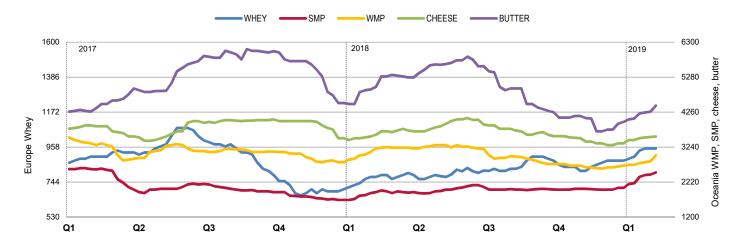
February 7, 2019



(\$/MT)



*Indicative prices. Milk powder, cheese and butterfat are Oceania; whey is western Europe.

Source: USDEC and commercial sources.

Better balance expected for 2019

By Alan Levitt and Marc Beck

The heady price environment of 2011-2014 is a distant memory. In the fourth quarter of 2018, global prices slumped to a two-year low, reflecting a record spring milk flush in New Zealand. Likewise, with the long shadow of intervention stocks, EU skim milk powder (SMP) prices in 2018 were the lowest in 16 years.

But 2019 started with a dose of optimism and the markets climbed up off the mat. Milk supply growth has come to an end and improved demand from China, Southeast Asia and Mexico revived sentiment. In addition

FEBRUARY INDICATIVE PRICES - USDEC sources \$/MT, FOB SHIP (with change from January)

	EUROPE	OCEANIA
SMP	2188 (+78)	2500 (+183)
WMP	3275 (+113)	3000 (+230)
Cheddar	3750 (NC)	3550 (+58)
Butter	4950 (+3)	4450 (+275)
Dry whey	950 (+25)	
WPC-34%	1975 (+113)	
Lactose	1000 (NC)	
•		

Prices are monthly averages. Source: USDEC.

the European Commission unloaded 247,857 tons of SMP out of intervention in the last four months, a third of that in a single mid-January tender. Holdings are down to just 3,651 tons and the cupboard should be empty by early February.

In November, for the first time in almost two years, milk production from the top five suppliers (EU, United States, New Zealand, Australia and Argentina) was negative. Output dropped 0.4% during the month, after posting a 1.3% increase in the first 10 months of the year (on top of 2.2% growth in 2017). December is estimated to be down slightly as well.

Meanwhile, after running down stocks for much of the year, China came back into the market in Q4. Milk powder imports in October-December were +49%. Butterfat and lactose imports were strong all year as well (+24%, +33%, respectively).

As a result, global SMP prices are up about \$400/ton (+22%) since November. Butter prices are up \$325-\$550/ton, after losing about a third of their value since June. Whey and cheese prices have firmed in recent weeks, and even whole milk powder (WMP) is up about \$175/ton from its late-2018 lows.

From p. 1

So what's different in 2019?

Market sentiment should be different this year based on two major supply factors. For the first time since the fourth quarter of 2016, most major suppliers won't have much excess to export. And for the first time since early 2016, traders are operating in an environment without SMP stocks.

As the world's largest exporter, EU milk production always has an outsized impact. Weather has depressed production in Germany and France (-2.1% in October-November) and phosphate regulations have done the same in the Netherlands (-5.7% in September-December). Gains in Ireland and Poland haven't been enough to compensate. EU-28 deliveries were down about 0.5% in the last five months of 2018. We look for output down 1.0% to 1.5% in Q1-19 and expect to see little to no growth for the full year.

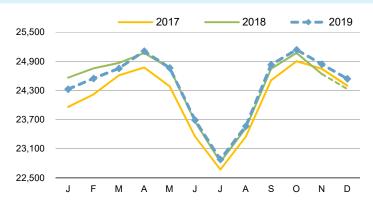
In short, a world market that has leaned on the long side

EXPORTS FROM TOP 5, ROLLING 12-MONTHS (000 MT)



Includes SMP, WMP, cheese, butterfat and whey. Source: USDEC, Global Trade Atlas.

