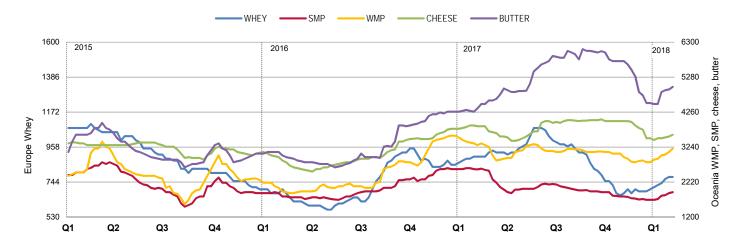


(\$/MT)



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

Source: USDEC and commercial sources.

### Awash in milk, while buyers sidelined

### By Alan Levitt and Marc Beck

Let's hope the folks in Europe have an appetite for pizza. Because as far as the world's dairy buyers are concerned, the world has too much milk and the excess is coming from the EU-28. And facing a veritable mountain of skim milk powder (SMP) that entered warehouses back when David Cameron was still prime minister of the UK and a butter bubble that may not be fully deflated, a lot more cheese is going to be coming out of European vats in the months ahead.

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

	EUROPE	OCEANIA
SMP	1688 (+35)	1925 (+128)
WMP	3138 (+138	3200 (+220)
Cheddar	3550 (-25)	3600 (+95)
Butter	5150 (+173	) 5000 (+265)
Dry whey	775 (+33)	
WPC-34%	1900 (NC)	
Lactose	600 (NC)	

Prices are monthly averages. Source: USDEC.

Last fall, we wrote that world dairy demand today can only support milk production growth from the major exporters of about 1.5% a year. In the second half of 2017, the growth rate from the EU-28, United States, New Zealand, Australia and Argentina was about double that. Since September, nearly all the surplus growth is coming from Europe.

Some of the increase, of course, is a function of a weak comparable; recall the Commission paid farmers to cut back on production in the fourth quarter of 2016. But with processor payout prices that increased more than 30% in 2017, farmers have responded. Milk cheques are coming down, but not quickly enough to stem the tide. A good flush is looming.

And then there's the matter of intervention stocks of SMP – still near 380,000 tons. The Commission confirmed it won't add any more to the stockpile this year. That takes the floor price out, though it was already more than €300 below the fixed €1698 euro/ton price anyway. That means there's some room to go down a little further, but it'll take some other creative measure besides price – like food donation, feed use, overseas placement or something else – to clear the inventories.

The United States, too, is sitting on record powder inventories that continue to grow. Year-end holdings were 150,000 tons, up 47% from prior year.

#### **From** p. 1

But at least in the United States, milk production growth has slowed to a more measured pace. Output in the last four months of 2017 was up just 1%. Feed costs remain low, but milk prices are down nearly 20% from a year ago, squeezing margins. Modest production growth – around 1% – is expected for 2018.

New Zealand, too, has seen a slowdown in production growth – though it's more a function of the skies than of milk margins. Volatile weather limited the 2017/18 flush; production in the first eight months of the season was flat vs. a year earlier. Pasture condition is poor and feed stocks are limited. But Fonterra's payout projection of NZ\$6.40/kg MS (about US\$14.91/cwt.) is still well-above break-even and kiwi farmers aren't feeling too anxious.

### **Buyers stocked up**

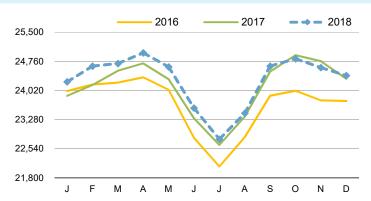
The milk coming on has to deal with global dairy import demand that hit a speed bump last fall. Buyers appeared to be stocked up. Sure, China did its part for most of the year, with total imports up 12% in 2017, as local milk increasingly goes into fluid and fresh product production channels. But imports were flat in the last two months of the year.

After a buying spree in the first seven months of the year, Southeast Asia imports of milk powder, cheese, butterfat and whey products were down 12% in the August-November period, leaving the region flat for the year.

Sales into the Middle East/North Africa region lagged all year – down 10% through November, though interest improved a bit in Q4. In short, fat was just too expensive in 2017. Butterfat imports were down 27% and WMP imports were off 14% in the first 11 months.

In the next tier of buyers, Mexico, Japan and South Korea all posted strong import performances in 2017.

### 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. 2017-Dec. 2018 is USDEC forecast.

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

Mexico imports were up about 7%, while Japan and South Korea posted double-digit increases. Japan, in fact, bought record volumes in December to offset local production declines. But imports from Mexico and South Korea slowed considerably in the last few months of the year.

