International Demand Analysis

Data Through: June 2023
A Note from the Authors

• This is the International Demand Analysis from the Dairy Economics Team at National Milk Producers Federation (NMPF) and the U.S. Dairy Export Council (USDEC). This monthly report outlines the latest global dairy trade trends and data combined with our own commentary analyzing demand in key markets for cheese, NFDM/SMP, whey (0404.10) and WPC80+, alongside shorter summaries for lactose, butterfat and WMP – all with a forward-looking lens and US exporter viewpoint.

• Data Notes
  ▪ All comparisons are year-over-year unless otherwise noted.
  ▪ 3-Year CAGR is calculated from most recent 12-months and not from calendar year.

• If you have any questions, comments or suggestions on how to improve the report, send us an email at:
  ▪ wloux@usdec.org
  ▪ scain@usdec.org
Global Dairy Demand Market Commentary

KEY TAKEAWAYS

• Global dairy trade picked up again in June, climbing 5% year-over-year in milk solids equivalent (MSE), a gain of 44,025 metric tons (MT) MSE, signaling international demand may finally be beginning the long road back to trend.

• With the improvement in June trade, total dairy trade is slightly positive at the halfway point of 2023, +1.5% year-to-date (YTD). New Zealand clearing inventory from their 2022/23 milk production (+29%, +56,737 MT MSE in June) combined with low-priced European product heading to the international market (+8%, +30,431 MT MSE in June) helped boost trade from the supply side.

• Still, global demand remains soft. China is still nowhere near returning to trend (+2% in June), particularly on whole milk powder (WMP) and fluid milk. Trade to Southeast Asia dropped again in June (-3%), a fifth straight decline. Similarly, Korea, a typically reliable market, has pulled back sharply (-21% YTD, -23% in June).

ADDITIONAL NOTES

And yet, despite turbulence in some East Asian markets, there are several standout markets showcasing impressive growth. Mexico, in particular, continues to prove itself a critical partner to U.S. dairy with total demand climbing 17% in June and 26% through the first half of the year. South America has proven resilient as well with global trade to the region up 54% in June and 65% YTD. Additionally, higher oil prices are helping support the Middle East-North Africa (MENA) purchasing with total volumes up 14% in June and 8% YTD.

Source: NMPF/USDEC, TDM
Global Dairy Demand Market Commentary

**LOOKING AHEAD**

- As we look to the back half of the year, it remains difficult to be optimistic about global demand on an aggregate basis even as we can readily identify multiple bright spots. The recent falls at the Global Dairy Trade (GDT) auction did little to inspire confidence when combined with troubling economic data from China (youth unemployment, housing crisis, deflation, consumer spending etc.).

- However, prices for multiple dairy products (WMP, SMP, sweet whey, lactose) are at or near multi-year lows and supply is reacting to those weaker prices. June milk production from the major dairy exporters didn’t grow at all (+0.0%). In theory, this would incentivize buyers with warehouse space to build inventory now (which some already have; see lactose shipments to China). However, with a fragile Chinese economy, global consumer confidence still wavering, some companies sitting on high priced inventory already, and elevated interest rates, we expect only a modest demand bump in the short-term from low prices and supply concerns. Additionally, only the markets where consumption is strong and/or exchange rates are favorable will be the ones to buy aggressively (Mexico, MENA, U.S.).

### Key Markets

<table>
<thead>
<tr>
<th>Region</th>
<th>U.S. Milk Solids Exports</th>
<th>EU Milk Solids Exports</th>
<th>NZ Milk Solids Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-12.5%</td>
<td>-4.8%</td>
<td>+2.4%</td>
</tr>
<tr>
<td>June YoY</td>
<td>YTD, Ending June</td>
<td>Last 12-Months, Ending June</td>
<td>3-Year CAGR</td>
</tr>
<tr>
<td>EU</td>
<td>+8.2%</td>
<td>+3.3%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>June YoY</td>
<td>YTD, Ending June</td>
<td>Last 12-Months, Ending June</td>
<td>3-Year CAGR</td>
</tr>
<tr>
<td>NZ</td>
<td>+28.8%</td>
<td>+15.0%</td>
<td>+7.4%</td>
</tr>
<tr>
<td>June YoY</td>
<td>YTD, Ending June</td>
<td>Last 12-Months, Ending June</td>
<td>3-Year CAGR</td>
</tr>
</tbody>
</table>