TOTAL MILK PRODUCTION FROM MAJOR EXPORTERS (000 MT)



Includes EU-28, U.S., New Zealand, Australia and Argentina. EU and Argentina are milk deliveries. 30-day months. Dec. 2018-Dec 2019 is USDEC forecast.

Source: USDA, EuroStat, DCANZ, DairyAustralia, Argentina Ministry of Agriculture.

for the last two years will be in much better balance as we move deeper into 2019. We're not getting carried away though. The rally is certainly welcome, but there are many headwinds to contend with. To wit:

- First, perspective is warranted. Recent increases are coming off a price trough and had room to move. Commodity values, on average, are still 15-20% below their 2017 and 2018 peaks.
- Buyers took advantage of lower prices in late 2018. As prices increase and pipeline holdings build, we're starting to see some bidding restraint. And China's turn-of-the-year buying to take advantage of duty-free product from New Zealand and to meet Lunar New Year needs is complete.
- It will take a while for end users to absorb all the intervention powder that's come out. Most of the product is moving through the supply chain into trader/importer/distributor inventory, or it's displacing fresh production. Moreover, spring flush is on the horizon in the northern hemisphere, making more powder available,

Continued on p. 3

ABOUT THIS ISSUE

Global Dairy Market Outlook is written and distributed by the U.S. Dairy Export Council (USDEC), 2107 Wilson Blvd., Suite 600, Arlington, VA 22201, USA, (703) 528-3049, FAX (703) 528-3705, website www.usdec.org. Data is compiled and analyzed by Alan Levitt, vice president of communications and market analysis, and Marc Beck, executive vice president of strategy and insights. Analysis is supported by USDEC's network of 10 international offices.

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This issue of Global Dairy Market Outlook covers conditions in late January 2019. For up-to-date market data and commentary, visit the USDEC website at www.usdec.org/research-and-data/market-data.

USDEC uses sources believed to be reliable but cannot warrant the accuracy of the information herein. Global Dairy Market Outlook is solely for information purposes and is not to be construed as commercial trading advice.

The U.S. Dairy Export Council, primarily funded by Dairy Management Inc. through the producer checkoff, works closely with its member processors, trading companies and others to build global demand for U.S. dairy products.

From p. 2

so we don't expect the market to clear until mid-year.

- New Zealand is on track for a record season, with production up 4.4% through December. Milk prices are healthy and pasture conditions are excellent, setting the stage for robust shoulder production and a strong finish to the year. Every 1% annual increase in New Zealand milk production puts about 28,000 tons of additional product on the world market.
- Continued declines in fluid milk consumption in the United States and Europe make more milk available for manufacturing. For instance, while U.S. milk production was up just 1.0% in 2018 (pending December numbers), the supply of milk for manufacturing was up about 2.1%.
- Cheese stocks sit at record levels in the United States, pressuring U.S. cheese prices to nine-year lows. With continually growing cheese capacity on both sides of the Atlantic, more milk continues to flow into the vats, even as cheese import demand has stagnated over the last 15 months.
- The U.S.-China trade war has economists contemplating slower growth in the region, with potential flow-on impacts on dairy consumption. China GDP growth in 2018 was the lowest in 28 years, and Q4-18 was the worst quarter since the 2008 financial crisis. A further slowdown is expected for China this year, despite government stimulus efforts.
- Oil prices have retreated to a level that stifles Middle East dairy imports growth. From June-November, Middle East imports of milk powder, cheese, butterfat and whey were down 12%, with most notable declines in Saudi Arabia and UAE. If oil moves, say, \$10/barrel higher, it would signal improved in buying activity, but analysts are not forecasting such a move.

In short, while the fundamentals will be in better balance in 2019, it won't immediately translate into across-the-board pricing. SMP stands to benefit the most, just because of the absence of intervention stocks and ongoing strong demand. But the first half of the year still looks to be challenging for the other commodities.

