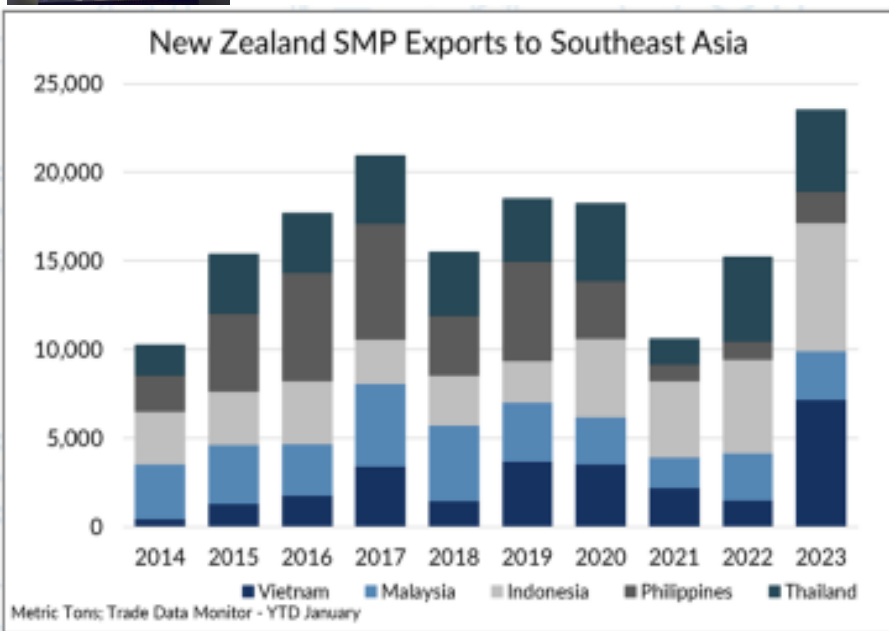


US retail infant formula exports slowed significantly in January as shortages continue to ease. Volume reached 4 million pounds, down 18% versus prior-year levels.





# Global Powder Trade – “Mixed”

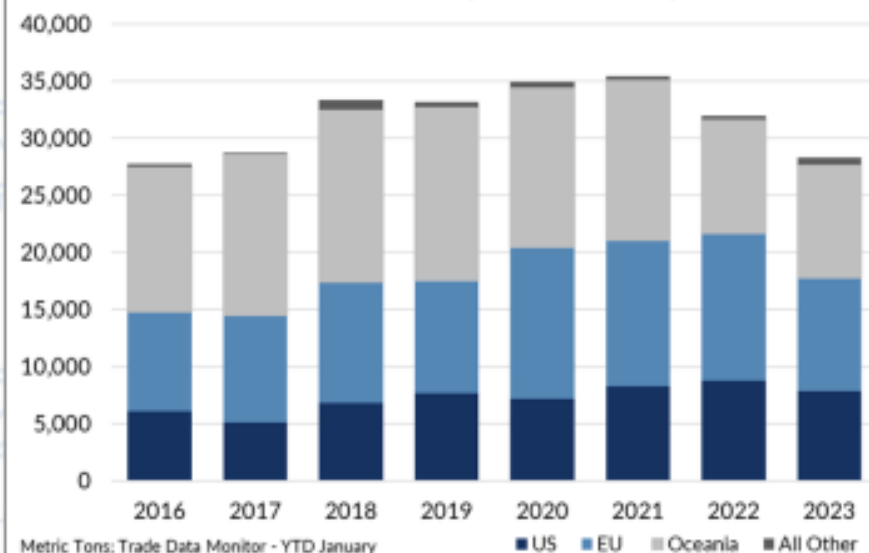


- New Zealand SMP exports to Southeast Asia broke records in January. Outbound shipments totaled 23,488 metric tons, a 54% gain versus prior-year levels. The majority of that volume moved into Indonesia and Vietnam, each importing 31% of the total.
- Mexico SMP imports set a record in December and propelled full-year 2022 volume to new highs. Imports for the month of December reached 31,980 metric tons, up 19% year-over-year. For all of 2022, Mexico received 382,750 metric tons, a 13% jump versus 2021.
- EU milk powder exports declined for the third consecutive year in 2022. Outbound shipments improved in December, as combined SMP and WMP sales increased 11% year-over-year. However, full-year volume dropped 13% versus prior-year levels.
- New Zealand’s milk powder exports to China showed signs of improvement in January. SMP and WMP combined sales started the year off at 55,112 metric tons, up 21% year-over-year. SMP shipments, in particular, rose 149% versus the same month last year.



# Global Cheese Trade – “Mixed?”

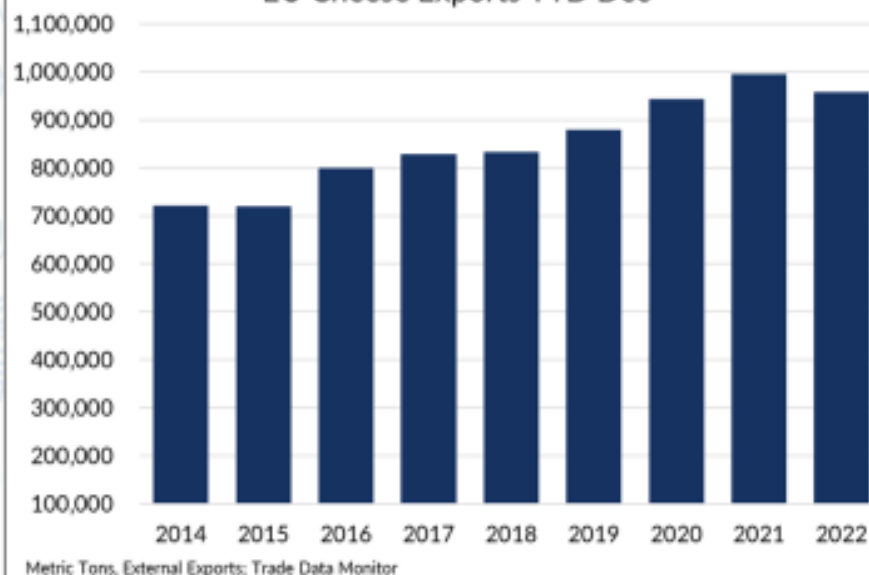
## South Korea and Japan Cheese Imports



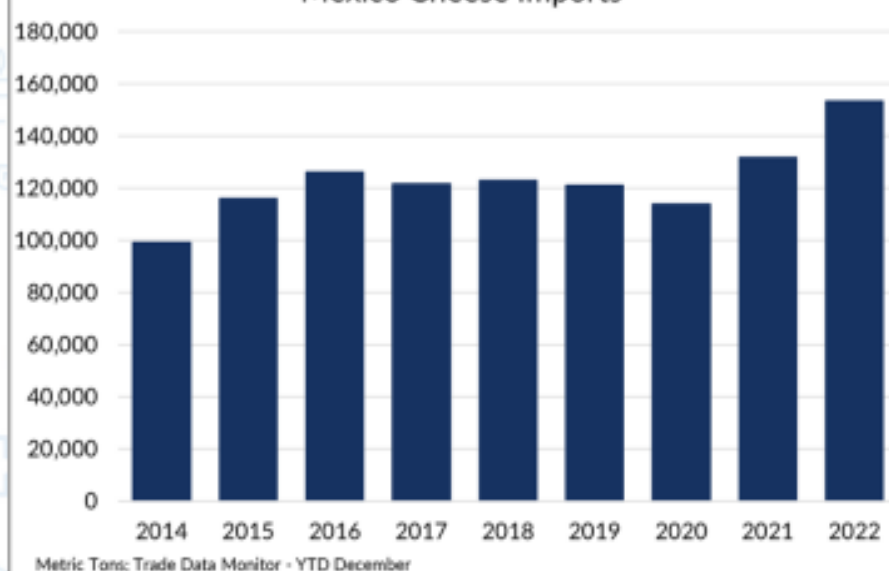
## Cheese Exports to Southeast Asia



## EU Cheese Exports YTD Dec



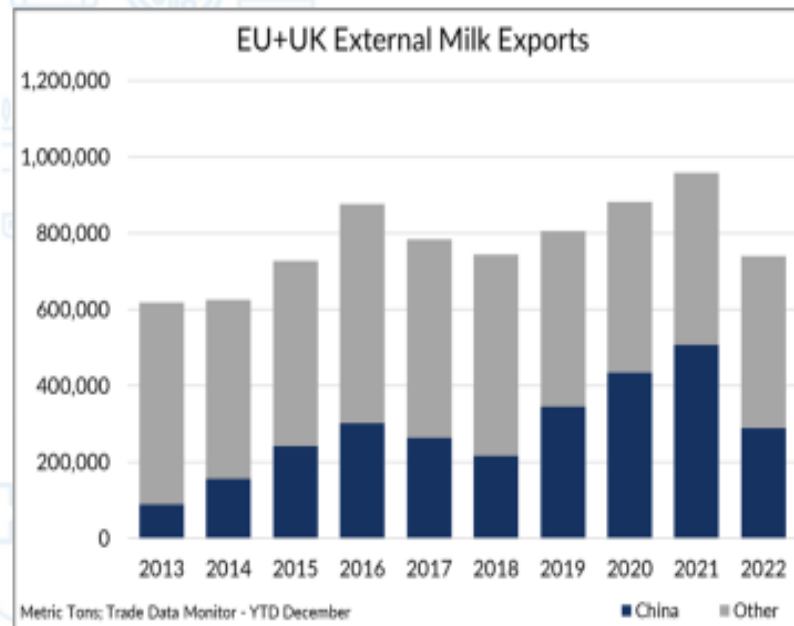
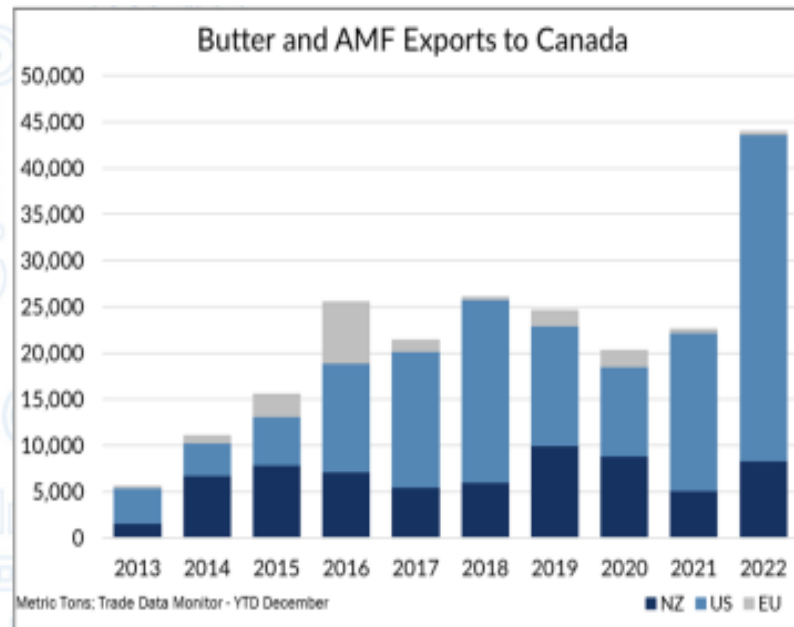
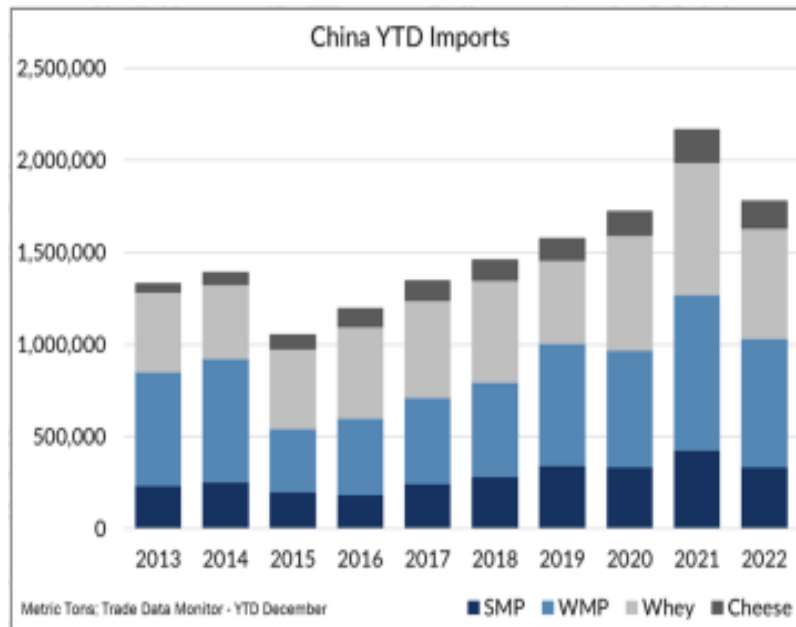
## Mexico Cheese Imports



- Japan and South Korea cheese imports dropped year-over-year in January. Inbound cheese shipments totaled 28,280 metric tons, a 12% decline versus January 2022. Japan received just 17,137 metric tons, the lowest January volume on record.
- Cheese shipments from the US, EU and New Zealand into Southeast Asia weakened in December, dropping 23% year-over-year. Year-to-date levels were only 4% higher than the same period in 2021.
- Total EU cheese exports slowed in December. Shipments reached 75,973 metric tons for the month, declining 8% year-over-year. That brought year-to-date totals to 958,115 metric tons, a decline of 4% versus year-prior levels.
- Mexico cheese imports set another record in 2022. Full-year figures reached 153,334 metric tons, rising 16% versus 2021 levels and 25% above the five-year average. The majority of that volume came from the US, at 120,200 metric tons



# Global Dairy Trade – “Butterfat Demand +”



- China dairy imports felt the impact of weak demand from prolonged lockdowns and increased milk supply. Inbound shipments year-to-date were down across each product category, with SMP and WMP volumes dropping 21% and 17% versus prior-year, respectively. December whey imports increased 45% year-over-year. However, year-to-date levels dropped 17% versus 2021. Overall, 2022 dairy imports totaled 1.7 million metric tons, down 18% from 2021.
- Butterfat shipments into Canada reached a new all-time high in 2022. December butter shipments from the US, EU, and New Zealand totaled 2,817 metric tons, up 25% year-over-year. Full-year volumes for butter and AMF jumped 95% higher than prior-year levels. Most came from the US, totaling 35,312 metric tons.
- EU+UK UHT milk exports suffered in 2022. Sales reached only 53,886 metric tons in December, a 23% drop year-over-year. That brought year-to-date levels to 740,405 metric tons, 23% lower than 2021 levels. Of note, China imports dropped 43% versus prior year.





# Notable Forecaster's Numbers

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Cheese	2017	\$ 1.70	\$ 1.69	\$ 1.56	\$ 1.50	\$ 1.54	\$ 1.63	\$ 1.54	\$ 1.67	\$ 1.66	\$ 1.73	\$ 1.76	\$ 1.65	\$ 1.63
	2018	\$ 1.52	\$ 1.47	\$ 1.55	\$ 1.57	\$ 1.64	\$ 1.62	\$ 1.49	\$ 1.55	\$ 1.65	\$ 1.57	\$ 1.45	\$ 1.37	\$ 1.54
	2019	\$ 1.39	\$ 1.39	\$ 1.54	\$ 1.65	\$ 1.70	\$ 1.69	\$ 1.82	\$ 1.83	\$ 1.91	\$ 1.97	\$ 2.17	\$ 2.05	\$ 1.76
	2020	\$ 1.81	\$ 1.79	\$ 1.71	\$ 1.40	\$ 1.30	\$ 2.22	\$ 2.59	\$ 2.11	\$ 1.95	\$ 2.29	\$ 2.45	\$ 1.64	\$ 1.94
	2021	\$ 1.65	\$ 1.60	\$ 1.60	\$ 1.71	\$ 1.82	\$ 1.64	\$ 1.60	\$ 1.57	\$ 1.64	\$ 1.77	\$ 1.76	\$ 1.75	\$ 1.68
	2022	\$ 1.90	\$ 1.91	\$ 2.05	\$ 2.29	\$ 2.42	\$ 2.35	\$ 2.20	\$ 1.98	\$ 1.95	\$ 2.16	\$ 2.09	\$ 2.06	\$ 2.11
	2023	\$ 1.89	\$ 1.92	\$ 1.89	\$ 1.89	\$ 1.79	\$ 1.77	\$ 1.89	\$ 1.94	\$ 1.89	\$ 1.97	\$ 2.02	\$ 2.02	\$ 1.91
Dry Whey	2017	\$ 0.44	\$ 0.49	\$ 0.52	\$ 0.52	\$ 0.51	\$ 0.49	\$ 0.45	\$ 0.43	\$ 0.42	\$ 0.38	\$ 0.36	\$ 0.30	\$ 0.44
	2018	\$ 0.28	\$ 0.25	\$ 0.25	\$ 0.26	\$ 0.27	\$ 0.31	\$ 0.34	\$ 0.37	\$ 0.40	\$ 0.45	\$ 0.46	\$ 0.47	\$ 0.34
	2019	\$ 0.48	\$ 0.45	\$ 0.41	\$ 0.39	\$ 0.38	\$ 0.36	\$ 0.36	\$ 0.37	\$ 0.37	\$ 0.34	\$ 0.31	\$ 0.33	\$ 0.38
	2020	\$ 0.34	\$ 0.37	\$ 0.37	\$ 0.37	\$ 0.38	\$ 0.36	\$ 0.34	\$ 0.33	\$ 0.32	\$ 0.35	\$ 0.38	\$ 0.42	\$ 0.36
	2021	\$ 0.46	\$ 0.51	\$ 0.55	\$ 0.61	\$ 0.65	\$ 0.64	\$ 0.61	\$ 0.56	\$ 0.53	\$ 0.54	\$ 0.58	\$ 0.64	\$ 0.57
	2022	\$ 0.71	\$ 0.78	\$ 0.79	\$ 0.74	\$ 0.67	\$ 0.62	\$ 0.55	\$ 0.50	\$ 0.49	\$ 0.49	\$ 0.47	\$ 0.46	\$ 0.61
	2023	\$ 0.43	\$ 0.41	\$ 0.40	\$ 0.42	\$ 0.43	\$ 0.44	\$ 0.46	\$ 0.53	\$ 0.54	\$ 0.56	\$ 0.56	\$ 0.57	\$ 0.48
Butter	2017	\$ 2.26	\$ 2.18	\$ 2.17	\$ 2.12	\$ 2.16	\$ 2.41	\$ 2.60	\$ 2.66	\$ 2.53	\$ 2.37	\$ 2.28	\$ 2.23	\$ 2.33
	2018	\$ 2.20	\$ 2.11	\$ 2.18	\$ 2.25	\$ 2.34	\$ 2.38	\$ 2.26	\$ 2.32	\$ 2.27	\$ 2.28	\$ 2.27	\$ 2.24	\$ 2.26
	2019	\$ 2.23	\$ 2.26	\$ 2.27	\$ 2.27	\$ 2.30	\$ 2.37	\$ 2.39	\$ 2.37	\$ 2.23	\$ 2.16	\$ 2.09	\$ 1.98	\$ 2.24
	2020	\$ 1.92	\$ 1.81	\$ 1.76	\$ 1.26	\$ 1.31	\$ 1.71	\$ 1.79	\$ 1.52	\$ 1.49	\$ 1.52	\$ 1.46	\$ 1.44	\$ 1.58
	2021	\$ 1.45	\$ 1.36	\$ 1.59	\$ 1.78	\$ 1.81	\$ 1.79	\$ 1.74	\$ 1.70	\$ 1.77	\$ 1.77	\$ 1.95	\$ 2.06	\$ 1.73
	2022	\$ 2.61	\$ 2.67	\$ 2.73	\$ 2.77	\$ 2.74	\$ 2.92	\$ 2.95	\$ 2.98	\$ 3.12	\$ 3.19	\$ 2.96	\$ 2.79	\$ 2.87
	2023	\$ 2.18	\$ 2.13	\$ 2.13	\$ 2.18	\$ 2.23	\$ 2.28	\$ 2.34	\$ 2.41	\$ 2.51	\$ 2.51	\$ 2.51	\$ 2.36	\$ 2.31
NFDM	2017	\$ 1.02	\$ 0.99	\$ 0.85	\$ 0.84	\$ 0.87	\$ 0.91	\$ 0.90	\$ 0.87	\$ 0.85	\$ 0.81	\$ 0.76	\$ 0.72	\$ 0.87
	2018	\$ 0.70	\$ 0.71	\$ 0.70	\$ 0.71	\$ 0.79	\$ 0.82	\$ 0.78	\$ 0.81	\$ 0.85	\$ 0.87	\$ 0.89	\$ 0.90	\$ 0.79
	2019	\$ 0.95	\$ 0.98	\$ 0.96	\$ 0.96	\$ 1.01	\$ 1.04	\$ 1.04	\$ 1.03	\$ 1.05	\$ 1.10	\$ 1.15	\$ 1.22	\$ 1.04
	2020	\$ 1.25	\$ 1.25	\$ 1.12	\$ 0.96	\$ 0.85	\$ 0.91	\$ 0.97	\$ 0.96	\$ 1.00	\$ 1.07	\$ 1.08	\$ 1.10	\$ 1.04
	2021	\$ 1.13	\$ 1.12	\$ 1.12	\$ 1.17	\$ 1.24	\$ 1.27	\$ 1.26	\$ 1.27	\$ 1.28	\$ 1.36	\$ 1.48	\$ 1.55	\$ 1.27
	2022	\$ 1.65	\$ 1.73	\$ 1.80	\$ 1.83	\$ 1.81	\$ 1.82	\$ 1.80	\$ 1.67	\$ 1.58	\$ 1.58	\$ 1.50	\$ 1.45	\$ 1.68
	2023	\$ 1.38	\$ 1.41	\$ 1.43	\$ 1.46	\$ 1.41	\$ 1.49	\$ 1.57	\$ 1.60	\$ 1.62	\$ 1.64	\$ 1.66	\$ 1.67	\$ 1.53
CME Barrel	2017	\$ 1.56	\$ 1.62	\$ 1.41	\$ 1.43	\$ 1.48	\$ 1.40	\$ 1.44	\$ 1.60	\$ 1.57	\$ 1.70	\$ 1.67	\$ 1.54	\$ 1.53
	2018	\$ 1.33	\$ 1.41	\$ 1.51	\$ 1.47	\$ 1.59	\$ 1.41	\$ 1.37	\$ 1.58	\$ 1.45	\$ 1.59	\$ 1.31	\$ 1.28	\$ 1.44
	2019	\$ 1.24	\$ 1.39	\$ 1.49	\$ 1.59	\$ 1.63	\$ 1.63	\$ 1.73	\$ 1.71	\$ 1.75	\$ 2.02	\$ 2.26	\$ 1.84	\$ 1.69
	2020	\$ 1.57	\$ 1.50	\$ 1.44	\$ 1.25	\$ 1.60	\$ 2.34	\$ 2.41	\$ 1.49	\$ 1.64	\$ 2.22	\$ 1.84	\$ 1.46	\$ 1.73
	2021	\$ 1.51	\$ 1.44	\$ 1.48	\$ 1.71	\$ 1.69	\$ 1.56	\$ 1.48	\$ 1.42	\$ 1.53	\$ 1.80	\$ 1.54	\$ 1.65	\$ 1.57
	2022	\$ 1.82	\$ 1.90	\$ 2.08	\$ 2.35	\$ 2.36	\$ 2.21	\$ 2.06	\$ 1.95	\$ 2.25	\$ 2.13	\$ 1.95	\$ 1.84	\$ 2.07
	2023	\$ 1.87	\$ 1.91	\$ 1.85	\$ 1.90	\$ 1.81	\$ 1.79	\$ 1.90	\$ 1.92	\$ 1.84	\$ 1.93	\$ 1.99	\$ 1.99	\$ 1.89
CME Block	2017	\$ 1.69	\$ 1.62	\$ 1.43	\$ 1.50	\$ 1.63	\$ 1.60	\$ 1.66	\$ 1.69	\$ 1.64	\$ 1.73	\$ 1.66	\$ 1.49	\$ 1.61
	2018	\$ 1.49	\$ 1.52	\$ 1.56	\$ 1.61	\$ 1.64	\$ 1.56	\$ 1.54	\$ 1.63	\$ 1.64	\$ 1.32	\$ 1.40	\$ 1.38	\$ 1.52
	2019	\$ 1.41	\$ 1.56	\$ 1.59	\$ 1.66	\$ 1.68	\$ 1.79	\$ 1.82	\$ 1.88	\$ 2.04	\$ 2.07	\$ 1.97	\$ 1.88	\$ 1.78
	2020	\$ 1.91	\$ 1.84	\$ 1.76	\$ 1.28	\$ 1.67	\$ 2.56	\$ 2.65	\$ 1.77	\$ 2.33	\$ 2.71	\$ 2.05	\$ 1.62	\$ 2.01
	2021	\$ 1.75	\$ 1.58	\$ 1.74	\$ 1.79	\$ 1.68	\$ 1.50	\$ 1.64	\$ 1.72	\$ 1.76	\$ 1.78	\$ 1.74	\$ 1.89	\$ 1.71
	2022	\$ 1.91	\$ 1.94	\$ 2.17	\$ 2.34	\$ 2.33	\$ 2.19	\$ 2.01	\$ 1.81	\$ 1.95	\$ 2.03	\$ 2.12	\$ 2.07	\$ 2.10
	2023	\$ 1.88	\$ 1.90	\$ 1.90	\$ 1.85	\$ 1.74	\$ 1.72	\$ 1.85	\$ 1.93	\$ 1.91	\$ 1.98	\$ 2.02	\$ 2.02	\$ 1.89





