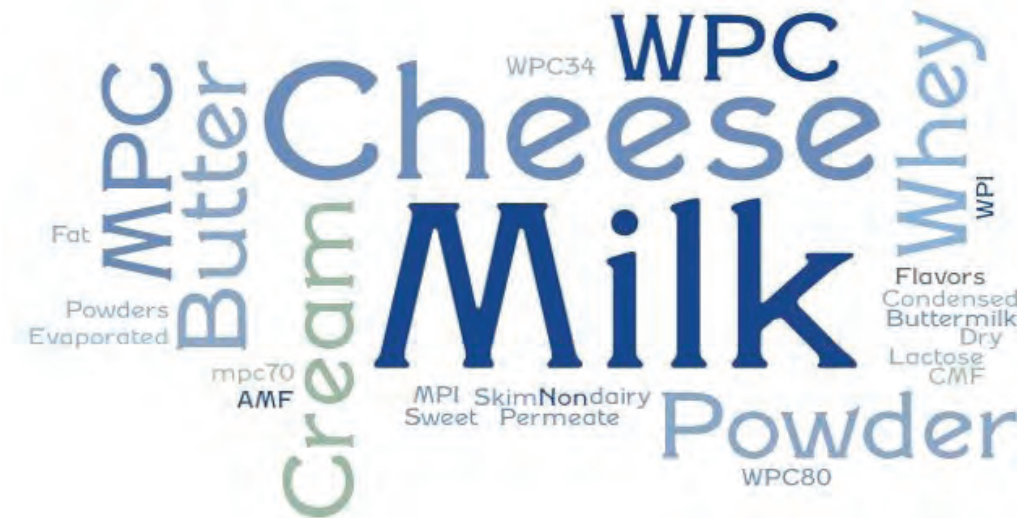
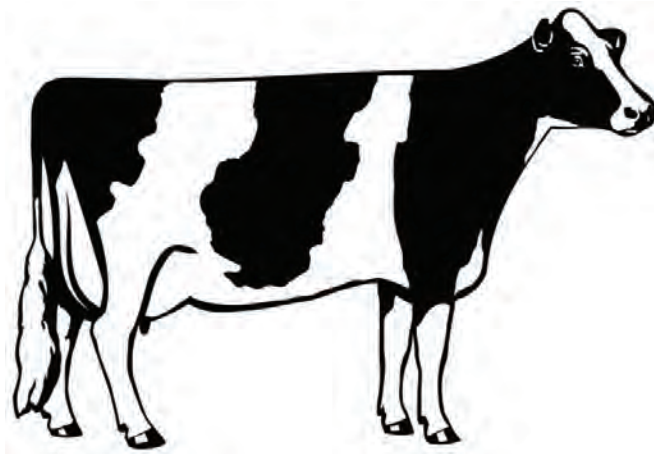


2020

Dairy Products

Utilization & Production Trends



**American Dairy[®]
Products Institute**

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Executive Summary

DAIRY PRODUCTS

UTILIZATION & PRODUCTION TRENDS

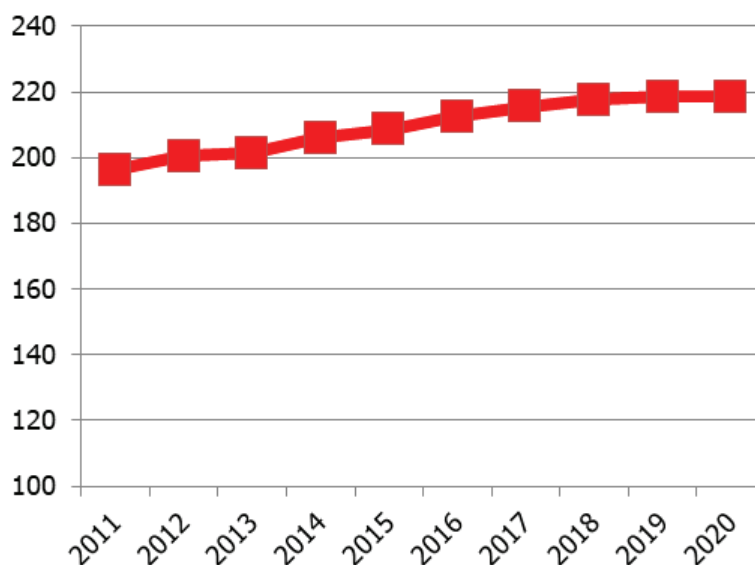
EXECUTIVE SUMMARY: Milk Production & Milk Solids Disposition

U.S. Milk Production of 223.2 billion pounds, increased 2.20% in 2020 over the previous year.

+0.55% in cow numbers

+1.63% in production per cow

U.S. Milk Production (Billion Pounds)

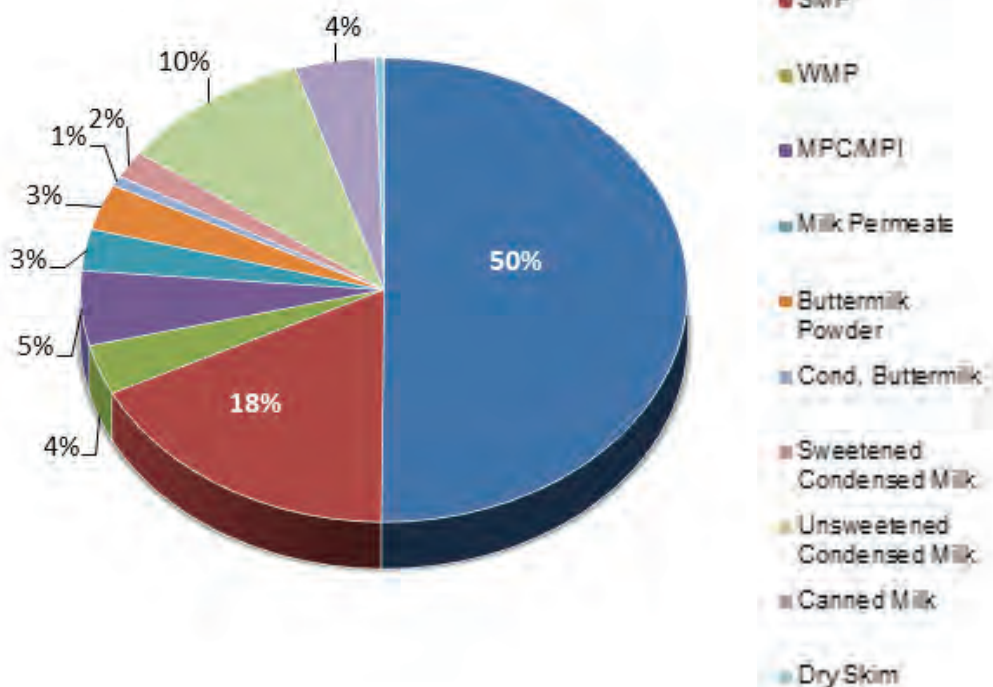


2020 Milk-based Dairy Ingredient Production

2020 Milk-based Dairy Ingredients Production

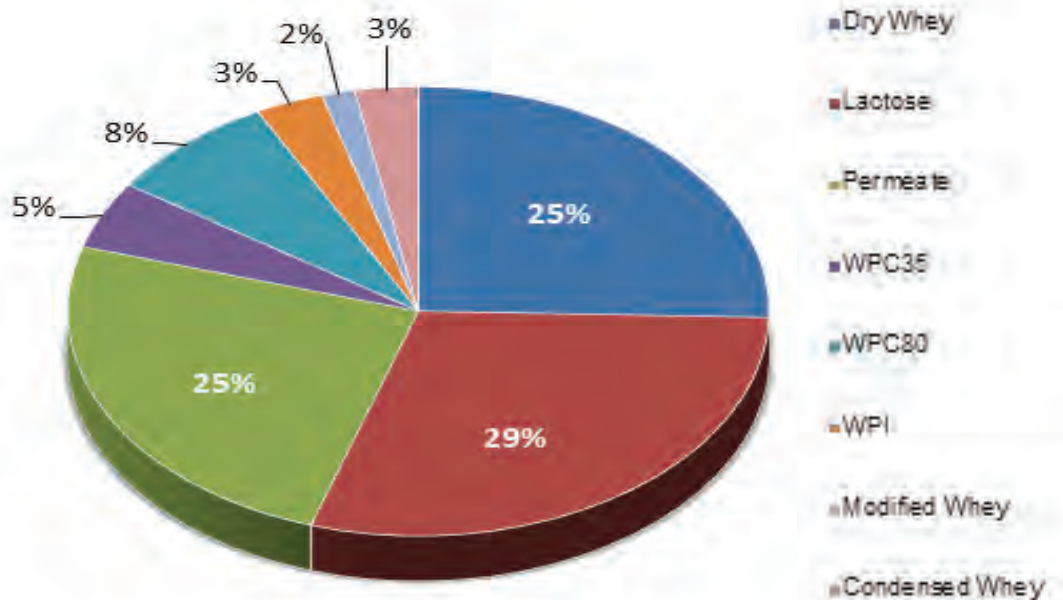
Total 3.971 Billion Lbs

	Million Lbs
• NFDM:	1,991
• SMP:	695
• Dry Skim:	18
• WMP:	138
• MPC/MPI:	206
• Permeate:	116
• Buttermilk:	127
• Canned Milk (solids)	170
• Cond BM (solids):	29
• Cond Milk (solids):	481



2020 Whey-based Dairy Ingredient Production

2020 Whey-based Dairy Ingredients Production	
Total 3.737 Billion Lbs	
	Million Lbs
• Dry Whey:	951
• Lactose:	1,103
• Permeate:	923
• WPC35:	181
• WPC80:	296
• WPI:	117
• Mod Whey:	57
• Cond whey:	109



EXECUTIVE SUMMARY: Milk-Based & Whey-Based Dairy Ingredients

The following are highlights of Dry Milk Products, Whey and modified whey production and major end-use markets for the year ending December 31, 2020:

TOTAL MILK-BASED DAIRY INGREDIENTS

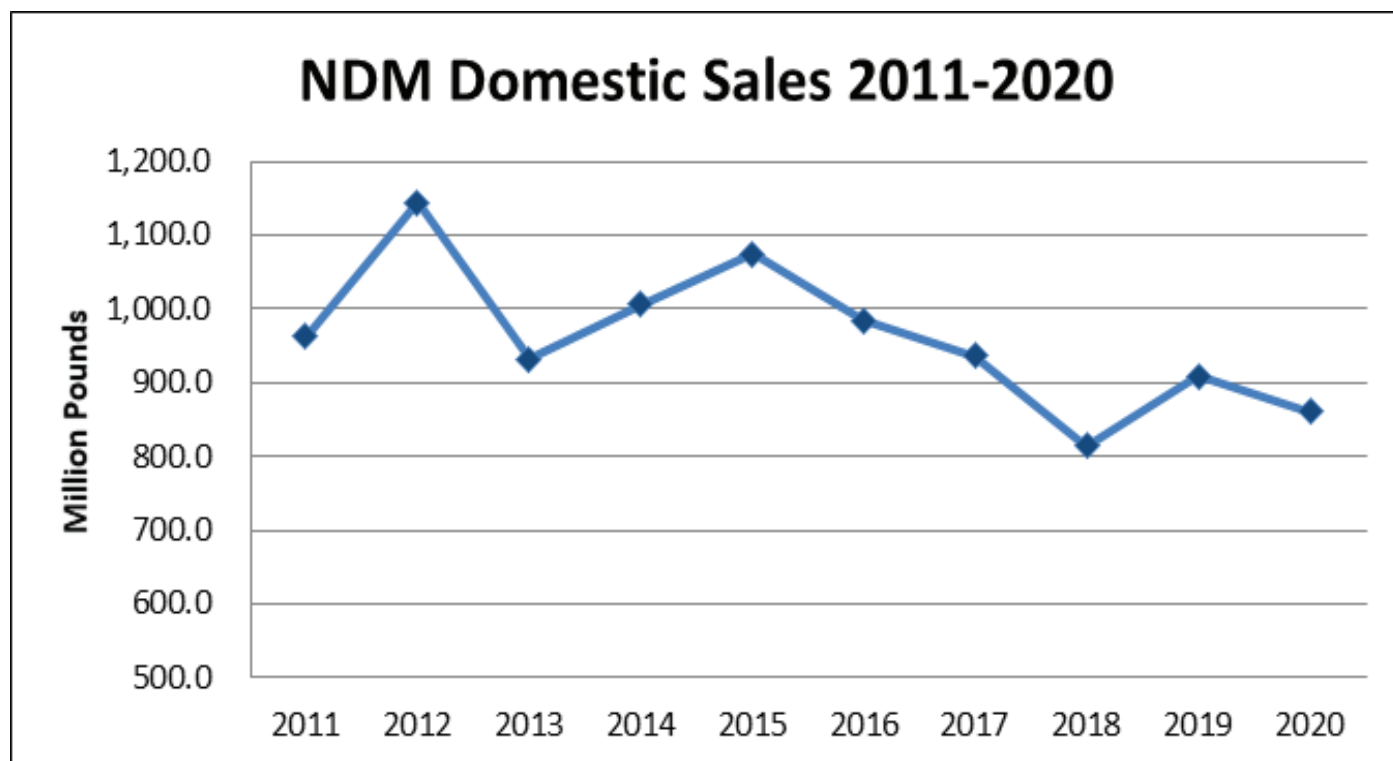
Total USDA reported production of milk-based dairy ingredients for 2020 was 3,970.9 million pounds (including 115.8 million pounds of Milk Permeate), an increase of 310.9 million pounds (8.5%) from 2019. Production of the various dry & condensed milk products in 2020 (in millions of pounds and percent difference from 2019) was:

- o **Nonfat Dry Milk**, 1,990.9 (+ 7.6%)
- o **Skim Milk Powder**, 695.2 (+ 21.4%)
- o **Dry Skim Milk (Animal Feed)**, 18.4 (+ 13.6%)
- o **Milk Protein Concentrate**, 206.3 (+ 27.5%)
- o **Dry Whole Milk**, 138.1 (- 2.0%)
- o **Dry Buttermilk & Buttermilk Product**, 126.8 (+ 7.2%)
- o **Condensed & Evaporated Milk Solids**, 650.4 (- 0.2%)
- o **Condensed Buttermilk Solids**, 29.0 (- 10.8%)
- o **Milk Permeate Solids**, 115.8 (+ 1.0%)

NONFAT DRY MILK

Total 2020 domestic commercial sales were 861.1 million pounds, a decrease of 47.3 million pounds, or 5.2% from 2019. The top five domestic end-uses of NDM, by volume, and the percent of the market each shared was:

- o **Dairy Industry** – 537.9 million pounds, 62.5%
- o **Confectionery Industry** – 133.2 million pounds, 15.5%
- o **Baking Industry** – 50.0 million pounds, 5.8%
- o **Nutraceuticals, Pharmaceuticals** – 28.9 million pounds, 3.4%
- o **Infant Formulas** – 24.6 million pounds, 2.8%



MILK PROTEIN CONCENTRATE

Total domestic sales were 208.5 million pounds, an increase of 28.5 million pounds (15.8%) from 2019. The principal markets were: **Mainstream Nutrition**, 61.3 million pounds; **Sports Beverages**, 35.6 million pounds; **Dairy Industry**, 33.9 million pounds and **Baking Industry**, 27.5 million pounds.

WHOLE MILK POWDER

Total domestic sales were 104.5 million pounds, an increase of 15.1 million pounds (16.9%) from 2019. The principal markets were: **Confectionery Industry**, 76.1 million pounds; **Dessert Toppings**, 9.6 million pounds; **Dairy Industry**, 6.1 million pounds and **Baking Industry**, 5.0 million pounds.

DRY BUTTERMILK & BUTTERMILK PRODUCT

Total domestic sales, reflecting both dry buttermilk and dry buttermilk product, were 125.6 million pounds, an increase of 8.5 million pounds (7.3%) from 2019. The principal markets were: **Dairy Industry**, 68.8 million pounds; **Prepared Dry Mixes and Dry Blend Manufacturers**, 25.9 million pounds; **Baking Industry**, 16.8 million pounds and **Confectionery Industry**, 3.9 million pounds.

CONDENSED MILK SOLIDS

Total domestic sales, reflecting condensed skim milk, whole milk and buttermilk, were 509.9 million pounds, a decrease of 42.9 million pounds (7.8%) from 2019. The principal markets within the Dairy Industry were: **Frozen Desserts & Ice Cream Mixes**, 115.6 million pounds, **Hard Cheese**, 94.9 million pounds, **Processed Cheese**, 75.8 million pounds and **Fluid Milk Fortification** 47.5 million pounds.