The butterfat outlook is flat, with inventories in better shape but some buyers still sidelined since the 2016 price run-up. WMP will be under pressure until mid-year thanks to heavy New Zealand supply. The cheese market remains depressed under the weight of U.S. stocks and lackluster global demand. And the whey complex, which was strong for most of 2018, is showing cracks in early 2019 as China demand starts to waver.

We'll be watching for several disruptors in 2019.

• China imports (milk equivalent) were up 10% in 2018, aided by an especially strong performance in the latter part of

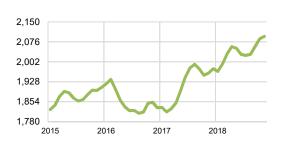
- the year. It's the third straight year of double-digit growth. Will that carry over into 2019? Chinese processors are directing more milk into fresh products (vs. drying into milk powder), and higher farmgate prices in China make imports more attractive, but only if those imports don't become too expensive.
- Trade patterns have shifted since China's implementation of additional tariffs on U.S. products, most noticeably in whey. In 2017 and the first half of 2018, the United States held a 52% share of China whey imports, while European suppliers captured 36%. In the first four months with the new tariffs in place, U.S. share plunged to 32% while EU share jumped to 46%. Meanwhile, Chinese buyers are increasingly looking to Belarus and Ukraine, which accounted for 14% share in the four-month period.
- Likewise, trade deals give New Zealand and Europe new access into Mexico and Japan, respectively. The improved access is relatively small at the outset and may not shake things up much in 2019, but it ramps up over time. More significant is the revamped EU-Mexico agreement, which gives Europe an opening into the United States' long-time biggest market once implemented later this year or in early 2020.
- There's still a long way to go, but if the China tariff situation or the Mexican tariff situation gets resolved, it would be bullish for the market U.S. markets in particular.
- Australia experienced its worst spring flush in at least 15 years, capped by an 8% production decline in November. Parts of southern Australia hit record temperatures last week in excess of 45°C (113°F). Australia now only accounts for about 5% of global dairy commodity trade, but they'll have even less product for export in 2019.
- Absent a transition plan, the UK will split off from the European Union in just nine weeks. If a hard exit comes to pass, it will upend Irish, French and German cheese shipments to the UK (about 275,000 tons per year, some of which may need to find a new home elsewhere) and complicate trading logistics on the new UK-EU borders. In addition, the destabilization is expected to weaken Britain's economy and perhaps ultimately depress the Euro.
- U.S. milk production growth slowed to just 1.0% in 2018, the lowest figure in five years. And while margins will remain under pressure in 2019, U.S. farmers, particularly those milking 200-500 cows, will benefit from two revamped support programs: Dairy Market Coverage (DMC) via the new Farm Bill and Dairy Revenue Protection. DMC could add \$1.00/cwt. to producer milk prices, which won't save every cow, but it will insulate supply from immediately responding to lower prices. •

World Dairy Exports

SMP EXPORTS (MT)

	NOV 18	% chg	YTD 18	% chg
EU-28	67,714	12%	758,819	5%
U.S.*	48,028	-13%	665,124	21%
NZ	46,005	5%	305,973	-11%
Australia	16,204	17%	141,638	-1%
India	4,604	1295%	23,974	153%
Argentina	2,262	6%	13,791	-27%
TOTAL OF 6	184,817	5%	1,909,319	7%

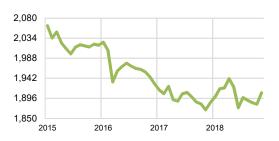
ROLLING 12-MONTHS - MAJOR SUPPLIERS (000 MT)



WMP EXPORTS (MT)

	NOV 18	% chg	YTD 18	% chg
NZ	161,915	19%	1,150,117	1%
EU-28	22,316	-27%	316,281	-14%
Argentina	17,406	90%	104,171	64%
Australia	3,745	-16%	51,290	6%
U.S.*	3,637	33%	43,623	94%
TOTAL OF 5	209,019	15%	1,665,482	1%