# Notable Forecaster's Numbers

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG
Class I Base	2017	\$ 17.45	\$ 16.73	\$ 16.90	\$ 16.05	\$ 15.20	\$ 15.31	\$ 16.59	\$ 16.72	\$ 16.71	\$ 16.44	\$ 16.41	\$ 16.88	\$ 16.45
	2018	\$ 15.44	\$ 14.25	\$ 13.36	\$ 14.10	\$ 14.44	\$ 15.25	\$ 15.36	\$ 14.15	\$ 14.85	\$ 16.33	\$ 15.52	\$ 15.05	\$ 14.84
	2019	\$ 15.12	\$ 15.30	\$ 15.98	\$ 15.76	\$ 16.42	\$ 17.07	\$ 17.18	\$ 17.89	\$ 17.85	\$ 17.84	\$ 18.14	\$ 19.33	\$ 16.99
	2020	\$ 19.01	\$ 17.55	\$ 17.46	\$ 16.64	\$ 12.95	\$ 11.42	\$ 16.56	\$ 19.87	\$ 15.20	\$ 15.20	\$ 18.04	\$ 19.87	\$ 16.65
	2021	\$ 15.14	\$ 15.54	\$ 15.20	\$ 15.51	\$ 17.10	\$ 18.29	\$ 17.42	\$ 16.90	\$ 16.59	\$ 17.08	\$ 17.98	\$ 19.17	\$ 16.83
	2022	\$ 19.71	\$ 21.64	\$ 22.88	\$ 24.38	\$ 25.45	\$ 25.87	\$ 25.87	\$ 25.13	\$ 23.62	\$ 22.71	\$ 24.09	\$ 22.58	\$ 23.66
	2023	\$ 22.41	\$ 19.43	\$ 19.53	\$ 19.44	\$ 19.74	\$ 19.20	\$ 19.59	\$ 20.70	\$ 21.44	\$ 21.55	\$ 22.09	\$ 22.41	\$ 20.63
Class II	2017	\$ 16.36	\$ 16.52	\$ 16.21	\$ 14.81	\$ 14.84	\$ 16.15	\$ 17.48	\$ 17.56	\$ 16.80	\$ 15.95	\$ 15.32	\$ 14.49	\$ 16.04
	2018	\$ 14.11	\$ 13.44	\$ 13.88	\$ 14.03	\$ 14.47	\$ 15.48	\$ 15.20	\$ 15.07	\$ 15.13	\$ 15.54	\$ 15.63	\$ 15.67	\$ 14.80
	2019	\$ 15.74	\$ 16.13	\$ 16.61	\$ 16.38	\$ 16.48	\$ 17.30	\$ 17.61	\$ 17.60	\$ 16.93	\$ 16.72	\$ 16.85	\$ 16.81	\$ 16.76
	2020	\$ 17.05	\$ 16.84	\$ 16.75	\$ 13.87	\$ 12.30	\$ 12.99	\$ 13.79	\$ 13.27	\$ 13.16	\$ 13.63	\$ 13.86	\$ 14.01	\$ 14.29
	2021	\$ 14.18	\$ 14.00	\$ 15.07	\$ 15.56	\$ 16.22	\$ 16.66	\$ 16.83	\$ 16.51	\$ 16.89	\$ 17.08	\$ 18.40	\$ 19.84	\$ 16.44
	2022	\$ 22.83	\$ 23.79	\$ 24.76	\$ 25.71	\$ 25.87	\$ 26.65	\$ 26.66	\$ 26.91	\$ 26.51	\$ 25.73	\$ 24.67	\$ 23.29	\$ 25.28
	2023	\$ 20.23	\$ 19.42	\$ 19.68	\$ 20.07	\$ 20.53	\$ 20.32	\$ 21.26	\$ 22.24	\$ 22.93	\$ 23.10	\$ 23.27	\$ 22.81	\$ 21.32
Class III	2017	\$ 16.77	\$ 16.88	\$ 15.81	\$ 15.22	\$ 15.57	\$ 16.44	\$ 15.45	\$ 16.57	\$ 16.36	\$ 16.69	\$ 16.88	\$ 15.44	\$ 16.17
	2018	\$ 14.00	\$ 13.40	\$ 14.22	\$ 14.47	\$ 15.18	\$ 15.21	\$ 14.10	\$ 14.95	\$ 16.09	\$ 15.53	\$ 14.44	\$ 13.78	\$ 14.61
	2019	\$ 13.96	\$ 13.89	\$ 15.04	\$ 15.96	\$ 16.38	\$ 16.27	\$ 17.55	\$ 17.60	\$ 18.31	\$ 18.72	\$ 20.45	\$ 19.37	\$ 16.96
	2020	\$ 17.05	\$ 17.00	\$ 16.25	\$ 13.07	\$ 12.14	\$ 21.04	\$ 24.54	\$ 19.77	\$ 18.13	\$ 21.61	\$ 23.34	\$ 15.72	\$ 18.31
	2021	\$ 16.04	\$ 15.75	\$ 16.15	\$ 17.67	\$ 18.96	\$ 17.21	\$ 16.49	\$ 15.95	\$ 16.53	\$ 17.83	\$ 18.03	\$ 18.36	\$ 17.08
	2022	\$ 20.38	\$ 20.91	\$ 22.45	\$ 24.42	\$ 25.21	\$ 24.33	\$ 22.52	\$ 20.10	\$ 19.82	\$ 21.81	\$ 21.01	\$ 20.57	\$ 21.96
	2023	\$ 18.49	\$ 18.65	\$ 18.30	\$ 18.43	\$ 17.55	\$ 17.44	\$ 18.74	\$ 19.66	\$ 19.28	\$ 20.17	\$ 20.65	\$ 20.64	\$ 19.00
Class IV	2017	\$ 16.19	\$ 15.59	\$ 14.32	\$ 14.01	\$ 14.49	\$ 15.89	\$ 16.60	\$ 16.61	\$ 15.86	\$ 14.85	\$ 13.99	\$ 13.51	\$ 15.16
	2018	\$ 13.13	\$ 12.87	\$ 13.04	\$ 13.48	\$ 14.57	\$ 14.91	\$ 14.14	\$ 14.63	\$ 14.81	\$ 15.01	\$ 15.06	\$ 15.09	\$ 14.23
	2019	\$ 15.48	\$ 15.86	\$ 15.71	\$ 15.72	\$ 16.29	\$ 16.83	\$ 16.90	\$ 16.74	\$ 16.35	\$ 16.39	\$ 16.60	\$ 16.70	\$ 16.30
	2020	\$ 16.65	\$ 16.20	\$ 14.87	\$ 11.40	\$ 10.67	\$ 12.90	\$ 13.76	\$ 12.53	\$ 12.75	\$ 13.47	\$ 13.30	\$ 13.35	\$ 13.49
	2021	\$ 13.75	\$ 13.19	\$ 14.18	\$ 15.42	\$ 16.16	\$ 16.35	\$ 16.00	\$ 15.92	\$ 16.36	\$ 17.04	\$ 18.79	\$ 19.88	\$ 16.09
	2022	\$ 23.09	\$ 24.00	\$ 24.82	\$ 25.31	\$ 24.99	\$ 25.83	\$ 25.79	\$ 24.81	\$ 24.63	\$ 24.96	\$ 23.30	\$ 22.12	\$ 24.47
	2023	\$ 18.94	\$ 18.98	\$ 19.16	\$ 19.62	\$ 19.41	\$ 20.30	\$ 21.24	\$ 21.80	\$ 22.40	\$ 22.57	\$ 22.75	\$ 22.19	\$ 20.78



# Notable Forecaster's Numbers

Cheddar Cheese Forecast				
	CME Block Cheddar	CME CSC Futures	EU Cheddar	NZ Cheddar
2018	\$1.55		\$1.74	\$1.66
2019	\$1.78		\$1.63	\$1.74
2020	\$2.00		\$1.63	\$1.80
2021	\$1.71		\$1.85	\$2.01
2022	\$2.07		\$2.01	\$2.47
5YR Avg	\$1.82		\$1.77	\$1.91
2023	\$1.92		\$2.04	\$2.09
2024	\$1.83		\$1.86	\$1.88
Sep-22	\$1.95		\$2.14	\$2.30
Oct-22	\$2.03		\$2.14	\$2.36
Nov-22	\$2.12		\$2.12	\$2.27
Dec-22	\$2.09		\$2.19	\$2.23
Jan-23	\$2.00		\$2.20	\$2.24
Feb-23	\$1.89		\$2.22	\$2.25
Mar-23	\$1.83	\$1.82	\$2.19	\$2.28
Apr-23	\$1.83	\$1.82	\$1.82	\$1.86
May-23	\$1.83	\$1.86	\$1.81	\$1.88
Jun-23	\$1.83	\$1.90	\$1.91	\$1.91
Jul-23	\$1.85	\$1.95	\$1.96	\$1.95
Aug-23	\$1.95	\$2.00	\$2.01	\$2.01
Sep-23	\$2.02	\$2.02	\$2.04	\$2.08
Oct-23	\$2.02	\$2.02	\$2.10	\$2.11
Nov-23	\$2.02	\$2.02	\$2.13	\$2.11
Dec-23	\$1.95	\$1.98	\$2.13	\$2.11
Jan-24	\$1.79	\$1.96	\$2.07	\$2.11
Feb-24	\$1.72	\$1.95	\$1.95	\$1.97
Mar-24	\$1.68	\$1.95	\$1.91	\$1.93
Apr-24	\$1.68	\$1.89	\$1.86	\$1.88
May-24	\$1.65	\$1.93	\$1.83	\$1.85
Jun-24	\$1.75	\$1.91	\$1.77	\$1.79
Jul-24	\$1.85	\$1.69	\$1.77	\$1.79
Aug-24	\$1.85	\$1.71	\$1.85	\$1.87

Butter Forecast				
	CME Butter	CME CB Futures	EU Butter	NZ Butter
2018	\$2.25		\$1.74	\$1.66
2019	\$2.23		\$1.63	\$1.74
2020	\$1.58		\$1.63	\$1.80
2021	\$1.74		\$1.85	\$2.01
2022	\$2.86		\$2.01	\$2.47
5YR Avg	\$2.13		\$1.77	\$1.91
2023	\$2.46		\$2.04	\$2.09
2024	\$1.92		\$1.77	\$1.80
Sep-22	\$3.15		\$3.30	\$2.44
Oct-22	\$3.18		\$3.14	\$2.26
Nov-22	\$2.86		\$2.96	\$2.20
Dec-22	\$2.67		\$2.84	\$2.13
Jan-23	\$2.36		\$2.74	\$2.06
Feb-23	\$2.40		\$2.39	\$2.09
Mar-23	\$2.33	\$2.38	\$2.39	\$2.23
Apr-23	\$2.28	\$2.35	\$2.10	\$2.16
May-23	\$2.36	\$2.39	\$2.00	\$2.20
Jun-23	\$2.39	\$2.42	\$2.23	\$2.20
Jul-23	\$2.41	\$2.45	\$2.25	\$2.20
Aug-23	\$2.47	\$2.46	\$2.28	\$2.25
Sep-23	\$2.56	\$2.49	\$2.30	\$2.40
Oct-23	\$2.76	\$2.50	\$2.40	\$2.40
Nov-23	\$2.77	\$2.50	\$2.50	\$2.40
Dec-23	\$2.42	\$2.49	\$2.50	\$2.40
Jan-24	\$2.05	\$2.45	\$2.30	\$2.40
Feb-24	\$1.96	\$2.37	\$1.90	\$1.93
Mar-24	\$1.90	\$2.33	\$1.80	\$1.83
Apr-24	\$1.85	\$2.15	\$1.70	\$1.73
May-24	\$1.80	\$2.12	\$1.70	\$1.73
Jun-24	\$1.80	\$2.15	\$1.60	\$1.63
Jul-24	\$1.85	\$2.11	\$1.60	\$1.63
Aug-24	\$1.85	\$2.07	\$1.80	\$1.83

NFDM/SMP Forecast				
	NDPSR NFDM	CME GNF Futures	EU SMP	NZ SMP
2018	\$0.79		\$1.74	\$1.66
2019	\$1.04		\$1.63	\$1.74
2020	\$1.04		\$1.63	\$1.80
2021	\$1.27		\$1.85	\$2.01
2022	\$1.69		\$2.01	\$2.47
5YR Avg	\$1.17		\$1.77	\$1.91
2023	\$1.35		\$2.04	\$2.09
2024	\$1.44		\$1.46	\$1.48
Sep-22	\$1.58		\$1.70	\$1.62
Oct-22	\$1.58		\$1.60	\$1.52
Nov-22	\$1.50		\$1.47	\$1.38
Dec-22	\$1.46		\$1.41	\$1.39
Jan-23	\$1.37		\$1.36	\$1.32
Feb-23	\$1.26		\$1.25	\$1.30
Mar-23	\$1.21	\$1.20	\$1.27	\$1.28
Apr-23	\$1.19	\$1.19	\$1.21	\$1.23
May-23	\$1.22	\$1.20	\$1.24	\$1.26
Jun-23	\$1.27	\$1.23	\$1.29	\$1.31
Jul-23	\$1.34	\$1.26	\$1.36	\$1.38
Aug-23	\$1.41	\$1.29	\$1.43	\$1.45
Sep-23	\$1.46	\$1.31	\$1.48	\$1.50
Oct-23	\$1.51	\$1.33	\$1.53	\$1.55
Nov-23	\$1.51	\$1.34	\$1.53	\$1.55
Dec-23	\$1.51	\$1.36	\$1.53	\$1.55
Jan-24	\$1.50	\$1.36	\$1.52	\$1.54
Feb-24	\$1.52	\$1.36	\$1.54	\$1.56
Mar-24	\$1.50	\$1.35	\$1.52	\$1.54
Apr-24	\$1.46	\$1.33	\$1.48	\$1.50
May-24	\$1.41	\$1.31	\$1.43	\$1.45
Jun-24	\$1.37	\$1.30	\$1.39	\$1.41
Jul-24	\$1.36	\$1.27	\$1.38	\$1.40
Aug-24	\$1.39	\$1.27	\$1.41	\$1.43

Dry Whey Forecast		
	NDSPR Whey	CME DY Futures
2018	\$0.34	
2019	\$0.38	
2020	\$0.36	
2021	\$0.57	
2022	\$0.61	
5YR Avg	\$0.45	
2023	\$0.41	
2024	\$0.47	
Sep-22	\$0.49	
Oct-22	\$0.49	
Nov-22	\$0.47	
Dec-22	\$0.46	
Jan-23	\$0.43	
Feb-23	\$0.40	
Mar-23	\$0.38	\$0.40
Apr-23	\$0.34	\$0.38
May-23	\$0.33	\$0.37
Jun-23	\$0.35	\$0.37
Jul-23	\$0.38	\$0.38
Aug-23	\$0.43	\$0.38
Sep-23	\$0.46	\$0.40
Oct-23	\$0.48	\$0.42
Nov-23	\$0.48	\$0.42
Dec-23	\$0.47	\$0.43
Jan-24	\$0.46	\$0.43
Feb-24	\$0.49	\$0.40
Mar-24	\$0.49	\$0.40
Apr-24	\$0.47	\$0.39
May-24	\$0.45	\$0.39
Jun-24	\$0.44	\$0.37
Jul-24	\$0.44	\$0.35
Aug-24	\$0.46	\$0.35