TOTAL WHEY-BASED DAIRY INGREDIENTS

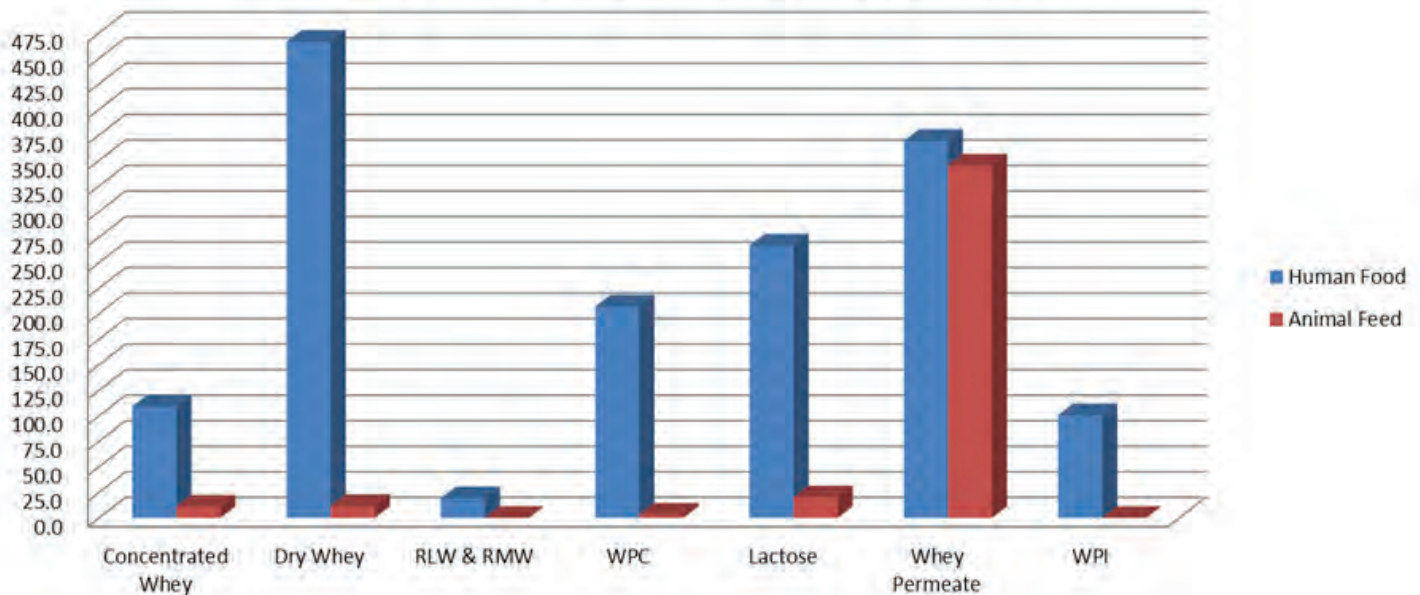
Total USDA reported production of whey-based dairy ingredients for 2020 was 3,737.5 million pounds (including 922.6 million pounds of Whey Permeate), a decrease of 195.1 million pounds (5.0%) from 2019. Production of the various whey products in 2020 (in millions of pounds and percent difference from 2019) was:

- o **Concentrated Whey Solids**, 109.0 (- 13.7%)
- o **Dry Whey**, 951.0 (- 2.7%)
- o **Reduced Lactose & Reduced Minerals Whey**, 57.5 (+ 2.1%)
- o **Whey Protein Concentrate (Total)**, 477.6 (- 2.7%)
- o **Whey Protein Concentrate (25.0%-49.9%)**, 181.4 (0.0%)
- o **Whey Protein Concentrate (50.0%-89.9%)**, 296.2 (- 4.2%)
- o **Whey Protein Isolate**, 117.0 (- 2.4%)
- o **Whey Permeate**, 922.6 (- 1.3%)
- o **Lactose**, 1,102.8 (- 10.1%)

Whey-based dairy ingredients domestic sales for human food during 2020, were as follows:

- o **Concentrated Whey**, 109.0 million pounds
- o **Dry Whey**, 466.2 million pounds
- o **Whey Protein Concentrate (Total)**, 206.7 million pounds
- o **Whey Protein Concentrate (25.05-49.9%)**, 78.5 million pounds
- o **Whey Protein Concentrate (50.0%-89.9%)**, 128.2 million pounds
- o **Whey Protein Isolate**, 100.6 million pounds
- o **Whey Permeate**, 369.0 million pounds
- o **Reduced Lactose & Reduced Minerals Whey**, 19.1 million pounds
- o **Lactose**, 266.6 million pounds

2020 DOMESTIC SALES BY WHEY PRODUCT



The whey-based dairy ingredients reported as being utilized domestically in human foods in 2020 totaled 1,537.2 million pounds (1,942.8 million pounds in 2019), a decrease of 20.9%. Whey-based dairy ingredients reported sold domestically for use in animal feed totaled 394.5 million pounds in 2020 (353.4 million pounds in 2019), an increase of 11.6%.

Major end-use categories, by product, were:

- o Concentrated Whey (solids basis)
 - Dairy Industry** – 76.8 million pounds
 - Confectionery Industry** – 6.1 million pounds
 - Prepared Dry Mixes & Dry Blends** – 3.8 million pounds
 - Nutraceuticals, Pharmaceuticals** – 2.1 million pounds
- o Dry Whey
 - Dairy Industry** – 190.3 million pounds
 - Prepared Dry Mixes & Dry Blends** – 51.1 million pounds
 - Baking Industry** – 18.1 million pounds
 - Confectionery Industry** – 14.9 million pounds
- o Whey Protein Concentrate (Total)
 - Sports Powders** – 55.6 million pounds
 - Dairy Industry** – 42.0 million pounds
 - Prepared Dry Mixes & Dry Blends** – 27.3 million pounds
 - Infant Formulas** – 25.6 million pounds

- o Whey Protein Concentrate (25.0%-49.9%)
Infant Formulas – 21.0 million pounds
Dairy Industry – 19.8 million pounds
Prepared Dry Mixes & Dry Blends – 11.2 million pounds
Baking Industry – 1.1 million pounds

- o Whey Protein Concentrate (50.0%-89.9%)
Sports Powders – 51.6 million pounds
Dairy Industry – 22.8 million pounds
Mainstream Nutrition – 17.9 million pounds
Prepared Dry Mixes & Dry Blends – 10.1 million pounds

- o Whey Protein Isolate
Sports Bars – 44.5 million pounds
Prepared Dry Mixes & Dry Blends – 18.3 million pounds
Sports Powders – 16.3 million pounds
Sports Beverages – 6.9 million pounds

- o Whey Permeate
Dairy Industry – 106.6 million pounds
Prepared Dry Mixes & Dry Blends – 19.3 million pounds
Baking Industry – 7.5 million pounds
Hot Cocoa – 5.5 million pounds

- o Reduced Lactose & Reduced Minerals Whey
Confectionery Industry – 2.7 million pounds
Dairy Industry – 1.7 million pounds
Prepared Dry Mixes & Dry Blends – 0.9 million pounds

- o Lactose
Confectionery Industry – 93.6 million pounds
Infant Formulas – 71.5 million pounds
Dairy Industry – 32.2 million pounds
Prepared Dry Mixes & Dry Blends – 26.2 million pounds

- o Whey Solids Used in Animal Feeds
Dairy/Calf/Cattle Feeds – 341.7 million pounds
Swine Feeds – 52.2 million pounds
All Other Feeds – 0.6 million pounds



DRY MILK PRODUCTS UTILIZATION



**American Dairy[®]
Products Institute**

Dry Milk Utilization Data

Compilation of Dry Milk Utilization Data

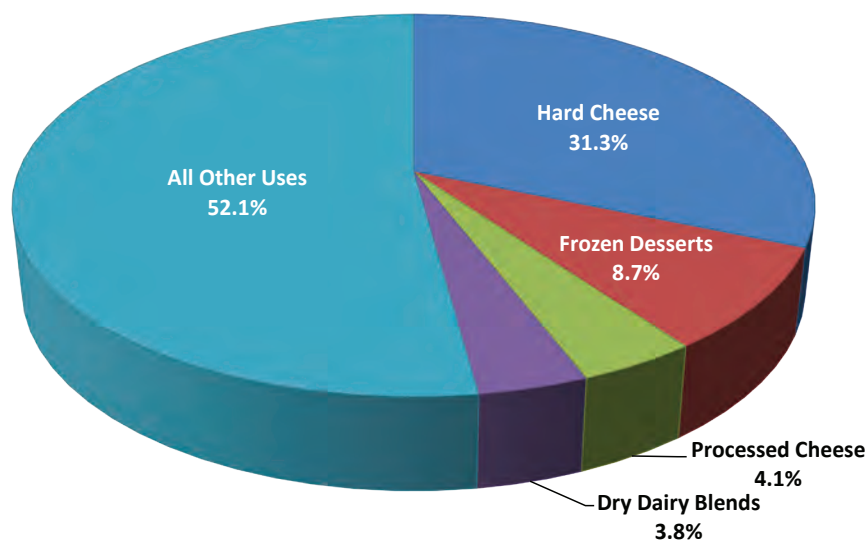
This 2020 compilation of dry and condensed milk utilization represents the 73rd annual industry-wide survey of end-uses for dry milk products. To the best of our knowledge, this Survey represents the only comprehensive analysis of how dry milk products are ultimately utilized in the commercial marketplace.

Members of the American Dairy Products Institute, other cooperating processors and distributors of milk-based dairy ingredients participated in this survey. Projections have been made from the survey data to the total industry. This data is intended to indicate market patterns and serve as a guide in directing promotional efforts to continue the expansion of commercial markets.

The American Dairy Products Institute expresses its sincere appreciation to all who assisted by assembling information and reporting the same to make this publication a useful marketing tool.

Information of interest to all condensed and dry milk processors, marketers/distributors and users is included in this 2020 publication. Such information presents a more complete picture of the manufactured milk products industry by providing an insight into supply-demand patterns and their relationship to overall marketing activities. Continued market expansion by the development of new uses for the various condensed and dry milk products is necessary for growing this segment of the dairy industry and reflects an ongoing purpose of the American Dairy Products Institute.

Nonfat Dry Milk & SMP Utilization



HIGHLIGHTS:

Total Production 2,686.2 million pounds - an increase of 262.3 million pounds, or 10.8% from 2019.

Domestic Nonfat Dry Milk Utilization decreased 5.2% to 861.1 million pounds from 908.4 in 2019.

The **Dairy Industry** remained the primary use utilizing 62.5% followed by the **Confectionery Industry** (15.5%), **Baking Industry** (5.8%), **Nutraceuticals, Pharmaceuticals** (3.4%), **Infant Formulas** (2.8%) and **Prepared Dry Mixes & Dry Blends** (2.7%).

Domestic Sales in Relation To Production 2020 & 2019 (millions of pounds)

	2020		2019 ¹	
		%		%
Production of Nonfat Dry Milk	2,686.1		2,423.8	
Adjustments for Commercial Stocks	(40.5)		29.2	
Plus USDA Sales	0.0		0.0	
Plus Imports	1.6		0.6	
Total Supply	2,647.2	100.0%	2,453.6	100.0%
Total USDA & DPPSP Purchases	0.0		0.0	
Commercial Exports	1,786.1		1,545.2	
Total Government Purchases, Exports	1,786.1	67.5%	1,545.2	63.0%
Net Domestic Sales²	861.1	32.5%	908.4	37.0%

¹ Revised in accordance with USDA figures.

² Reflects total non-government domestic distribution, but doesn't include NDM used in school lunches.

Four Year Comparison of Domestic End-Uses (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
									Mil. Lbs.	Percent
Dairy Industry	499.2	53.3%	439.7	54.0%	543.2	59.8%	537.9	62.5%	-5.3	-1.0%
Confectionery Industry	247.3	26.4%	210.1	25.8%	158.1	17.4%	133.2	15.5%	-24.9	-15.7%
Baking Industry	27.2	2.9%	37.5	4.6%	35.4	3.9%	50.0	5.8%	14.6	41.2%
Nutraceuticals, Pharmaceuticals, Special Dietary Use	16.8	1.8%	22.8	2.8%	21.8	2.4%	28.9	3.4%	7.1	32.6%
Infant Formulas	17.8	1.9%	22.0	2.7%	35.4	3.9%	24.6	2.8%	-10.8	-30.5%
Prepared Dry Mixes & Dry Blends	17.8	1.9%	25.2	3.1%	50.0	5.5%	23.6	2.7%	-26.4	-52.8%
Pudding/Mousse	12.2	1.3%	6.5	0.8%	7.3	0.8%	10.3	1.2%	3.0	41.1%
Dessert Toppings	15.0	1.6%	5.7	0.7%	5.4	0.6%	7.8	0.9%	2.4	44.4%
Institutional Use	0.9	0.1%	0.8	0.1%	5.4	0.6%	7.3	0.8%	1.9	35.2%
Beverage Manufacturers	57.1	6.1%	8.1	1.0%	5.5	0.6%	5.7	0.7%	0.2	3.6%
Animal Feed ²	24.4	2.6%	27.7	3.4%	27.3	3.0%	25.4	3.0%	-1.9	-7.0%
All Other Uses	0.9	0.1%	8.1	1.0%	13.6	1.5%	6.4	0.7%	-7.2	-52.9%
TOTAL DOMESTIC NON-GOVERNMENT USE	936.6	100.0%	814.2	100.0%	908.4	100.0%	861.1	100.0%	-47.3	-5.2%
Government & Export Sales	1,335.9		1,569.7		1,545.2		1,786.1		240.9	15.6%
TOTAL SALES	2,272.5		2,383.9		2,453.6		2,647.2		193.6	7.9%

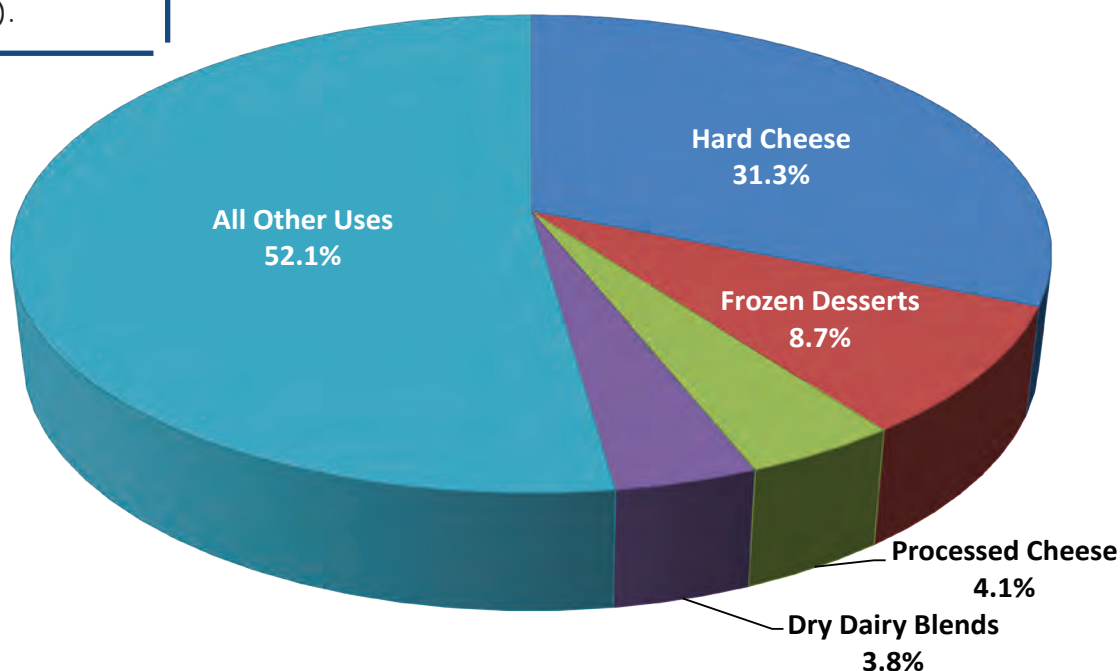
¹ Revised.

Nonfat Dry Milk & SMP Utilization in Dairy

HIGHLIGHTS:

Domestic Nonfat Dry Milk Utilization in the Dairy Industry decreased 1.0% to 537.9 million pounds from 543.2 in 2019.

Hard Cheese remained the primary use utilizing 31.3% followed by **Frozen Desserts** (8.7%), **Processed Cheese** (4.1%), **Dry Dairy Blends** (3.8%) and **Sales of Packaged NDM** (3.8%).

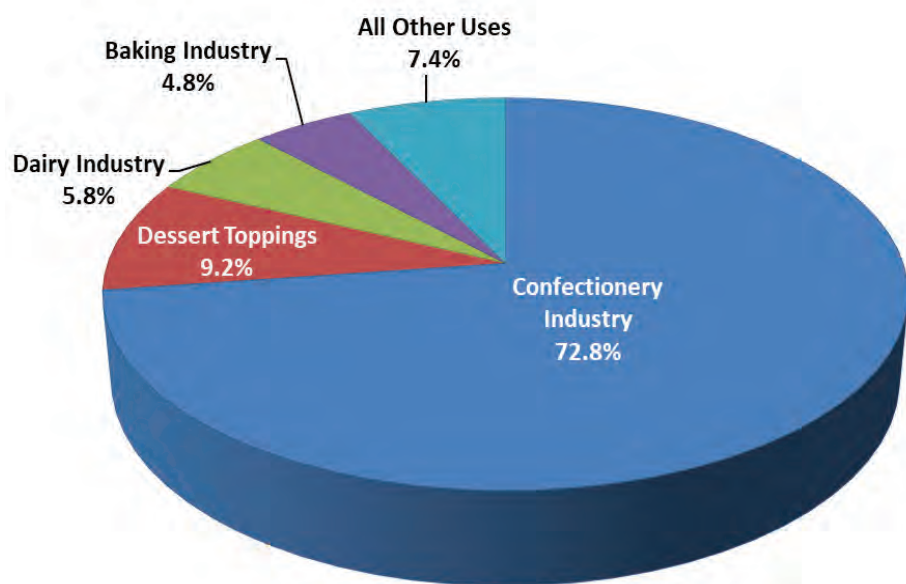


Four Year Comparison of Domestic End-Uses
(millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Hard Cheese	158.2	31.7%	194.3	44.2%	195.6	36.0%	168.3	31.3%	-27.3	-14.0%
Frozen Desserts	118.8	23.8%	71.7	16.3%	71.2	13.1%	46.7	8.7%	-24.5	-34.4%
Processed Cheese	34.4	6.9%	22.0	5.0%	22.8	4.2%	22.0	4.1%	-0.8	-3.5%
Dry Dairy Blends	105.3	21.1%	32.1	7.3%	36.4	6.7%	20.3	3.8%	-16.1	-44.2%
Sales of Packaged NDM	1.0	0.2%	7.9	1.8%	8.7	1.6%	20.3	3.8%	11.6	133.3%
Fluid Milk Fortification & Dry Mixes	3.0	0.6%	17.1	3.9%	17.4	3.2%	19.4	3.6%	2.0	11.5%
Cultured Products	24.5	4.9%	16.3	3.7%	17.4	3.2%	6.1	1.1%	-11.3	-64.9%
Cottage & Cream Cheese	7.0	1.4%	5.3	1.2%	4.9	0.9%	4.3	0.8%	-0.6	-12.2%
All Other Uses	47.0	9.4%	73.0	16.6%	168.8	31.1%	230.5	42.8%	61.7	36.6%
TOTAL DOMESTIC SALES	499.2	100.0%	439.7	100.0%	543.2	100.0%	537.9	100.0%	-5.3	-1.0%

¹ Revised.