**ADDITIONAL NOTES**

On a product basis, WMP and SMP were the primary products to support global trade expansion in June (+22% and +15%, respectively), though cheese (+4%) and AMF (+42%) improved as well. WMP largely improved against weak year-over-year comparisons, but the gains in SMP, cheese and AMF reflect NZ’s move away from manufacturing WMP, when possible. On the flip side, UHT milk from Europe continued to struggle (-13%) as did low-protein whey from the U.S. – both caused by weak Chinese demand albeit for different reasons.

---

1U.S. Milk Solids Exports reflect trade data aggregated from 6-digit HS codes (global HS codes are harmonized at the 6-digit level). This number will differ slightly from U.S. Milk Solids Exports reported in our U.S. Trade Data Release which takes a more granular look at U.S. specific, 10-digit HS codes.
Executive Summary: June 2023

Global Total Solids Trade to World

YOY Change in Global Dairy Trade to World: Month of Jun, MSE

YOY Change in Global Milk Solids Trade by Destination: Month of Jun 2023

YOY Change in Global Dairy Trade to World by Product: Month of Jun

Source: NMPF/USDEC, TDM
Global Dairy Trade

Source: NMPF/USDEC, TDM
Select Markets – Month of June 2023, Milk Solids Equiv.

- **MENA**
  - +14%
  - (+20,886 MT)

- **S. Am**
  - +54%
  - (+17,448 MT)

- **EU27**
  - +4%
  - (+1,574 MT)

- **UK**
  - +0.06%
  - (+37 MT)

- **China**
  - +2%
  - (+4,189 MT)

- **Japan**
  - +2%
  - (+522 MT)

- **ROW**
  - -0.3%
  - (-446 MT)

- **SEA**
  - -3%
  - (-4,298 MT)

- **SSA**
  - -3%
  - (-1,611 MT)

Note: Size of bubble denotes total imports
Source: USDEC, Trade Data Monitor

Source: NMPF/USDEC, TDM
Average Global Export Price

Average Dairy Export Value to World, MSE

Source: NMPF/USDEC, TDM
Global Dairy Spot Prices

Average US, EU, & NZ Wholesale Prices for Select Dairy Products

Source: NMPF-USDEC, CME, NDPSR, Eurostat, EEX, GDT
Cheese
Cheese Market Commentary

KEY TAKEAWAYS

• While not a soaring success, global cheese trade grew at 4% in June (+8,337 MT), the strongest growth since last August.

• Unusually, China has been the market driving the improvement in global cheese demand. Global exports to China climbed 80% for the month (+10,446 MT) and 25% through the first half of the year (+20,996 MT). Particularly surprisingly, June was the highest month ever for global cheese exports to China. Almost all the volume came from New Zealand (+103%, +7,121 MT), but U.S. and EU shipments did tick up as well (+285%, +1,297 MT and +46%, +1,345 MT, respectively). With the re-opening of the country, mozzarella has taken off as consumers dine out again (Pizza Hut China reported a 23% increase in sales in the first half of the year).

• Outside of China, Latin America remains in solid shape with Mexican demand climbing 12% (+1,598 MT) and South America growing a remarkable 29% (+2,682 MT) – both a continuation of existing trends.

Global Cheese Trade

<table>
<thead>
<tr>
<th></th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>+3.6%</td>
<td>+1.2%</td>
<td>-0.01%</td>
<td>+1.0%</td>
<td></td>
</tr>
</tbody>
</table>

June Standout Markets

- **China+HK**: +80% (10,446 MT)
- **Korea**: -34% (-5,372 MT)
- **Australia**: +36% (2,279 MT)
- **South America**: +28% (2,682 MT)

ADDITIONAL NOTES

With the exception of China, East Asian demand remains soft at the midpoint of 2023. Cheese trade to Korea declined by more than a third in June (-34%, -5,372 MT) putting YTD volumes down 12% (-10,468 MT). Yet Korea was not alone – trade to Japan declined by 3% in June (-708 MT), though that was actually fairly positive compared to the country’s YTD performance (-9%, -13,483 MT). Similarly, Southeast Asia dropped 8% for the month (-1,001 MT) and is down 10% YTD (-8,206 MT). Finally, Taiwanese imports lag 2022 by 15% (-2,701 MT) YTD and June was similar (-15%, -441 MT).