# Notable Forecaster's Numbers

## Other Milk & Dairy Product Price Forecasts

	FMMO Class I Milk	FMMO Class II Milk	FMMO Class III Milk	FMMO Class IV Milk	USDA NDPSR All Cheese	USDA NDPSR Butter	USDA FMMO Butterfat	USDA FMMO Class II Skim	CME Barrel Cheddar	EU Edam	NZ Whole Milk Powder
2018	\$14.84	\$14.80	\$14.61	\$14.23	\$1.54	\$2.26	\$2.53	\$6.15	\$1.47	\$1.61	\$1.36
2019	\$16.99	\$16.76	\$16.96	\$16.30	\$1.76	\$2.24	\$2.52	\$8.24	\$1.70	\$1.56	\$1.42
2020	\$16.91	\$14.29	\$18.16	\$13.49	\$1.92	\$1.58	\$1.71	\$8.60	\$1.77	\$1.61	\$1.35
2021	\$16.83	\$16.44	\$17.08	\$16.09	\$1.68	\$1.73	\$1.90	\$10.15	\$1.60	\$1.79	\$1.75
2022	\$23.66	\$25.27	\$21.96	\$24.47	\$2.11	\$2.87	\$3.27	\$14.32	\$2.09	\$2.25	\$1.75
5YR Avg	\$17.85	\$17.51	\$17.75	\$16.91	\$1.80	\$2.14	\$2.39	\$9.49	\$1.73	\$1.76	\$1.53
2023	\$20.00	\$20.69	\$18.41	\$20.02	\$1.88	\$2.49	\$2.82	\$11.22	\$1.74	\$2.01	\$1.59
2024	\$19.18	\$19.25	\$18.19	\$18.46	\$1.85	\$1.95	\$2.16	\$12.10	\$1.76	\$1.85	\$1.51
Sep-22	\$23.62	\$26.51	\$19.82	\$24.63	\$1.95	\$3.12	\$3.57	\$14.52	\$2.07	\$2.38	\$1.57
Oct-22	\$22.71	\$25.73	\$21.81	\$24.96	\$2.16	\$3.19	\$3.66	\$13.37	\$2.13	\$2.38	\$1.63
Nov-22	\$24.09	\$24.67	\$21.01	\$23.30	\$2.09	\$2.96	\$3.38	\$13.31	\$1.95	\$2.37	\$1.51
Dec-22	\$22.58	\$23.11	\$20.50	\$22.12	\$2.06	\$2.78	\$3.16	\$12.48	\$1.84	\$2.19	\$1.60
Jan-23	\$22.41	\$21.61	\$19.43	\$20.01	\$1.98	\$2.46	\$2.78	\$12.32	\$1.68	\$2.02	\$1.51
Feb-23	\$20.78	\$20.83	\$17.79	\$18.87	\$1.82	\$2.42	\$2.73	\$11.70	\$1.58	\$2.15	\$1.54
Mar-23	\$18.99	\$19.35	\$17.12	\$18.23	\$1.77	\$2.39	\$2.69	\$10.30	\$1.61	\$2.22	\$1.49
Apr-23	\$18.50	\$18.68	\$16.82	\$17.83	\$1.77	\$2.32	\$2.60	\$9.91	\$1.67	\$1.82	\$1.49
May-23	\$17.98	\$18.70	\$17.07	\$18.30	\$1.80	\$2.36	\$2.66	\$9.74	\$1.68	\$1.80	\$1.51
Jun-23	\$18.28	\$19.06	\$17.22	\$18.94	\$1.80	\$2.40	\$2.71	\$9.94	\$1.68	\$1.91	\$1.53
Jul-23	\$18.81	\$19.76	\$17.48	\$19.59	\$1.81	\$2.43	\$2.74	\$10.55	\$1.71	\$1.97	\$1.57
Aug-23	\$19.19	\$20.43	\$18.53	\$20.41	\$1.88	\$2.48	\$2.80	\$11.03	\$1.82	\$2.02	\$1.61
Sep-23	\$20.20	\$21.42	\$19.47	\$21.20	\$1.96	\$2.55	\$2.89	\$11.72	\$1.88	\$2.06	\$1.66
Oct-23	\$20.98	\$22.66	\$20.03	\$22.40	\$2.00	\$2.74	\$3.12	\$12.18	\$1.88	\$2.13	\$1.69
Nov-23	\$21.78	\$23.30	\$20.09	\$22.71	\$2.00	\$2.80	\$3.19	\$12.57	\$1.88	\$2.16	\$1.69
Dec-23	\$22.11	\$22.49	\$19.81	\$21.78	\$1.99	\$2.59	\$2.93	\$12.68	\$1.86	\$2.16	\$1.69
Jan-24	\$21.62	\$20.75	\$18.55	\$19.94	\$1.88	\$2.17	\$2.42	\$12.71	\$1.72	\$2.09	\$1.68
Feb-24	\$20.34	\$20.01	\$17.64	\$19.42	\$1.77	\$2.02	\$2.24	\$12.60	\$1.65	\$1.96	\$1.58
Mar-24	\$19.27	\$19.78	\$17.07	\$18.94	\$1.72	\$1.93	\$2.14	\$12.73	\$1.61	\$1.91	\$1.55
Apr-24	\$18.78	\$19.42	\$16.69	\$18.33	\$1.69	\$1.88	\$2.07	\$12.61	\$1.61	\$1.85	\$1.51
May-24	\$18.30	\$18.90	\$16.37	\$17.70	\$1.68	\$1.82	\$2.01	\$12.31	\$1.58	\$1.82	\$1.49
Jun-24	\$17.78	\$18.39	\$16.69	\$17.32	\$1.72	\$1.81	\$1.99	\$11.83	\$1.68	\$1.76	\$1.45
Jul-24	\$17.59	\$18.23	\$17.72	\$17.38	\$1.82	\$1.85	\$2.04	\$11.50	\$1.78	\$1.75	\$1.44
Aug-24	\$18.09	\$18.14	\$18.27	\$17.65	\$1.87	\$1.86	\$2.05	\$11.35	\$1.78	\$1.84	\$1.50

## US Cheese Balance Sheet

Jan 2023	Volume	MOM Change	YOY Change	YTD	YTD YOY	Rolling 12 Month	Rolling YOY
Beginning Stocks	1,445	+1.0%	+0.2%	1,445	+0.0%	1,473	+2.1%
Production	1,209	+1.2%	+3.2%	1,209	+3.2%	13,981	+1.8%
Imports	30	-4.4%	+4.4%	30	+4.4%	417	+0.9%
Total Supply	2,685	+1.0%	+1.6%	2,685	+1.4%	15,871	+1.8%
Domestic Use	1,169	+3.1%	+3.2%	1,169	+3.2%	13,397	+1.4%
Exports	75	-5.0%	+15.6%	75	+15.6%	1,005	+12.1%
Total Use	1,244	+2.6%	+3.8%	1,244	+3.8%	14,402	+2.1%
Ending Stocks	1,441	-0.3%	-0.3%	1,441	-0.3%	1,473	+1.9%

## US Butter Balance Sheet

Jan 2023	Volume	MOM Change	YOY Change	YTD	YTD YOY	Rolling 12 Month	Rolling YOY
Beginning Stocks	216	+8.3%	+8.7%	216	+8.7%	269	-19.8%
Production	201	+7.3%	+3.8%	201	+3.8%	2,065	+1.0%
Imports	9	-1.3%	+37.4%	9	+37.4%	108	+4.2%
Total Supply	426	+7.6%	+6.8%	426	+6.8%	2,442	-1.7%
Domestic Use	156	-9.5%	-9.3%	156	-9.3%	1,986	-8.1%
Exports	8	-0.2%	-3.7%	8	-3.7%	144	+45.9%
Total Use	164	-9.1%	-9.1%	164	-9.1%	2,130	-5.8%
Ending Stocks	263	+21.4%	+19.7%	269	+22.6%	273	-16.4%

## US NDM Balance Sheet

Jan 2023	Volume	MOM Change	YOY Change	YTD	YTD YOY	Rolling 12 Month	Rolling YOY
Beginning Stocks	255	-1.5%	+1.0%	255	+1.0%	288	-1.8%
Production	220	+5.6%	+2.8%	177	+4.0%	1,972	-0.6%
Imports	0	-99.9%	-100%	0	-100.0%	1	+7.8%
Total Supply	475	-1.4%	+1.8%	432	+2.1%	2,260	-0.8%
Domestic Use	53	-39.0%	-28.6%	53	-28.6%	661	-16.7%
Exports	150	+7.6%	+14.8%	150	+14.8%	1,843	-4.8%
Total Use	203	-10.2%	-0.9%	203	-0.9%	2,504	-8.2%
Ending Stocks	272	+6.5%	+3.9%	272	+3.9%	289	-0.1%



# Notable Forecaster's Numbers

## 2022 Dairy Price Forecasts (USD/Lb.)

	CME Spot Cheese Blocks	CME Spot Cheese Barrels	CME Spot Butter	Western US NFDM	Central US Dry Whey	Central/West WPC34	Central/West Lactose
Jan-22	1.907	1.820	2.720	1.709	0.725	1.438	0.405
Feb-22	1.938	1.904	2.620	1.843	0.793	1.590	0.405
Mar-22	2.170	2.077	2.735	1.842	0.760	1.710	0.411
Apr-22	2.340	2.349	2.717	1.824	0.645	1.792	0.432
May-22	2.329	2.357	2.751	1.764	0.601	1.816	0.436
Jun-22	2.190	2.208	2.955	1.839	0.565	1.827	0.444
Jul-22	2.014	2.058	2.951	1.739	0.509	1.831	0.455
Aug-22	1.810	1.874	3.007	1.561	0.452	1.812	0.455
Sep-22	1.955	2.069	3.148	1.580	0.452	1.805	0.457
Oct-22	2.026	2.129	3.179	1.533	0.440	1.809	0.476
Nov-22	2.119	1.945	2.863	1.463	0.439	1.807	0.485
Dec-22	2.086	1.840	2.670	1.434	0.417	1.748	0.478

## 2023 Dairy Price Forecasts (USD/Lb.)

	CME Spot Cheese Blocks	CME Spot Cheese Barrels	CME Spot Butter	Western US NFDM	Central US Dry Whey	Central/West WPC34	Central/West Lactose
Jan-23	2.002	1.680	2.355	1.332	0.384	1.667	0.463
Feb-23	1.849	1.624	2.340	1.218	0.368	1.499	0.405
Mar-23	1.813	1.672	2.315	1.214	0.349	1.422	0.358
Apr-23	1.830	1.767	2.300	1.240	0.358	1.414	0.330
May-23	1.860	1.813	2.310	1.310	0.380	1.420	0.340
Jun-23	1.900	1.790	2.350	1.380	0.410	1.440	0.355
Jul-23	1.940	1.803	2.450	1.430	0.440	1.450	0.375
Aug-23	1.960	1.822	2.580	1.470	0.460	1.468	0.385
Sep-23	2.010	1.784	2.630	1.510	0.460	1.489	0.395
Oct-23	2.080	1.960	2.550	1.560	0.490	1.552	0.435
Nov-23	2.130	2.068	2.500	1.560	0.490	1.566	0.430
Dec-23	2.180	2.059	2.400	1.580	0.510	1.611	0.455





# Notable Forecaster's Numbers

2023 Dairy Price Forecasts (USD/lb)														
	WMP			SMP			Butter			Cheddar			Dry Whey	
	Oceania	EU		Oceania	EU		US-NFDM	Oceania	EU	US (80%)	Oceania	EU	US	Oceania
Jan-23	1.46	1.91	1.32	1.36	1.33	2.06	2.74	2.36	2.24	2.05	2.00	0.43	0.42	
Feb-23	1.47	1.75	1.30	1.25	1.24	2.09	2.39	2.38	2.25	1.82	1.89	0.40	0.40	
Mar-23	1.49	1.75	1.25	1.22	1.22	2.13	2.30	2.32	2.17	1.85	1.83	0.35	0.42	
Apr-23	1.55	1.79	1.27	1.25	1.24	2.17	2.34	2.30	2.09	1.88	1.83	0.37	0.39	
May-23	1.62	1.83	1.34	1.33	1.31	2.19	2.39	2.31	2.01	1.91	1.86	0.40	0.41	
Jun-23	1.64	1.86	1.40	1.39	1.38	2.20	2.48	2.35	2.01	1.95	1.90	0.42	0.44	
Jul-23	1.65	1.88	1.44	1.44	1.43	2.24	2.53	2.45	2.01	2.06	1.94	0.45	0.47	
Aug-23	1.66	1.88	1.45	1.50	1.45	2.27	2.59	2.58	2.01	2.10	1.96	0.46	0.49	
Sep-23	1.72	1.98	1.48	1.53	1.49	2.48	2.64	2.63	2.09	2.14	2.01	0.47	0.49	
Oct-23	1.79	2.10	1.54	1.59	1.56	2.54	2.76	2.55	2.15	2.19	2.08	0.49	0.52	
Nov-23	1.81	2.12	1.53	1.58	1.56	2.46	2.67	2.50	2.18	2.24	2.13	0.50	0.52	
Dec-23	1.83	2.15	1.53	1.59	1.56	2.43	2.64	2.40	2.24	2.26	2.18	0.51	0.54	

2024 Dairy Price Forecasts (USD/lb)														
	WMP			SMP			Butter			Cheddar			Dry Whey	
	Oceania	EU		Oceania	EU		US-NFDM	Oceania	EU	US (80%)	Oceania	EU	US	Oceania
Jan-24	1.94	2.11		1.60	1.66	1.62	2.39	2.55	2.35	2.20	2.26	2.15	0.53	0.55
Feb-24	1.96	2.15		1.67	1.70	1.69	2.36	2.49	2.35	2.18	2.22	2.15	0.55	0.58
Mar-24	2.05	2.14		1.68	1.70	1.69	2.41	2.50	2.33	2.16	2.18	2.10	0.57	0.60
Apr-24	2.09	2.15		1.73	1.72	1.72	2.37	2.50	2.41	2.14	2.18	2.10	0.58	0.60
May-24	2.07	2.17		1.77	1.77	1.77	2.37	2.56	2.38	2.13	2.18	2.10	0.60	0.63
Jun-24	2.03	2.14		1.77	1.77	1.77	2.39	2.70	2.38	2.16	2.18	2.10	0.59	0.63
Jul-24	2.00	2.08		1.80	1.78	1.77	2.39	2.75	2.38	2.16	2.35	2.05	0.58	0.61
Aug-24	1.98	2.13		1.80	1.79	1.77	2.47	2.87	2.38	2.16	2.24	2.05	0.56	0.60
Sep-24	2.09	2.10		1.82	1.79	1.79	2.56	2.89	2.45	2.25	2.36	2.10	0.56	0.58
Oct-24	2.19	2.20		1.87	1.85	1.82	2.59	2.96	2.33	2.29	2.37	2.15	0.58	0.58
Nov-24	2.19	2.14		1.91	1.86	1.85	2.60	2.82	2.30	2.33	2.43	2.20	0.57	0.58
Dec-24	2.24	2.17		1.92	1.87	1.86	2.59	2.70	2.25	2.43	2.38	2.20	0.61	0.59



# Notable Forecaster's Numbers

## Block Cheese

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann Avg
2018	\$ 1.4938	\$ 1.5157	\$ 1.5614	\$ 1.6062	\$ 1.6397	\$ 1.5617	\$ 1.5364	\$ 1.6341	\$ 1.6438	\$ 1.5874	\$ 1.3951	\$ 1.3764	\$ 1.5460
2019	\$ 1.4087	\$ 1.5589	\$ 1.5908	\$ 1.6619	\$ 1.6799	\$ 1.7906	\$ 1.8180	\$ 1.8791	\$ 2.0395	\$ 2.0703	\$ 1.9664	\$ 1.8764	\$ 1.7784
2020	\$ 1.9142	\$ 1.8343	\$ 1.7550	\$ 1.1019	\$ 1.6704	\$ 2.5620	\$ 2.6466	\$ 1.7730	\$ 2.3277	\$ 2.7103	\$ 2.0521	\$ 1.6249	\$ 1.9977
H1 2020 Avg:						\$ 1.8063	H2 2020 Avg:						\$ 2.1891
2021	\$ 1.7470	\$ 1.5821	\$ 1.7362	\$ 1.7945	\$ 1.6778	\$ 1.4978	\$ 1.6370	\$ 1.7217	\$ 1.7601	\$ 1.7798	\$ 1.7408	\$ 1.8930	\$ 1.7140
H1 2021 Avg:						\$ 1.6726	H2 2021 Avg:						\$ 1.7554
2022	\$ 1.9065	\$ 1.9379	\$ 2.1699	\$ 2.3399	\$ 2.3293	\$ 2.1902	\$ 2.0143	\$ 1.8104	\$ 1.9548	\$ 2.0260	\$ 2.1186	\$ 2.0860	\$ 2.0737
H1 2022 Avg:						\$ 2.1456	H2 2022 Avg:						\$ 2.0017
2023	\$ 2.0024	\$ 1.8895	\$ 1.8840	\$ 1.8133	\$ 1.8425	\$ 1.8518	\$ 1.8963	\$ 1.9394	\$ 1.9588	\$ 1.9784	\$ 1.9239	\$ 1.8708	\$ 1.9042
H1 2023 Avg:						\$ 1.8806	H2 2023 Avg:						\$ 1.9279
2024	\$ 1.8904	\$ 1.9095	\$ 1.9095	\$ 1.9095	\$ 1.9095	\$ 1.9095							
Forecasted		H1 2024 Avg:				\$ 1.9063							

## Barrel Cheese

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann Avg
2018	\$ 1.3345	\$ 1.4096	\$ 1.5071	\$ 1.4721	\$ 1.5870	\$ 1.4145	\$ 1.3707	\$ 1.5835	\$ 1.4503	\$ 1.3152	\$ 1.3100	\$ 1.2829	\$ 1.4198
2019	\$ 1.2379	\$ 1.3867	\$ 1.4910	\$ 1.5925	\$ 1.6278	\$ 1.6258	\$ 1.7343	\$ 1.7081	\$ 1.7463	\$ 2.0224	\$ 2.2554	\$ 1.8410	\$ 1.6891
2020	\$ 1.5721	\$ 1.5470	\$ 1.4399	\$ 1.0690	\$ 1.5980	\$ 2.3376	\$ 2.4080	\$ 1.4937	\$ 1.6401	\$ 2.2213	\$ 1.8437	\$ 1.4609	\$ 1.7193
H1 2020 Avg:						\$ 1.5939	H2 2020 Avg:						\$ 1.8446
2021	\$ 1.5141	\$ 1.4442	\$ 1.4811	\$ 1.7119	\$ 1.6923	\$ 1.5639	\$ 1.4774	\$ 1.4158	\$ 1.5319	\$ 1.8008	\$ 1.5375	\$ 1.6548	\$ 1.5688
H1 2021 Avg:						\$ 1.5679	H2 2021 Avg:						\$ 1.5697
2022	\$ 1.8204	\$ 1.9038	\$ 2.0774	\$ 2.3489	\$ 2.3567	\$ 2.2077	\$ 2.0581	\$ 1.8741	\$ 2.0690	\$ 2.1285	\$ 1.9454	\$ 1.8395	\$ 2.0525
H1 2022 Avg:						\$ 2.1192	H2 2022 Avg:						\$ 1.9858
2023	\$ 1.6803	\$ 1.5761	\$ 1.7680	\$ 1.7333	\$ 1.7625	\$ 1.7918	\$ 1.8363	\$ 1.8894	\$ 1.9088	\$ 1.9284	\$ 1.8739	\$ 1.8208	\$ 1.7975
H1 2023 Avg:						\$ 1.7187	H2 2023 Avg:						\$ 1.8762
2024	\$ 1.8404	\$ 1.8595	\$ 1.8595	\$ 1.8595	\$ 1.8595	\$ 1.8595							
Forecasted		H1 2024 Avg:				\$ 1.8563							



# Notable Forecaster's Butter/Powder

## Butter

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann Avg
2018	\$ 2.1587	\$ 2.1211	\$ 2.2011	\$ 2.3145	\$ 2.3751	\$ 2.3270	\$ 2.2361	\$ 2.3009	\$ 2.2545	\$ 2.2600	\$ 2.2480	\$ 2.2071	\$ 2.2503
2019	\$ 2.2481	\$ 2.2659	\$ 2.2773	\$ 2.2635	\$ 2.3366	\$ 2.3884	\$ 2.3897	\$ 2.2942	\$ 2.1690	\$ 2.1071	\$ 2.0495	\$ 1.9736	\$ 2.2302
2020	\$ 1.8813	\$ 1.7913	\$ 1.7235	\$ 1.1999	\$ 1.4710	\$ 1.8291	\$ 1.6925	\$ 1.5038	\$ 1.5163	\$ 1.4550	\$ 1.3941	\$ 1.4806	\$ 1.5782
H1 2020 Avg:						\$ 1.6494	H2 2020 Avg:						\$ 1.5071
2021	\$ 1.3496	\$ 1.3859	\$ 1.7153	\$ 1.8267	\$ 1.8124	\$ 1.7758	\$ 1.6912	\$ 1.6815	\$ 1.7756	\$ 1.8002	\$ 1.9714	\$ 2.1536	\$ 1.7449
H1 2021 Avg:						\$ 1.6443	H2 2021 Avg:						\$ 1.8456
2022	\$ 2.7203	\$ 2.6196	\$ 2.7346	\$ 2.7169	\$ 2.7514	\$ 2.9546	\$ 2.9506	\$ 3.0072	\$ 3.1483	\$ 3.1792	\$ 2.8634	\$ 2.6695	\$ 2.8596
H1 2022 Avg:						\$ 2.7496	H2 2022 Avg:						\$ 2.9697
2023	\$ 2.3553	\$ 2.4017	\$ 2.3589	\$ 2.2757	\$ 2.2743	\$ 2.3259	\$ 2.3979	\$ 2.4716	\$ 2.5592	\$ 2.6367	\$ 2.6756	\$ 2.5135	\$ 2.4372
H1 2023 Avg:						\$ 2.3320	H2 2023 Avg:						\$ 2.5424
2024	\$ 2.3878	\$ 2.3400	\$ 2.3000	\$ 2.3000	\$ 2.3000	\$ 2.3000							
Forecasted		H1 2024 Avg:				\$ 2.3213							