Dry Whole Milk & WMP



HIGHLIGHTS:

Total Production 138.1 million pounds - a decrease of 2.9 million pounds, or 2.1% from 2019.

Domestic Dry Whole Milk Utilization increased 16.9% to 104.5 million pounds from 89.4 in 2019.

The **Confectionery Industry** remained the primary use utilizing 72.8% followed by the **Dessert Toppings** (9.2%), **Dairy Industry** (5.8%), **Baking Industry** (4.8%) and **Hot Cocoa** (3.3%).

Supply & Distribution (millions of pounds)

	2017	2018	2019 ¹	2020	Change 2019-2020	
					Mil. Lbs.	Percent
Production	122.4	144.7	141.0	138.1	-2.9	-2.1%
Adjustments for Commercial Stocks	(17.7)	15.4	3.5	(4.8)	-8.3	-237.1%
Plus Imports	49.1	19.5	31.5	59.5	28.0	88.9%
Total Supply	153.8	179.6	176.0	192.8	16.8	9.5%
Less Commercial Exports	60.4	106.1	86.6	88.3	1.7	2.0%
Net Domestic Sales	93.4	73.5	89.4	104.5	15.1	16.9%

Four Year Comparison of Domestic End-Uses (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
									Mil. Lbs.	Percent
Confectionery Industry	68.1	72.9%	54.0	73.4%	66.6	74.5%	76.1	72.8%	9.5	14.3%
Dessert Toppings	8.8	9.4%	6.2	8.4%	7.3	8.2%	9.6	9.2%	2.3	31.5%
Dairy Industry	2.7	2.9%	2.4	3.3%	3.1	3.5%	6.1	5.8%	3.0	96.8%
Baking Industry	5.8	6.2%	4.2	5.7%	3.7	4.1%	5.0	4.8%	1.3	35.1%
Hot Cocoa	1.8	1.9%	1.2	1.7%	3.5	3.9%	3.5	3.3%	0.0	0.0%
Prepared Dry Mixes & Dry Blends	1.0	1.1%	2.4	3.3%	3.5	3.9%	2.9	2.8%	-0.6	-17.1%
Packaged for Retail Use	0.4	0.4%	0.0	0.0%	0.3	0.3%	0.8	0.8%	0.5	166.7%
Infant Formulas	3.8	4.1%	1.2	1.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Animal Feed ²	1.0	1.1%	1.9	2.5%	1.4	1.6%	0.5	0.5%	-0.9	-64.3%
TOTAL DOMESTIC NON-GOVERNMENT USE	93.4	100.0%	73.5	100.0%	89.4	100.0%	104.5	100.0%	15.1	16.9%
Government & Export Sales	60.4		106.1		86.6		88.3		1.7	2.0%
TOTAL SALES	153.8		179.6		176.0		192.8		16.8	9.5%

¹ Revised.

² Processed originally for human consumption.

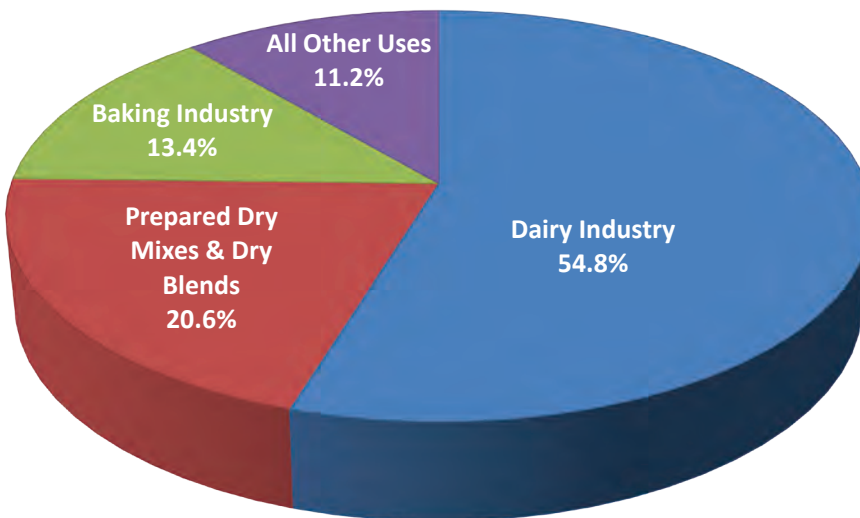
Dry Buttermilk

HIGHLIGHTS:

Total Production 126.8 million pounds - an increase of 8.5 million pounds, or 7.2% from 2019.

Domestic Dry Buttermilk Utilization increased 7.3% to 125.6 million pounds from 117.1 in 2019.

Dairy Industry was the primary use utilizing 54.8% followed by **Prepared Dry Mixes & Dry Blends** (20.6%), and the **Baking Industry** (13.4%).



Supply & Distribution (millions of pounds)

	2017	2018	2019	2020	Change 2019-2020	
					Mil. Lbs.	Percent
Production	112.9	118.1	118.3	126.8	8.5	7.2%
Less Quantity Not Produced for Human Food	1.2	1.2	1.2	1.2	0.0	0.0%
NET DISTRIBUTED FOR HUMAN FOOD	111.7	116.9	117.1	125.6	8.5	7.3%

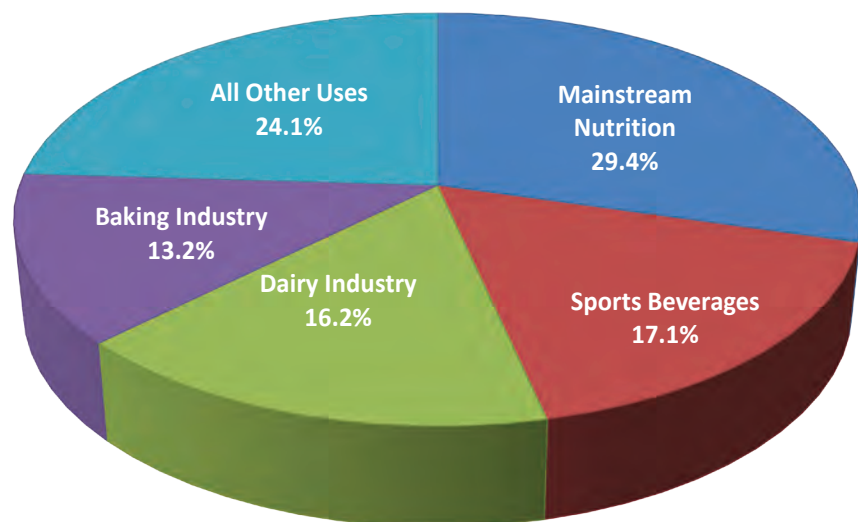
Four Year Comparison of Domestic End-Uses¹ (millions of pounds)

	2017		2018		2019		2020		Change 2019-2020	
									Mil. Lbs.	Percent
Dairy Industry	60.5	54.2%	60.7	51.9%	63.7	54.4%	68.8	54.8%	5.1	8.0%
Prepared Dry Mixes & Dry Blends	25.6	22.9%	27.0	23.1%	24.0	20.5%	25.9	20.6%	1.9	7.9%
Baking Industry	12.1	10.9%	13.1	11.2%	15.9	13.6%	16.8	13.4%	0.9	5.7%
Confectionery Industry	3.0	2.7%	2.6	2.2%	3.9	3.3%	3.9	3.1%	0.0	0.0%
Institutional Use	0.6	0.5%	1.8	1.5%	1.5	1.3%	2.1	1.7%	0.6	40.0%
Dessert Toppings	0.2	0.1%	0.4	0.4%	0.4	0.3%	0.6	0.5%	0.2	50.0%
Animal Feed ²	3.8	3.4%	6.1	5.2%	3.0	2.6%	4.8	3.8%	1.8	60.0%
All Other Uses	5.9	5.3%	5.2	4.5%	4.7	4.0%	2.7	2.1%	-2.0	-42.6%
TOTAL DOMESTIC NON-GOVERNMENT USE	111.7	100.0%	116.9	100.0%	117.1	100.0%	125.6	100.0%	8.5	7.3%

¹Includes Dry Buttermilk and Dry Buttermilk Product, reported without differentiation.

²Processed originally for human consumption.

Milk Protein Concentrate Utilization



HIGHLIGHTS:

Total Production 206.3 million pounds - an increase of 44.5 million pounds or 30.2% from 2019.

Domestic Milk Protein Concentrate Utilization increased 15.8% to 208.5 million pounds from 180.0 in 2019.

The **Mainstream Nutrition** was the primary use utilizing 29.4% followed by **Sports Beverages** (17.1%), **Dairy Industry** (16.2%) and **Baking Industry** (13.2%).

Supply & Distribution (millions of pounds)

	2017	2018	2019 ¹	2020	Change 2019-2020	
					Mil. Lbs.	Percent
Production	139.0	147.3	161.8	206.3	44.5	30.2%
Plus Imports	91.2	84.4	94.0	94.0	0.0	0.0%
Total Supply	230.2	231.7	255.8	300.3	44.5	19.2%
Less Commercial Exports (est.)	51.4	72.2	75.8	91.8	16.0	22.2%
Net Domestic Sales	178.8	159.5	180.0	208.5	28.5	15.8%

Four Year Comparison of Domestic End-Uses (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
									Mil. Lbs.	Percent
Mainstream Nutrition	43.4	24.3%	39.7	24.9%	43.0	23.9%	61.3	29.4%	18.3	42.6%
Sports Beverages	32.9	18.4%	31.3	19.6%	35.7	19.8%	35.6	17.1%	-0.1	-0.3%
Dairy Industry	29.9	16.7%	25.7	16.1%	33.4	18.5%	33.9	16.2%	0.5	1.5%
Baking Industry	24.5	13.7%	23.6	14.8%	26.0	14.5%	27.5	13.2%	1.5	5.8%
Sports Powders	23.2	13.0%	18.5	11.6%	17.4	9.7%	23.2	11.1%	5.8	33.3%
Prepared Dry Mixes & Dry Blends	12.3	6.9%	12.9	8.1%	14.5	8.0%	13.3	6.4%	-1.2	-8.3%
Sports Bars	0.0	0.0%	3.7	2.3%	5.2	2.9%	7.6	3.7%	2.4	46.2%
Confectionery Industry	1.3	0.7%	1.1	0.7%	0.6	0.3%	2.2	1.0%	1.6	266.7%
Animal Feed ²	1.3	0.7%	2.4	1.5%	2.1	1.2%	0.4	0.2%	-1.7	-81.0%
All Other Uses	10.0	5.6%	0.6	0.4%	2.1	1.2%	3.5	1.7%	1.4	66.7%
TOTAL DOMESTIC NON-GOVERNMENT USE	178.8	100.0%	159.5	100.0%	180.0	100.0%	208.5	100.0%	28.5	15.8%
Government & Export Sales	51.4		72.2		75.8		91.8		16.0	21.1%
TOTAL SALES	230.2		231.7		255.8		300.3		44.5	17.4%

¹ Revised.

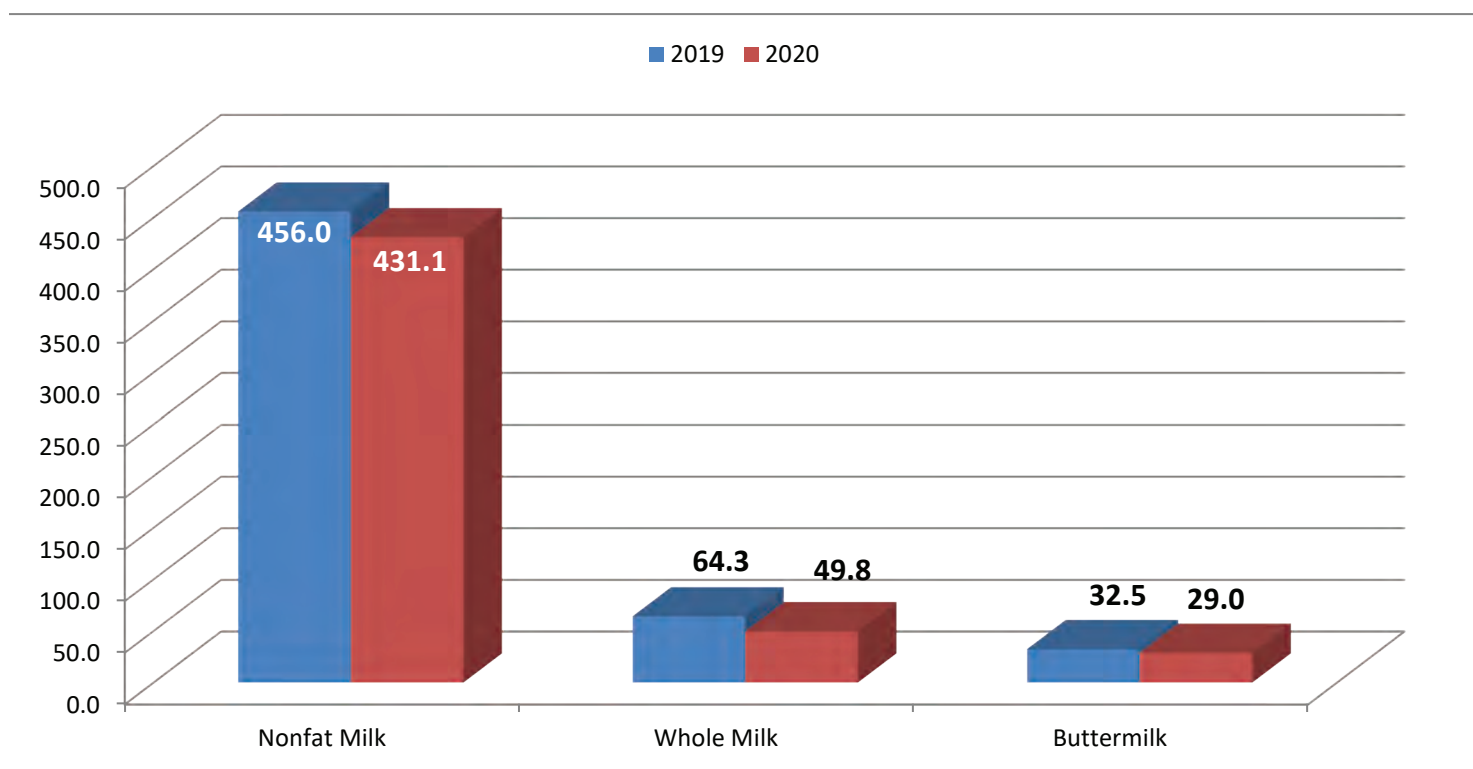
² Processed originally for human consumption.

Condensed Milk Solids Utilization¹

Two Year Comparison of End-Uses in Food (millions of pounds of solids)

	2019						2020					
	NONFAT MILK		WHOLE MILK		BUTTERMILK		NONFAT MILK		WHOLE MILK		BUTTERMILK	
<u>Dairy Industry</u>												
Frozen Desserts, Ice Cream Mixes	62.0	13.6%	31.0	48.1%	1.0	3.0%	94.3	21.9%	20.4	41.0%	0.9	3.1%
Hard Cheese	36.5	8.0%	0.0	0.0%	1.5	4.7%	71.3	16.5%	21.7	43.6%	1.9	6.4%
Cultured Products	14.1	3.1%	29.7	46.2%	0.0	0.0%	8.0	1.9%	0.0	0.0%	0.0	0.0%
Cottage & Cream Cheese	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Processed Cheese	30.6	6.7%	0.0	0.0%	0.0	0.0%	75.8	17.6%	0.0	0.0%	0.0	0.0%
Fluid Milk Fortification	2.7	0.6%	0.0	0.0%	0.0	0.0%	47.5	11.0%	0.0	0.0%	0.0	0.0%
Other	91.7	20.1%	1.2	1.9%	1.1	3.3%	115.6	26.8%	0.0	0.0%	1.3	4.5%
TOTAL	237.6	52.1%	61.9	96.2%	3.6	11.0%	412.5	95.7%	42.1	84.6%	4.1	14.0%
<u>Wet Blends</u>												
Bakery Industry	0.0	0.0%	1.2	1.9%	0.0	0.0%	1.0	0.2%	0.0	0.0%	0.0	0.0%
Dessert Toppings	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Infant Formulas	126.8	27.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Dairy Industry	88.9	19.5%	0.0	0.0%	28.9	88.9%	0.0	0.0%	0.0	0.0%	24.9	86.0%
Pudding/Mousse	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Confectionery Industry	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Other	0.0	0.0%	0.0	0.0%	0.0	0.0%	7.5	1.8%	0.0	0.0%	0.0	0.0%
TOTAL	215.7	47.3%	1.2	1.9%	28.9	88.9%	8.5	2.0%	0.0	0.0%	24.9	86.0%
<u>Confectionery Industry</u>	2.7	0.6%	1.2	1.9%	0.0	0.0%	10.1	2.3%	7.7	15.4%	0.0	0.0%
TOTAL	456.0	100.0%	64.3	100.0%	32.5	99.9%	431.1	100.0%	49.8	100.0%	29.0	100.0%
GRAND TOTAL	552.8						509.9					

¹Final marketable product only; doesn't include quantity used or shipped to another plant for further processing into dry products.