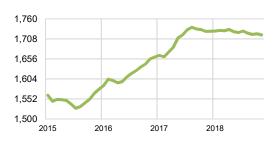
ROLLING 12-MONTHS - MAJOR SUPPLIERS (000 MT)



CHEESE EXPORTS (MT)

	NOV 18	% chg	YTD 18	% chg
EU-28	71,218	4%	768,816	1%
U.S.	26,491	-10%	319,707	2%
NZ	28,438	-3%	286,849	-6%
Australia	15,369	-12%	154,622	1%
Argentina	4,476	12%	38,413	-7%
TOTAL OF 5	145,992	-2%	1,568,407	-1%

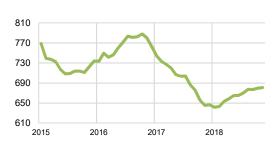
ROLLING 12-MONTHS - MAJOR SUPPLIERS (000 MT)



BUTTERFAT EXPORTS (MT)

	NOV 18	% chg	YTD 18	% chg
NZ	36,538	-12%	410,271	7%
EU-28	13,947	44%	144,280	-7%
U.S.	4,431	24%	42,590	71%
Australia	1,826	63%	14,171	2%
Argentina	884	41%	3,297	-16%
TOTAL OF 5	57,626	2%	614,609	6%

ROLLING 12-MONTHS - MAJOR SUPPLIERS (000 MT)



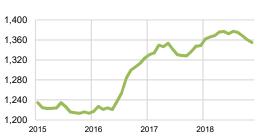
^{*} U.S. government data for U.S. 2016-18 for NDM/SMP and WMP adjusted to reflect shipments to Mexico misclassified as WMP.

Source: Global Trade Atlas and U.S. Bureau of Census.

World Dairy Exports

WHEY PRODUCTS EXPORTS (MT) **NOV 18** % chg **YTD 18** % chg EU-28 12% 4% 54,103 572,238 U.S. 41,278 511,624 -18% 3% Switzerland 2,912 -46% 44,991 -35% Argentina -7% 40,706 4,258 -20% Australia 2,940 25% 38,470 13% ΝZ 3% -12% 3,100 33,559 **TOTAL OF 6** 108,591 -5% 1,241,588 1%

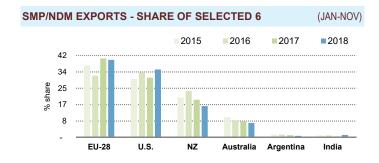
ROLLING 12-MONTHS - MAJOR SUPPLIERS (000 MT)



LACTOSE EXPORTS (MT) **NOV 18** % chg **YTD 18** % chg U.S. 25,683 -16% 364,718 12% EU-28 26.829 70% 218.549 17% NΖ 2,135 16% 19,738 1% **TOTAL OF 3** 13% 54,647 603,005 13%



Export Market Share







Source: Global Trade Atlas and U.S. Bureau of Census.

ACCESS TRADE DATA ONLINE

 ${\it Visit us dec. org/research- and- data/market- data/trade-flows}$

World Dairy Imports



SE Asia-5 includes Indonesia, Malaysia, Philippines, Singapore and Thailand. Russia excludes imports from Belarus.





Russia excludes imports from Belarus. Source: Global Trade Atlas and U.S. Bureau of Census.

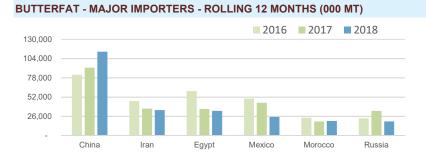
World Dairy Imports

WHEY PRODUCTS - MAJOR IMPORTERS - ROLLING 12 MONTHS (000 MT) **LATEST MONTH** 2016 **2017** 2018 600,000 China (Dec) -1% 480,000 Indonesia (Nov) 30% 360,000 Malaysia (Nov) -13% 240,000 Japan (Dec) -19% 120,000 Mexico (Nov) -3% Thailand (Dec) -22% Mexico Thailand China Indonesia Malaysia Japan



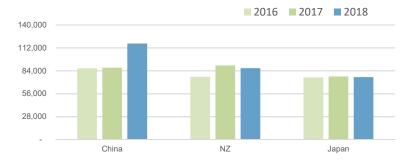
China (Dec) 102% Algeria (Jun) 17% Hong Kong (Dec) 35% Sri Lanka (Dec) 45% Brazil (Jan 19) 108% Singapore (Dec) 29% Venezuela (Oct) ---

LATEST MONTH





LACTOSE - MAJOR IMPORTERS - ROLLING 12 MONTHS (000 MT)



Russia excludes imports from Belarus.