#### The butter bubble

Last year, the European spot butter price nearly doubled in seven months. Before running out of steam, prices had exceeded the previous high by nearly 40%.

We've seen something like this before, actually. In early 2013, the Oceania whole milk powder (WMP) price jumped more than 50% in four months – a function of Chinese panic buying ahead of a production-curbing New Zealand drought. In that scenario, the WMP price remained firm for about a year before crashing.

So what happened with butter last year? Panic buying from the EU

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 early February 2018. For up-to-date market data and commentary, visit the USDEC website at www.usdec.org/research-and-data/market-data.

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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

internal market. Milk and butter production in the early part of the year was down throughout the region, the spring flush was lighter than expected, global demand was still surging and butter users got caught short.

But as a result, overseas buyers walked away. Global trade of butterfat dropped 13% in the first 11 months of 2017 – a cut of nearly 10,000 tons per month. As mentioned, the MENA region was hit particularly hard.

Meanwhile, the price of palm oil and other vegetable fats remained depressed, leaving a record-high premium on butter and encouraging substitution. And even in Europe and the United States, domestic butter use slowed dramatically from the growth of 2015-16.

International demand still hasn't come back, but EU production has. In September-November, butterfat output was up 8% year-over-year, an increase of nearly 12,000 tons per month.

The butter bubble already burst, but do we have further to go? Futures on all three continents suggest prices will be supported near current levels, but we're not so sure. Panic buying won't be there this year and the market is more balanced, notwithstanding relatively light EU inventories. At more than \$5100/ton, EU butter is still well-above historical levels. Based on the cost of substitute fats, the butter price may need to come down further to unlock demand growth in the MENA region and elsewhere.

The counter-argument is that very weak SMP prices are a drag on the value of the butter/powder stream, encouraging milk to go into cheese and/or WMP production instead. So yes, butter production growth may be constrained again in 2018. Our view, however, is that current prices, even well off their 2017 peak, are not sustainable.

Which takes us all the way back to the pizza mentioned at the onset – as well as cheeseburgers and table cheese. EU cheese production was up 3.5% in the second half of the year to November. With more milk coming on and weaker valuations for butter/powder, the Europeans are going to continue to make more cheese. And nearly every other exporting nation is making more cheese as well, including the United States,

where output was up 3% in 2017 and year-end stocks were an all-time high.

In addition, as with butter, domestic cheese consumption growth slowed in the United States and Europe last year, leaving more volume to look for a home offshore.

Among the world's major cheese buyers, Japan, South Korea, China and Southeast Asia bought aggressively in 2017. Mexico, the MENA region and South America purchases were flat to lower. They'll all need to buy more in 2018 to clear the market.

And of course, more cheese means more whey, which has already been under pressure since last April. Declining SMP prices, weaker demand out of Southeast Asia generally and Vietnam specifically, plus the possibility that European SMP intervention stocks will be offloaded into the feed sector, limit the upside on the whey complex.

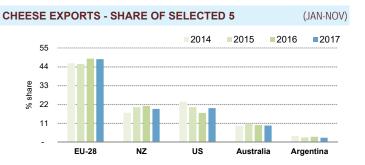
### Maybe H2 looks different?

Add it up and 2018 looks to be another challenging year for global dairy marketers. Prices have rallied in early 2018 on fears about New Zealand weather and supply, but we don't see much on the horizon to suggest a sustained market lift here in the first half. However, there are a few positives to keep an eye on.

- Dairy prices are already starting 2018 lower than prior year and further declines should support demand growth, particularly in developing countries. In other words, greater trade volumes, albeit at lower prices.
- Oil prices have improved to nearly \$70/barrel up 28% year-overyear. If sustainable, that could provide an economic boost for oilexporting countries, another factor that could support demand growth.
- The U.S. dollar is the weakest it's been in more than three years off 7% vs. the euro since November. A weaker dollar makes imported dairy more affordable in importing countries. It also boosts the competitiveness of U.S. exporters.
- The dairy market landscape may look quite different by the time we get past the Northern Hemisphere flush. Production growth is tempered in the United States and Oceania, and EU output will moderate in the second half, in part because the comps will be so stiff. Globally, current production will be unlikely to be able to keep up with current demand, and we could finally start to see suppliers' inventories drawn down.