Source: NMPF/USDEC, TDM
Cheese Market Commentary

LOOKING AHEAD

• Given the breadth of challenges in global markets today, cheese demand remains remarkably resilient. Global demand weathered the high prices of late 2022/early 2023 and is still holding steady over the last 12 months (-0%) with June’s 4% expansion particularly welcome. Still, ample supplies at low prices, particularly from Europe, has not spurred much additional demand growth – a pattern we anticipate will continue so long as economic headwinds persist. Gratefully, cheese demand is dispersed across a wide variety of markets, which will continue to lessen the downside risk.

• Looking ahead, U.S. market share is likely to rebound in Q3 after more favorable pricing over the summer, but Asian demand (excl. China) is likely to remain subdued through the end of the year with the various suppliers primarily competing over market share. Instead, Latin America, where cheese consumption remains ingrained in the local diet and currencies are more favorable, is likely to remain the primary growth region outside of China.

U.S. Cheese Exports

<table>
<thead>
<tr>
<th>Metric</th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>-19.0%</td>
<td>-6.8%</td>
<td>+0.1%</td>
<td>+0.03%</td>
</tr>
</tbody>
</table>

EU Cheese Exports

<table>
<thead>
<tr>
<th>Metric</th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>+7.2%</td>
<td>+1.3%</td>
<td>-2.2%</td>
<td>-0.7%</td>
</tr>
</tbody>
</table>

NZ Cheese Exports

<table>
<thead>
<tr>
<th>Metric</th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>+49.2%</td>
<td>+23.0%</td>
<td>+14.5%</td>
<td>+4.6%</td>
</tr>
</tbody>
</table>

ADDITIONAL NOTES

Digging into the European HS codes, it’s clear that the commodity cheese varieties are being prioritized given 1) ample milk production in the EU reducing competition for milk, and therefore manufacturers’ need to focus on value-add; and 2) int’l consumers trading out of specialty products and in favor of proven favorites. In June, EU exports of gouda jumped 57% (+4,975 MT), mozzarella climbed 24% (+4,402 MT), cheddar increased 17% (+2,611 MT) and edam gained 28% (+1,067 MT). At the same time, grana padano and parmigiano Reggiano declined by 17% (-782 MT) and one non-standard (primarily specialty) semi-hard cheese category declined by 19% (-1,302 MT).

Source: NMPF/USDEC, TDM
Global Overview: Cheese

Global Cheese Trade to World

MT

Source: NMPF/USDEC, TDM
Global Overview: Cheese

Global Cheese Trade to World

Source: NMPF/USDEC, TDM
Trade Flows: Cheese

Global Cheese Trade to World

Source: NMPF/USDEC, TDM
Korea

Global Cheese Trade to Korea

Source: NMPF/USDEC, TDM
Australia

Global Cheese Trade to Australia

Source: NMPF/USDEC, TDM
Global Cheese Trade to MENA

Source: NMPF/USDEC, TDM
Southeast Asia

Global Cheese Trade to SEA

Source: NMPF/USDEC, TDM
Global Cheese Trade to China+HK

Source: NMPF/USDEC, TDM
NFDM/SMP Market Commentary

KEY TAKEAWAYS

- Global NFDM/SMP trade had another solid month in June, climbing 15% YOY even as growth to China has stagnated.
- Trade to Middle East-North Africa (MENA) continued to impress in June setting an all-time record for NFDM/SMP shipments at 52,970 MT for the month, a 42% increase (+15,602 MT) compared to the prior year. Similarly, Mexico continued to buy aggressively (+20%, +6,157 MT) – buoyed by favorable exchange rates, robust consumption, and high input costs limiting local milk production growth.
- One potentially concerning development in recent trade figures is that China’s recovery has stalled over the last two months, declining by 5% in May and 2% in June. While weakness in WMP imports can be attributed to ample domestic supplies, lack of growth in SMP suggests dairy consumption in the country has stalled and/or local WMP is being utilized for applications that previously used SMP, like ice cream or bakery, which will stifle China’s SMP imports.