Dry Milk Products Utilization

Animal Feed¹

Four Year Comparison of End-Uses in Feed (millions of pounds)

	2017		2018		2019		2020		Change 2019-2020	
									Mil. Lbs.	Percent
<u>Dairy/Calf/Cattle Feeds</u>										
Nonfat Dry Milk	10.9	18.9%	10.2	8.8%	11.5	14.9%	9.9	39.4%	-1.6	-13.9%
Dry Whole Milk	0.1	0.2%	1.5	1.3%	0.6	0.8%	0.9	3.6%	0.3	50.0%
<u>Swine Feeds</u>										
Nonfat Dry Milk	2.6	4.5%	0.1	0.1%	0.1	0.1%	0.0	0.0%	-0.1	-100.0%
Dry Whole Milk	0.2	0.4%	0.2	0.2%	0.2	0.3%	0.0	0.0%	-0.2	-100.0%
Milk Permeate	12.0	20.8%	0.0	0.0%	15.2	19.8%	7.9	31.5%	-7.3	0.0%
<u>Pet Feeds</u>										
Nonfat Dry Milk	0.0	0.0%	7.5	6.5%	0.4	0.5%	0.0	0.0%	-0.4	100.0%
<u>Other Feeds</u>										
Nonfat Dry Milk	2.4	4.2%	20.2	17.5%	4.3	5.6%	0.4	1.6%	-3.9	-90.7%
Dry Whole Milk	0.5	0.9%	1.4	1.2%	1.0	1.3%	0.0	0.0%	-1.0	-100.0%
Dry Buttermilk	0.2	0.3%	0.7	0.6%	0.5	0.7%	0.0	0.0%	-0.5	-100.0%
<u>Feed Use, Undesignated</u>	28.7	49.8%	73.6	63.8%	43.1	56.0%	6.0	23.9%	-37.1	-86.1%
TOTAL	57.6	100.0%	115.4	100.0%	76.9	100.0%	25.1	100.0%	-51.8	-67.4%

¹ Includes both direct & indirect sales.



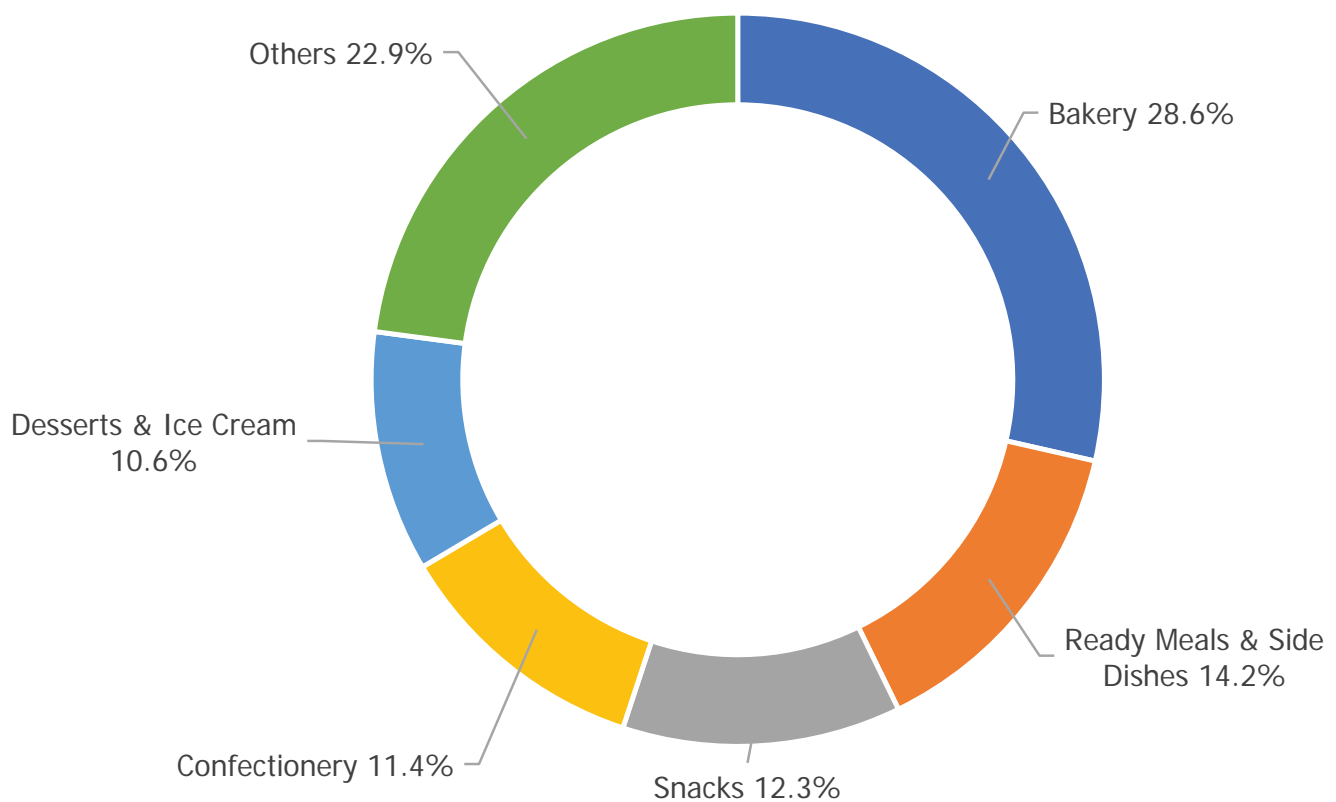
DRY MILK NEW PRODUCT INTRODUCTIONS



**American Dairy[®]
Products Institute**

Trends in New Production Introductions

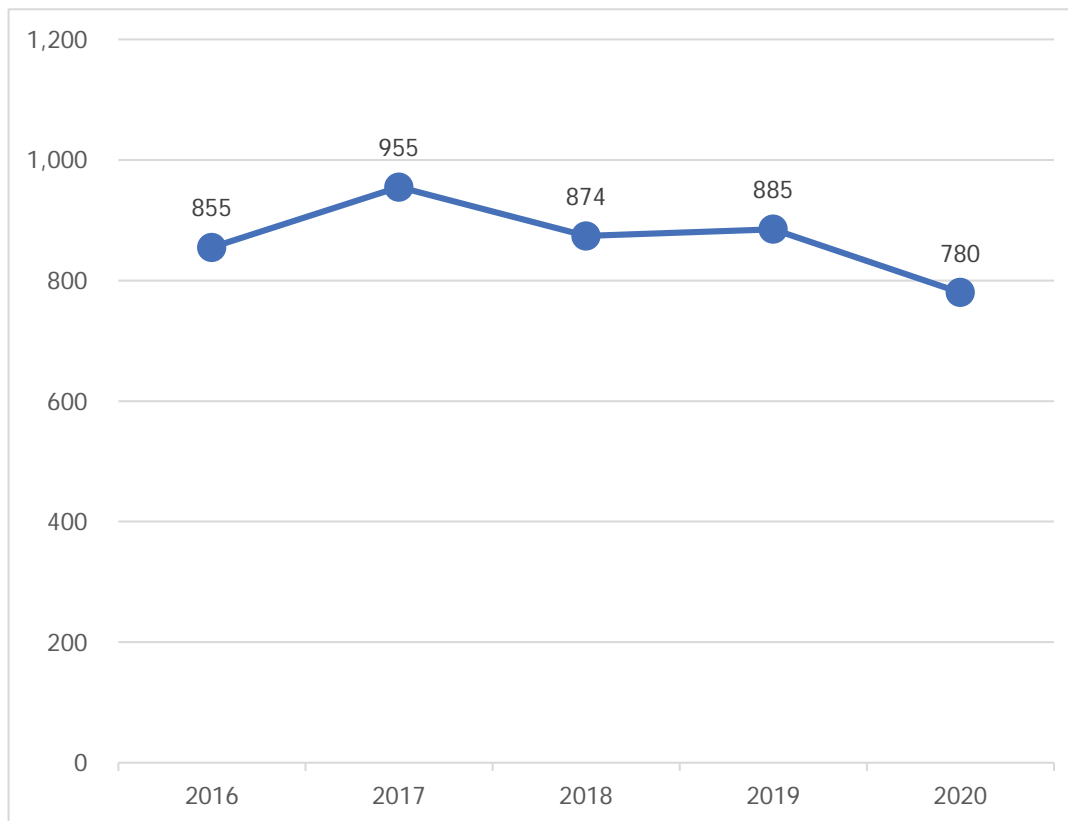
Product Introductions with Nonfat Dry Milk/SMP per Category, 2020, United States



Source: Innova Database

Nonfat Dry Milk / SMP

Product Introductions with Nonfat Dry Milk/SMP 2016 - 2020, United States



Nonfat Dry Milk / SMP

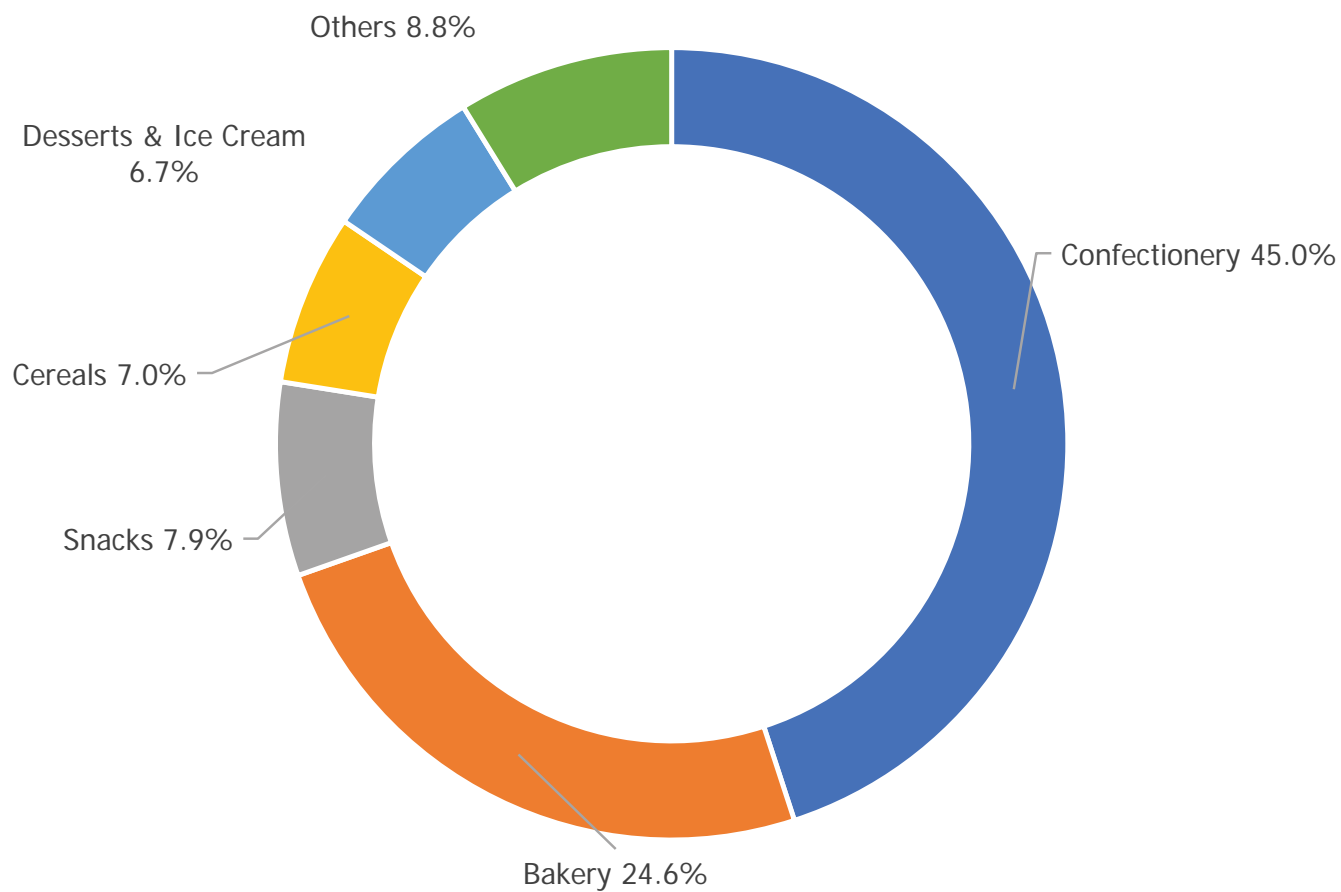
Product Introductions with Nonfat Dry Milk/SMP, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Bakery	186	21.8%	267	28.0%	200	22.9%	263	29.7%	223	28.6%
Ready Meals & Side Dishes	116	13.6%	110	11.5%	112	12.8%	115	13.0%	111	14.2%
Snacks	95	11.1%	89	9.3%	92	10.5%	100	11.3%	96	12.3%
Confectionery	99	11.6%	135	14.1%	127	14.5%	143	16.2%	89	11.4%
Desserts & Ice Cream	73	8.5%	93	9.7%	101	11.6%	72	8.1%	83	10.6%
Cereals	115	13.5%	95	9.9%	107	12.2%	91	10.3%	69	8.8%
Hot Drinks	67	7.8%	41	4.3%	47	5.4%	37	4.2%	42	5.4%
Dairy	51	6.0%	40	4.2%	32	3.7%	37	4.2%	36	4.6%
Sports Nutrition	31	3.6%	47	4.9%	39	4.5%	14	1.6%	17	2.2%
Meat, Fish & Eggs	22	2.6%	38	4.0%	17	1.9%	13	1.5%	14	1.8%
TOTAL	855		955		874		885		780	

Source: Innova Database

Whole Milk Powders

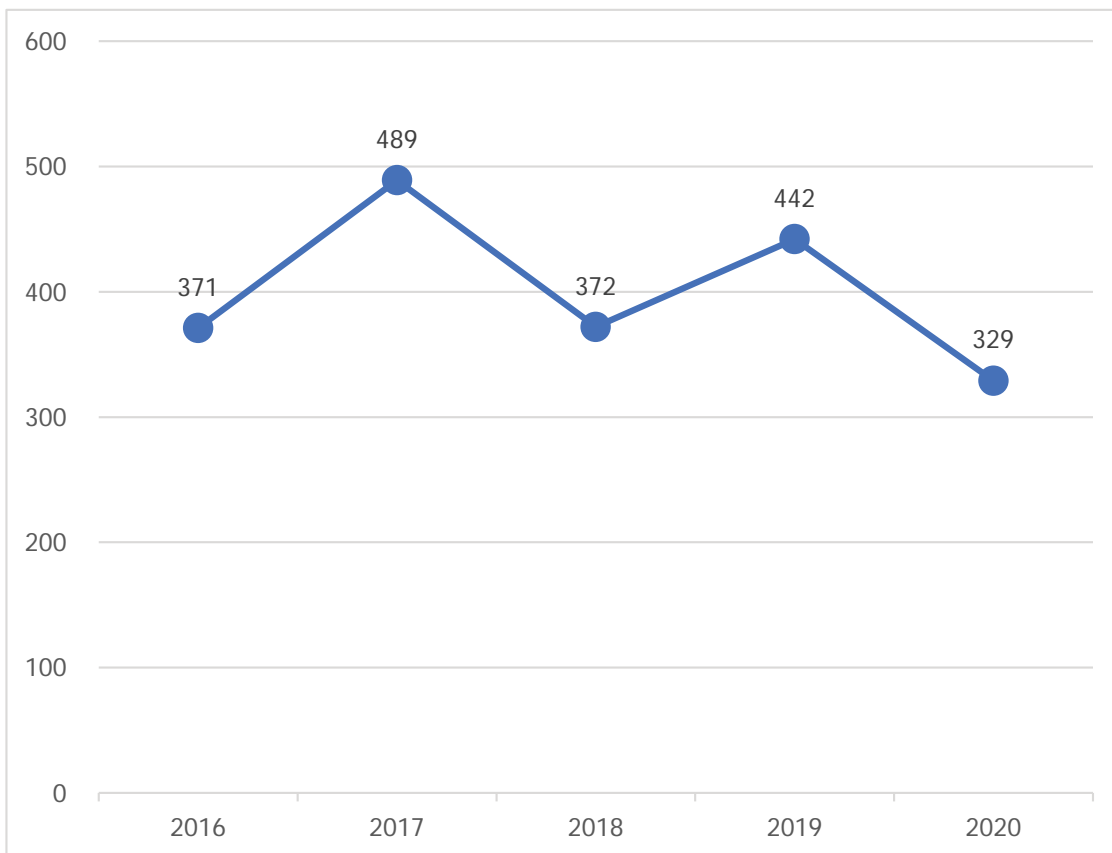
Product Introductions with Whole Milk Powder per Category, 2020, United States