## Non-Fat Dry Milk

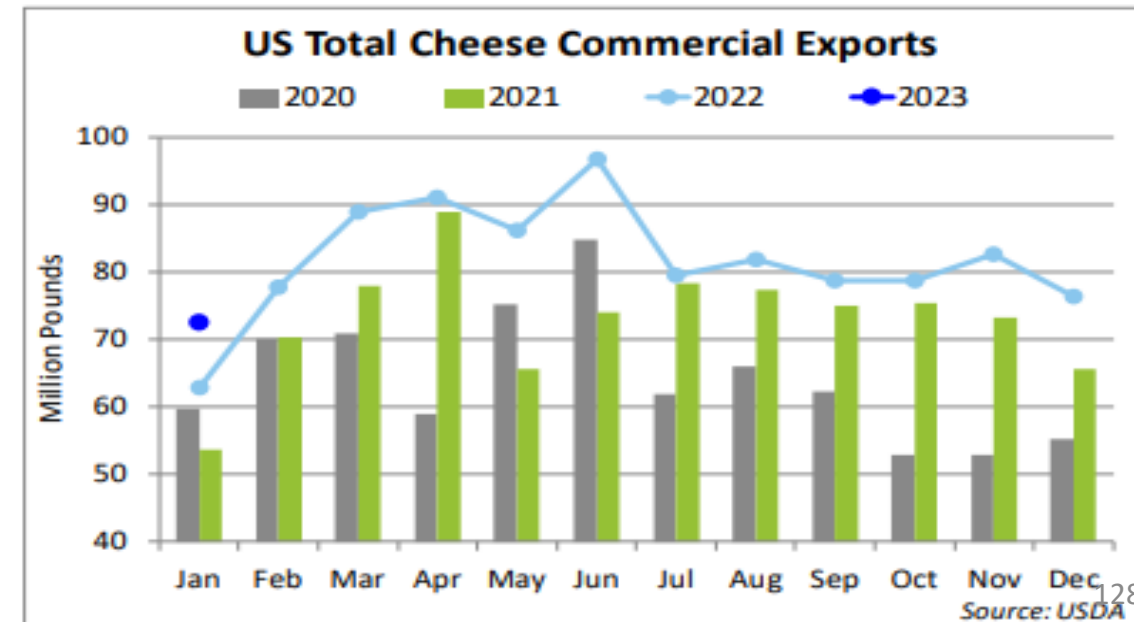
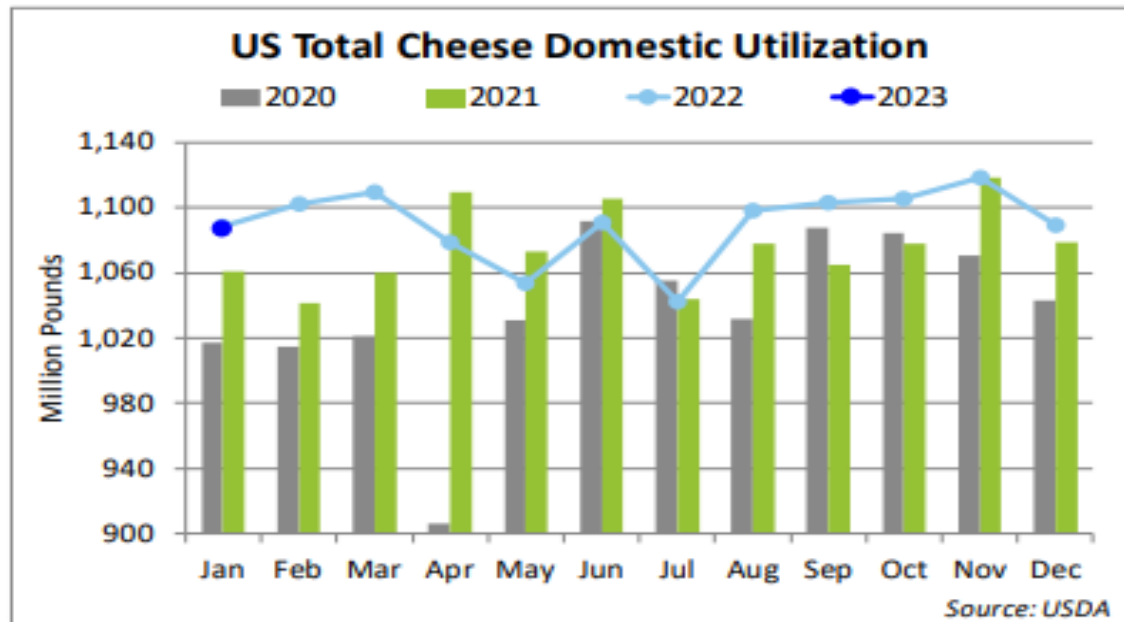
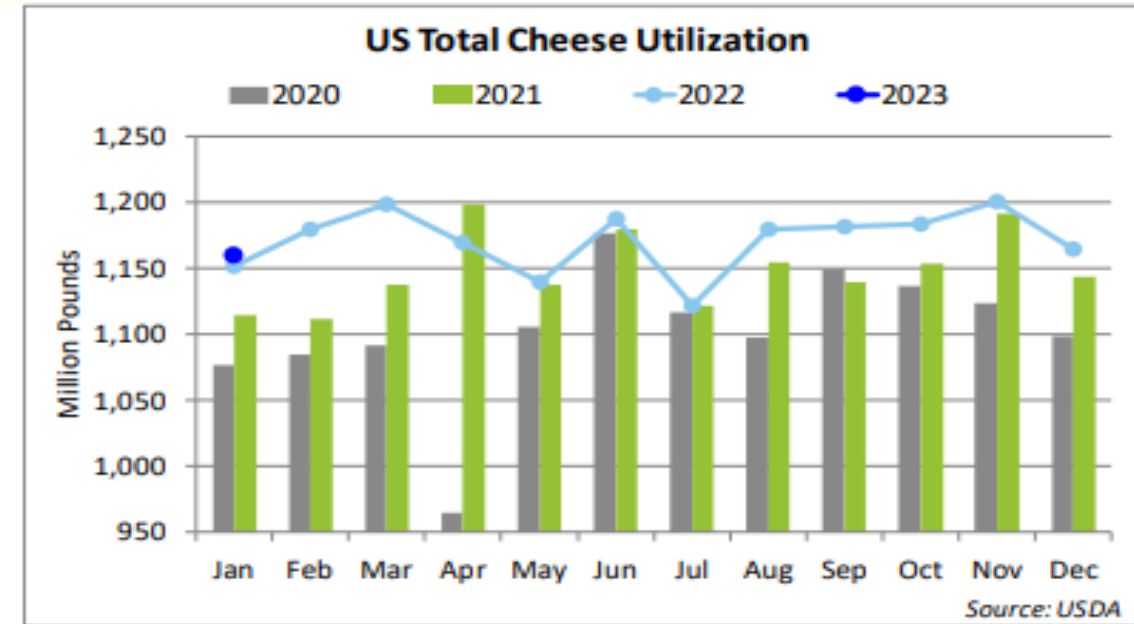
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann Avg
2018	\$ 0.6966	\$ 0.7084	\$ 0.6963	\$ 0.7134	\$ 0.7937	\$ 0.8150	\$ 0.7824	\$ 0.8111	\$ 0.8548	\$ 0.8739	\$ 0.8860	\$ 0.9020	\$ 0.7945
2019	\$ 0.9513	\$ 0.9800	\$ 0.9589	\$ 0.9641	\$ 1.0149	\$ 1.0431	\$ 1.0393	\$ 1.0335	\$ 1.0519	\$ 1.0957	\$ 1.1540	\$ 1.2161	\$ 1.0419
2020	\$ 1.2451	\$ 1.2453	\$ 1.1160	\$ 0.9552	\$ 0.8492	\$ 0.9106	\$ 0.9717	\$ 0.9619	\$ 1.0014	\$ 1.0670	\$ 1.0816	\$ 1.0951	\$ 1.0417
H1 2020 Avg:						\$ 1.0536	H2 2020 Avg:						\$ 1.0298
2021	\$ 1.1345	\$ 1.1164	\$ 1.1169	\$ 1.1680	\$ 1.2392	\$ 1.2696	\$ 1.2552	\$ 1.2660	\$ 1.2816	\$ 1.3598	\$ 1.4769	\$ 1.5471	\$ 1.2693
H1 2021 Avg:						\$ 1.1741	H2 2021 Avg:						\$ 1.3644
2022	\$ 1.6488	\$ 1.7284	\$ 1.7954	\$ 1.8314	\$ 1.8095	\$ 1.8156	\$ 1.8001	\$ 1.6690	\$ 1.5803	\$ 1.5819	\$ 1.5045	\$ 1.4559	\$ 1.6851
H1 2022 Avg:						\$ 1.7715	H2 2022 Avg:						\$ 1.5986
2023	\$ 1.3662	\$ 1.2553	\$ 1.2097	\$ 1.1834	\$ 1.1639	\$ 1.1872	\$ 1.1980	\$ 1.2474	\$ 1.2536	\$ 1.2866	\$ 1.2931	\$ 1.3028	\$ 1.2456
H1 2023 Avg:						\$ 1.2276	H2 2023 Avg:						\$ 1.2636
2024	\$ 1.3344	\$ 1.3536	\$ 1.3728	\$ 1.3824	\$ 1.3824	\$ 1.3824							
Forecasted		H1 2024 Avg:				\$ 1.3680							





# Commercial Disappearance – Cheese

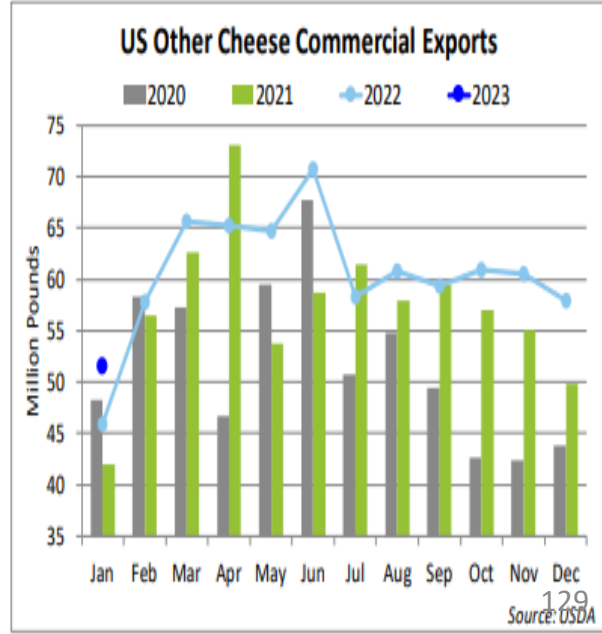
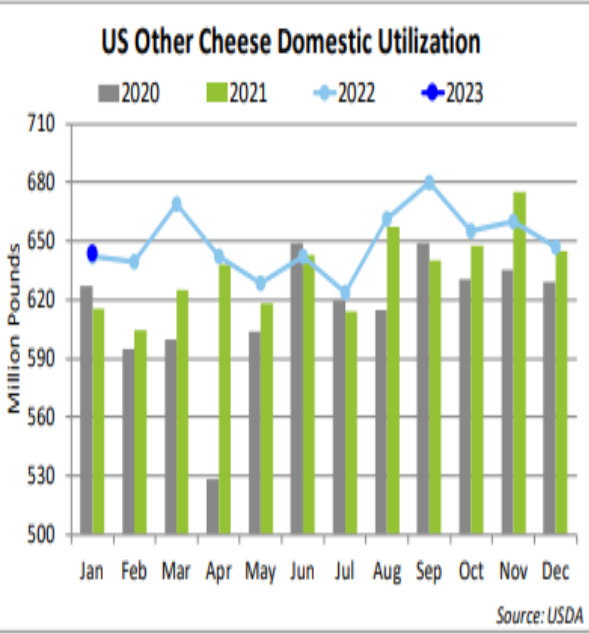
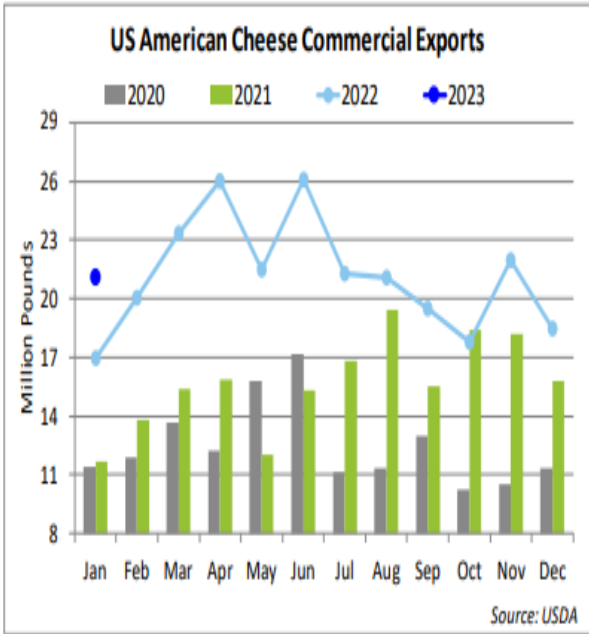
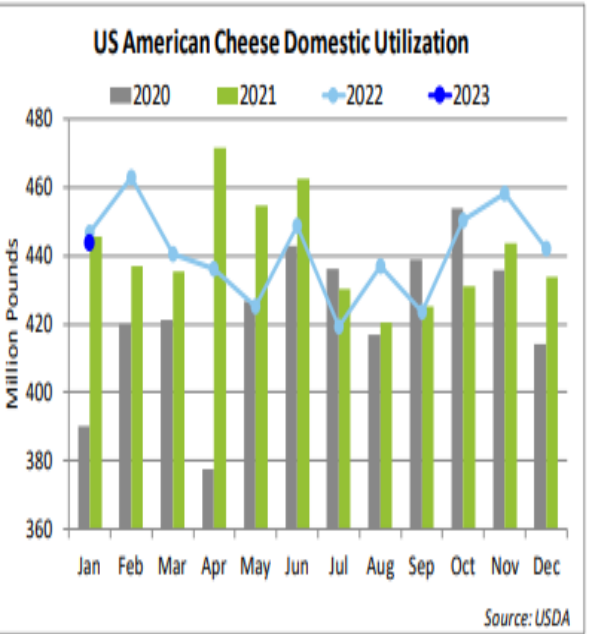
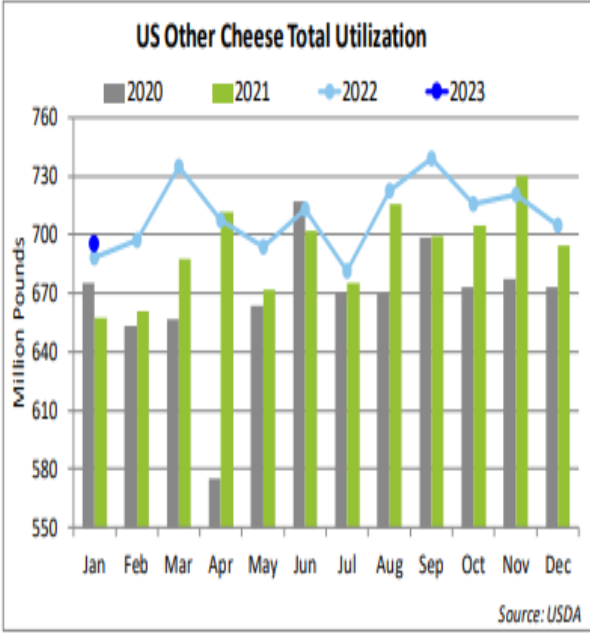
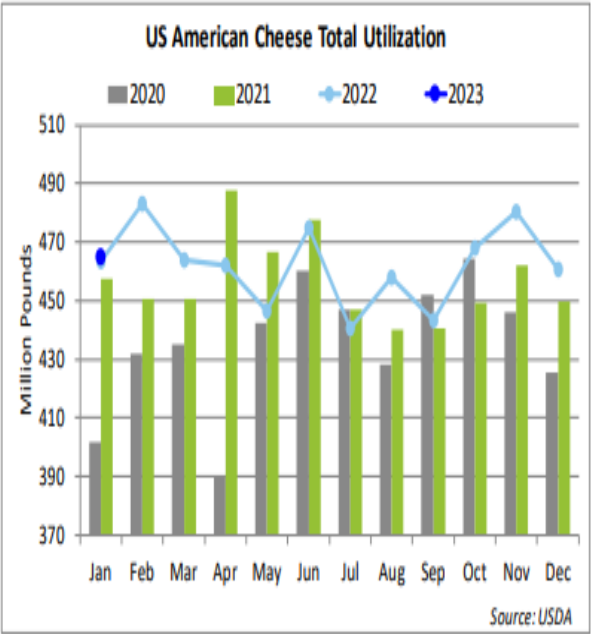
- Total cheese utilization eked above prior year levels driven by nearly flat year-over-year domestic demand while exports made up the bulk of growth climbing to an all-time high for the month of January.
- US American cheese utilization was just 1.2 million pounds above the prior year despite commercial exports posting strong gains. Although, domestic utilization was only down three million pounds from 2022, it makes up 95% of total American cheese disappearance stymieing total growth.
- US Other-cheese utilization was UP versus the previous year lifted by a slight increase in domestic demand while exports posted the largest January volume on record with data back to 2011.







# Commercial Disappearance – Cheese



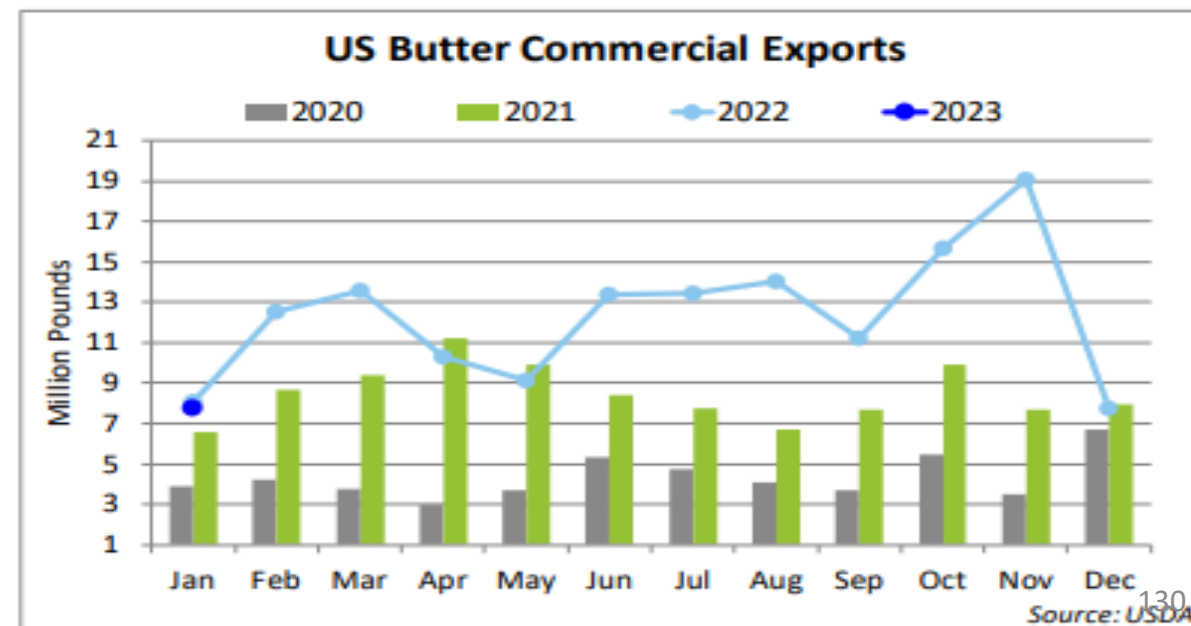
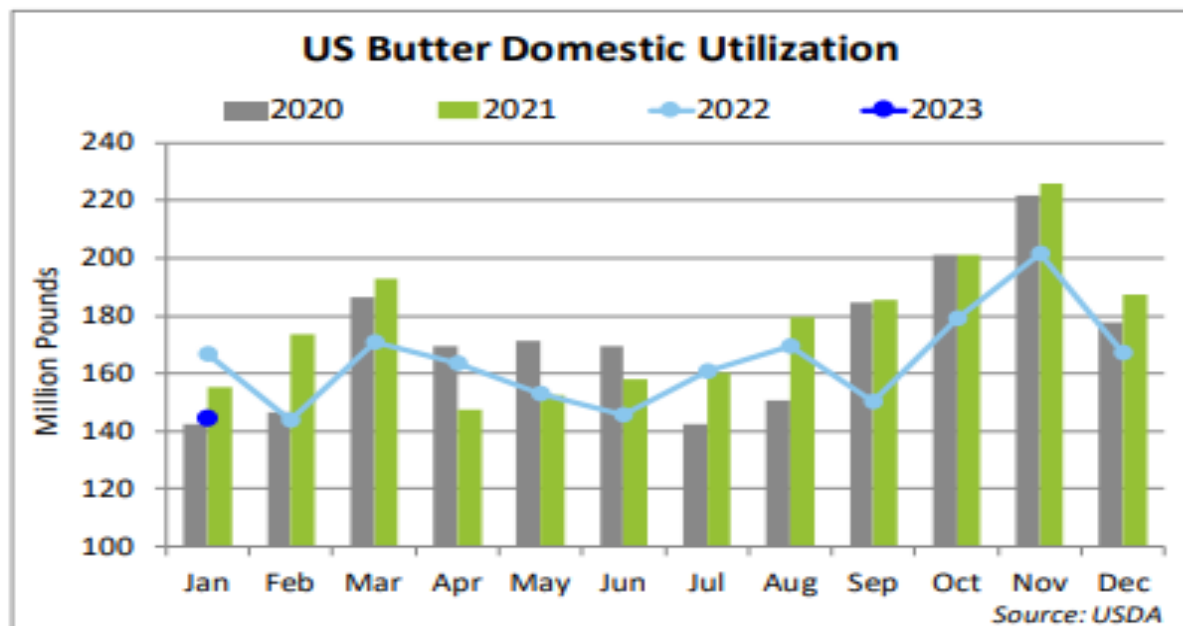
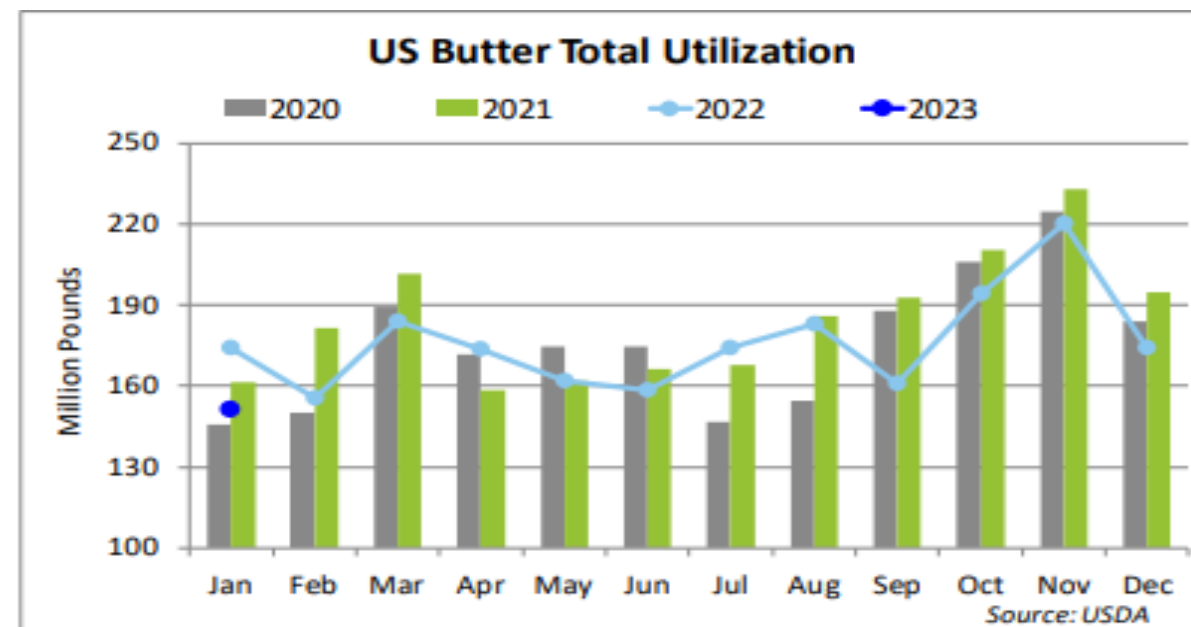