Source: Global Trade Atlas and U.S. Bureau of Census.

ACCESS TRADE DATA ONLINE

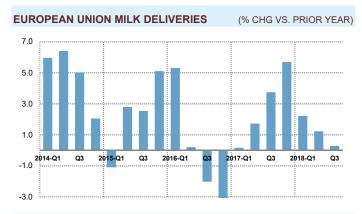
Visit usdec.org/research-and-data/market-data/trade-flows

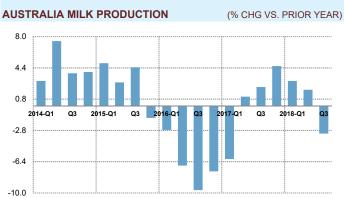
Global Milk Production

(1,100)

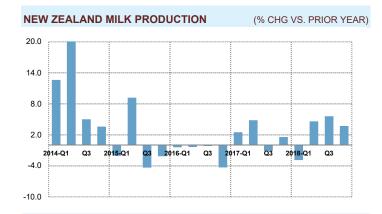
MILK PRODUCTION - CHANGE FROM PRIOR YEAR (000 MT) ARGENTINA ■ EU-28 US NZ ■ AUSTRALIA 2015 2016 2017 2018 900 500 100 (300)(700)

* Feb 2012 and 2016 adjusted for leap day.









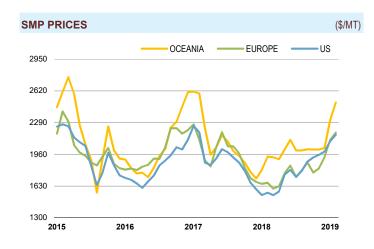


Q1-2012 and Q1-2016 adjusted for leap day.

Latest month may include USDEC estimates.

Source: USDA, EuroStat, DairyAustralia, DCANZ, Argentina Ministry of Agriculture.

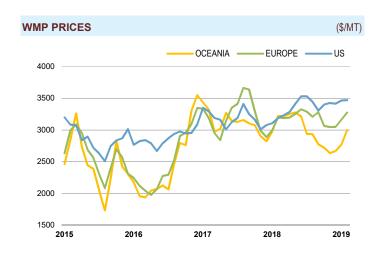
World Prices

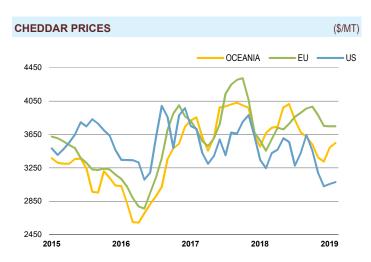


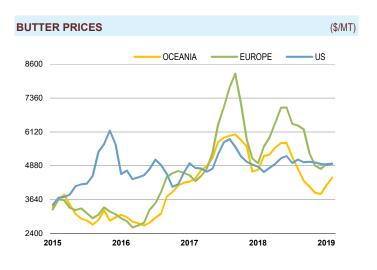
Prices vs. a year ago						
	Oceania	Europe	U.S.			
SMP	+29%	+31%	+39%			
WMP	-7%	+2%	+9%			
Cheddar	-3%	+8%	-5%			
Butter	-15%	-11%	+6%			
Whey		+22%	+84%			