<table>
<thead>
<tr>
<th>Global NFDM/SMP Trade</th>
<th>+14.7% June YoY</th>
<th>+10% YTD, Ending June</th>
<th>+5.1% Last 12-Months, Ending June</th>
<th>+0.03% 3-Year CAGR</th>
</tr>
</thead>
</table>

June Standout Markets

- MENA: +15,602 MT (+42%)
- MEXICO: +6,157 MT (+20%)
- CHINA+HK: -636 MT (-2%)
- SOUTHEAST ASIA: -942 MT (-2%)

ADDITIONAL NOTES

The astounding growth in SMP trade to MENA requires additional attention even as 80% of their imports are supplied by Europe. Unsurprisingly, most of the growth in demand has come from major oil-producing markets – Algeria (+52%, +37,537 MT), Saudi Arabia (+82%, +14,652 MT) and UAE (+48%, +6,245 MT). Increased oil revenues, which in turn boosted economic performance in most MENA markets (with Egypt as the notable exception), is naturally supporting import demand in the region. However, restocking following the low-inventory, high-price period of 2021 & early 2022 is almost certainly part of the story as well given the more favorable prices today.

Source: NMPF/USDEC, TDM
LOOKING AHEAD

- Even as global NFDM/SMP trade rebounds, the major question for markets moving forward is whether the shipments sent to surging markets (MENA, LatAm) are indeed being consumed or if they are simply building inventory at favorable prices.

- Our analysts’ opinion is that the increase in imports is likely a combination of both. Relatively strong economic performances in both regions and weak milk production in South America suggests that the demand growth isn’t solely inventory building.

- However, the level of the surge, particularly to Algeria, combined with recent weakness in South America suggests there are key markets sitting on ample inventories. What this means for markets is that even if milk production growth slows and/or Southeast Asia imports stabilize, the corresponding improvement in prices and trade may be limited unless there is a dramatic change in underlying economic conditions.

U.S. NFDM/SMP Exports

- June YoY: +2.1%
- YTD, Ending June: -1.1%
- Last 12-Months, Ending June: -3.4%
- 3-Year CAGR: -0.6%

EU NFDM/SMP Exports

- June YoY: +15.7%
- YTD, Ending June: +24.8%
- Last 12-Months, Ending June: +12.3%
- 3-Year CAGR: +3.9%

NZ NFDM/SMP Exports

- June YoY: +69.9%
- YTD, Ending June: +49%
- Last 12-Months, Ending June: +34.6%
- 3-Year CAGR: +10.4%

ADDITIONAL NOTES

Another challenge to SMP markets remains the weakness in FFMP demand, particularly in Sub-Saharan Africa. Global FFMP trade has declined 8 out of the last 9 months, and EU shipments of FFMP/blends to Sub-Saharan Africa have declined by over 100,000 MT on an annualized basis compared to their peak in 2020. Naturally, the weakness in the FFMP markets – initially caused by high palm prices and then exacerbated by weakened consumer purchasing power in low-income countries – increases the supply of SMP on global markets and is contributing to lower prices.