# Commercial Disappearance - Butter

Butter utilization saw further weakness in January, falling to the lowest volume since July 2020.

The seasonal decline in domestic consumption was the primary driver for lower total butter utilization.

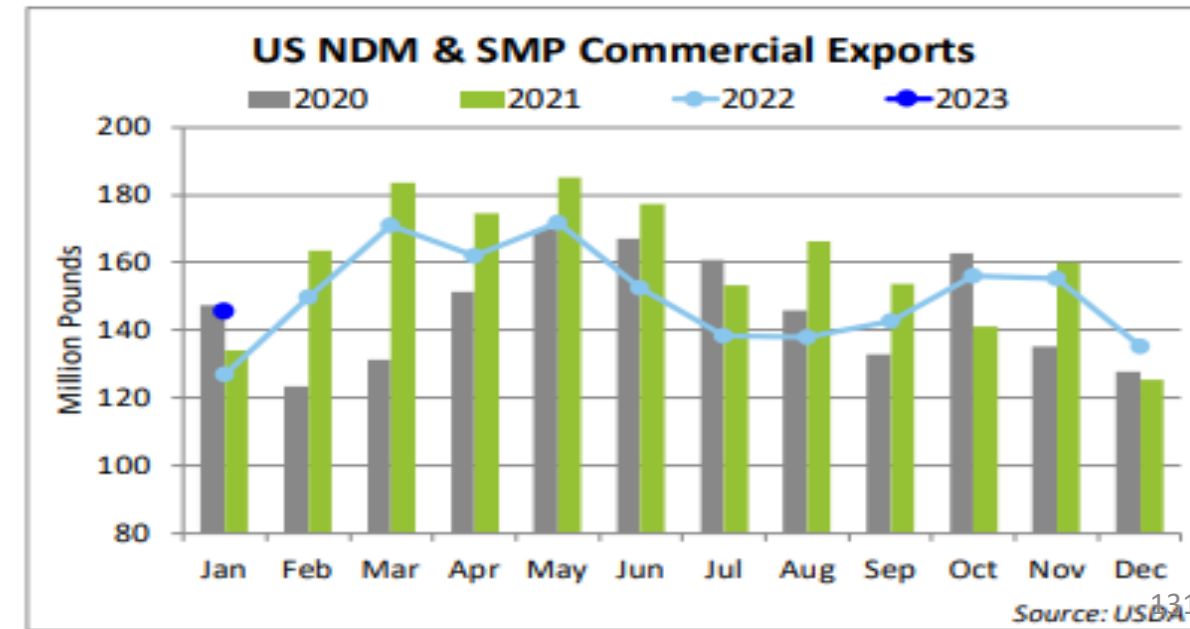
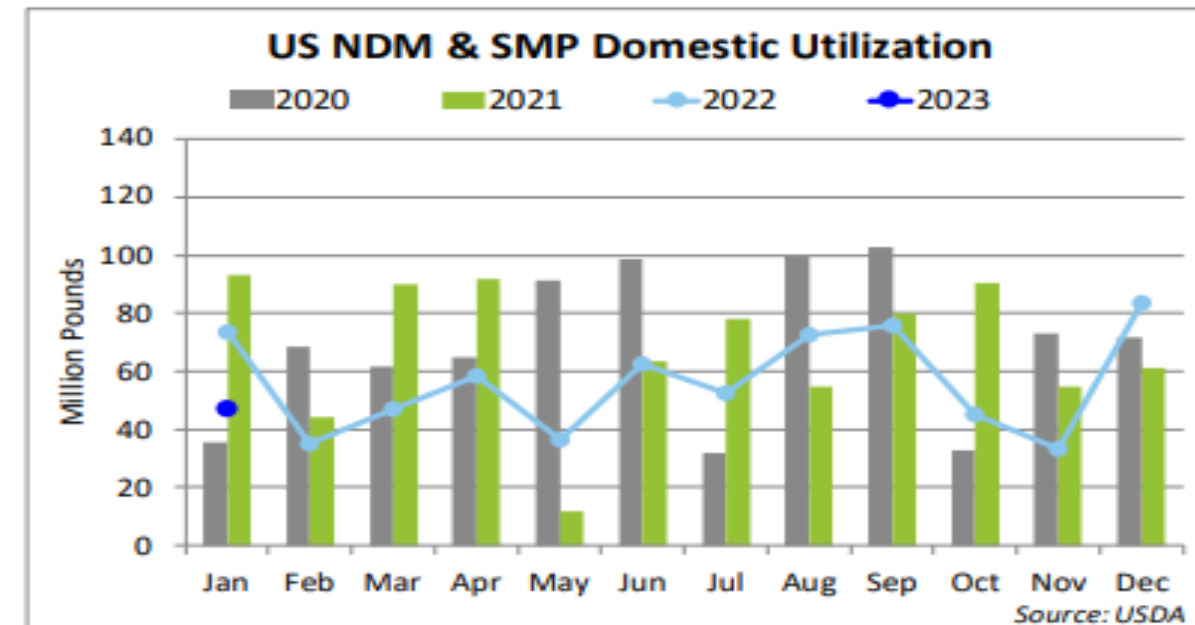
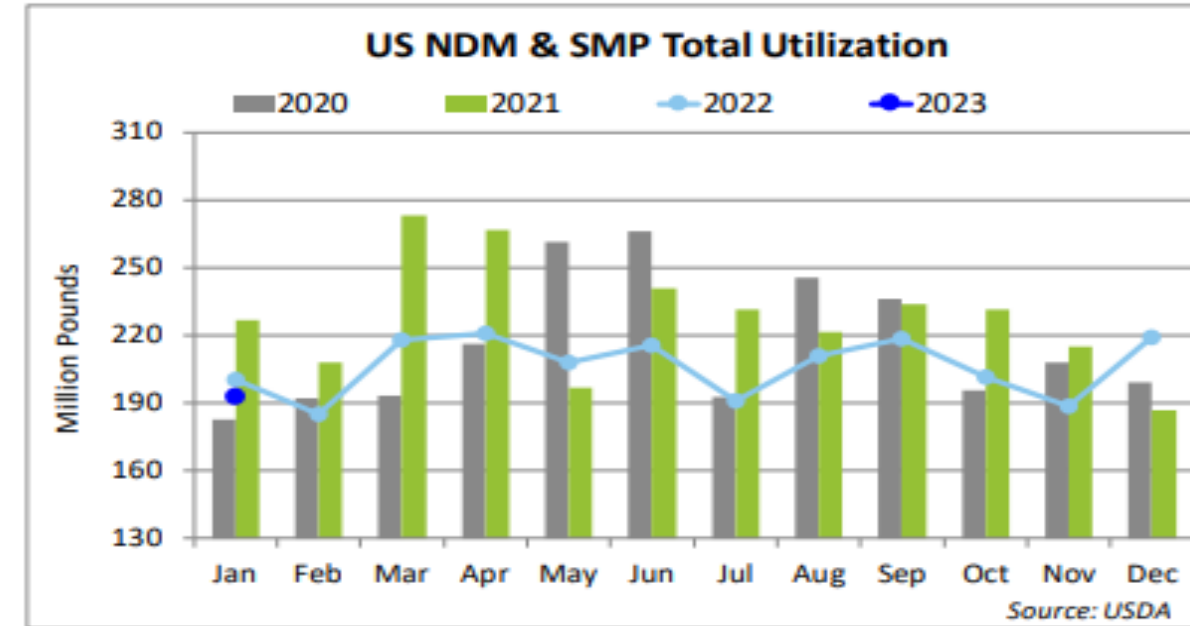
Interestingly, butter exports in January were unchanged from December and just slightly below the previous year. The sharp fall in exports was likely a result of butter prices climbing to record highs in late 2022.





# Commercial Disappearance – Powder

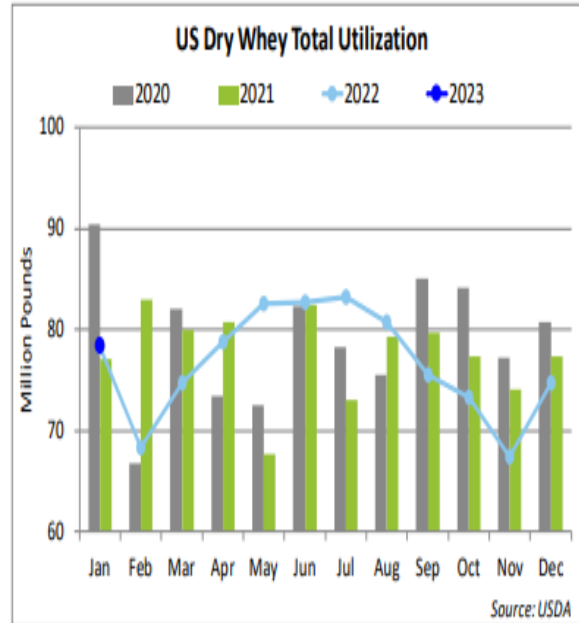
- Total nonfat dry milk utilization reversed course from December to mark the steepest month-over-month decline since December 2021.
- Domestic utilization fell to the lowest January reading since 2020.
- However, commercial exports increased to the highest January volume since 2020, falling just short of that total by 1.7 million pounds.



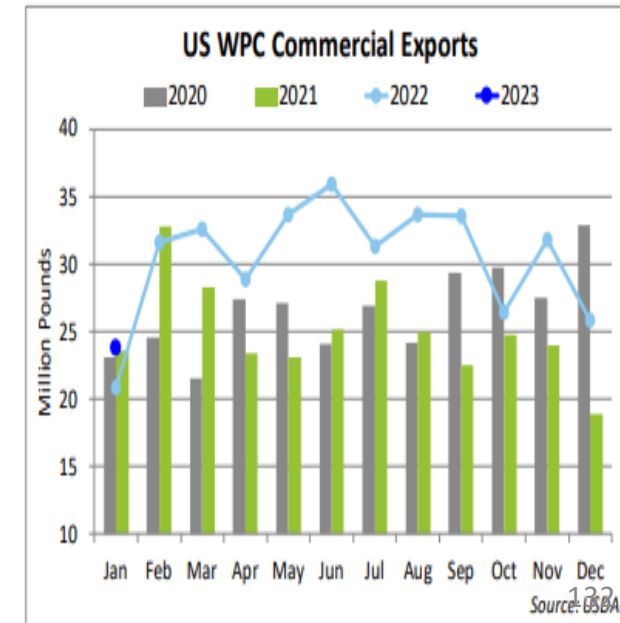
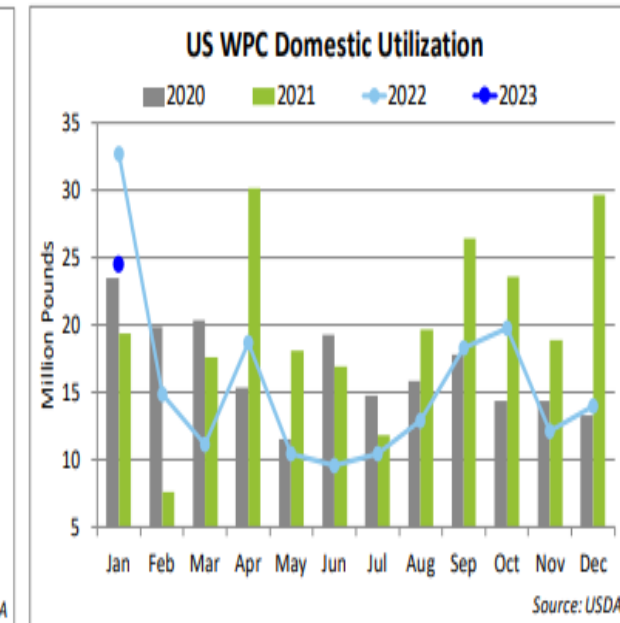
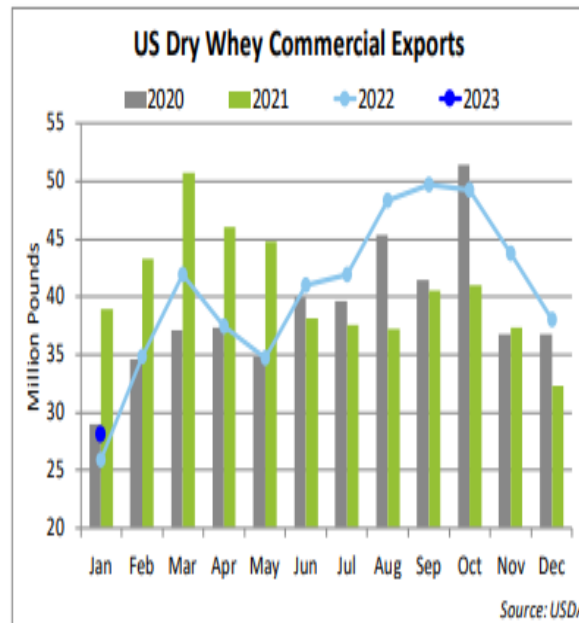
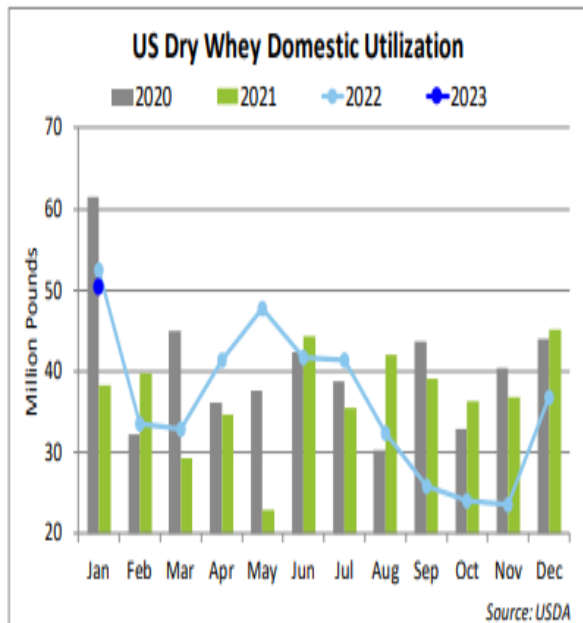
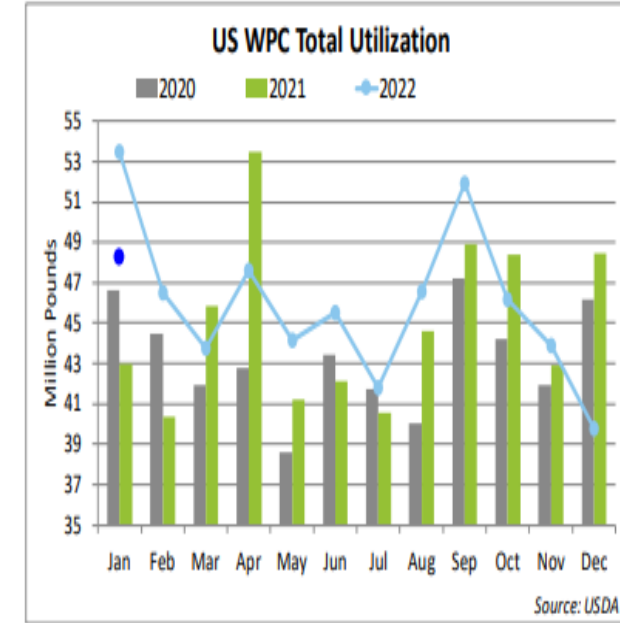


# Commercial Disappearance – Whey/WPC

- After rebounding from the prior month in December, total dry whey utilization posted a near null increase, UP 0.1 million pounds compared to the same time last year.
- Domestic demand climbed from the previous month but was unable to overcome the significant strength that was observed in January 2022.
- Dry whey exports saw the sharpest month-over-month decline since November 2020. However, exports were UP compared to the previous year.



- January total whey protein concentrate (WPC) utilization fell below strong 2022 comparables but moved up versus the prior month.
- Domestic WPC demand followed a similar trend, reaching the largest month-over-month gain since March 2021 while falling below January 2022 volumes.
- In contrast, exports declined versus the prior month but grew over the previous year to reach the highest January volume since 2018.