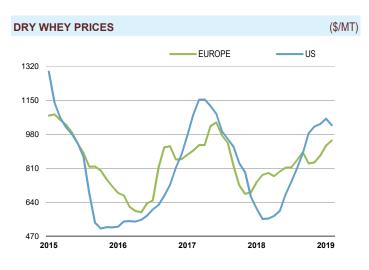
ACCESS PRICING DATA ONLINE

Visit usdec.org/research-and-data/market-data/prices







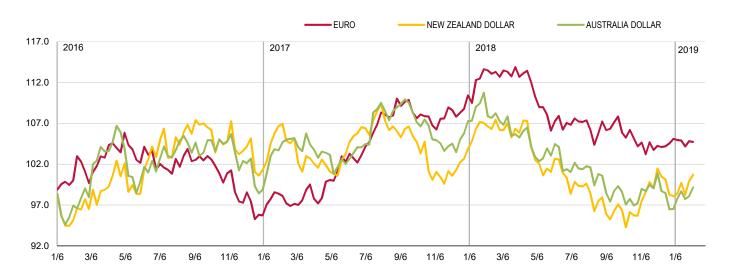


Source: USDEC and commercial sources.

Currency Exchange Rates

EXCHANGE RATES RELATIVE TO U.S. DOLLAR, EXPORTING COUNTRIES

INDEXED TO JAN. 1, 2016



Top chart: If line is trending up, currency is strengthening vs. U.S. dollar (U.S. dollar is weakening). This is favorable for U.S. competitiveness. If line is trending down, currency is weakening vs. U.S. dollar (U.S. dollar is strengthening). This is unfavorable for U.S. competitiveness.

EXCHANGE RATES RELATIVE TO U.S. DOLLAR, IMPORTING COUNTRIES

INDEXED TO JAN. 1, 2016



Bottom chart: If line is trending up, currency is strengthening vs. U.S. dollar (U.S. dollar is weakening). This is favorable for exports, because it increases import purchasing power. If line is trending down, currency is weakening vs. U.S. dollar (U.S. dollar is strengthening). This is unfavorable for exports, because it decreases import purchasing power.

Source: Oanda.com.

U.S. Exports

U.S. exports weaker in November

U.S. dairy exports slumped in November, falling below year-ago volume levels for the first time since October 2017. Shipments were lower across all major product categories, with declines across most of Asia.

Suppliers shipped 157,146 tons of milk powders, cheese, butterfat, whey products, and lactose in November, down 12% from November 2017. Total U.S. exports were worth \$442.2 million, 7% below the prior year. In the first 11 months of 2018, dairy exports totaled \$5.16 billion, 3% more than the same period in 2017, while overall volume was up 12%.

On a value basis, sales to China were down 32%, while exports to Southeast Asia were down 8%, Japan -28% and South Korea -13%. Instead, U.S. suppliers continued to focus on Mexico, where sales for the month were up 8%, year over year.

U.S. exports of **NDM/SMP** totaled 48,028 tons in November, a 13% decline vs. the year before. This was the lowest figure in 10 months (daily-average basis). Shipments to Mexico (28,317 tons, +13%) remained good in November, but exports to Southeast Asia (a 14-month low of 12,524 tons) were down 22%. Volumes to Pakistan (-72%), the MENA region (-91%) and China (-64%) were significantly lower as well.

Whey exports in November were just 41,278 tons, down 18% from the previous year. Dry whey, whey protein concentrate (WPC) and modified whey (permeate) were markedly lower, though shipments of whey protein isolate (WPI) were the most in 3 ½ years. Total whey exports to China in November were just 14,310 tons (-37%). For the fourth straight month most of the decline came from lower sales of modified whey. U.S. suppliers also saw lighter whey sales to South Korea, Japan, Canada and Southeast Asia. In the five months since retaliatory tariffs were put in place (July-November), U.S. whey exports to China were down 36% (-7,200 tons/month).

Cheese exports (26,491 tons) were 10% below November 2017, falling short in most major U.S. markets. Shipments to South Korea (-24%) were the lowest in nearly three years, and exports to Australia were 45% below November 2017. Exports to Mexico (-7%), Japan (-13%), the MENA region (-20%) and China (-25%) were lower as well. In contrast, shipments to Central America were a record-high 2,424 tons, up 43%.