Source: NMPF/USDEC, TDM
Source: NMPF/USDEC, TDM
Global Overview: NFDM/SMP

Global NFDM/SMP Trade to World

Source: NMPF/USDEC, TDM
Global Overview: NFDM/SMP – Last 12 Months

Global NFDM/SMP Trade by Destination: Last 12 Months ending Jun

- SEA
- MENA
- S. America
- China+HK
- Mexico

Source: NMPF/USDEC, TDM

International Demand Analysis

Global NFDM/SMP Trade by Destination: Last 12 Months ending Jun

<table>
<thead>
<tr>
<th>Destination</th>
<th>MT 2020/21</th>
<th>MT 2021/22</th>
<th>MT 2022/23</th>
<th>YOY Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEA</td>
<td>150,000</td>
<td>300,000</td>
<td>450,000</td>
<td>5%</td>
</tr>
<tr>
<td>MENA</td>
<td>-150,000</td>
<td>-100,000</td>
<td>-50,000</td>
<td>-15%</td>
</tr>
<tr>
<td>Mexico</td>
<td>50,000</td>
<td>100,000</td>
<td>150,000</td>
<td>24%</td>
</tr>
<tr>
<td>S. America</td>
<td>-16%</td>
<td>-10%</td>
<td>-6%</td>
<td>-16%</td>
</tr>
<tr>
<td>China+HK</td>
<td>-3%</td>
<td>-2%</td>
<td>-1%</td>
<td>-3%</td>
</tr>
<tr>
<td>Europe (Non-EU)</td>
<td>-40%</td>
<td>-41%</td>
<td>-19%</td>
<td>-39%</td>
</tr>
</tbody>
</table>

YOY Change in Global NFDM/SMP Trade by Destination: Last 12 Months ending Jun 2023
Trade Flows: NFDM/SMP

Global NFDM/SMP Trade to World

Source: NMPF/USDEC, TDM
Global NFDM/SMP Trade to Mexico

Source: NMPF/USDEC, TDM
Southeast Asia

Global NFDM/SMP Trade to SEA

Source: NMPF/USDEC, TDM
China

Global NFDM/SMP Trade to China+HK

Source: NMPF/USDEC, TDM
Global NFDM/SMP Trade to MENA

Source: NMPF/USDEC, TDM
Whey Products (0404.10) Market Commentary

KEY TAKEAWAYS

- June marked the 5th month in a row of lower YOY whey trade under HS code 0404.10 (primarily sweet whey and permeate) with June volume down nearly 14% (-18,882 MT).
- Unsurprisingly, China continues to be the primary drag on global low protein whey trade – down 25% (-12,410 MT) in June.
- South Asia saw extremely strong import volumes in June – more than doubling for the month (+128%, +2,623 MT) although on comparatively much smaller volumes. South Asian low protein whey imports can be highly volatile at times suggesting this is likely not the start of a trend, but rather temporary trade dynamics – potentially a buyer being caught short on product or increased near-term purchases taking advantage of lower prices.

Global Whey (0404.10) Trade

<table>
<thead>
<tr>
<th></th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Whey (0404.10)</td>
<td>-13.6%</td>
<td>-7.3%</td>
<td>-3.0%</td>
<td>+1.4%</td>
</tr>
<tr>
<td>Trade</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

June Standout Markets

- CHINA: -25% (-12,410 MT)
- SOUTH ASIA: +128% (+2,623 MT)
- SSA: -24% (-1,663 MT)
- SOUTHEAST ASIA: -5% (-1,840 MT)

ADDITIONAL NOTES

Global whey prices are approaching some of the lowest prices seen in over a decade after seeing a continual easing since early 2022. U.S. dry whey price has fallen 67% from early 2022 with the EU following suit – down 54%. Weak global demand continues to drive global prices lower. Until global demand for low protein whey begins to recover and/or milk supply tightens (which we are starting to see global milk production begin to falter), there are not many factors pointing towards a strong recovery in low protein whey prices in the near-term.

Source: NMPF/USDEC, TDM
Whey Products (0404.10) Market Commentary

LOOKING AHEAD

• We continue to monitor Chinese pork prices which act as a leading indicator for low-protein whey demand in China. Since our last report, Chinese pork prices have increased 14% from ¥23.65/kg in late July to ¥26.95/kg a few weeks later. We believe the increase has primarily been driven by lower supply rather than increased demand. However, this does suggest the back half of year may see better pork prices than the front half of the year given Chinese pork demand is seasonally stronger in the back half of the year as well. As the country moves into a traditionally higher demand season with lower supply, pork prices should be better supported. This in turn should be supportive of increased low-protein whey demand within China.