Source: Innova Database

Whole Milk Powders

Product Introductions with Whole Milk Powder 2016 - 2020, United States



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Whole Milk Powders

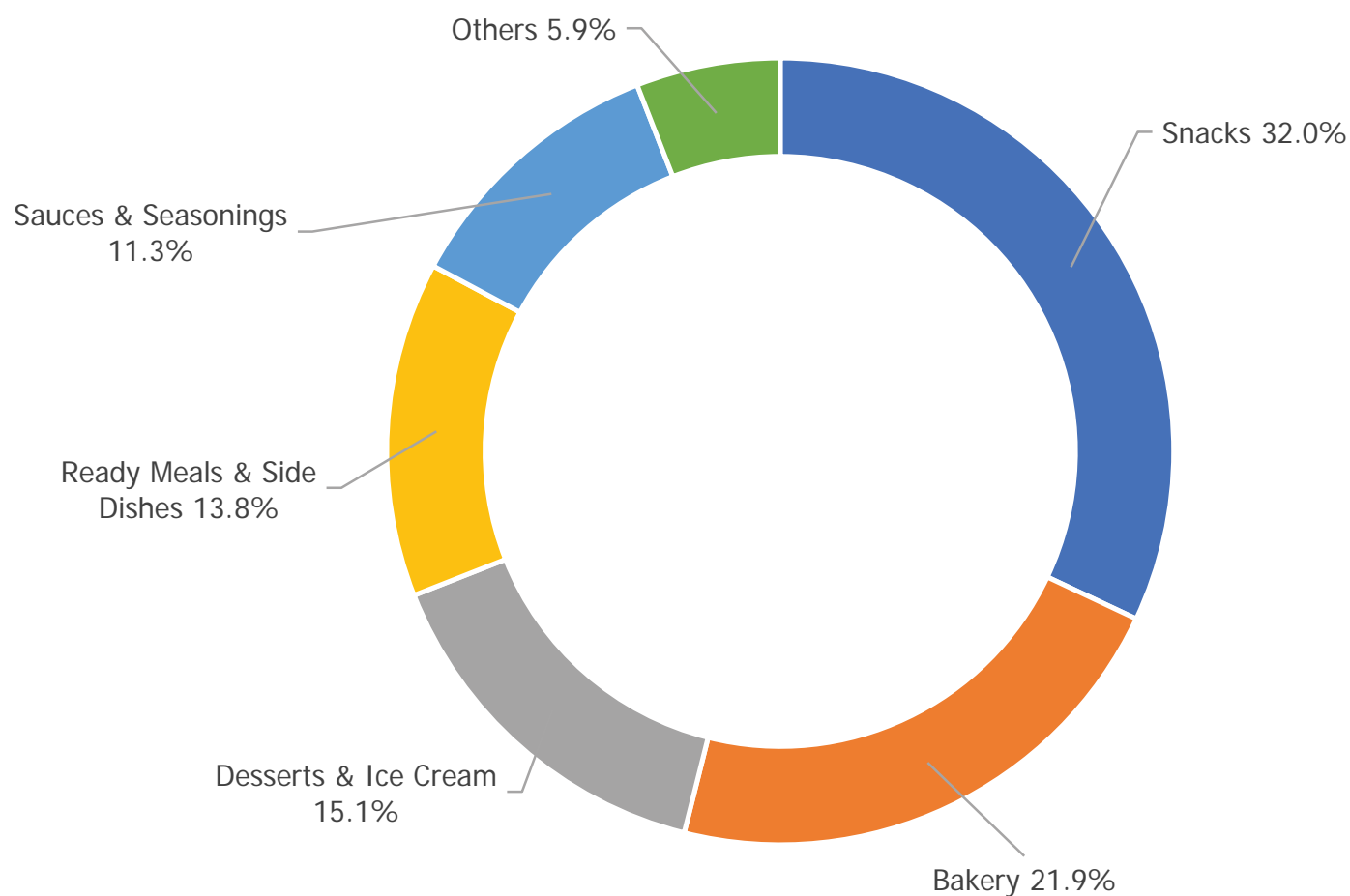
Product Introductions Whole Milk Powder, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Confectionery	174	46.9%	253	51.7%	179	48.1%	230	52.0%	148	45.0%
Bakery	72	19.4%	95	19.4%	77	20.7%	109	24.7%	81	24.6%
Snacks	20	5.4%	26	5.3%	15	4.0%	24	5.4%	26	7.9%
Cereals	35	9.4%	30	6.1%	26	7.0%	26	5.9%	23	7.0%
Desserts & Ice Cream	25	6.7%	30	6.1%	33	8.9%	21	4.8%	22	6.7%
Sports Nutrition	12	3.2%	29	5.9%	21	5.6%	15	3.4%	8	2.4%
Spreads	4	1.1%	7	1.4%	4	1.1%	6	1.4%	8	2.4%
Dairy	7	1.9%	6	1.2%	5	1.3%	2	0.5%	5	1.5%
Baby & Toddlers	5	1.3%	0	0.0%	9	2.4%	1	0.2%	5	1.5%
Ready Meals & Side Dishes	17	4.6%	13	2.7%	3	0.8%	8	1.8%	3	0.9%
TOTAL	371		489		372		442		329	

Source: Innova Database

Buttermilk Powder & Fresh Buttermilk

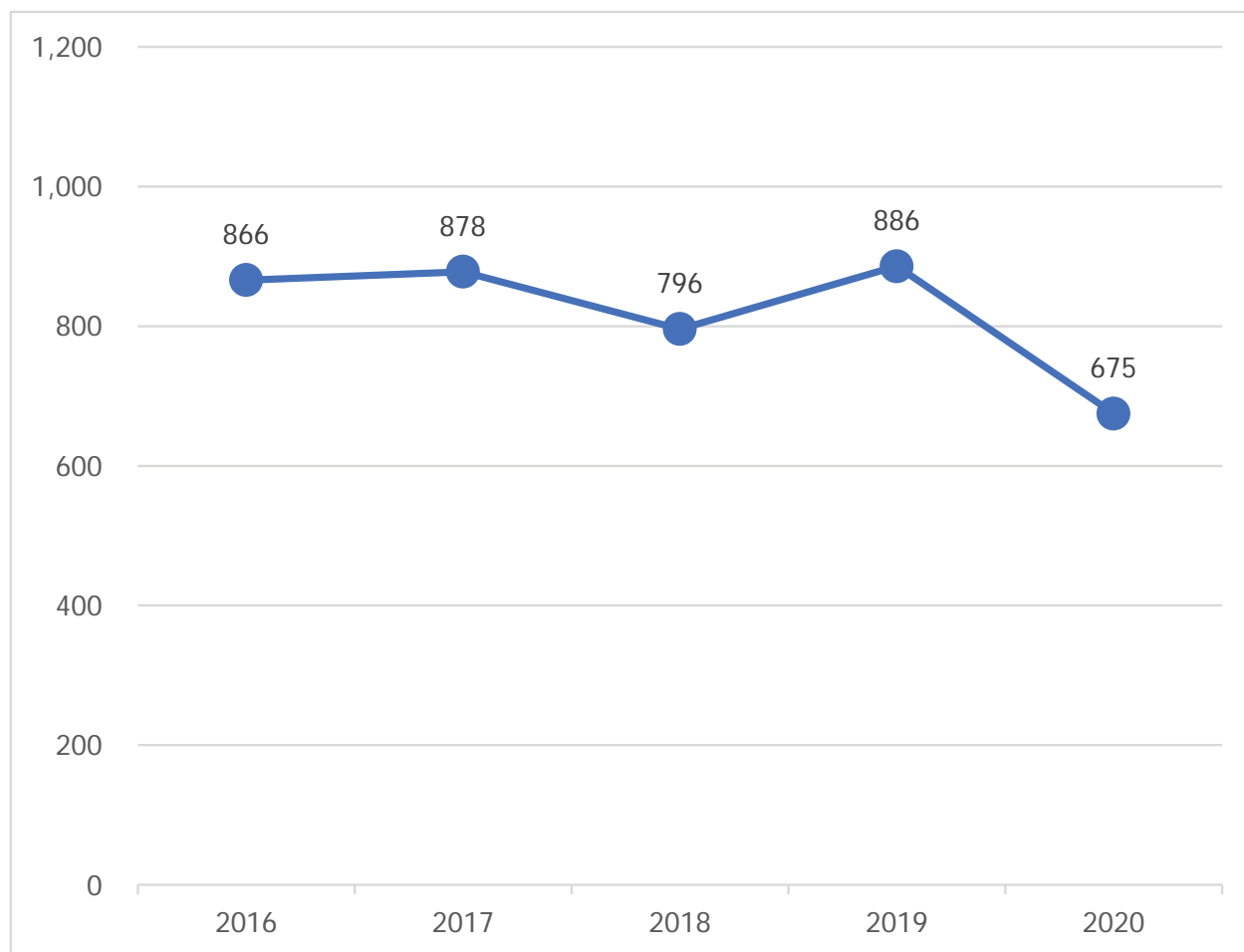
Product Introductions with Buttermilk Powder & Fresh Buttermilk per Category, 2020, United States



Source: Innova Database

Buttermilk Powder & Fresh Buttermilk

Product Introductions with Buttermilk (fresh or powder), 2016 - 2020, United States



Buttermilk Powder & Fresh Buttermilk

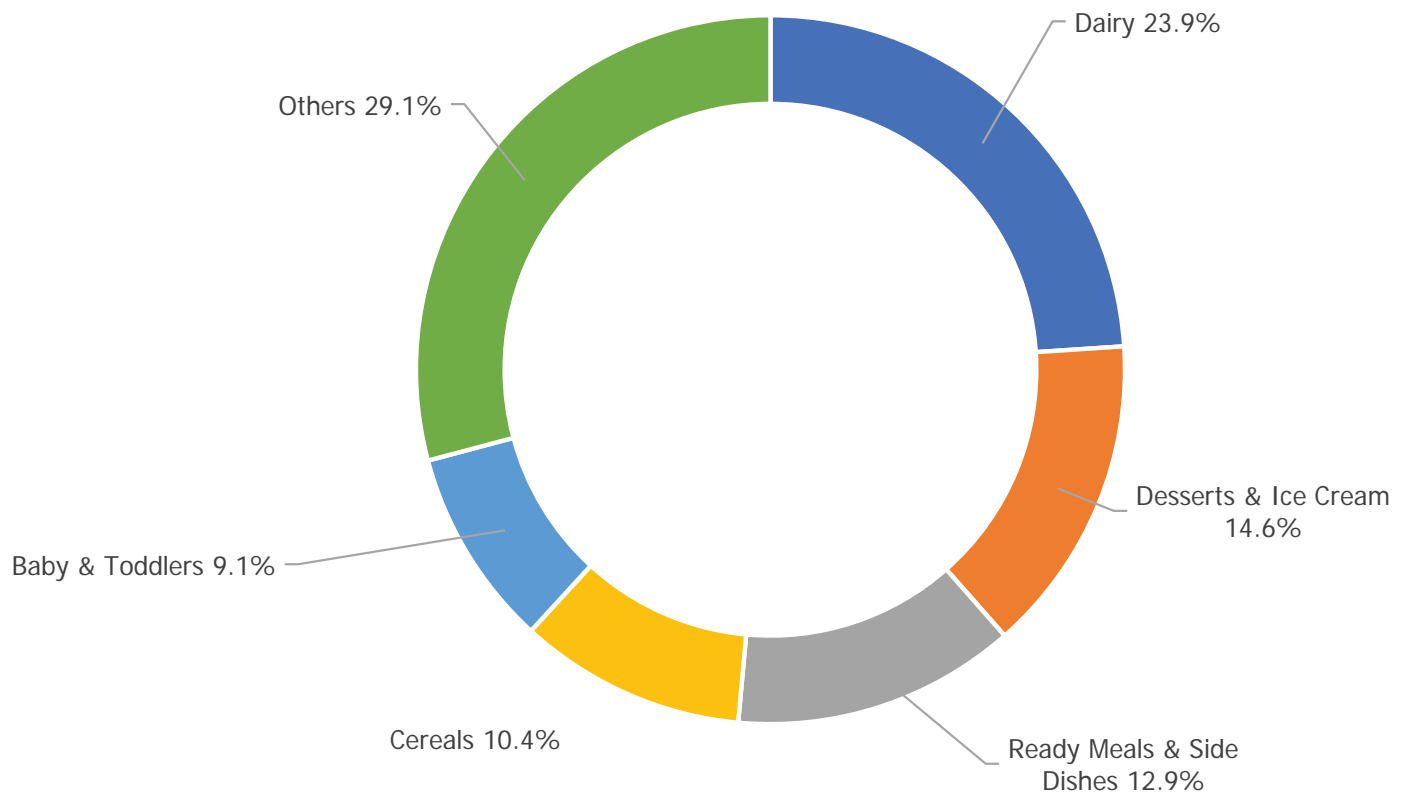
Product Introductions with Buttermilk, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Snacks	172	19.9%	217	24.7%	212	26.6%	268	30.2%	216	32.0%
Bakery	195	22.5%	243	27.7%	226	28.4%	209	23.6%	148	21.9%
Desserts & Ice Cream	204	23.6%	119	13.6%	98	12.3%	104	11.7%	102	15.1%
Ready Meals & Side Dishes	154	17.8%	136	15.5%	115	14.4%	155	17.5%	93	13.8%
Sauces & Seasonings	88	10.2%	92	10.5%	93	11.7%	83	9.4%	76	11.3%
Dairy	11	1.3%	27	3.1%	13	1.6%	21	2.4%	12	1.8%
Meat, Fish & Eggs	9	1.0%	14	1.6%	10	1.3%	10	1.1%	9	1.3%
Fruit & Vegetables	7	0.8%	11	1.3%	10	1.3%	13	1.5%	7	1.0%
Confectionery	14	1.6%	6	0.7%	10	1.3%	10	1.1%	6	0.9%
Soup	12	1.4%	13	1.5%	9	1.1%	13	1.5%	6	0.9%
TOTAL	866		878		796		886		675	

Source: Innova Database

Milk Protein Concentrates

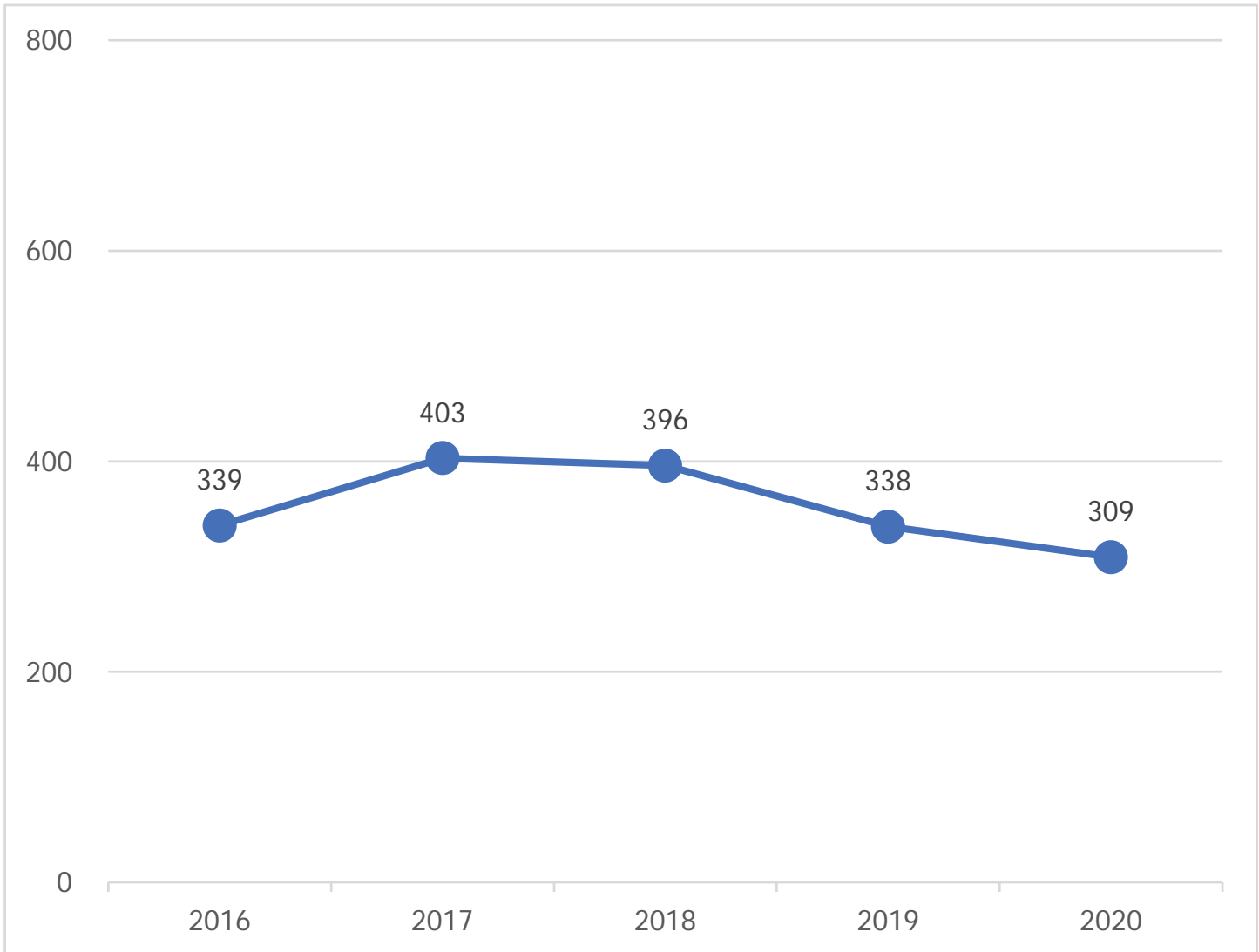
Product Introductions with Milk Protein Concentrates per Category, 2020, United States