On a total milk solids basis, U.S. exports were equivalent to 13.9% of U.S. milk production in November, bringing the year-to-date percentage to 16.1%

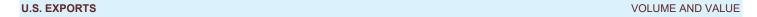
	LATEST MONTH	1	NOVEMBER (VOLU	JME. MT)		YEAR-TO-DATE	JAN	UARY-NOVEMBER (\	/OLUME. MT)
	2016	2017	,	% CHG		2016	2017	2018	% CHG
NDM/SMP*	55,989	55,171	48,028	-13	NDM/SMP*	552,600	547,520	665,124	+21
WMP*	1,817	2,737	3,637	+33	WMP*	22,154	22,480	43,623	+94
Cheese	24,989	29,277	26,491	-10	Cheese	258,062	313,865	319,707	+2
Butterfat	2,586	3,572	4,431	+24	Butterfat	21,971	24,837	42,590	+71
Total Whey	45,804	50,532	41,278	-18	Total Whey	456,763	494,993	511,624	+3
-Dry whey	17,955	20,558	16,260	-21	-Dry whey	173,208	193,205	205,366	+6
-WPC	12,668	13,638	9,751	-29	-WPC	131,214	131,052	144,757	+10
-Modified whey	11,493	13,558	11,173	-18	-Modified whey	121,273	138,712	122,760	-12
-WPI	3,688	2,778	4,094	+47	-WPI	31,067	32,024	38,741	+21
Lactose	30,831	30,623	25,683	-16	Lactose	330,893	325,574	364,718	+12
MPC	1,811	1,241	2,935	+136	MPC	19,080	20,635	29,761	+44
Food preps (blends)	5,333	6,163	4,663	-24	Food preps (blends)	58,628	64,171	57,675	-10
Aggregate volume**	169,160	179,318	157,147	-12	Aggregate volume**	1,720,151	1,814,075	2,034,821	+12
Milk/cream (000 liters)	14,799	9,335	9,749	+4	Milk/cream (000 liters)	105,588	97,730	106,100	+9
Total Value (millions) **	\$ 439.5	\$ 474.4	\$ 442.2	-7	Total Value (millions) **	\$ 4,361.4	\$ 5,011.7	\$ 5,156.3	+3

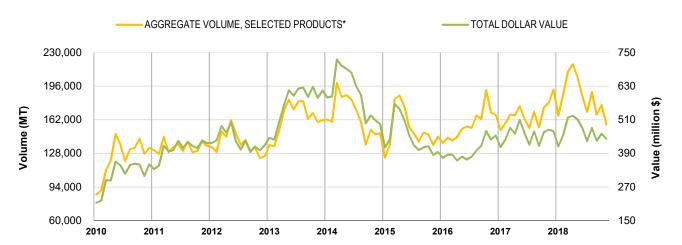
^{*} U.S. Census Bureau data for NDM/SMP and WMP since June 2016 adjusted to reflect shipments to Mexico misclassified as WMP.

Source: USDEC, U.S. Bureau of Census.

^{**} Aggregate volume includes the products listed above, except fluid milk. Total value includes other products in addition to the ones listed here.