• However, increasing concerns around the Chinese economy continue to cast doubt on Chinese demand. As the country grapples with domestic economic challenges, overall demand growth is likely to be muted in the back half of the year which may lead to fewer incentives to expand pork production and limit the rebound in low-protein whey imports.

U.S. Whey (0404.10) Exports

<table>
<thead>
<tr>
<th></th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>-34.9%</td>
<td>-17%</td>
<td>+0.3%</td>
<td>+0.1%</td>
</tr>
</tbody>
</table>

EU Whey (0404.10) Exports

<table>
<thead>
<tr>
<th></th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>+15.8%</td>
<td>+5.2%</td>
<td>+1.2%</td>
<td>+0.4%</td>
</tr>
</tbody>
</table>

NZ Whey (0404.10) Exports

<table>
<thead>
<tr>
<th></th>
<th>June YoY</th>
<th>YTD, Ending June</th>
<th>Last 12-Months, Ending June</th>
<th>3-Year CAGR</th>
</tr>
</thead>
<tbody>
<tr>
<td>NZ</td>
<td>-46.4%</td>
<td>-0.3%</td>
<td>-9.8%</td>
<td>-3.4%</td>
</tr>
</tbody>
</table>

ADDITIONAL NOTES

Turkey moved enough low protein whey volume in 2021 to become the 3rd largest exporter that year. During that time, Turkish production had been strong amidst weaker domestic demand allowing for increased export volumes. Since then, global demand has significantly declined causing Turkish low protein whey exports to collapse - down 53% in 2022 and down another 58% YTD. Turkish exports to China saw the largest decline following China’s dramatic uptick and collapse in demand over the past few years. All of this indicates that Turkey could grow into a more significant exporter in the years to come, but for the time being, the country remains primarily a regional player albeit with capacity to seize sizeable opportunistic sales.

Source: NMPF/USDEC, TDM
Global Overview: Whey (0404.10)

Global Whey (0404.10) Trade to World

Source: NMPF/USDEC, TDM
Global Overview: Whey (0404.10)

Source: NMPF/USDEC, TDM
Global Overview: Whey (0404.10) – Last 12 Months

Global Whey (0404.10) Trade by Destination: Last 12 Months ending Jun

Source: NMPF/USDEC, TDM

International Demand Analysis
Trade Flows: Whey Products

Global Whey (0404.10) Trade to World

Source: NMPF/USDEC, TDM
China

Global Whey (0404.10) Trade to China+HK

Source: NMPF/USDEC, TDM
Southeast Asia

Global Whey (0404.10) Trade to SEA

Source: NMPF/USDEC, TDM
WPC80+ (3502.20) Market Commentary

KEY TAKEAWAYS

• High-protein whey trade had a particularly strong June, climbing 17% for the month (+2,215 MT).

• Even more positively, Korea and Southeast Asia were the only major markets to see declines in demand – though we should note that the magnitude of the drop in Korea remains concerning (-75%, -686 MT). Instead, South America, primarily led by Brazil, continued to surge (+188%, +872 MT) as did China (+25%, +566 MT). Even non-traditional high-protein whey markets like Taiwan and MENA performed well (+264%, +292 MT; and +164%, +257 MT, respectively). Similarly, shipments to the U.S. climbed sharply (+95%, +386 MT), though likely due to arbitrage.

• Japan’s demand continues to hold steady (+1%, +23 MT). Given the dramatic surge in demand in 2021 and lack of a contraction in 2022, the fact that imports have held steady against strong comparisons and remain well-above trend at the same time the Japanese Yen is relatively weak demonstrates that the recent mainstream-ization of protein in the country has staying power.

June Standout Markets

CHINA+HK
+566 MT

USA
+386 MT

SOUTH AMERICA
+872 MT

KOREA
-686 MT

ADDITIONAL NOTES

In contrast to Japan (see bullet #3), the gains made by Korea in WPC80+ imports in 2021 have largely evaporated. On an annualized basis, WPC80+ trade to Korea through June is about half of its peak in 2022. Inventory dynamics are almost certainly a contributing factor to the recalibration. Much of the product shipped to Korea during the surge was bought at elevated prices, so that high-priced inventory is likely being worked through prior to making large additional purchases. Additionally, given the amount of new product launches in 2022, it’s possible that the market is consolidating around the high-performing products prior to the broader mainstreaming of protein claims outside of the beverage sector. This would suggest a rebound could be in the works as inventories are worked through and prices remain attractive to buyers.