Source: Innova Database

Milk Protein Concentrates

Product Introductions with Milk Protein Concentrates, 2016 - 2020, United States



Milk Protein Concentrates

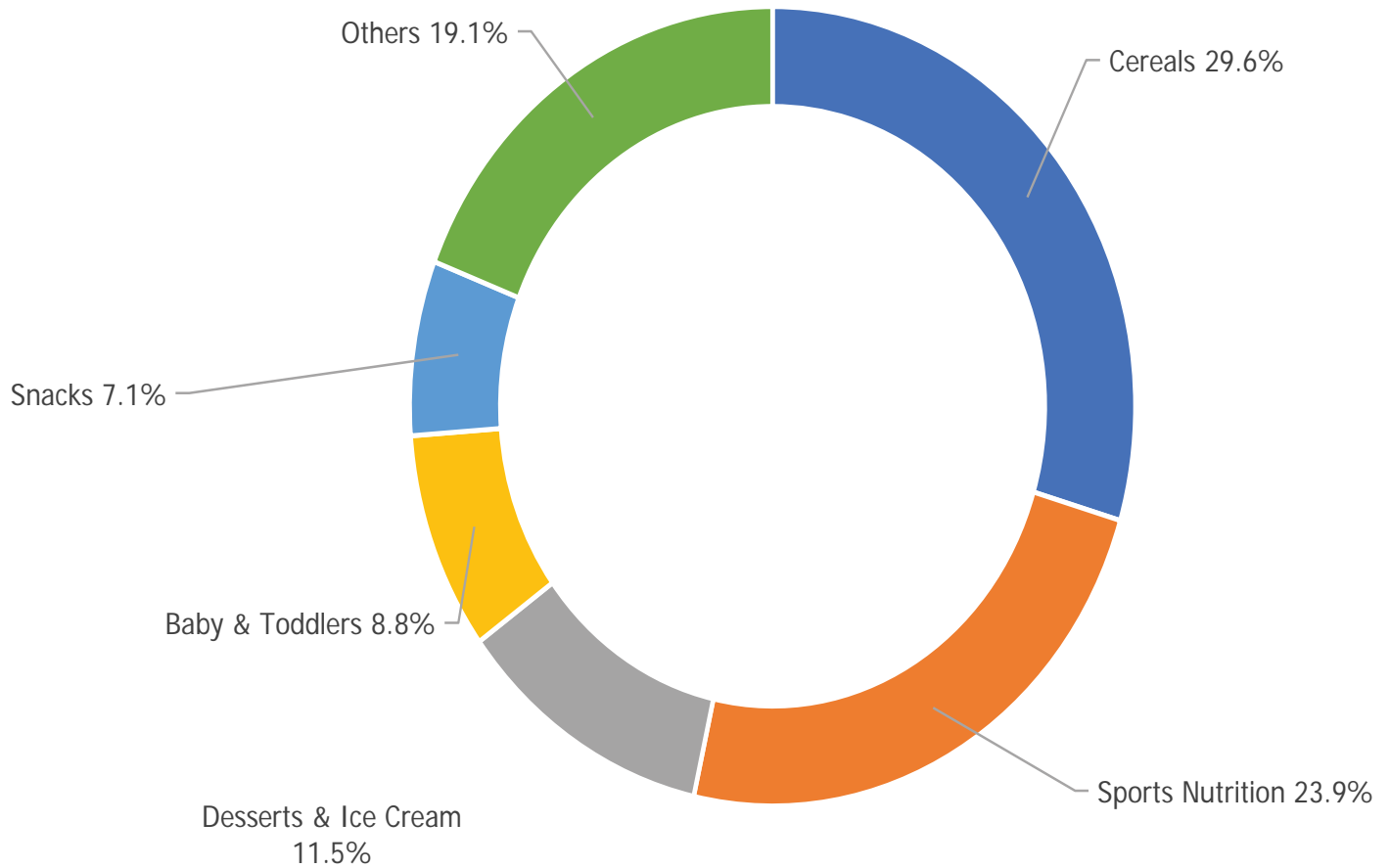
Product Introductions with Milk Protein Concentrates, 2016 - 2020, United States (Top 10 Products)

	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Dairy	79	23.3%	70	17.4%	72	18.2%	64	18.9%	74	23.9%
Desserts & Ice Cream	11	3.2%	42	10.4%	87	22.0%	67	19.8%	45	14.6%
Ready Meals & Side Dishes	51	15.0%	78	19.4%	51	12.9%	57	16.9%	40	12.9%
Cereals	16	4.7%	15	3.7%	25	6.3%	17	5.0%	32	10.4%
Baby & Toddlers	2	0.6%	3	0.7%	13	3.3%	19	5.6%	28	9.1%
Soft Drinks	38	11.2%	18	4.5%	15	3.8%	23	6.8%	26	8.4%
Bakery	19	5.6%	49	12.2%	29	7.3%	30	8.9%	25	8.1%
Sports Nutrition	108	31.9%	96	23.8%	78	19.7%	31	9.2%	19	6.1%
Snacks	8	2.4%	17	4.2%	18	4.5%	25	7.4%	17	5.5%
Confectionery	7	2.1%	15	3.7%	8	2.0%	5	1.5%	3	1.0%
TOTAL	339		403		396		338		309	

Source: Innova Database

Milk Protein Isolates

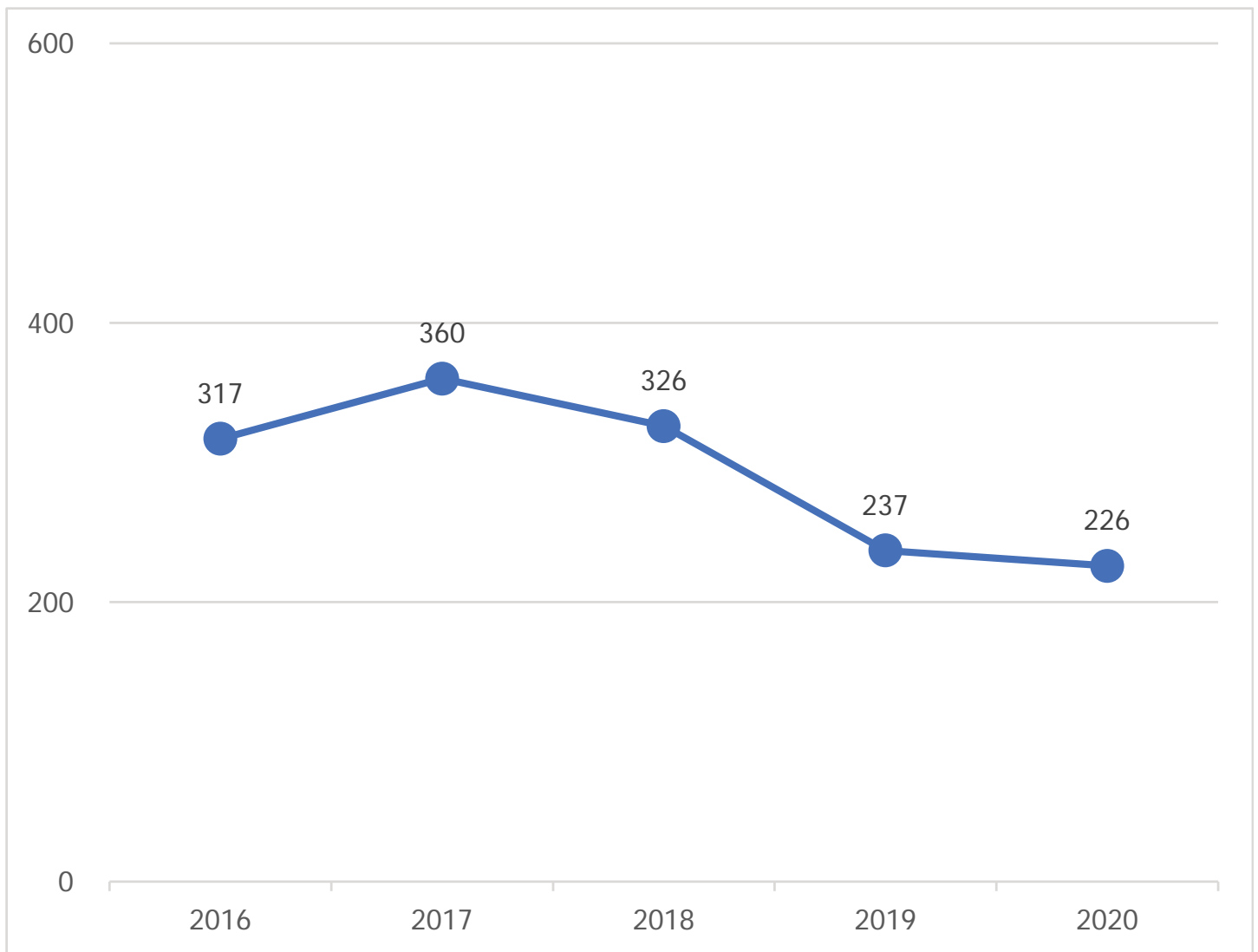
Product Introductions with Milk Protein Isolates per Category, 2020, United States



Source: Innova Database

Milk Protein Isolates

Product Introductions with Milk Protein Isolates, 2016 - 2020, United States



Milk Protein Isolates

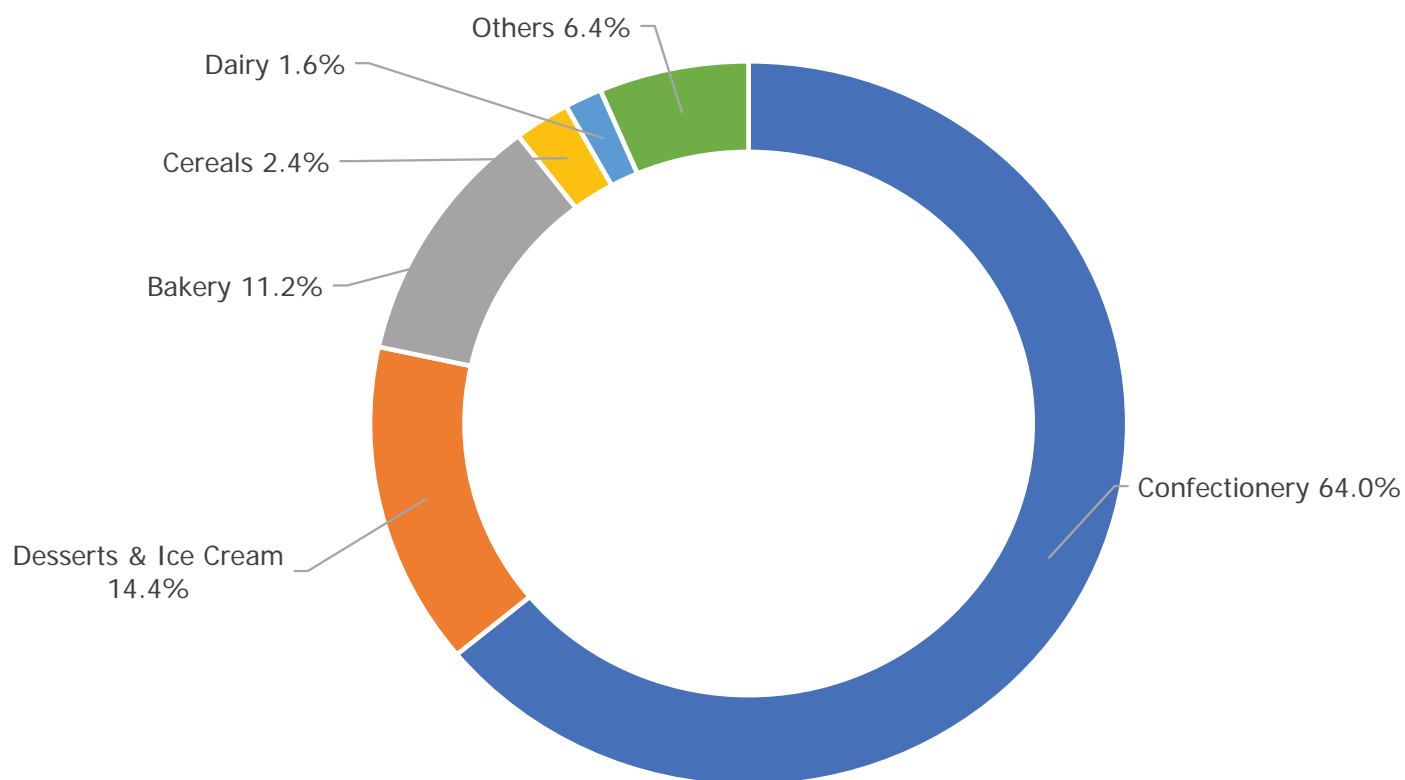
Product Introductions with Milk Protein Isolates, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Cereals	52	16.4%	66	18.3%	39	12.0%	65	27.4%	67	29.6%
Sports Nutrition	220	69.4%	195	54.2%	222	68.1%	81	34.2%	54	23.9%
Desserts & Ice Cream	3	0.9%	40	11.1%	16	4.9%	16	6.8%	26	11.5%
Baby & Toddlers	9	2.8%	12	3.3%	7	2.1%	24	10.1%	20	8.8%
Snacks	0	0.0%	3	0.8%	3	0.9%	6	2.5%	16	7.1%
Dairy	7	2.2%	15	4.2%	13	4.0%	6	2.5%	13	5.8%
Bakery	2	0.6%	8	2.2%	19	5.8%	23	9.7%	12	5.3%
Soft Drinks	18	5.7%	19	5.3%	3	0.9%	14	5.9%	11	4.9%
Confectionery	1	0.3%	2	0.6%	1	0.3%	1	0.4%	6	2.7%
Ready Meals & Side Dishes	5	1.6%	0	0.0%	3	0.9%	1	0.4%	1	0.4%
TOTAL	317		360		326		237		226	

Source: Innova Database

Condensed Milk

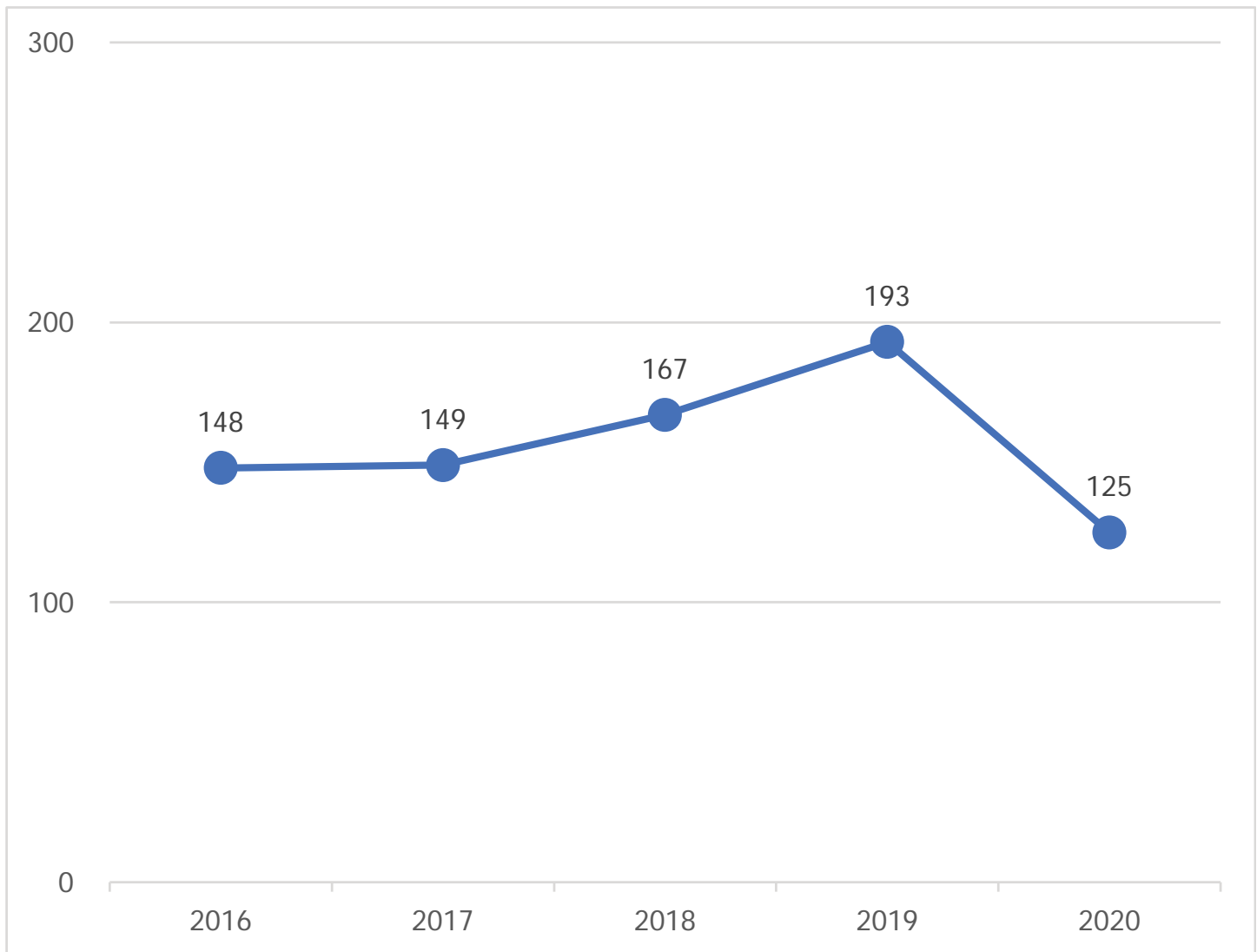
Product Introductions with Condensed Milk per Category, 2020, United States



Source: Innova Database

Condensed Milk

Product Introductions with Condensed Milk, 2016 - 2020, United States



Condensed Milk

Product Introductions with Condensed Milk, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Confectionery	91	61.5%	84	56.4%	102	61.1%	108	56.0%	80	64.0%
Desserts & Ice Cream	29	19.6%	30	20.1%	26	15.6%	42	21.8%	18	14.4%
Bakery	14	9.5%	18	12.1%	22	13.2%	23	11.9%	14	11.2%
Cereals	3	2.0%	1	0.7%	2	1.2%	2	1.0%	3	2.4%
Dairy	6	4.1%	7	4.7%	6	3.6%	10	5.2%	2	1.6%
Fruit & Vegetables	0	0.0%	0	0.0%	2	1.2%	0	0.0%	2	1.6%
Snacks	2	1.4%	3	2.0%	1	0.6%	5	2.6%	2	1.6%
Soup	0	0.0%	1	0.7%	2	1.2%	1	0.5%	2	1.6%
Hot Drinks	0	0.0%	3	2.0%	1	0.6%	0	0.0%	1	0.8%
Sports Nutrition	3	2.0%	2	1.3%	3	1.8%	2	1.0%	1	0.8%
TOTAL	148		149		167		193		125	

Source: Innova Database



WHEY PRODUCTS UTILIZATION



**American Dairy[®]
Products Institute**

Whey Utilization Data

Compilation of Whey Utilization Data

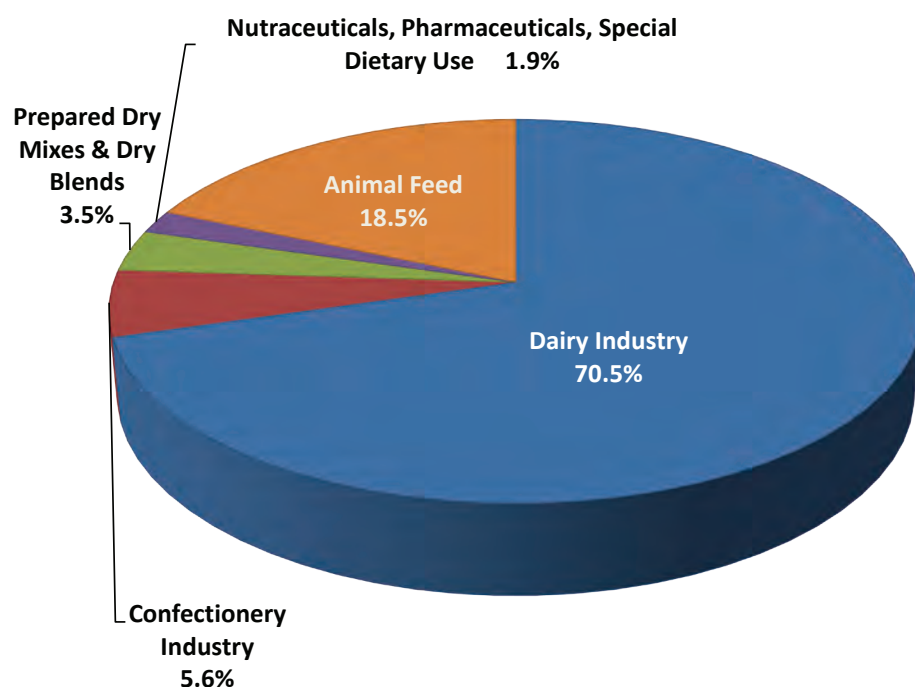
This 2020 compilation of whey products utilization represents the 46th annual industry-wide survey of end-uses for whey products. To the best of our knowledge, this Survey represents the only comprehensive analysis of how whey products are ultimately utilized in the commercial marketplace.