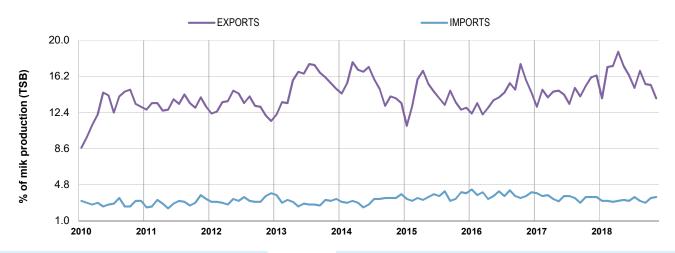
U.S. Exports





^{*} Volume includes SMP, WMP, MPC, whey, cheese, butterfat, lactose

U.S. EXPORTS AND IMPORTS AS A PERCENT OF MILK PRODUCTION



U.S. DAIRY	' EXPORTS, TOP	10 MARKETS
------------	----------------	------------

(million \$)	N	lov. 18	vs. yr ago
Mexico	\$	124.2	+8%
Southeast Asia		61.9	-8%
Canada		58.8	+12%
China		32.4	-32%
South America		23.5	+6%
Caribbean		20.3	+8%
Oceania		18.6	-21%
So. Korea		16.7	-13%
Japan		16.7	-28%
Middle East/North Africa		16.3	-37%

U.S. EXPORTS AS % OF PRODUCTION

	November	yr ago	Jan-Nov 18	yr ago
NDM/SMP	66%	66%	70%	56%
Total cheese	5.4%	6.0%	6.0%	6.0%
Butterfat	6.7%	5.3%	5.5%	3.3%
Dry sweet whey	48%	56%	49%	45%
Lactose	58%	78%	79%	70%
Total milk solids	13.9%	16.1%	16.1%	14.5%

ACCESS U.S. EXPORT DATA ONLINE

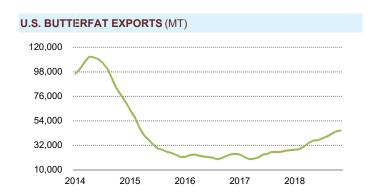
 ${\it Visit\ usdec.org/research- and- data/market- data/us- export- data}$

Source: USDEC, National Milk Producers Federation, U.S. Bureau of Census.

U.S. Exports: Rolling 12-Month Volume

















^{*} Total whey includes dry whey, WPC, modified whey products and WPI.

Source: USDEC, U.S. Bureau of Census.

U.S. Market Situation

Heavy cheese stocks hang over U.S. markets

U.S. dairy markets are struggling to gain any traction, despite much slower milk production growth. Production in November (the most recent figures available due to the U.S. government shutdown) was up just 0.6%. Cow numbers, which declined by 27,000 head in six months, fell to their lowest level since March 2017. Output is still growing in the western part of the country but falling more rapidly in the east. With farmers under margin pressure, U.S. milk production is expected to post just marginal growth in 2019, the smallest expansion since 2009.

On Jan. 28, cheddar blocks at the CME settled at \$3,081/ton, but cheddar barrels were just \$2,668/ton, near a 10-year low. Production remains heavy, and a slowdown in domestic use of American-style cheese in 2018 pushed inventories to record highs. U.S. benchmark prices are significantly below international prices, but this has yet to translate into increased exports.

Total cheese production was up 2.5% in the first 10 months of 2018, while domestic use was up 2.3%. Total cheese stocks at the end of November were 614,000 tons, up 105,000 tons from the five-year average.

The butter market has been remarkably steady, trading in a range of \$4,850 to \$5,175/ton since last July. Inventories are building seasonally, though they are not considered burdensome. Stronger exports have helped balance the market.

Butter production slowed in the second half of 2018; output was flat in the July-October period. However, domestic use was up just 0.5% in the first 10 months of 2018.

Dry ingredient markets are mixed.

NDM/SMP prices jumped in the New Year, alongside the global market rally and on continued strong demand from Mexico. Prices are up about \$150/ton in January, topping the \$2,200 level for the first time in two years. Output plunged in the second half of 2018. Production was down 5.0% in the July-October period. Stocks at the end of October were 115,000 tons, after peaking at 144,000 tons in July.

Dry whey prices may have plateaued around \$1,000 to \$1,050/ton. The market is balanced, though reduced exports to China are putting pressure on the market. Production was down 10.0% in the July-October period, keeping inventories restrained.

The WPC-34 market is steady at around \$2,000/ton. Inventories remain very tight.

The lactose market has increased 70% since last March but has held around \$800 to \$825/ton over the last month. Production was down 7.7% in September-October and inventories fell to a five-year low.



Source: USDA, USDEC.