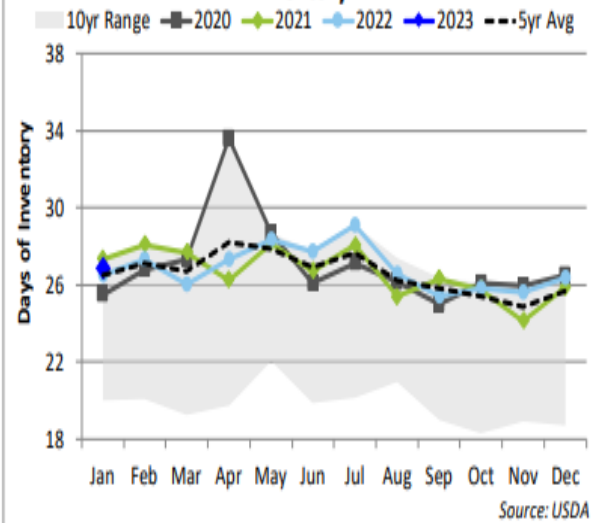




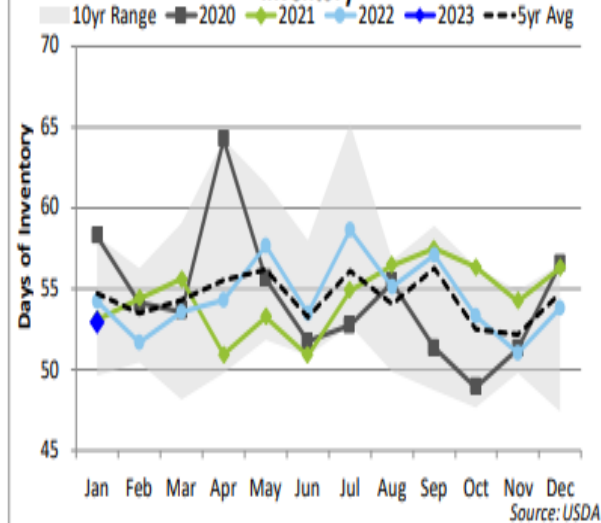


# Days on Hand

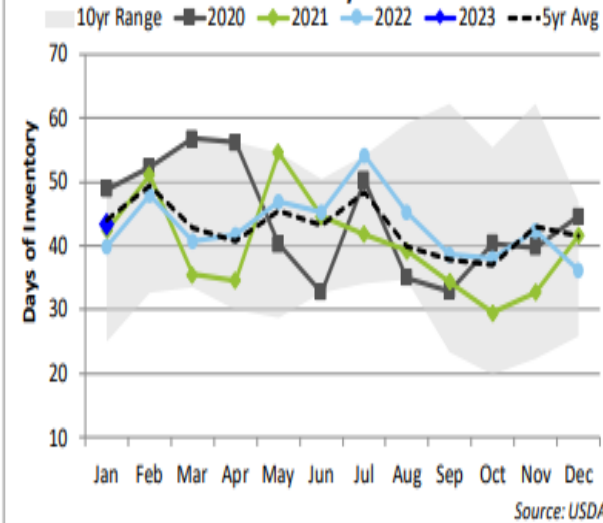
US Other Cheese Days of Use Remaining in Inventory



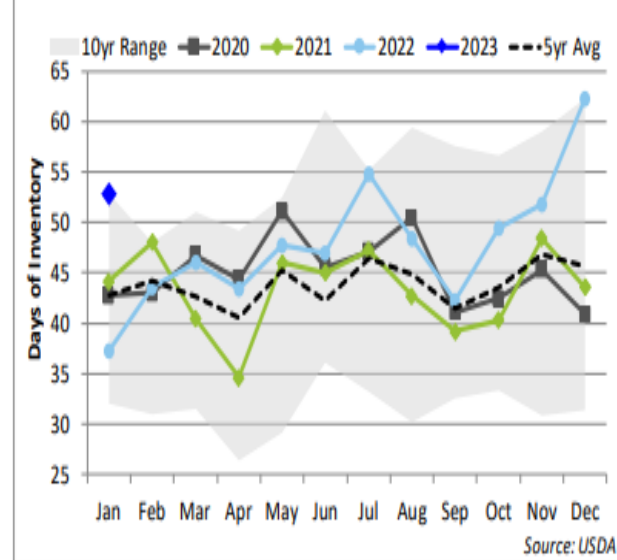
US American Cheese Days of Use Remaining in Inventory



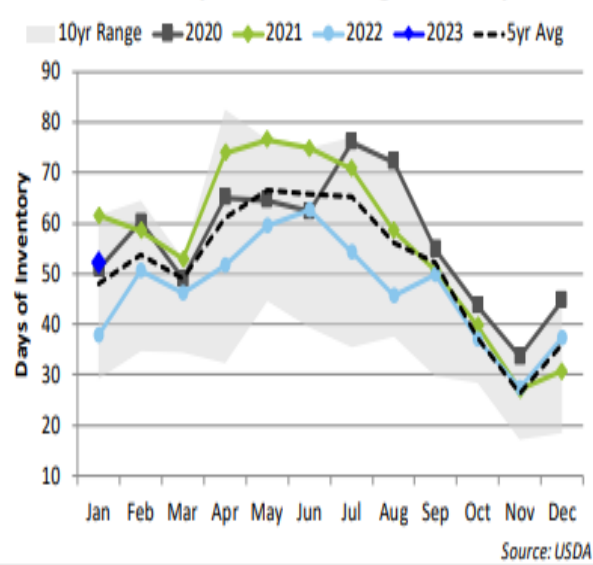
US NDM & SMP Days of Use Remaining in Inventory



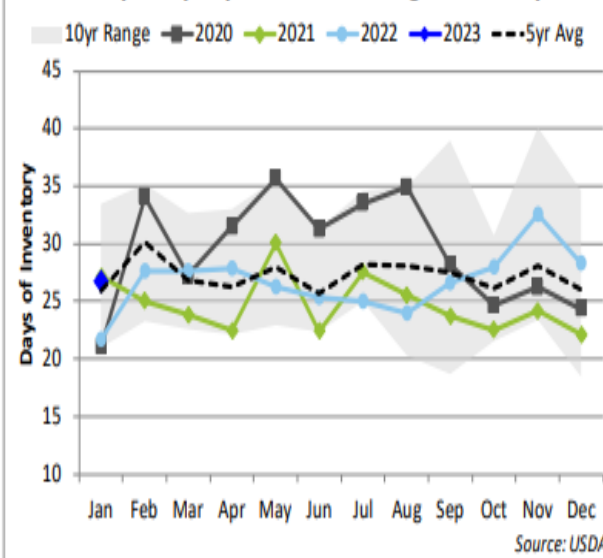
US WPC Days of Use Remaining in Inventory



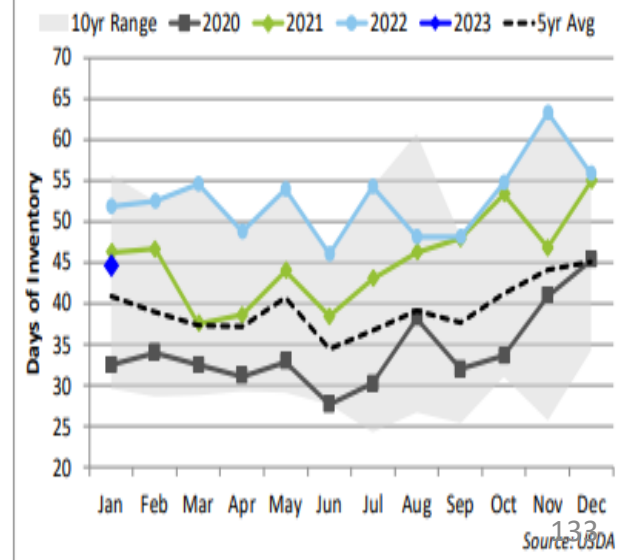
US Butter Days of Use Remaining in Inventory