Members of the American Dairy Products Institute, other cooperating processors and distributors of whey-based dairy ingredients participated in this survey. Projections have been made from the survey data to the total industry. This data is intended to indicate market patterns and serve as a guide in directing promotional efforts to continue the expansion of commercial markets.

The American Dairy Products Institute expresses its sincere appreciation to all who assisted by assembling information and reporting the same to make this publication a useful marketing tool.

Information of interest to whey processors, marketers/distributors and users is included in this 2020 publication. The inclusion of such information presents a more complete picture of the whey products industry by providing an insight into supply-demand patterns and their relationship to overall marketing activities. Continued market expansion by the development of new uses for the various whey products is necessary for growing this segment of the dairy industry and reflects an ongoing purpose of the American Dairy Products Institute.

Concentrated Whey Solids Utilization



HIGHLIGHTS:

Domestic Concentrated Whey Solids Utilization decreased 13.7% to 109.0 million pounds from 126.3 in 2019.

The **Dairy Industry** remained the primary use utilizing 70.5% followed by **Confectionery Industry** (5.6%), **Prepared Dry Mixes and Dry Blends** (3.5%), and **Nutraceuticals, Pharmaceuticals, Special Dietary Use** (1.9%).

Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Dairy Industry	87.9	87.4%	86.3	86.1%	94.1	74.5%	76.8	70.5%	-17.3	-18.4%
Confectionery Industry	5.8	5.8%	6.0	6.0%	9.7	7.7%	6.1	5.6%	-3.6	-37.1%
Prepared Dry Mixes & Dry Blends	4.8	4.8%	5.3	5.3%	6.7	5.3%	3.8	3.5%	-2.9	-43.3%
Nutraceuticals, Pharmaceuticals, Special Dietary Use	2.0	2.0%	2.6	2.6%	2.5	2.0%	2.1	1.9%	-0.4	-16.0%
Animal Feed ²					13.3	10.5%	20.2	18.5%	6.9	51.9%
TOTAL DOMESTIC NON-GOVERNMENT USE	100.5	100.0%	100.2	100.0%	126.3	100.0%	109.0	100.0%	-17.3	-13.7%

¹ Revised.

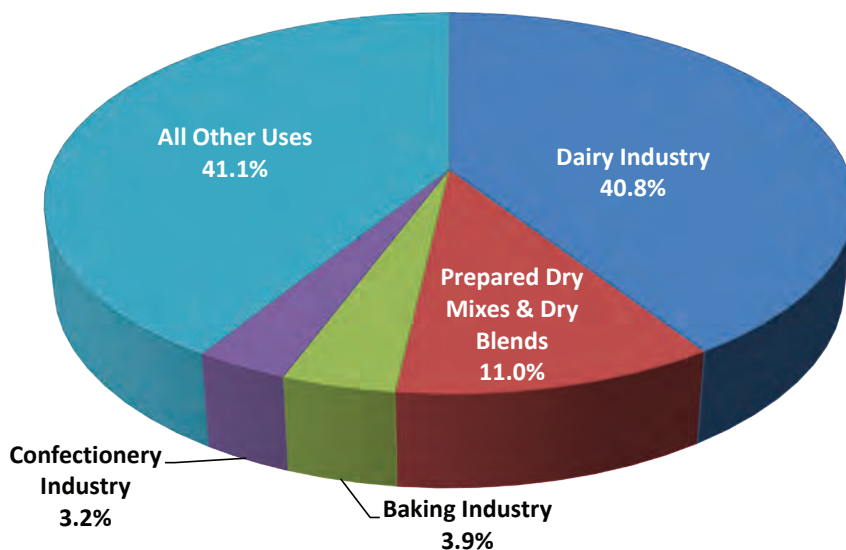
² Processed originally for human consumption.

Dry Whey Utilization

HIGHLIGHTS:

Domestic Dry Whey Utilization decreased 25.3% to 466.2 million pounds from 623.9 in 2019.

The **Dairy Industry** remained the primary use utilizing 40.8% followed by **Prepared Dry Mixes & Dry Blends** (11.0%), **Baking Industry** (3.9%) and **Confectionery Industry** (3.2%).



Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Dairy Industry	206.9	45.1%	195.3	47.9%	233.3	37.4%	190.3	40.8%	-43.0	-18.4%
Prepared Dry Mixes & Dry Blends	95.9	20.9%	84.0	20.6%	70.5	11.3%	51.1	11.0%	-19.4	-27.5%
Baking Industry	56.0	12.2%	37.1	9.1%	28.7	4.6%	18.1	3.9%	-10.6	-36.9%
Confectionery Industry	33.5	7.3%	21.2	5.2%	25.0	4.0%	14.9	3.2%	-10.1	-40.4%
Hot Cocoa Mixes	14.2	3.1%	12.6	3.1%	14.4	2.3%	13.4	2.9%	-1.0	-6.9%
Pudding/Mousse	11.0	2.4%	4.5	1.1%	20.6	3.3%	13.1	2.8%	-7.5	-36.4%
Nutraceuticals, Pharmaceuticals, Special Dietary Use	5.0	1.1%	9.4	2.3%	16.2	2.6%	5.9	1.3%	-10.3	-63.6%
Institutional Use	6.0	1.3%	4.9	1.2%	3.1	0.5%	3.3	0.7%	0.2	6.5%
Animal Feed ²					173.4	27.8%	119.6	25.6%	-53.8	-31.0%
All Other Uses	30.3	6.6%	38.8	9.5%	38.7	6.2%	36.5	7.8%	-2.2	-5.7%
TOTAL DOMESTIC NON-GOVERNMENT USE	458.8	100.0%	407.8	100.0%	623.9	100.0%	466.2	100.0%	-157.7	-25.3%
Government & Export Sales	470.8		487.3		338.4		472.1		133.7	39.5%
TOTAL SALES	929.6		895.1		962.3		938.3		-24.0	-2.5%

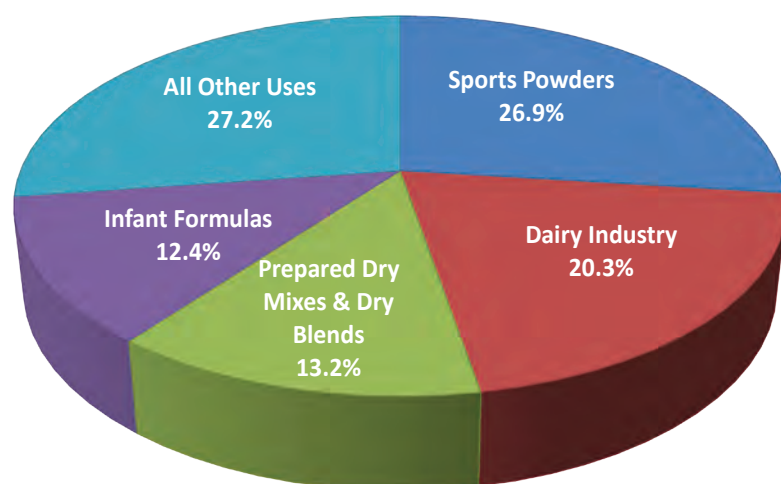
¹ Revised.

² Processed originally for human consumption.

Four Year Comparison of Export Sales (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Dairy Industry	178.0	37.8%	191.5	39.3%	167.2	49.4%	227.7	48.2%	60.5	36.2%
Prepared Dry Mixes & Dry Blends	121.9	25.9%	105.7	21.7%	95.1	28.1%	97.8	20.7%	2.7	2.8%
Nutraceuticals, Pharmaceuticals, Special Dietary Use	96.5	20.5%	85.8	17.6%	40.9	12.1%	26.8	5.7%	(14.1)	-34.5%
Confectionery Industry	41.4	8.8%	55.6	11.4%	18.6	5.5%	15.1	3.2%	(3.5)	-18.8%
Baking Industry	32.5	6.9%	48.7	10.0%	8.5	2.5%	10.3	2.2%	1.8	21.2%
Hot Cocoa Mixes	0.5	0.1%	0.0	0.0%	8.1	2.4%	7.8	1.7%	(0.3)	-3.7%
Animal Feed ²							86.6	18.3%		
TOTAL EXPORT SALES	470.8	100.0%	487.3	100.0%	338.4	100.0%	472.1	100.0%	133.7	39.5%

Whey Protein Concentrate Utilization



HIGHLIGHTS:

Domestic Whey Protein Concentrate Utilization decreased 27.4% to 206.7 million pounds from 284.7 in 2019.

Sports Powders was the primary use utilizing 26.9% followed by **Dairy Industry** (20.3%), **Prepared Dry Mixes & Dry Blends** (13.2%) and **Infant Formulas** (12.4%).

Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Sports Powders	54.0	28.1%	79.9	32.9%	97.1	34.1%	55.6	26.9%	-41.5	-42.7%
Dairy Industry	35.8	18.6%	38.6	15.9%	40.7	14.3%	42.0	20.3%	1.3	3.2%
Prepared Dry Mixes & Dry Blends	21.5	11.2%	21.6	8.9%	30.2	10.6%	27.3	13.2%	-2.9	-9.6%
Infant Formulas	31.5	16.4%	27.4	11.3%	29.9	10.5%	25.6	12.4%	-4.3	-14.4%
Mainstream Nutrition	1.5	0.8%	8.5	3.5%	18.5	6.5%	19.0	9.2%	0.5	2.7%
Sports Bars	11.4	5.9%	10.9	4.5%	15.7	5.5%	3.3	1.6%	-12.4	-79.0%
Sports Beverages	11.6	6.0%	27.2	11.2%	14.8	5.2%	2.6	1.3%	-12.2	-82.4%
Baking Industry	5.8	3.0%	3.9	1.6%	4.8	1.7%	1.1	0.5%	-3.7	-77.1%
Beverage Manufacturers	1.9	1.0%	2.4	1.0%	2.3	0.8%	0.0	0.0%	-2.3	-100.0%
Confectionery Industry	2.3	1.2%	3.6	1.5%	1.1	0.4%	0.8	0.4%	-0.3	-27.3%
Animal Feed ²					18.5	6.5%	15.9	7.7%	-2.6	-14.1%
All Other Uses	15.0	7.8%	18.7	7.7%	11.1	3.9%	13.5	6.5%	2.4	21.6%
TOTAL DOMESTIC NON-GOVERNMENT USE	192.3	100.0%	242.7	100.0%	284.7	100.0%	206.7	100.0%	-78.0	-27.4%
Government & Export Sales	320.7		329.9		274.7		320.9		46.2	16.8%
TOTAL SALES	513.0		572.6		559.4		527.6		-31.8	-5.7%

¹ Revised.

²Processed originally for human consumption.

Four Year Comparison of Export Sales (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Infant Formulas	112.6	35.1%	107.5	32.6%	95.7	34.9%	115.5	36.0%	19.8	20.7%
Sports Bars	61.6	19.2%	62.0	18.8%	47.2	17.2%	61.4	19.1%	14.2	30.1%
Dairy Industry	18.6	5.8%	44.9	13.6%	38.0	13.8%	43.9	13.7%	5.9	15.5%
Prepared Dry Mixes & Dry Blends	14.1	4.4%	15.2	4.6%	17.0	6.2%	24.8	7.7%	7.8	45.9%
Beverage Manufacturers	55.5	17.3%	48.2	14.6%	23.6	8.6%	22.4	7.0%	-1.2	-5.1%
Mainstream Nutrition	3.8	1.2%	4.6	1.4%	4.8	1.8%	15.1	4.7%	10.3	214.6%
Sports Powders	22.4	7.0%	27.1	8.2%	19.7	7.1%	14.7	4.6%	-5.0	-25.4%
Baking Industry	2.6	0.8%	3.0	0.9%	4.0	1.4%	2.7	0.9%	-1.3	-32.5%
Confectionery Industry	6.1	1.9%	4.6	1.4%	1.4	0.5%	2.0	0.6%	0.6	42.9%
Sports Beverages	0.3	0.1%	1.6	0.5%	0.0	0.0%	1.1	0.3%	1.1	100.0%
Animal Feed ²							7.3	2.3%		
All Other Uses	23.1	7.2%	11.2	3.4%	23.3	8.5%	10.0	3.1%	-13.3	-57.1%
TOTAL EXPORT SALES	320.7	100.0%	329.9	100.0%	274.7	100.0%	320.9	100.0%	46.2	16.8%

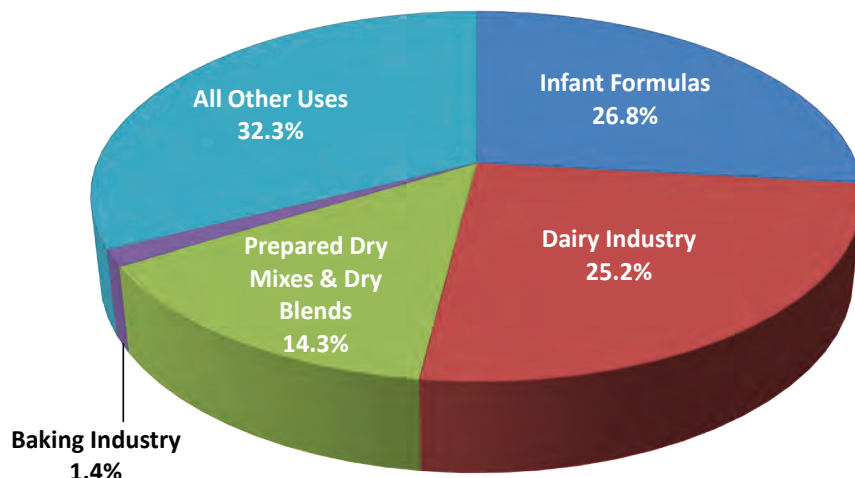
Whey Protein Concentrate Utilization

HIGHLIGHTS:

Domestic Whey Protein Concentrate (25.0%-49.9%) Utilization decreased 25.4% to 78.5 million pounds from 105.2 in 2019.

Infant Formulas was the primary use utilizing 26.8% followed by **Dairy Industry** (25.2%), **Prepared Dry Mixes & Dry Blends** (14.3%) and **Baking Industry** (1.4%).

(25.0% - 49.9% Protein)



Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Infant Formulas	19.4	26.7%	32.7	34.7%	31.4	29.8%	21.0	26.8%	-10.4	-33.1%
Dairy Industry	24.7	34.0%	28.1	29.8%	28.6	27.2%	19.8	25.2%	-8.8	-30.8%
Prepared Dry Mixes & Dry Blends	7.6	10.5%	24.4	25.9%	24.3	23.1%	11.2	14.3%	-13.1	-53.9%
Baking Industry	8.4	11.6%	4.0	4.3%	1.7	1.6%	1.1	1.4%	-0.6	-35.3%
Mainstream Nutrition	0.0	0.0%	0.0	0.0%	1.3	1.2%	0.9	1.1%	-0.4	-30.8%
Sports Beverages	3.1	4.3%	0.1	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Sports Powders	0.7	0.9%	0.1	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Animal Feed ²					9.3	8.8%	13.3	16.9%	4.0	43.0%
All Other Uses	8.7	12.0%	4.8	5.1%	8.6	8.3%	11.2	14.3%	2.6	30.2%
TOTAL DOMESTIC NON-GOVERNMENT USE	72.6	100.0%	94.2	100.0%	105.2	100.0%	78.5	100.0%	-26.7	-25.4%
Government & Export Sales	121.0		128.0		101.5		121.9		20.4	20.1%
TOTAL SALES	193.6		222.2		206.7		200.4		-6.3	-3.0%

¹ Revised.