Source: NMPF/USDEC, TDM
LOOKING AHEAD

• The last few years have clearly shown that international high-protein whey trade remains relatively price sensitive, with trade slowing down once prices spiked to all-time highs in late 2021 and early 2022. Conversely, now that prices have returned to historic norms and more capacity is anticipated over the next several years, an acceleration in global WPC80+ trade should be expected.

• The challenge to WPC80+, like most other dairy products today, will likely remain demand given the economic headwinds facing many key WPC80+ markets, particularly in Asia. Still, the growth in sports nutrition in Brazil, infant formula restocking in China, diversity of applications in Japan, and potentially a rebound in Korea (at least in 2024), suggests that expansion in WPC80+ trade should be supported through the end of the year.

U.S. WPC80+ Exports

- June YoY: +18.9%
- YTD, Ending June: +15%
- Last 12-Months, Ending June: +11.1%
- 3-Year CAGR: +3.6%

EU WPC80+ Exports

- June YoY: +26.8%
- YTD, Ending June: -8.7%
- Last 12-Months, Ending June: -12.9%
- 3-Year CAGR: -4.5%

NZ WPC80+ Exports

- June YoY: +45.7%
- YTD, Ending June: +6.4%
- Last 12-Months, Ending June: -6.1%
- 3-Year CAGR: -2.1%

ADDITIONAL NOTES

One byproduct of China’s WMP weakness has been New Zealand’s reallocation of milk in favor of cheese production when possible. This in turn has boosted their high protein whey exports in May and June even as volumes still lag 2021 levels. China, Japan and the U.S. remain the country’s primary markets. Similarly, with temporarily plentiful milk (and cheese) supplies in Europe, high protein whey shipments from the bloc ticked up in June as well (to India, Brazil, the U.S. and others) even as the U.S. remains the largest WPC80+ exporter in the world (and growing the most year-to-date).

Source: NMPF/USDEC, TDM
Global Overview: WPC80+

Source: NMPF/USDEC, TDM

Global WPC80+ Trade to World
Global Overview: WPC80+

Source: NMPF/USDEC, TDM
Global Overview: WPC80+ – Last 12 Months

Global WPC80+ Trade by Destination: Last 12 Months ending Jun

- China+HK
- USA
- S. America
- S. Asia
- EU27
- Japan
- Canada
- SSA
- Caribbean
- Other/Non-Specified
- Central America
- Mexico
- Taiwan
- MENA
- Korea
- CIS
- SSA
- Europe (Non-EU)
- New Zealand
- Australia
- Korea
- MENA
- Taiwan
- Europe (Non-EU)
- New Zealand
- Central America
- Caribbean
- Other/Non-Specified

Source: NMPF/USDEC, TDM

International Demand Analysis

YOY Change in Global WPC80+ Trade by Destination: Last 12 Months ending Jun 2023

- China
- HK
- Japan
- EU27
- UK
- S. Asia
- S. America
- SSA
- Caribbean
- Other/Non-Specified
- Central America
- Mexico
- CIS
- Europe (Non-EU)
- New Zealand
- SSA
- Caribbean
- Other/Non-Specified
Trade Flows: WPC80+