The overhang will take a while to clear, but that could set us up for the green shoots of stronger markets in the latter part of 2018. •





# World Dairy Exports

SMP EXPORTS	<b>3</b>								
L	ATEST MONTH	N	OVEMBER (VOLU	IME, MT)	YEAR-TO-DATE		JANU	ARY-NOVEMBER (\	OLUME, MT)
	2015	2016	2017	% CHG	<u> </u>	2015	2016	2017	% CHG
EU-28	50,717	42,406	60,400	+42	EU-28	629,456	521,085	723,825	+39
U.S.*	42,537	55,719	55,044	-1	U.S.*	511,851	552,280	547,602	-1
NZ	51,757	48,355	43,719	-10	NZ	351,965	396,064	345,361	-13
Australia	15,665	15,415	14,210	-8	Australia	179,386	145,864	143,797	-1
Argentina	1,704	2,900	2,135	-26	Argentina	22,306	22,872	18,864	-18
TOTAL OF 5	162,380	164,795	175,508	+7	TOTAL OF 5	1,694,964	1,638,165	1,779,449	+9
WMP EXPORTS	S								
L	ATEST MONTH	N	OVEMBER (VOLU	IME, MT)	YEAR-TO-DATE		JANU	ARY-NOVEMBER (\	OLUME, MT)
	2015	2016	2017	% CHG		2015	2016	2017	% CHG
NZ	164,925	152,254	135,498	-11	NZ	1,197,938	1,161,211	1,141,014	-2
EU-28	26,653	26,662	30,200	+13	EU-28	366,732	356,221	367,462	+3
Argentina	9,871	8,060	9,163	+14	Argentina	119,829	99,588	63,508	-36
Australia	5,023	7,077	4,579	-35	Australia	58,312	63,778	48,741	-24
U.S.*	1,156	2,087	2,737	+31	U.S.*	33,031	22,481	22,471	-0
TOTAL OF 5	207,628	196,140	182,177	-7	TOTAL OF 5	1,775,842	1,703,279	1,643,196	-4
CHEESE EXPO	RTS								
L	ATEST MONTH	N	OVEMBER (VOLU	IME, MT)	YEAR-TO-DATE		JANU	ARY-NOVEMBER (\	OLUME, MT)
	2015	2016	2017	% CHG		2015	2016	2017	% CHG
EU-28	64,867	70,904	69,300	-2	EU-28	653,986	737,010	765,070	+4
NZ	33,160	35,291	29,443	-17	NZ	291,741	318,601	306,334	-4
U.S.	22,750	24,991	29,284	+17	U.S.	292,201	258,082	313,764	+22
Australia	15,283	16,891	17,638	+4	Australia	153,988	150,194	153,509	+2
Argentina	3,785	5,312	3,984	-25	Argentina	39,764	47,942	41,252	-14
TOTAL OF 5	139,845	153,389	149,649	-2	TOTAL OF 5	1,431,680	1,511,829	1,579,929	+5
BUTTERFAT E	XPORTS								
L	ATEST MONTH	N	OVEMBER (VOLU	IME, MT)	YEAR-TO-DATE		JANU	ARY-NOVEMBER (\	OLUME, MT)
	2015	2016	2017	% CHG		2015	2016	2017	% CHG
NZ	54,371	49,166	41,432	-16	NZ	438,513	450,441	382,330	-15
EU-28	15,966	12,902	11,300	-12	EU-28	155,270	193,853	157,013	-19
U.S.	1,134	2,586	3,590	+39	U.S.	19,701	21,971	24,861	+13
Australia	2,596	1,888	1,140	-40	Australia	29,286	26,145	13,864	-47
Argentina	943	412	629	+53	Argentina	8,182	4,799	3,924	-18
TOTAL OF 5	75,010	66,954	58,091	-13	TOTAL OF 5	650,952	697,209	581,992	-17

<sup>\*</sup> USDA data for U.S. 2016-17 for NDM/SMP and WMP adjusted to reflect shipments to Mexico misclassified as WMP.

Source: Global Trade Atlas and USDA.

## World Dairy Exports

WHEY PRODUC	CTS EXPORTS	6							
L	ATEST MONTH	N	OVEMBER (VOLU	ME, MT)	YEAR-TO-DATE		JANU	ARY-NOVEMBER (\	OLUME, MT)
	2015	2016	2017	% CHG		2015	2016	2017	% CHG
EU-28	43,582	40,670	51,000	+25	EU-28	506,793	536,790	551,154	+3
U.S.	30,762	45,786	50,590	+10	U.S.	407,253	456,714	495,351	+8
Switzerland	6,907	3,891	5,398	+39	Switzerland	81,559	70,023	68,712	-2
Argentina	8,747	6,453	4,598	-29	Argentina	60,481	64,780	50,676	-22
NZ	4,259	3,464	3,003	-13	NZ	27,919	38,424	37,920	-1
Australia	1,905	3,104	2,371	-24	Australia	27,190	44,723	34,002	-24
TOTAL OF 6	96,162	103,368	116,960	+13	TOTAL OF 6	1,111,195	1,211,454	1,237,815	+2