US Dry Whey Days of Use Remaining in Inventory



US Lactose Days of Use Remaining in Inventory

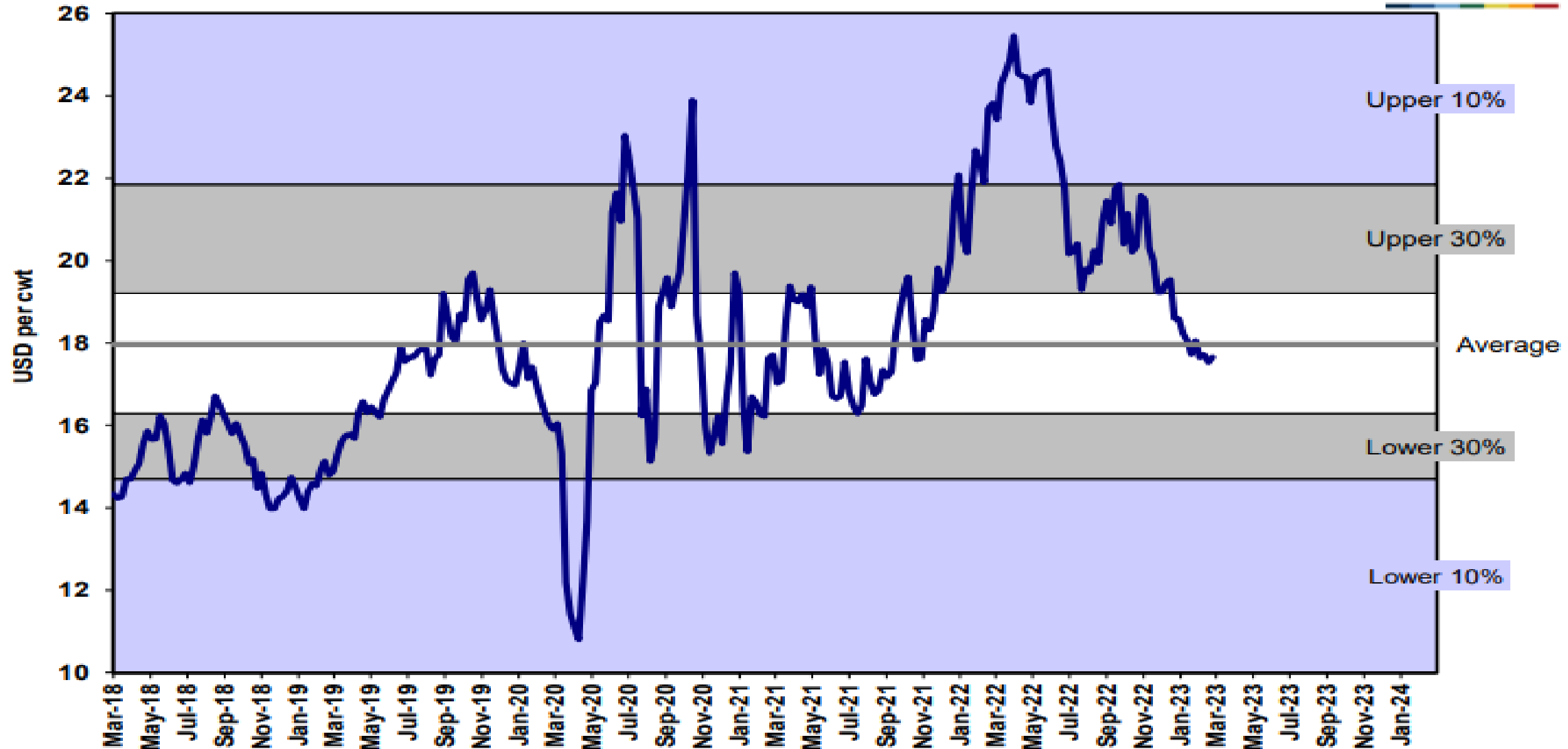




# Commodity Historic Perspective – 5 Year – Class III

**CME Class III Milk Prices the Last 5 Years**

StoneX™

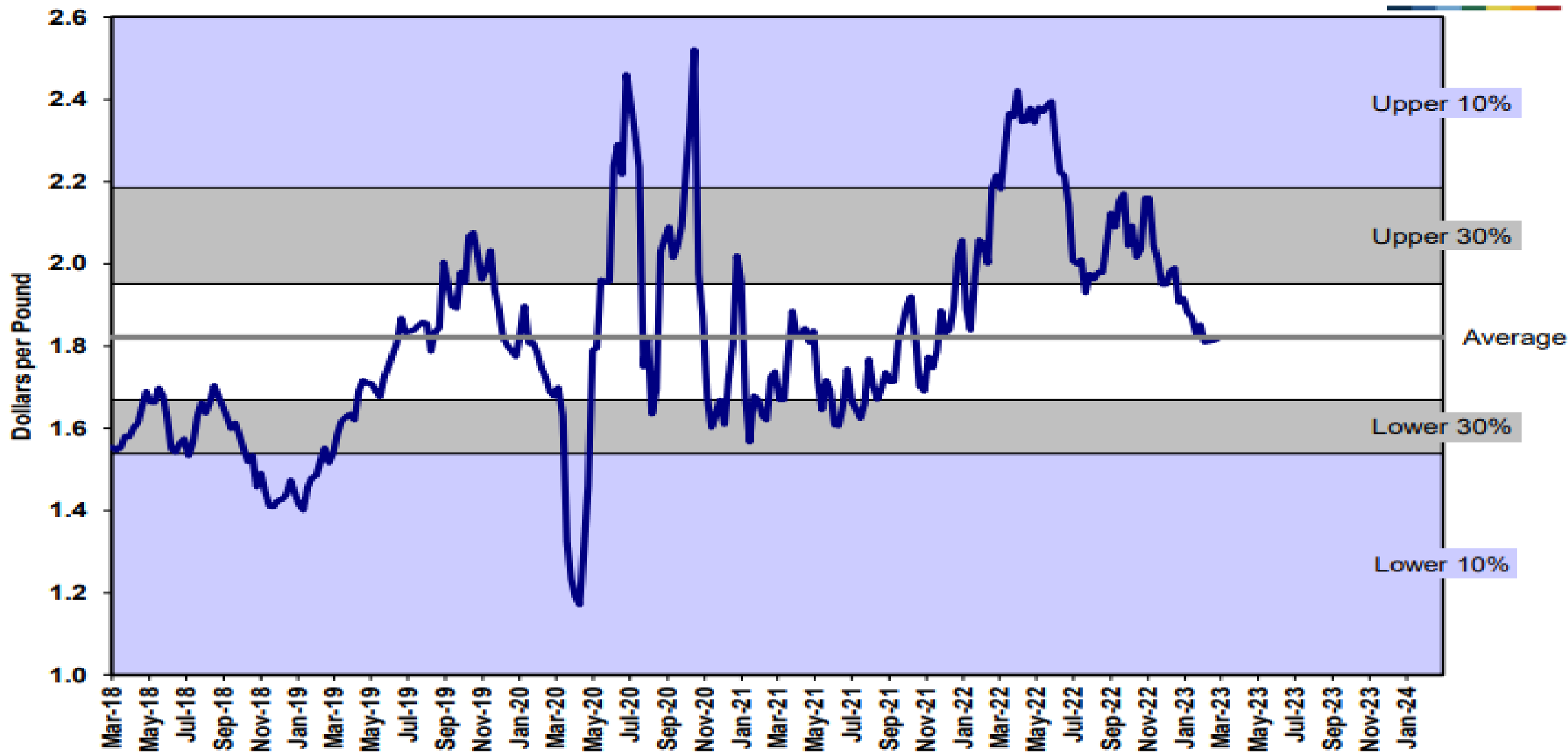


# Commodity Historic Perspective – 5 Year – CS Cheese



CME Cheese Prices the Last 5 Years

StoneX™

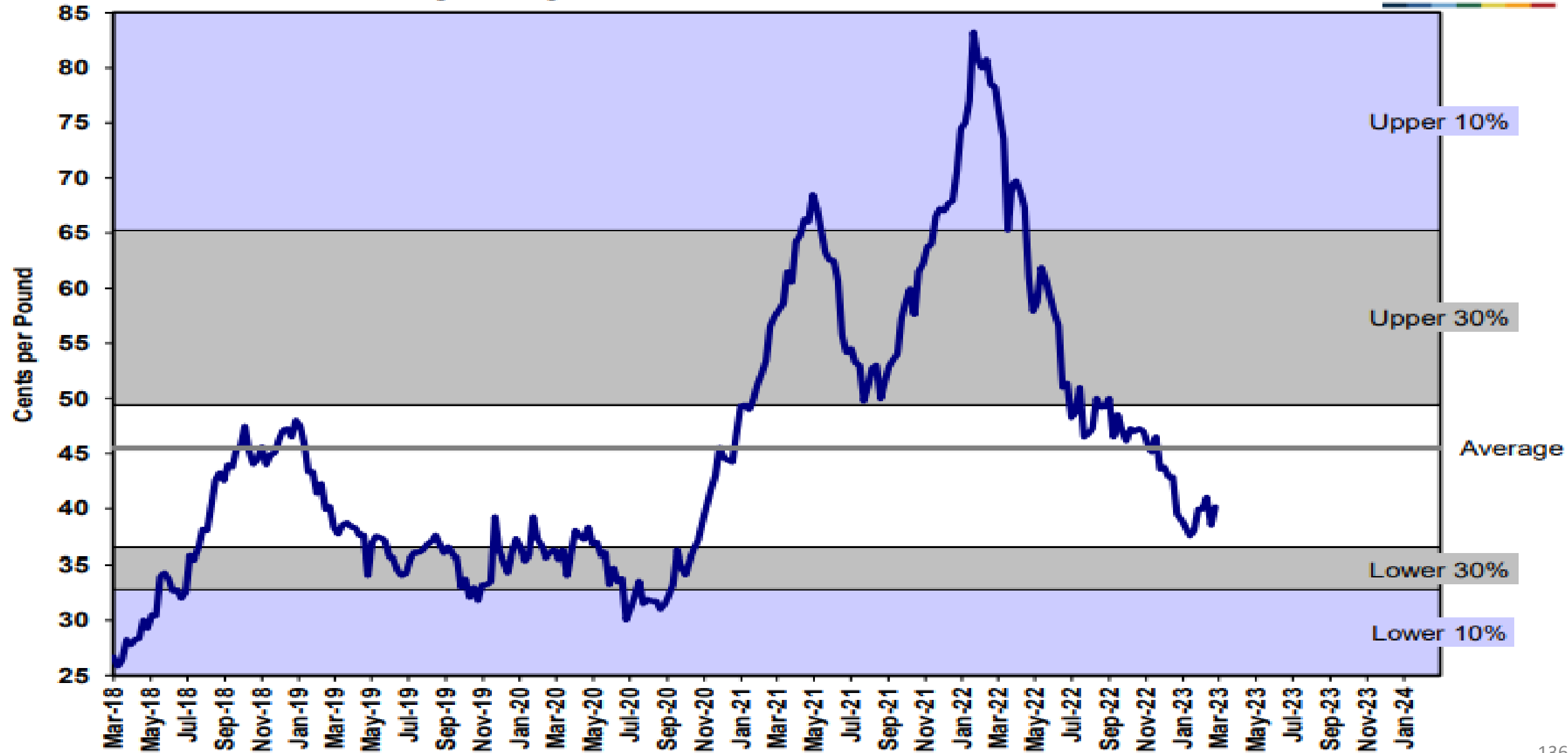




# Commodity Historic Perspective - 5 Year - Whey

CME Dry Whey Prices the Last 5 Years

StoneX™



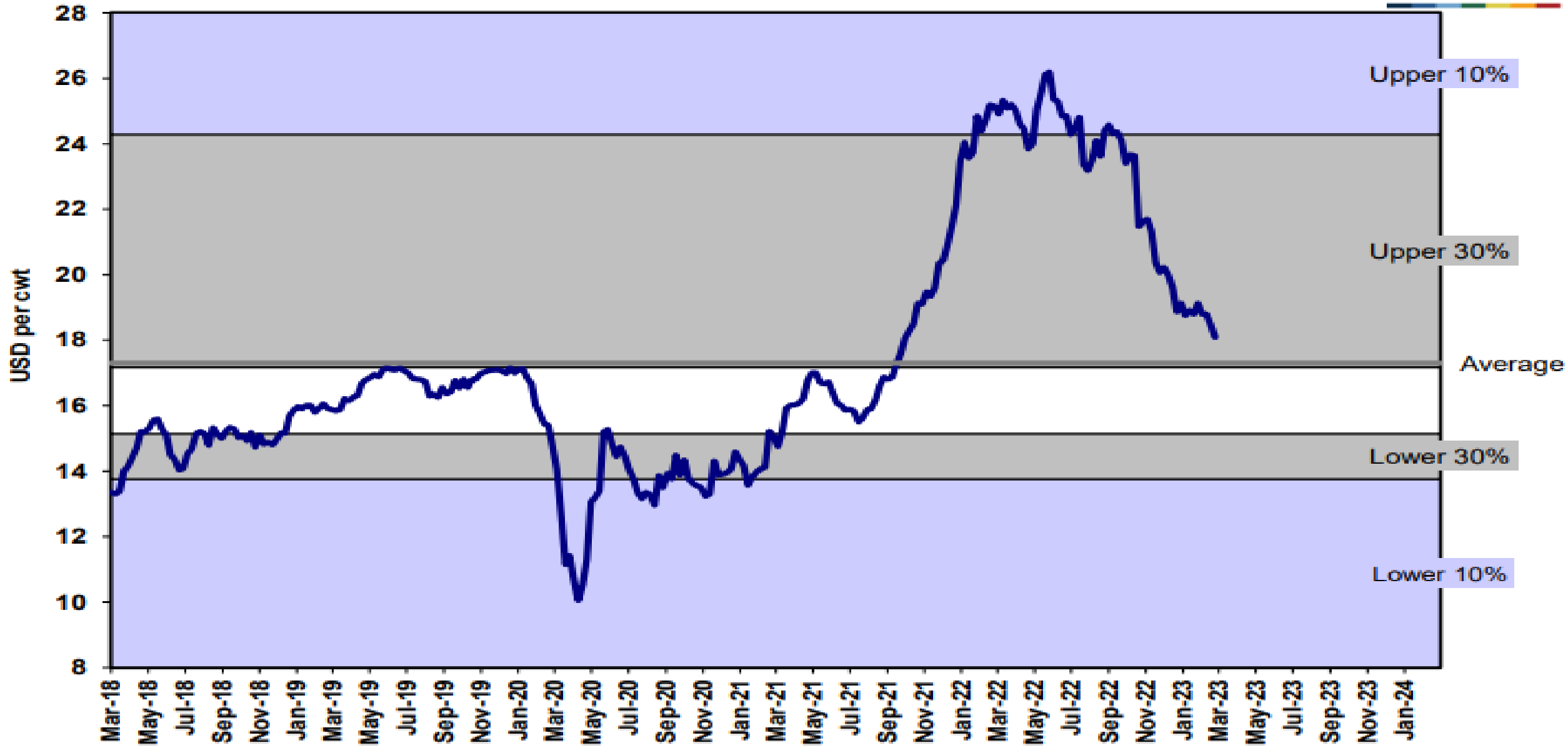




# Commodity Historic Perspective – 5 Year – Class IV

CME Class IV Milk Prices the Last 5 Years

StoneX™

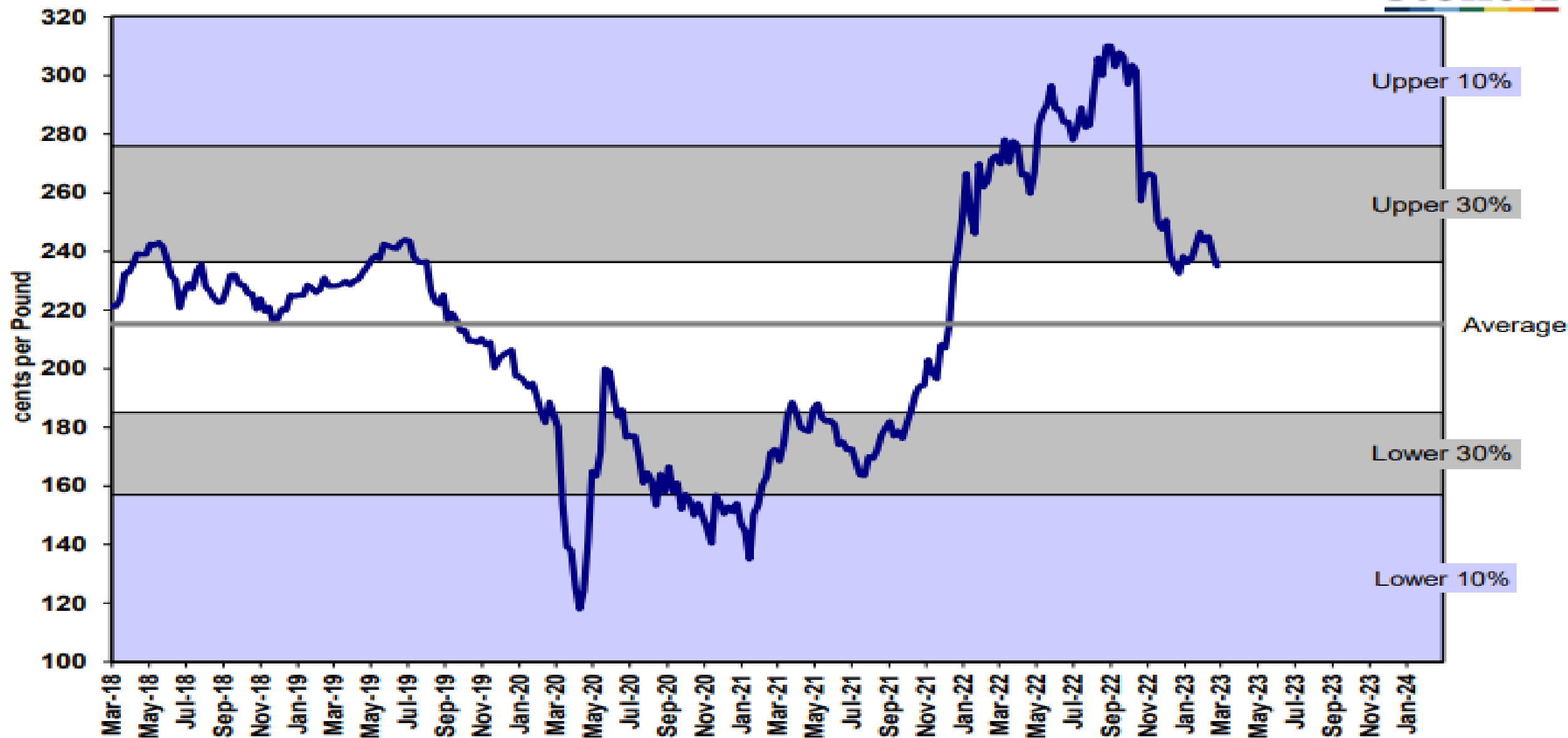


# Commodity Historic Perspective – 5 Year – Butter



CME Butter Prices the Last 5 Years

StoneX™

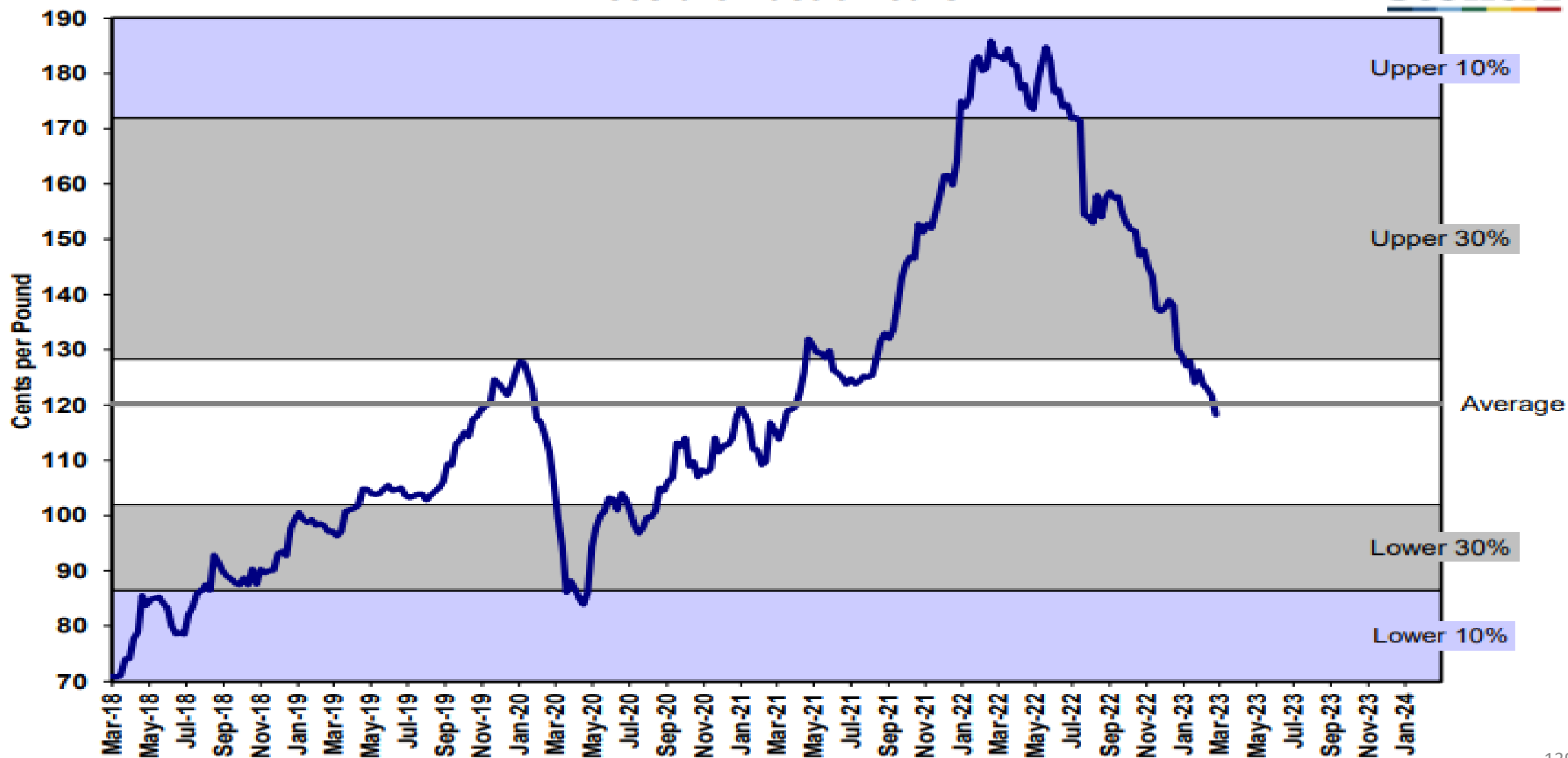


# Commodity Historic Perspective – 5 Year – Powder



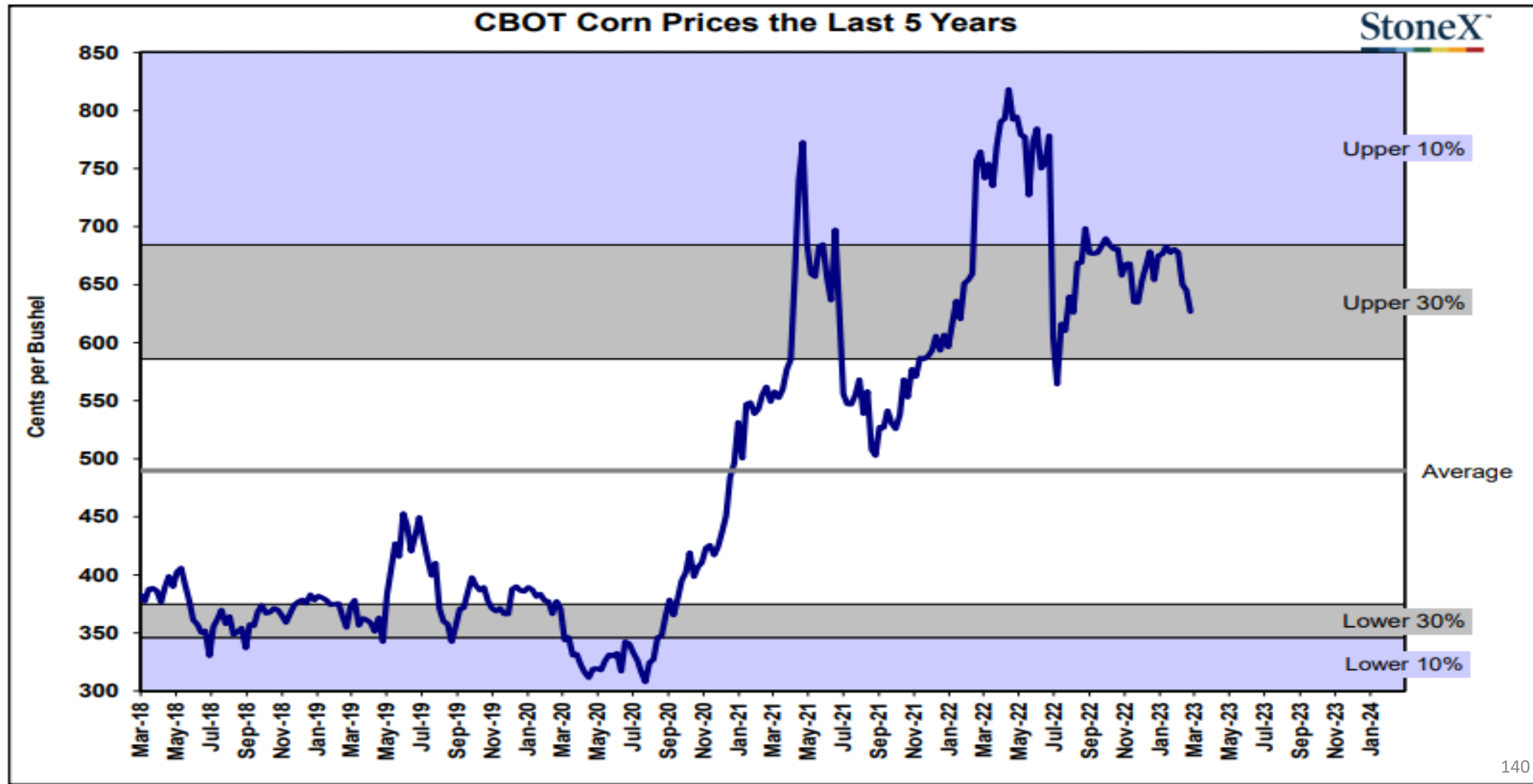
CME NFDM Prices the Last 5 Years

StoneX™





# Commodity Historic Perspective - 5 Year - Corn



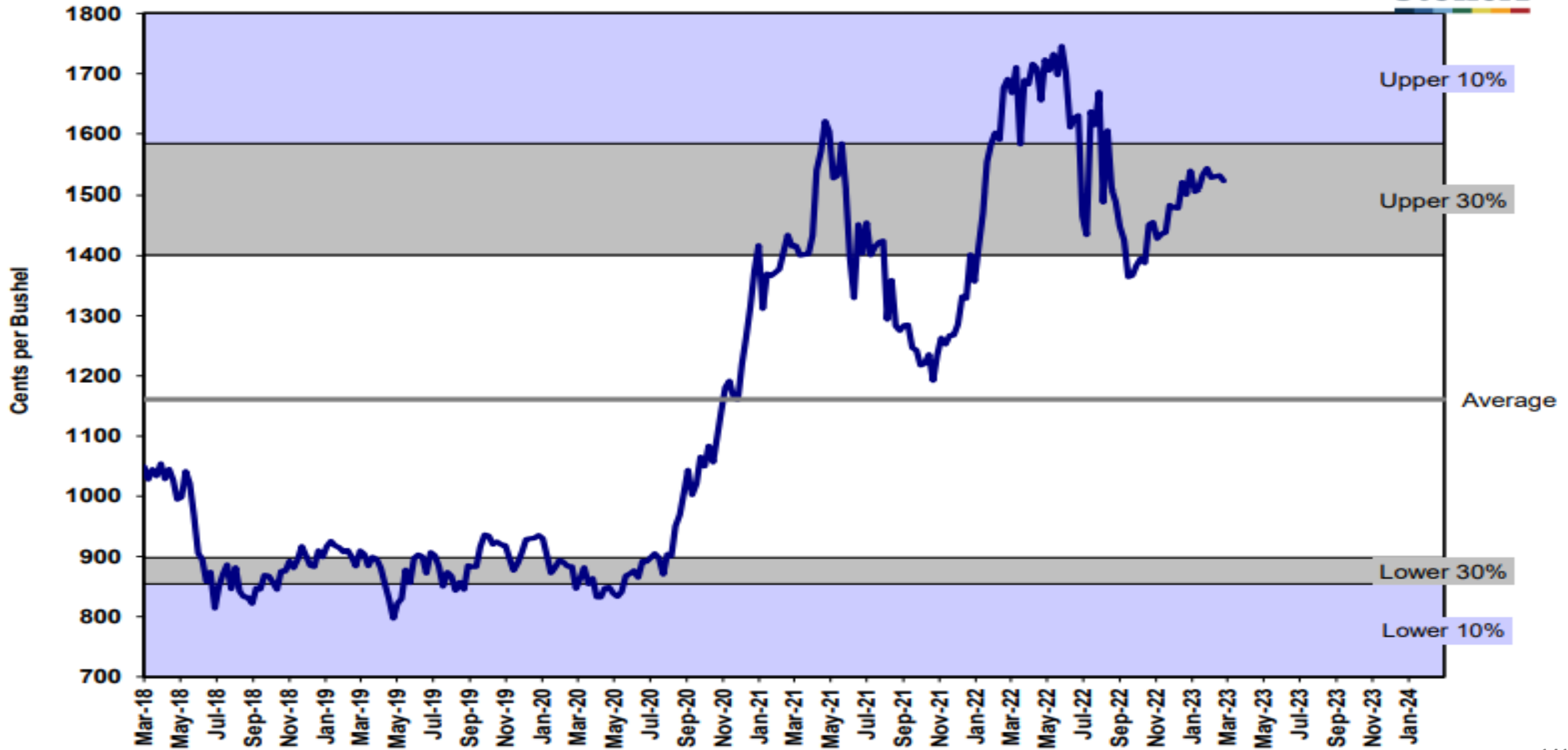


# Commodity Historic Perspective - 5 Year - Soybeans



CBOT Soybean Prices the Last 5 Years