Global WPC80+ Trade to World

Source: NMPF/USDEC, TDM
China

Global WPC80+ Trade to China+HK

Source: NMPF/USDEC, TDM
Japan

Global WPC80+ Trade to Japan

Source: NMPF/USDEC, TDM
Global WPC80+ Trade to Korea

Source: NMPF/USDEC, TDM

International Demand Analysis | 53
Southeast Asia

Global WPC80+ Trade to SEA

Source: NMPF/USDEC, TDM
Brazil

Global WPC80+ Trade to Brazil

Source: NMPF/USDEC, TDM
Other Dairy Products
Global Overview: Lactose

KEY TAKEAWAYS

Global Lactose Trade

<table>
<thead>
<tr>
<th></th>
<th>+1.2%</th>
<th>+5.6%</th>
<th>+6.2%</th>
<th>+3.9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>June YoY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>YTD, Ending June</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last 12-Months, Ending June</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-Year CAGR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Lactose exports grew slightly in June, as exports to China (+26%, +3,185 MT) and Mexico (+70%, +2,065 MT) countered declines to Southeast Asia (-20%, -2,388 MT) and New Zealand (-26%, -2,505 MT). Lactose trade to South Asia (+19%, +1,227 MT) and the EU27 (+69%, +1,068 MT) also remained strong, contrary to weak demand in MENA (-47%, -1,737 MT) and the UK (-24%, -353 MT).

- Lactose markets remain saturated even as global trade has picked up, most notably to China, which seems to be building inventory. A slowdown in trade appears likely barring a broader economic recovery.

Source: NMPF/USDEC, TDM
Lactose – Southeast Asia

Source: NMPF/USDEC, TDM

Global Lactose Trade to SEA

- Argentina
- Australia
- Canada
- EU27
- New Zealand
- Turkey
- UK
- USA
- Uruguay


MT

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

2021 2022 2023

MT


MT
Global Overview: Butter

Global trade of butter continued its seasonal easing and fell behind prior-year levels in June. Exports to the U.S. dropped for the second straight month (-28%, -1,621 MT) after a surge in Q1. Exports to Canada (primarily from the U.S. through the import for re-export program) dropped sharply for the month (-48%, -1,756 MT), but remain historically strong on an annualized basis.

Butter historically was one of the most demand-elastic dairy products in terms of international trade. But demand proved surprisingly resilient in 2022 and conversely has not noticeably improved in 2023 suggesting the product may be becoming less of a substitutable good (like it has in the U.S.), and international trade may stabilize compared to volatility of the past decade.

KEY TAKEAWAYS

Global Butter Trade

-6.1%  +0.6%  +3.5%  +0.7%

June YoY  YTD, Ending June  Last 12-Months, Ending June  3-Year CAGR

- Global trade of butter continued its seasonal easing and fell behind prior-year levels in June. Exports to the U.S. dropped for the second straight month (-28%, -1,621 MT) after a surge in Q1. Exports to Canada (primarily from the U.S. through the import for re-export program) dropped sharply for the month (-48%, -1,756 MT), but remain historically strong on an annualized basis.

- Butter historically was one of the most demand-elastic dairy products in terms of international trade. But demand proved surprisingly resilient in 2022 and conversely has not noticeably improved in 2023 suggesting the product may be becoming less of a substitutable good (like it has in the U.S.), and international trade may stabilize compared to volatility of the past decade.

Source: NMPF/USDEC, TDM
Butter – MENA

Global Butter Trade to MENA

Source: NMPF/USDEC, TDM
Butter – Southeast Asia

Global Butter Trade to USA

Source: NMPF/USDEC, TDM

International Demand Analysis
Gratefully, whole milk powder continued its recent rebound in June, with demand up across most major markets. South America (+195%, +15,197 MT) grew in dramatic fashion, primarily thanks to Brazil though Peru and Columbia both posted solid growth as well. Trade to China improved (+23%, 8,000 MT), but is still being compared to the very weak months of 2022 and is over 50,000 MT below the June record set in 2021.

While global trade of WMP is picking up – largely thanks to improved NZ milk production – China remains still well below trend and recent GDT auctions inspire little confidence they will power a rally in the market.

Source: NMPF/USDEC, TDM
Whole Milk Powder – China

Global WMP Trade to China+HK

Source: NMPF/USDEC, TDM
Whole Milk Powder – South America

Source: NMPF/USDEC, TDM
Reach Out for Questions or Comments

William Loux
VP, Global Economic Affairs
wloux@usdec.org

Stephen Cain
Director, Economic Research and Analysis
scain@nmpf.org
scain@usdec.org