LACTOSE EXP	PORTS					
L	ATEST MONTH	NO	OVEMBER (VOLU	ME, MT)	YEAR-TO-DATE	
	2015	2016	2017	% CHG		2015
U.S.	30,620	30,813	30,781	-0	U.S.	329,345
EU-28	12,906	16,989	17,300	+2	EU-28	155,221
NZ	2,427	2,137	1,846	-14	NZ	20,804
TOTAL OF 3	45,953	49,939	49,927	-0	TOTAL OF 3	505,370

#### 330,976 325,404 -2 165,094 189,093 +15 22,406 19,499 -13 518,476 533,996 +3

### AGGREGATE EXPORT VOLUME - MAJOR SUPPLIERS - ROLLING 12 MONTHS

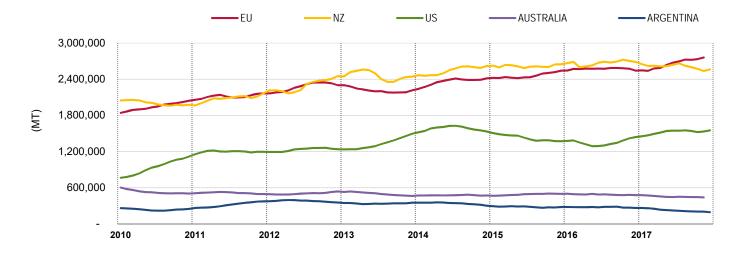
SMP, WMP, CHEESE, BUTTERFAT, WHEY

JANUARY-NOVEMBER (VOLUME, MT)

2017

% CHG

2016



Source: Global Trade Atlas and USDA.

### **ACCESS TRADE DATA ONLINE**

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

# World Dairy Imports

SMP IMPORTS								(\	OLUME, MT)
LA	TEST MONTH	Prev Yr	Latest Mo	% CHG	Y	/EAR-TO-DATE	Prev Yr	Latest Yr	% CHG
Mexico	Nov 17	25,552	27,094	+6	Mexico	Nov	261,309	306,622	+17
China	Dec 17	11,372	12,105	+6	China	Dec	184,470	247,305	+34
Philippines	Oct 17	8,914	4,902	-45	Philippines	Oct	143,415	136,622	-5
Indonesia	Oct 17	15,000	12,285	-18	Indonesia	Oct	126,738	128,961	+2
Algeria	Oct 17	8,148	7,508	-8	Algeria	Oct	93,495	134,086	+43
Malaysia	Oct 17	12,086	7,644	-37	Malaysia	Oct	112,984	105,948	-6

WMP IMPORTS	}							(\	/OLUME, MT)
LA	TEST MONTH	Prev Yr	Latest Mo	% CHG	YEA	R-TO-DATE	Prev Yr	Latest Yr	% CHG
China	Dec 17	34,001	20,244	-40	China	Dec	419,749	470,097	+12
Algeria	Oct 17	18,028	11,379	-37	Algeria	Oct	182,897	230,414	+26
Brazil	Dec 17	9,331	4,059	-56	Brazil	Dec	126,081	72,820	-42
Sri Lanka	Dec 17	9,281	6,472	-30	Sri Lanka	Dec	84,572	84,549	-0
Singapore	Dec 17	6,544	5,081	-22	Singapore	Dec	68,482	68,803	+0
Hong Kong	Dec 17	7,653	7,035	-8	Hong Kong	Dec	86,313	87,230	+1

CHEESE IMPOR	RTS							(\	OLUME, MT)
LA	EST MONTH	Prev Yr	Latest Mo	% CHG	YEA	R-TO-DATE	Prev Yr	Latest Yr	% CHG
Japan	Dec 17	23,954	26,286	+10	Japan	Dec	257,584	272,772	+6
U.S.	Nov 17	18,860	18,240	-3	U.S.	Nov	184,241	166,604	-10
So. Korea	Dec 17	9,830	8,823	-10	So. Korea	Dec	109,621	125,001	+14
Mexico	Nov 17	12,775	11,205	-12	Mexico	Nov	113,227	110,113	-3
China	Dec 17	7,841	6,319	-19	China	Dec	97,179	108,034	+11
Russia	Nov 17	2,498	3,468	+39	Russia	Nov	26,958	32,886	+22