StoneX

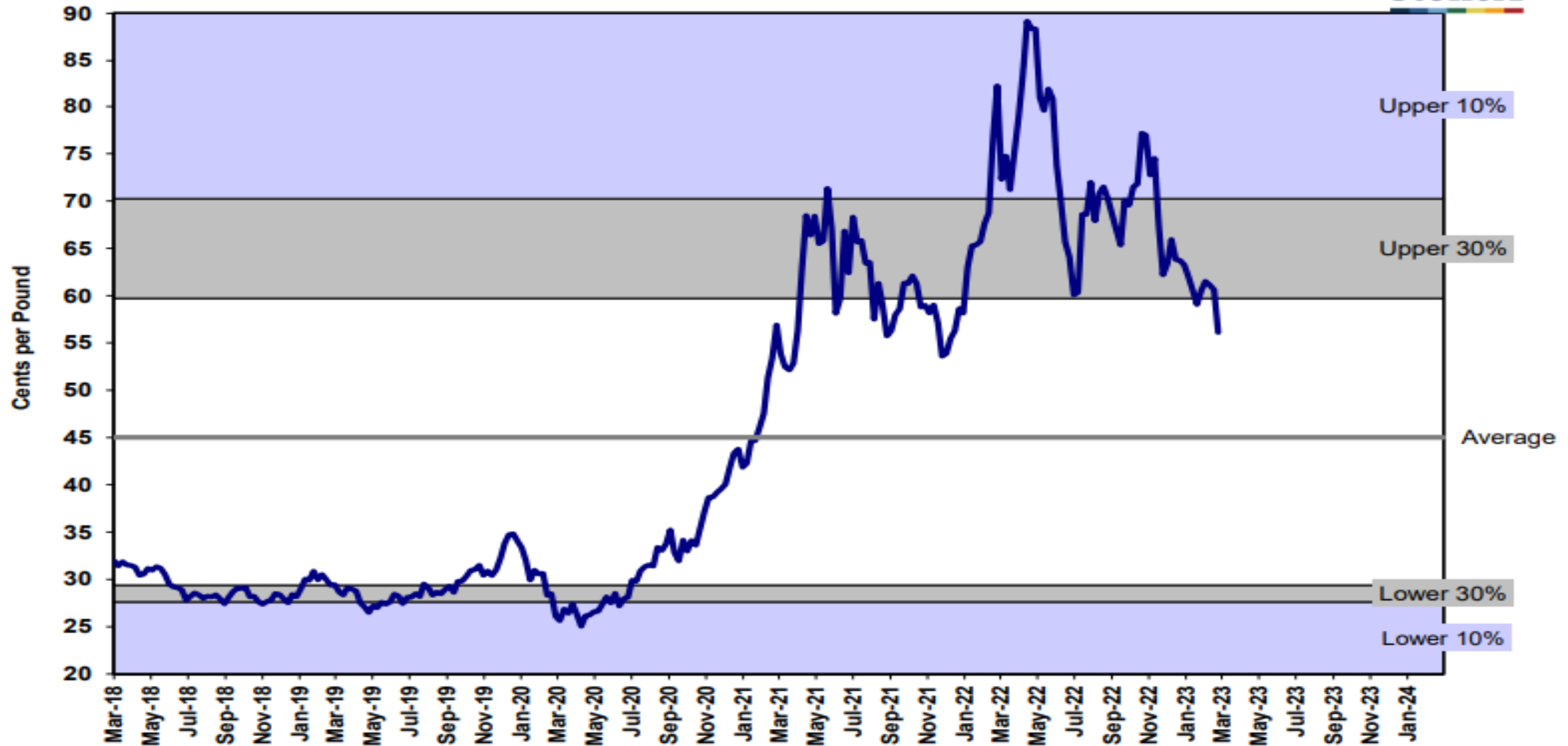


# Commodity Historic Perspective - 5 Year – Soy Oil



CBOT Soyoil Prices the Last 5 Years

StoneX

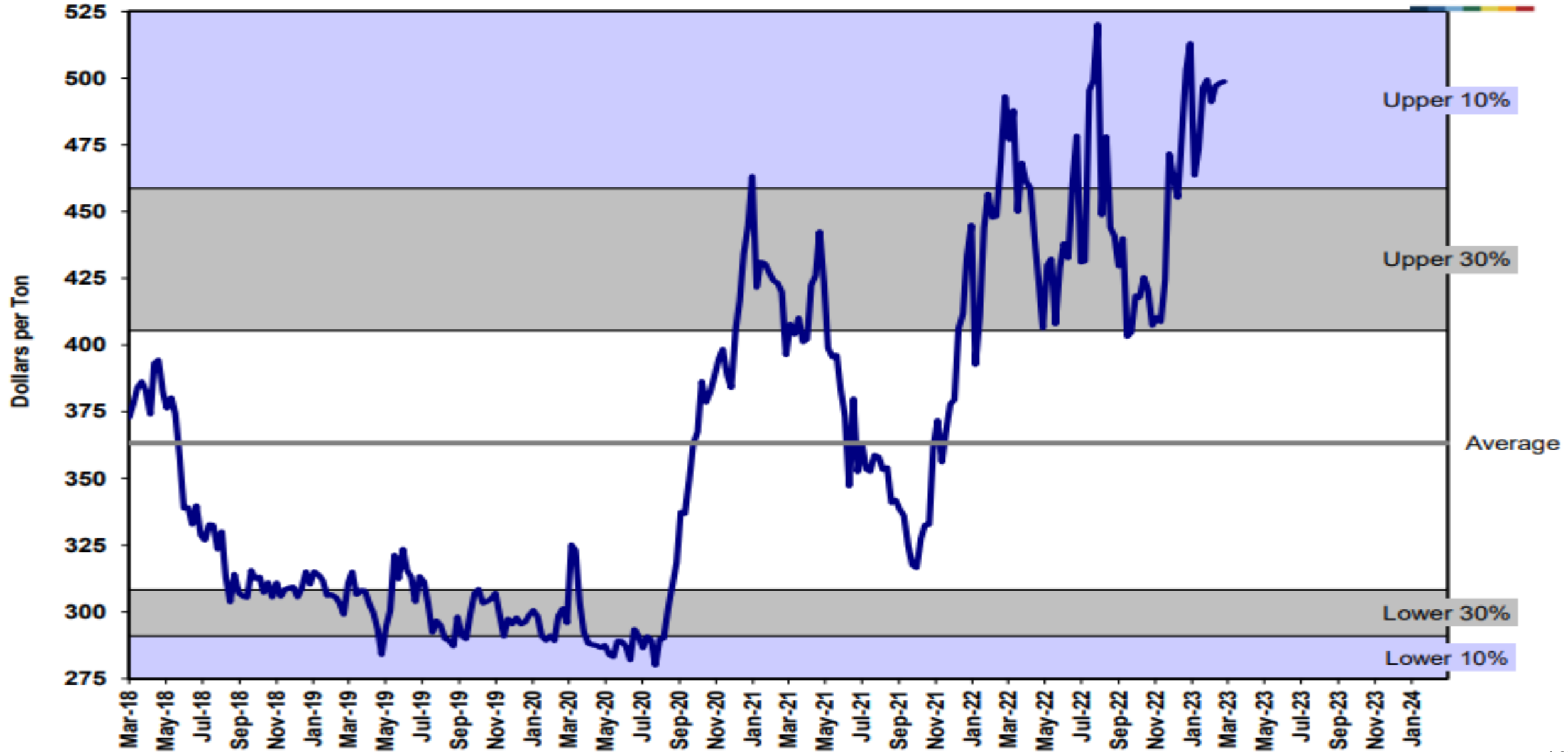


# Commodity Historic Perspective - 5 Year – Soy Meal

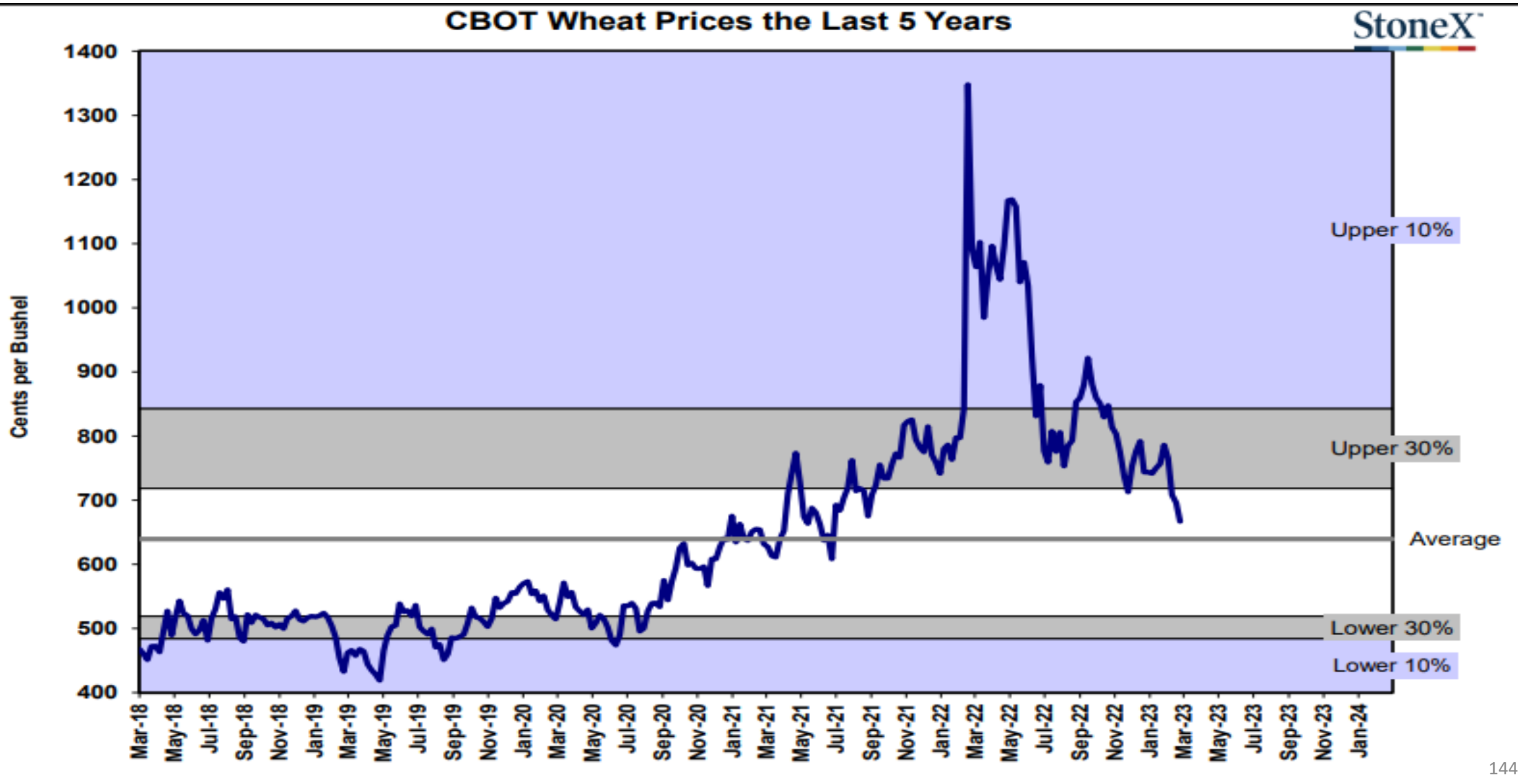


CBOT Soymeal Prices the Last 5 Years

StoneX<sup>®</sup>



# Commodity Historic Perspective - 5 Year – Chicago Wheat







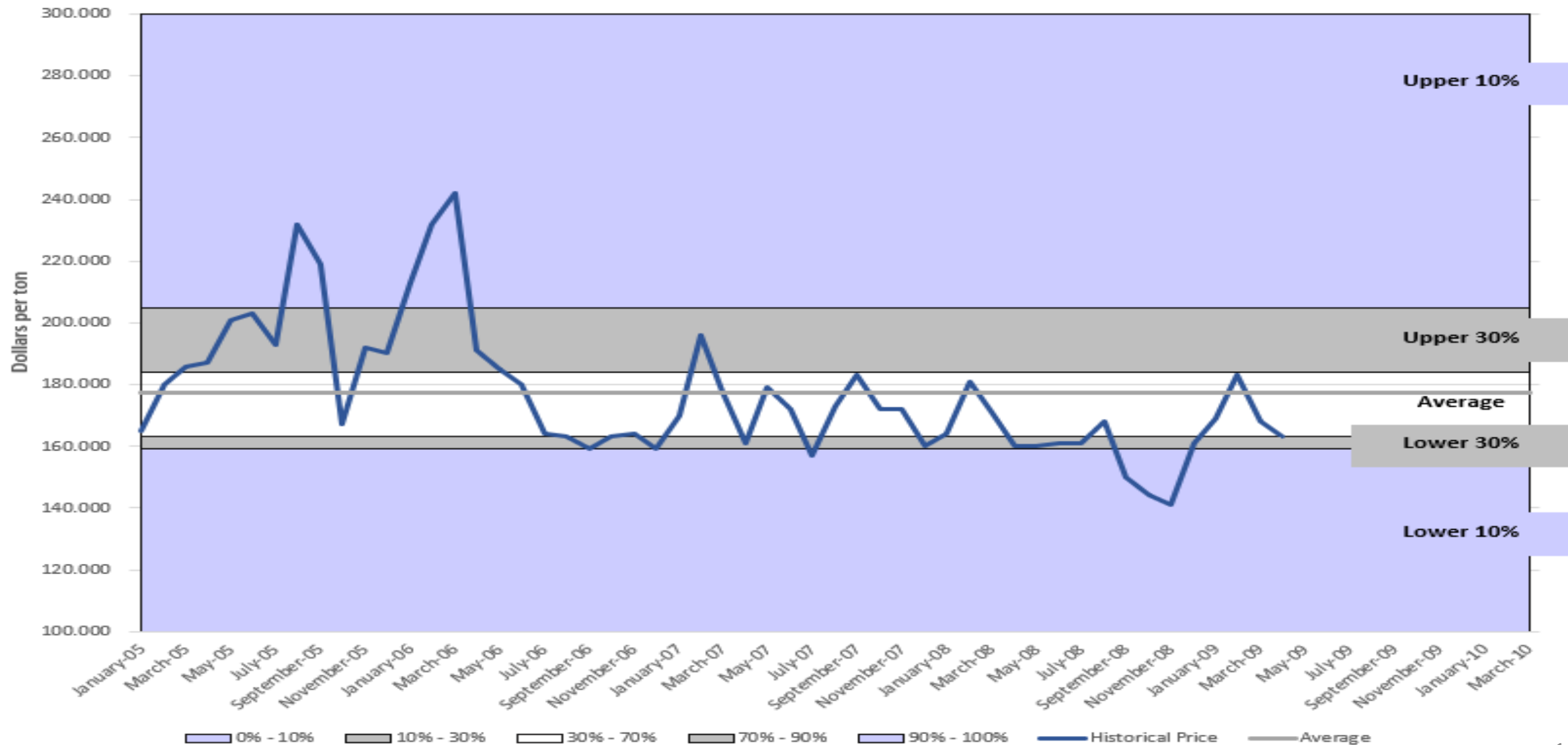
# Commodity Historic Perspective – 5 Yr. – CA Alfalfa





# Commodity Historic Perspective – 5 Yr. – WI Alfalfa

Wisconsin Alfalfa Price Received Last 5 Years

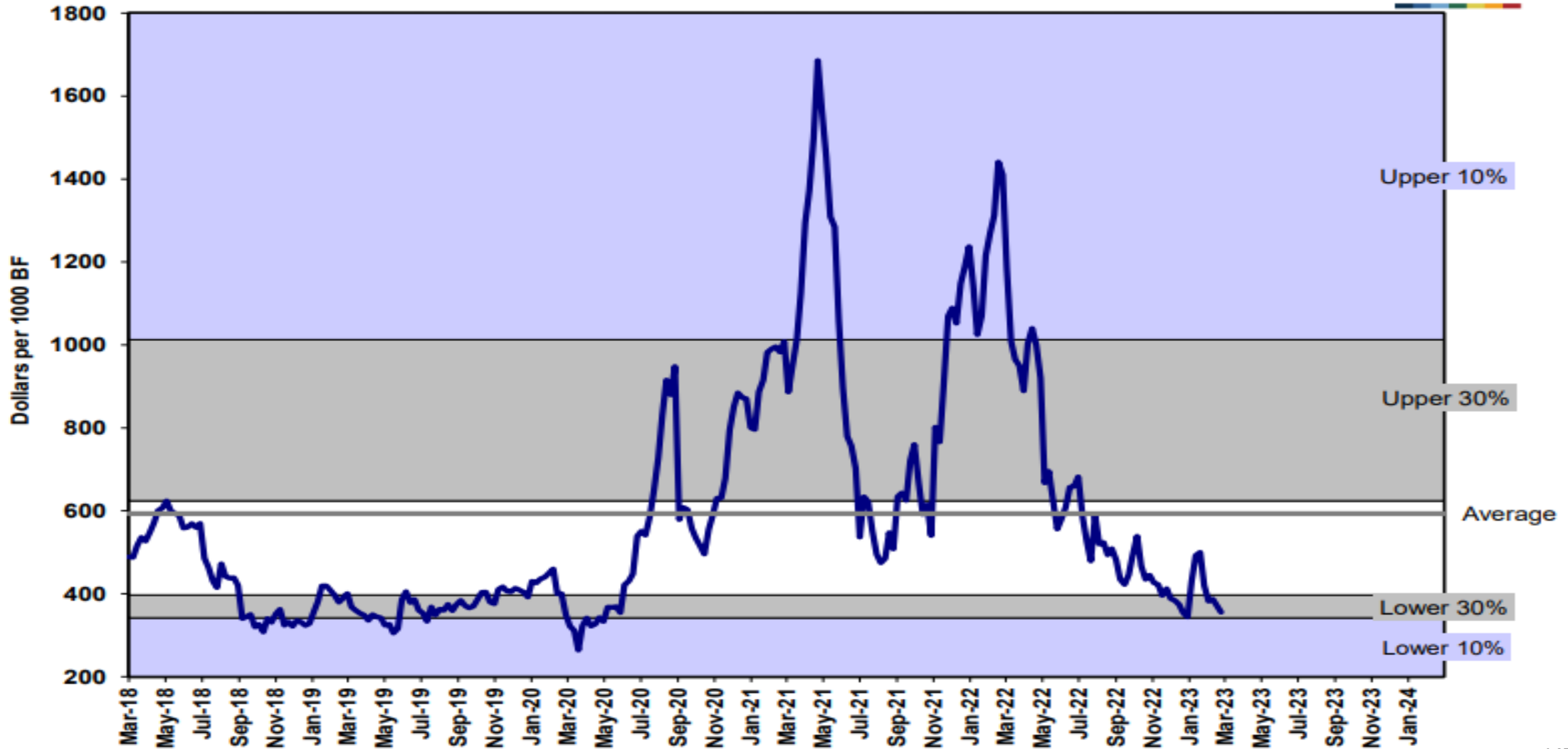


# Commodity Historic Perspective - 5 Year – Lumber



CME Lumber Prices the Last 5 Years

StoneX<sup>®</sup>

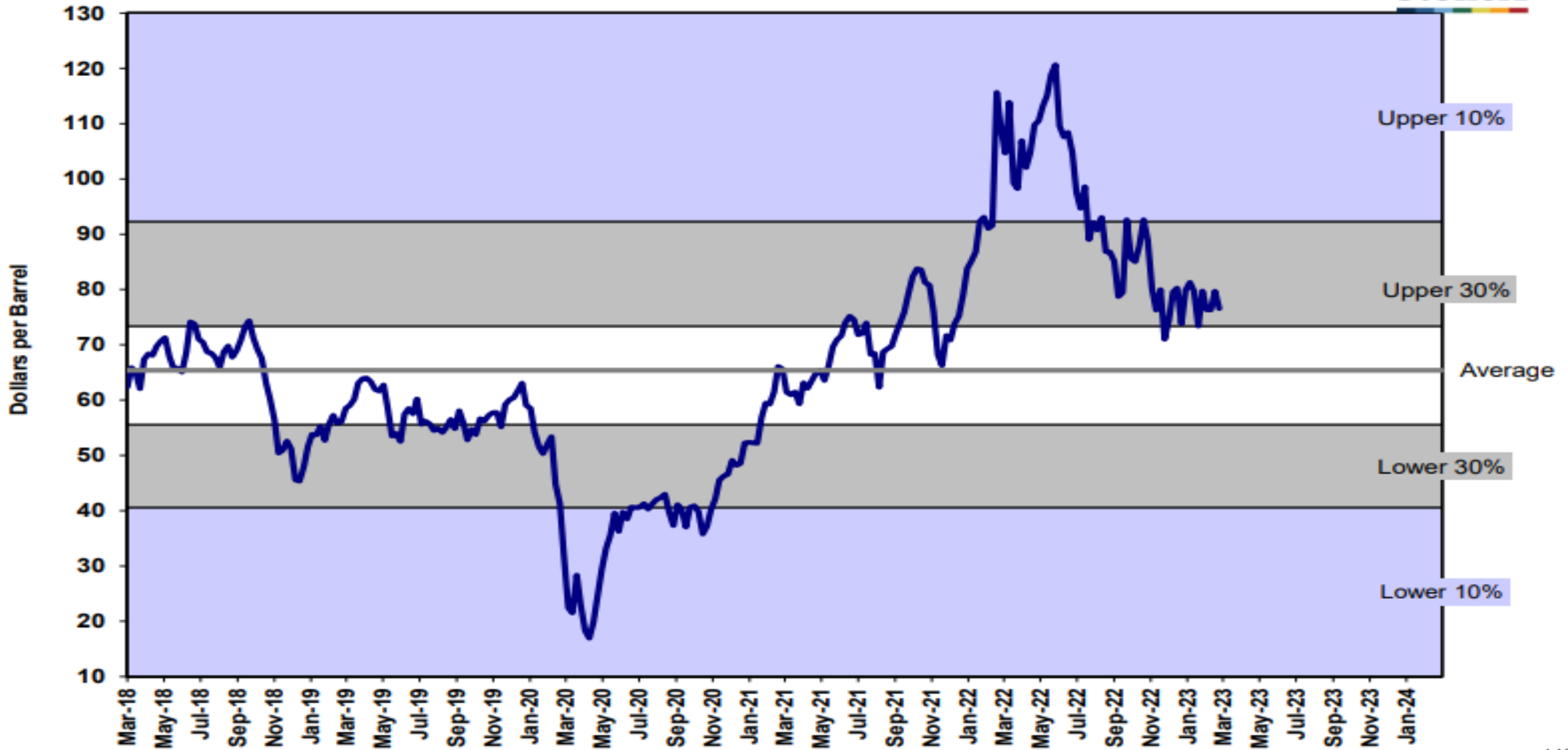


# Commodity Historic Perspective - 5 Year – NY Crude



NYMEX Crude Oil Prices the Last 5 Years

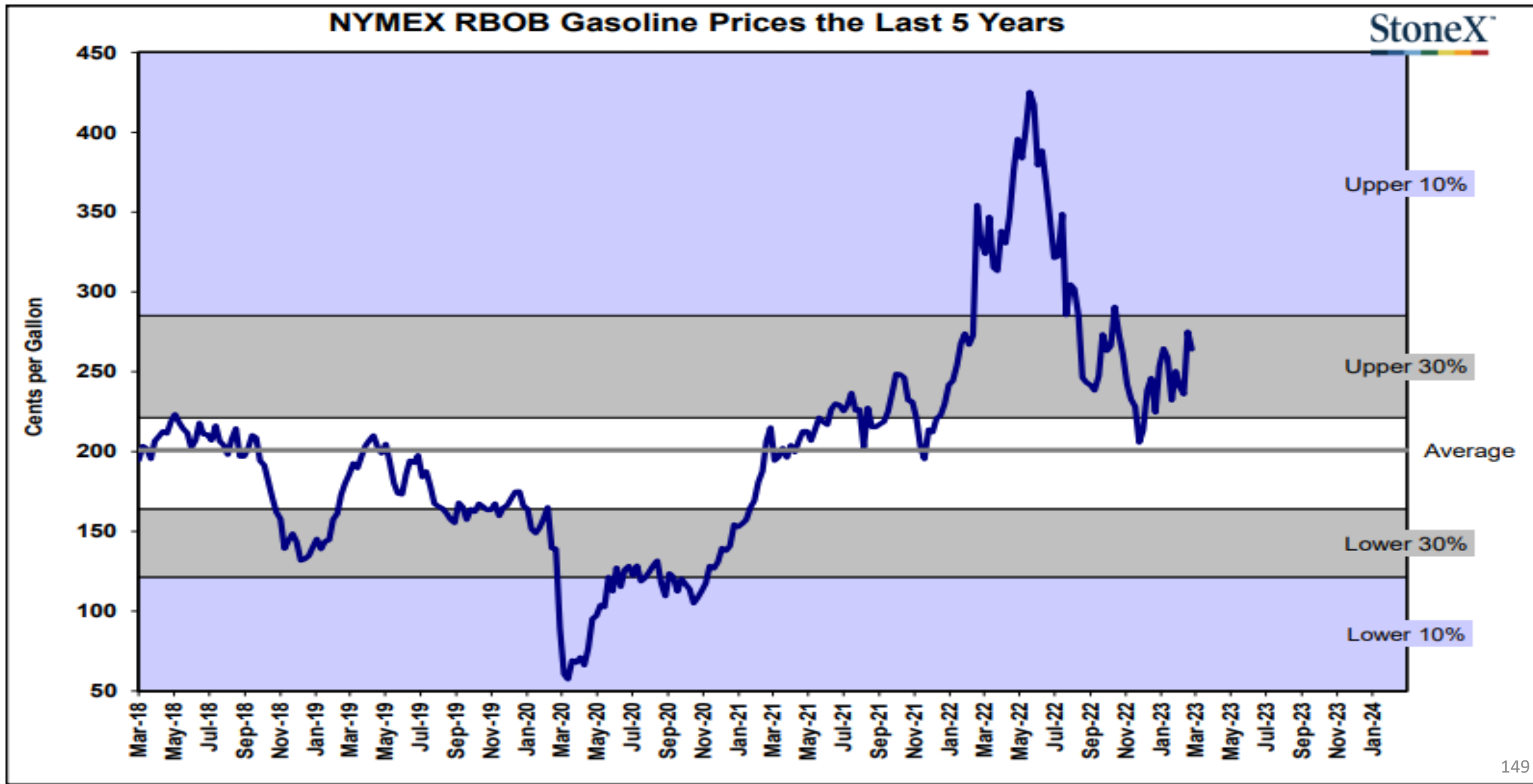
StoneX







# Commodity Historic Perspective - 5 Year – NY Unleaded



# Commodity Historic Perspective - 5 Year – Nat Gas



NYMEX Natural Gas Prices the Last 5 Years

StoneX