BUTTERFAT IN	IPORTS							(\	OLUME, MT)
LA	TEST MONTH	Prev Yr	Latest Mo	% CHG	YEA	R-TO-DATE	Prev Yr	Latest Yr	% CHG
China	Dec 17	6,510	6,900	+6	China	Dec	81,864	91,564	+12
Egypt	Sep 17	2,593	1,381	-47	Egypt	Sep	48,219	16,152	-67
Mexico	Nov 17	4,611	3,094	-33	Mexico	Nov	45,289	37,431	-17
Russia	Nov 17	5,110	1,152	-77	Russia	Nov	20,131	26,332	+31
Iran	Dec 17	4,776	2,661	-44	Iran	Dec	46,673	36,355	-22
Morocco	Nov 17	1,015	2,218	+119	Morocco	Nov	22,440	17,374	-23

# World Dairy Imports

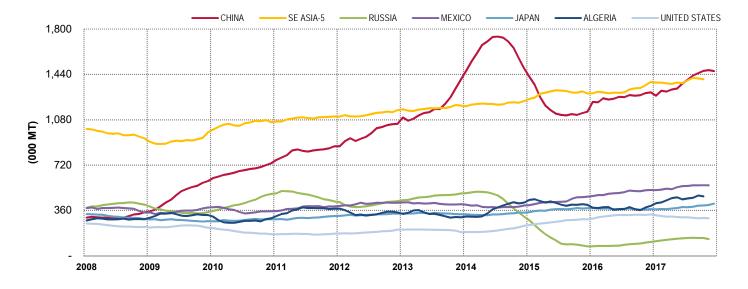
WHEY PRODUC	CTS IMPORTS							(1	/OLUME, MT)
LA	TEST MONTH	Prev Yr	Latest Mo	% CHG	YEA	AR-TO-DATE	Prev Yr	Latest Yr	% CHG
China	Dec 17	41,373	48,013	+16	China	Dec	514,546	550,048	+7
Indonesia	Oct 17	10,806	12,963	+20	Indonesia	Oct	95,724	102,611	+7
Japan	Dec 17	6,595	7,610	+15	Japan	Dec	66,230	74,257	+12
Thailand	Dec 17	4,922	5,371	+9	Thailand	Dec	62,797	65,959	+5
Malaysia	Oct 17	7,497	7,190	-4	Malaysia	Oct	63,844	62,019	-3
Mexico	Nov 17	4,134	4,887	+18	Mexico	Nov	42,911	53,730	+25

LACTOSE IMPO	RTS			
LAT	EST MONTH	Prev Yr	Latest Mo	% CHG
China	Dec 17	7,275	6,710	-8
NZ	Dec 17	10,159	4,743	-53
Japan	Dec 17	6,279	5,595	-11

			(V	OLUME, MT)
YEA	R-TO-DATE	Prev Yr	Latest Yr	% CHG
China	Dec	87,101	87,869	+1
NZ	Nov	76,573	90,568	+18
Japan	Nov	75,786	77,022	+2

### AGGREGATE IMPORT VOLUME - MAJOR BUYERS - ROLLING 12 MONTHS

SMP, WMP, CHEESE, BUTTERFAT, WHEY



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

Source: Global Trade Atlas and USDA.

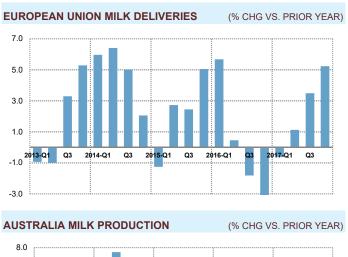
### **ACCESS TRADE DATA ONLINE**

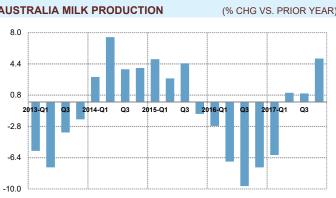
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## Global Milk Production

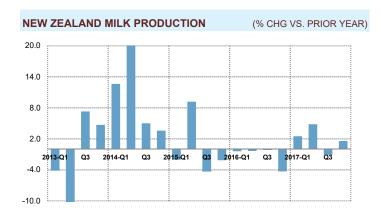
### MILK PRODUCTION - CHANGE FROM PRIOR YEAR (000 MT) ■ EU-28 US ■ NZ ■ AUSTRALIA ARGENTINA 1,600 2015 2013 2014 2016 2017 1,200 800 400 Ν (400)(800)(1,200)

\* Feb 2012 and 2016 adjusted for leap day.







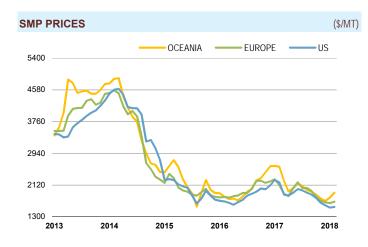




Q1-2012 and Q1-2016 adjusted for leap day. Latest month may include USDEC estimates.

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

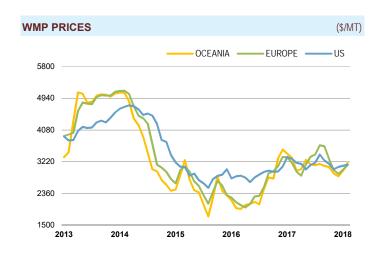
## **World Prices**

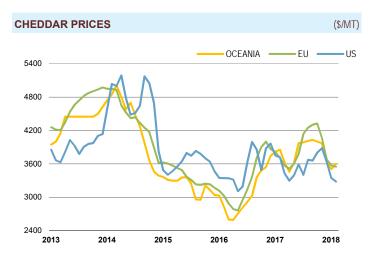


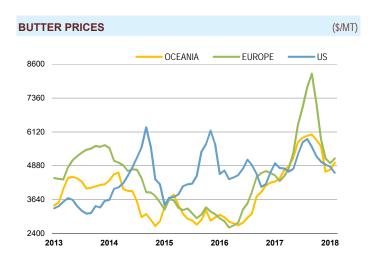
Prices vs. a year ago								
	Oceania	Europe	U.S.					
SMP	-26%	-20%	-29%					
WMP	-4%	-2%	-5%					
Cheddar	-7%	-4%	-12%					
Butter	+13%	+19%	-4%					
Whey		-14%	-46%					

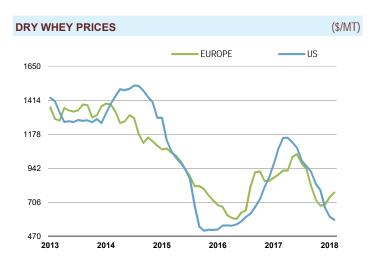
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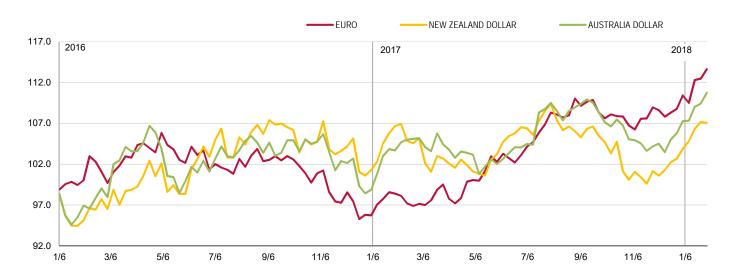


Source: USDEC and commercial sources.

## **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

# Dry ingredients pace U.S. exports in December

U.S. dairy exporters finished the year strong in December, moving 185,205 tons of milk powder, cheese, butterfat, whey and lactose during the month, the most in more than a year and up 14% from the prior December. U.S. exports were valued at \$469 million, up 3%.

Exports of nonfat dry milk/skim milk powder (NDM/SMP) topped 60,000 tons for just the fifth time, coming in 27% above year-ago levels. Sales to Mexico, Southeast Asia and China were higher, and suppliers found new customers in Peru, Pakistan and the Middle East/North Africa (MENA) region.

Total whey exports were a record-high 53,667 tons in December, up 15% vs. the year before, led by a 21% increase in shipments of whey protein concentrate (WPC) and modified whey products (permeate). Total whey exports to China were 25,213 tons in December, up 6% and a new monthly high. In addition, whey sales to Japan – about half of which was whey permeate – were the most in nearly a decade. Whey exports to Southeast Asia were up 4% year-over-year.

Cheese exports were 27,321 tons in December, down 4% from a year ago – dropping below year-ago levels for the first time in 15 months. Exports to Mexico (-10%), South Korea (-30%) and Japan (-41%) were all lower, while sales increased to Australia (+47%), China (+55%) and

the MENA region (+63%). Over the last half of the year, Australia was the number-three market for U.S. cheese, surpassing Japan.

**Lactose** exports were 35,469 tons in December, up 14%, and the most in 32 months. Exports to Southeast Asia (+40%) and China (+29%) were particularly strong.

Exports of **butterfat** were 2,792 tons in December, up 18%. After taking just 103 tons last December, the MENA region bought 784 tons this December.

**Fluid milk/cream** exports were down 35% in December, with a steep fall-off in sales to Canada (-82%). Meanwhile, shipments to Mexico and Taiwan were each up 16%.

Among top markets, gains were strongest for China and the MENA region. Export value to China was the most since August 2014 and exports to the MENA region were the most since April 2015.

On a total milk solids basis, U.S. exports were equivalent to 16.4% of U.S. milk production in December, the highest figure of the year, while imports were equivalent to 3.5%.

U.S. Exports										
	LATEST MONTH	1	DECEMBER (VOLUME, MT)			YEAR-TO-DATE	JANU	JANUARY - DECEMBER (VOLUME, MT)		
	2015	2016	2017	% CHG		2015	2016	2017	% CHG	
NDM/SMP*	46,179	47,595	60,489	+27	NDM/SMP*	558,030	599,876	608,091	+1	
WMP*	776	3,053	2,940	-4	WMP*	33,807	25,534	25,411	-0	
Cheese	24,689	28,576	27,321	-4	Cheese	316,889	286,658	341,085	+19	
Butterfat	1,866	2,368	2,792	+18	Butterfat	21,567	24,339	27,653	+14	
Total Whey	32,967	46,845	53,667	+15	Total Whey	440,220	503,559	549,018	+9	
-Dry whey	12,776	18,679	20,420	+9	-Dry whey	179,280	191,857	213,853	+11	
-WPC	8,378	12,065	14,956	+24	-WPC	103,990	143,261	146,045	+2	
-Modified whey	8,800	12,612	14,884	+18	-Modified whey	120,587	133,885	153,585	+15	
-WPI	3,014	3,490	3,407	-2	-WPI	36,363	34,557	35,535	+3	
Lactose	30,362	31,151	35,469	+14	Lactose	359,707	362,127	360,872	-0	
MPC	2,624	2,468	2,527	+2	MPC	30,757	21,560	23,160	+7	
Aggregate volume**	139,462	162,057	185,205	+14	Aggregate volume**	1,760,977	1,823,653	1,935,290	+6	
Milk/cream (000 liters)	7,850	12,087	7,869	-35	Milk/cream (000 liters)	105,180	117,868	105,996	-10	
Total Value (millions) **	\$ 395.0	\$ 454.0	\$ 469.4	+3	Total Value (millions) **	\$ 5,361.6	\$ 4,815.6	\$ 5,480.8	+14	

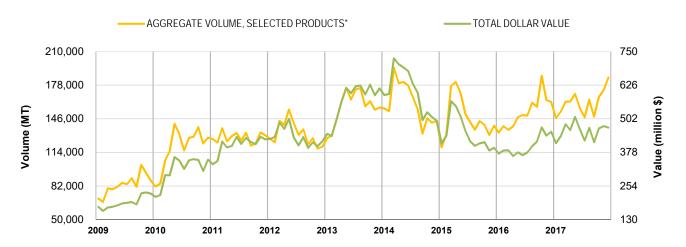
<sup>\*</sup> USDA data for NDM/SMP and WMP for June 2016-November 2017 adjusted to reflect shipments to Mexico misclassified as WMP.

Source: USDA, USDEC.

<sup>\*\*</sup> Aggregate volume includes the products listed above, except fluid milk. Total value includes other products in addition to the ones listed here.

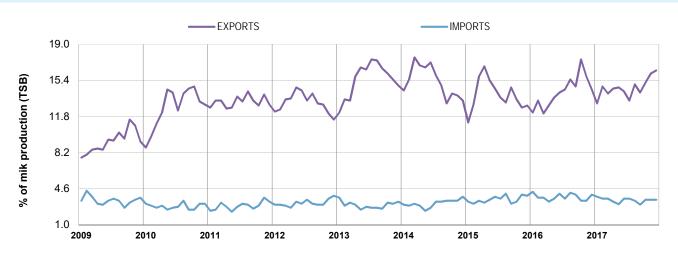
## U.S. Exports

U.S. EXPORTS VOLUME AND VALUE



<sup>\*</sup> Volume includes SMP, WMP, MPC, whey, cheese, butterfat, lactose

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



(million \$)	Dece	ember 17	vs. yr ago	
Mexico	\$	97.5	-7%	
Southeast Asia		64.5	+14%	
China		54.8	+13%	
Canada		42.5	-29%	
South America		30.4	+1%	
Middle East/North Africa		29.6	+120%	
Oceania		24.3	+25%	
Japan		23.9	+13%	
So. Korea		20.6	-18%	
Caribbean		19.3	+4%	

### **U.S. EXPORTS AS % OF PRODUCTION**

	December	yr ago	Jan-Dec 17	yr ago
NDM/SMP	63%	49%	57%	57%
Total cheese	5.5%	5.9%	6.0%	5.2%
Butterfat	3.6%	3.2%	3.3%	2.9%
Dry sweet whey	54%	53%	46%	44%
Lactose	82%	74%	70%	73%
Total milk solids	16.4%	14.5%	14.7%	14.2%

### **ACCESS U.S. EXPORT DATA ONLINE**

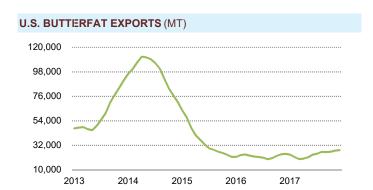
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Source: USDA, USDEC, National Milk Producers Federation.

## U.S. Exports: Rolling 12-Month Volume



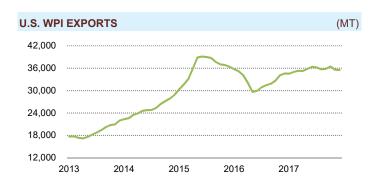














<sup>\*</sup> Total whey includes dry whey, WPC, modified whey products and WPI.

Source: USDA, USDEC.

### U.S. Market Situation

### Softer U.S. markets on record-high inventories

Stocks of dairy commodities continue at record levels in the face of softer domestic dairy consumption in 2017. As a result, prices are weaker and farmgate margins have been pressured lower.

The U.S. cheese market stepped down into a lower range in mid-November and still hasn't come back. Cheddar blocks at the CME have averaged \$3285 since Dec. 1, the poorest stretch since last April-May.

Milk is flowing into the cheese vat. Production is heavy (+2.9% in 2017; all figures adjusted for leap day), especially cheddar and other-American styles. After several years of stronger growth, U.S. domestic use was up just a little more than 1% last year, leaving inventories to grow to a record-high 581,000 tons at year-end.

The butter market has trended steadily lower since topping \$6000/ton in early August. The CME price on Feb. 5 was \$4586/ton, just above the 9-month low. Churning activity picked up in the fourth quarter, with production running 3.3% above year-ago levels. Domestic use was up just about 1% in 2017, leaving year-end commercial stocks at all-time highs.

Dry ingredient markets are steady to weaker.

After losing about \$500/ton in the second half of 2017,

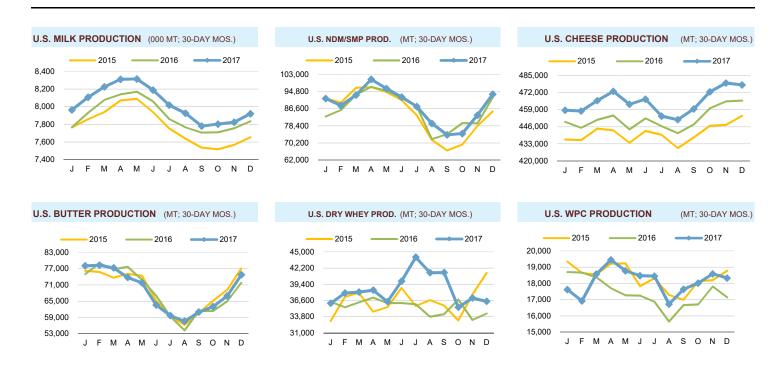
NDM/SMP has stabilized in a range of \$1525-\$1600/ton. U.S. NDM/SMP production was up 2% in 2017, while year-end inventories were 150,000 tons, 47% more than the prior year.

Whey supplies are ample and the market remains weak. Dry whey prices have fallen to \$525-\$625/ton, just half where prices were at last May. Dry whey production was up 9% last year, the highest volume in nine years. Year-end stocks of 48,000 tons were 61% more than a year ago.

Production of higher-protein whey products – WPC-50-90 and WPI – was higher in 2017, while output of WPC 25-49 was lower. WPC-34 prices have stabilized around \$1600/ton, off more than \$500 from a year ago.

Lactose prices are steady at about \$475/ton, barely half the price seen last June. Production was up 3% last year; year-end inventories were 62,000 tons, 25% more than the prior year.

Milk production growth slowed in the last four months of the year as farmers respond to lower payouts. Production was up 1.4% in 2017, but just 1.0% higher in September-December. Cow numbers totaled 9.40 million in December, up just 1,000 head over the last seven months of the year. The outlook calls for continued slower production growth in 2018.



Source: USDA, USDEC.