² Processed originally for human consumption.

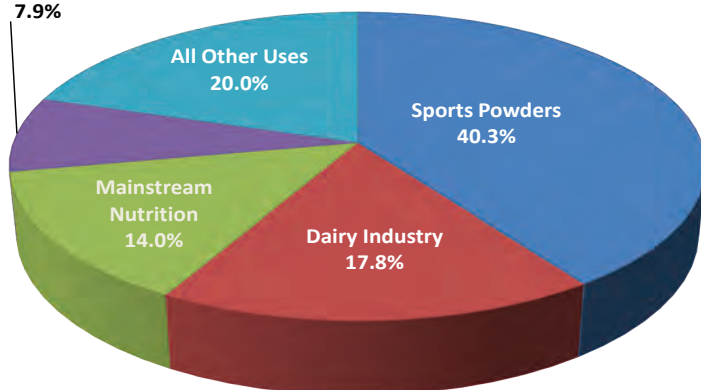
Four Year Comparison of Export Sales (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Infant Formulas	88.6	73.2%	86.3	67.4%	76.1	75.0%	97.2	79.8%	21.1	27.7%
Prepared Dry Mixes & Dry Blends	17.8	14.7%	19.6	15.3%	16.4	16.1%	11.6	9.5%	-4.8	-29.3%
Dairy Industry	10.6	8.8%	15.9	12.4%	8.4	8.3%	9.4	7.7%	1.0	11.8%
Sports Powders	0.2	0.2%	0.6	0.5%	0.6	0.6%	0.4	0.3%	-0.2	-33.3%
Confectionery Industry	1.6	1.3%	3.0	2.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Mainstream Nutrition	1.0	0.8%	1.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Beverage Manufacturers	0.6	0.5%	0.6	0.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Animal Feed ²							3.3	2.7%		
All Other Uses	0.6	0.5%	1.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%
TOTAL EXPORT SALES	121.0	100.0%	128.0	100.0%	101.5	100.0%	121.9	100.0%	20.4	20.1%

Whey Protein Concentrate Utilization

(50.0% - 89.9% Protein)

Prepared Dry Mixes &
Dry Blends
7.9%



HIGHLIGHTS:

Domestic Whey Protein Concentrate (50.0%-89.9%) Utilization decreased 28.6% to 128.2 million pounds from 179.5 in 2019.

Sports Powders was the primary use utilizing 40.3% followed by **Dairy Industry** (17.8%) **Mainstream Nutrition** (14.0%) and **Prepared Dry Mixes & Dry Blends** (7.9%).

Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Sports Powders	65.7	54.9%	67.1	45.2%	84.0	46.8%	51.6	40.3%	-32.4	-38.6%
Dairy Industry	6.6	5.5%	15.9	10.7%	16.9	9.4%	22.8	17.8%	5.9	34.9%
Mainstream Nutrition	3.4	2.8%	7.3	4.9%	15.3	8.5%	17.9	14.0%	2.6	17.0%
Prepared Dry Mixes & Dry Blends	12.5	10.5%	13.8	9.3%	10.8	6.0%	10.1	7.9%	-0.7	-6.5%
Infant Formulas	3.2	2.7%	3.9	2.6%	5.9	3.3%	6.3	4.9%	0.4	6.8%
Sports Bars	12.8	10.7%	18.4	12.4%	13.6	7.6%	6.1	4.8%	-7.5	-55.1%
Sports Beverages	3.0	2.5%	2.7	1.8%	12.9	7.2%	5.5	4.3%	-7.4	-57.4%
Confectionery Industry	1.1	0.9%	1.0	0.7%	1.1	0.6%	0.8	0.6%	-0.3	-27.3%
Baking Industry	2.9	2.4%	3.3	2.2%	3.2	1.8%	0.5	0.4%	-2.7	-84.4%
Hot Cocoa	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.2	0.1%	0.2	100.0%
Beverage Manufacturers	1.8	1.5%	2.2	1.5%	1.6	0.9%	0.0	0.0%	-1.6	-100.0%
Animal Feed ²					10.2	5.7%	3.5	2.8%	-6.7	-65.7%
All Other Uses	6.7	5.6%	12.9	8.7%	4.0	2.2%	2.9	2.1%	-1.1	-27.5%
TOTAL DOMESTIC NON-GOVERNMENT USE	119.7	100.0%	148.5	100.0%	179.5	100.0%	128.2	100.0%	-51.3	-28.6%
Government & Export Sales	199.7		201.9		173.2		199.0		25.8	14.9%
TOTAL SALES	319.4		350.4		352.7		327.2		-25.5	-7.2%

¹ Revised.

² Processed originally for human consumption.

Four Year Comparison of Export Sales (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Sports Bars	71.4	35.8%	71.5	35.4%	51.9	30.0%	62.3	31.3%	10.4	20.0%
Dairy Industry	40.1	20.1%	42.2	20.9%	31.3	18.1%	38.7	19.5%	7.4	23.6%
Sports Powders	24.0	12.0%	23.6	11.7%	21.7	12.5%	22.7	11.4%	1.0	4.6%
Infant Formulas	4.2	2.1%	10.9	5.4%	21.3	12.3%	21.4	10.8%	0.1	0.5%
Prepared Dry Mixes & Dry Blends	17.0	8.5%	9.9	4.9%	9.7	5.6%	16.4	8.2%	6.7	69.1%
Mainstream Nutrition	3.8	1.9%	4.7	2.3%	5.4	3.1%	10.3	5.2%	4.9	90.7%
Baking Industry	3.0	1.5%	2.2	1.1%	4.3	2.5%	3.6	1.8%	-0.7	-16.3%
Confectionery Industry	6.0	3.0%	4.2	2.1%	1.6	0.9%	2.0	1.0%	0.4	25.0%
Beverage Manufacturers	4.2	2.1%	10.7	5.3%	0.5	0.3%	0.2	0.1%	-0.3	-60.0%
Animal Feed ²							4.0	2.0%		
All Other Uses	26.0	13.0%	22.0	10.9%	25.5	14.7%	17.4	8.7%	-8.1	-31.8%
TOTAL EXPORT SALES	199.7	100.0%	201.9	100.0%	173.2	100.0%	199.0	100.0%	25.8	14.9%

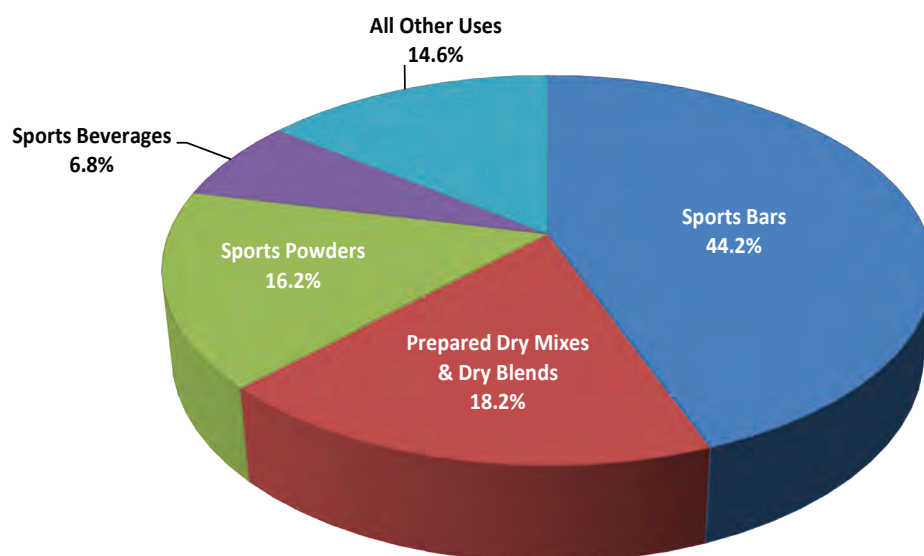
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Whey Protein Isolate Utilization

HIGHLIGHTS:

Domestic Whey Protein Isolate Utilization decreased 13.5% to 100.6 million pounds from 116.3 in 2019.

Sports Bars was the primary use utilizing 44.2% followed by **Prepared Dry Mixes & Dry Blends** (18.2%), **Sports Powders** (16.2%) and **Sports Beverages** (6.8%).



Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Sports Bars	34.4	48.3%	55.1	48.8%	57.7	49.6%	44.5	44.2%	-13.2	-22.9%
Prepared Dry Mixes & Dry Blends	14.9	21.0%	23.7	21.0%	24.4	21.0%	18.3	18.2%	-6.1	-25.0%
Sports Powders	8.7	12.2%	14.4	12.8%	15.5	13.3%	16.3	16.2%	0.8	5.2%
Sports Beverages	3.5	4.9%	7.4	6.6%	5.5	4.7%	6.9	6.8%	1.4	25.5%
Mainstream Nutrition	2.6	3.7%	5.8	5.1%	4.9	4.2%	4.9	4.9%	0.0	0.0%
Dairy Industry	1.6	2.2%	2.6	2.3%	3.6	3.1%	3.0	3.0%	-0.6	-16.7%
Confectionery Industry	0.6	0.9%	1.4	1.2%	1.6	1.4%	1.5	1.5%	-0.1	-6.3%
Baking Industry	1.6	2.2%	1.5	1.3%	0.8	0.7%	0.9	0.9%	0.1	12.5%
Infant Formulas	0.0	0.0%	0.0	0.0%	0.0	0.0%	2.7	2.7%	2.7	100.0%
Animal Feed ²					0.5	0.4%	0.4	0.4%	-0.1	-20.0%
All Other Uses	3.3	4.6%	1.0	0.9%	1.8	1.6%	1.2	1.2%	-0.6	-33.3%
TOTAL DOMESTIC NON-GOVERNMENT USE	71.2	100.0%	112.9	100.0%	116.3	100.0%	100.6	100.0%	-15.7	-13.5%
Government & Export Sales	11.8		14.2		15.6		20.3		4.7	30.1%
TOTAL SALES	83.0		127.1		131.9		120.9		-11.0	-8.3%

¹ Revised.

² Processed originally for human consumption.

Four Year Comparison of Export Sales (millions of pounds)

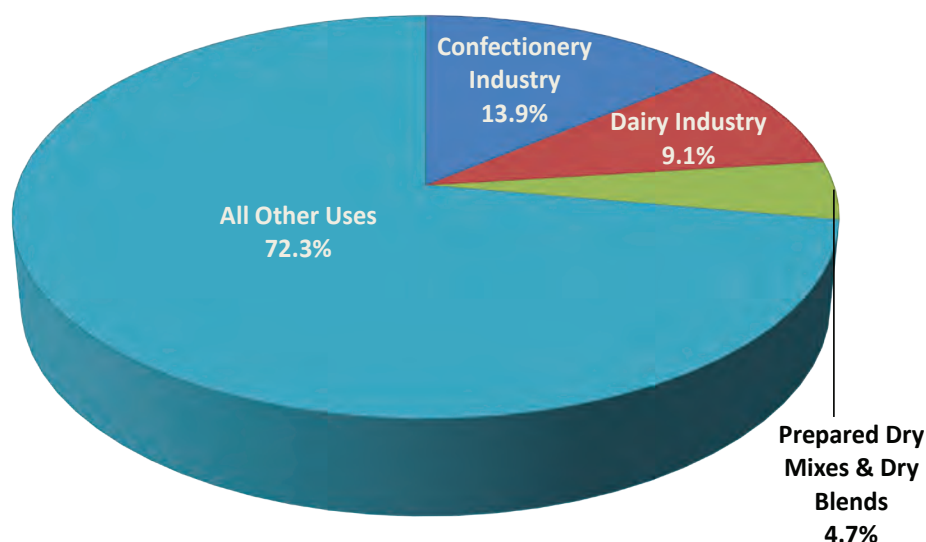
	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Infant Formulas	5.4	45.6%	6.7	46.9%	7.4	47.2%	9.3	45.8%	1.9	25.7%
Sports Bars	5.9	50.0%	6.1	43.0%	6.9	44.4%	8.9	43.7%	2.0	29.0%
Beverage Manufacturers	0.0	0.0%	0.8	5.7%	0.9	5.6%	0.8	4.6%	-0.1	-11.1%
Sports Powders	0.3	2.9%	0.3	2.2%	0.2	1.4%	0.6	2.7%	0.4	200.0%
Dairy Industry	0.2	1.5%	0.3	2.2%	0.2	1.4%	0.6	2.7%	0.4	200.0%
Animal Feed ²							0.1	0.5%		
TOTAL EXPORT SALES	11.8	100.0%	14.2	100.0%	15.6	100.0%	20.3	100.0%	4.7	30.1%

Reduced Lactose & Reduced Minerals Whey Utilization

HIGHLIGHTS:

Domestic Reduced Lactose & Reduced Minerals Whey Utilization decreased 12.8% to 19.1 million pounds from 21.9 in 2019.

The **Confectionery Industry** remained the primary use utilizing 13.9% followed by the **Dairy Industry** (9.1%) and **Prepared Dry Mixes & Dry Blends** (4.7%).



Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Confectionery Industry	10.1	58.0%	5.8	55.8%	6.9	31.4%	2.7	13.9%	-4.2	-60.9%
Dairy Industry	4.7	27.0%	2.3	21.7%	2.4	11.1%	1.7	9.1%	-0.7	-29.2%
Prepared Dry Mixes & Dry Blends	2.1	12.1%	1.6	15.8%	1.7	7.7%	0.9	4.7%	-0.8	-47.1%
Baking Industry	0.4	2.3%	0.3	2.5%	0.4	1.8%	0.0	0.0%	-0.4	-100.0%
Animal Feed ¹					10.1	46.1%	13.2	69.3%	3.1	30.7%
All Other Uses	0.1	0.6%	0.4	4.2%	0.4	1.9%	0.6	3.0%	0.2	50.0%
TOTAL DOMESTIC NON-GOVERNMENT USE	17.4	100.0%	10.4	100.0%	21.9	100.0%	19.1	100.0%	-2.8	-12.8%

¹ Revised.

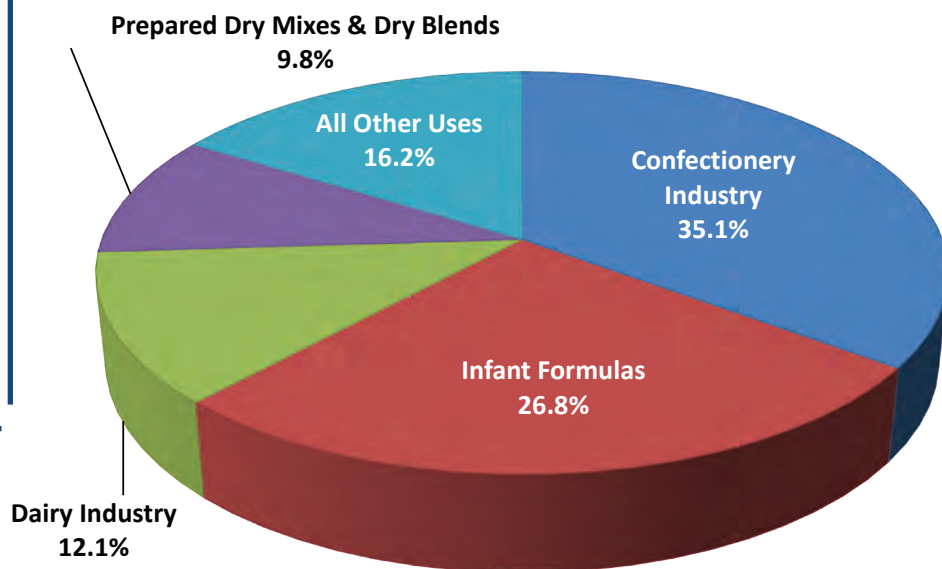
² Processed originally for human consumption.

Lactose Utilization

HIGHLIGHTS:

Domestic Lactose Utilization decreased 32.6% to 266.6 million pounds from 395.8 in 2019.

The **Confectionery Industry** remained the primary use utilizing 35.1% followed by **Infant Formulas** (26.8%), **Dairy Industry** (12.1%) and **Prepared Dry Mixes & Dry Blends** (9.8%)



Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Confectionery Industry	114.0	37.7%	115.2	36.1%	140.9	35.6%	93.6	35.1%	-47.3	-33.6%
Infant Formulas	92.8	30.7%	92.6	29.0%	114.0	28.8%	71.5	26.8%	-42.5	-37.3%
Dairy Industry	24.8	8.2%	27.1	8.5%	33.2	8.4%	32.2	12.1%	-1.0	-3.0%
Prepared Dry Mixes & Dry Blends	25.1	8.3%	26.8	8.4%	34.1	8.6%	26.2	9.8%	-7.9	-23.2%
Nutraceuticals, Pharmaceuticals, Special Dietary Use	11.8	3.9%	17.9	5.6%	25.7	6.5%	18.1	6.8%	-7.6	-29.6%
Baking Industry	16.6	5.5%	17.2	5.4%	14.2	3.6%	9.1	3.4%	-5.1	-35.9%
Institutional Use	0.3	0.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Animal Feed ²					11.9	3.0%	8.2	3.1%	-3.7	-31.1%
All Other Uses	16.9	5.6%	22.4	7.0%	21.8	5.5%	7.7	2.9%	-14.1	-64.7%
TOTAL DOMESTIC NON-GOVERNMENT USE	302.3	100.0%	319.2	100.0%	395.8	100.0%	266.6	100.0%	-129.2	-32.6%
Government & Export Sales	796.3		864.6		833.6		831.0		-2.6	-0.3%
TOTAL SALES	1,098.6		1,183.8		1,229.4		1,097.6		-131.8	-10.7%

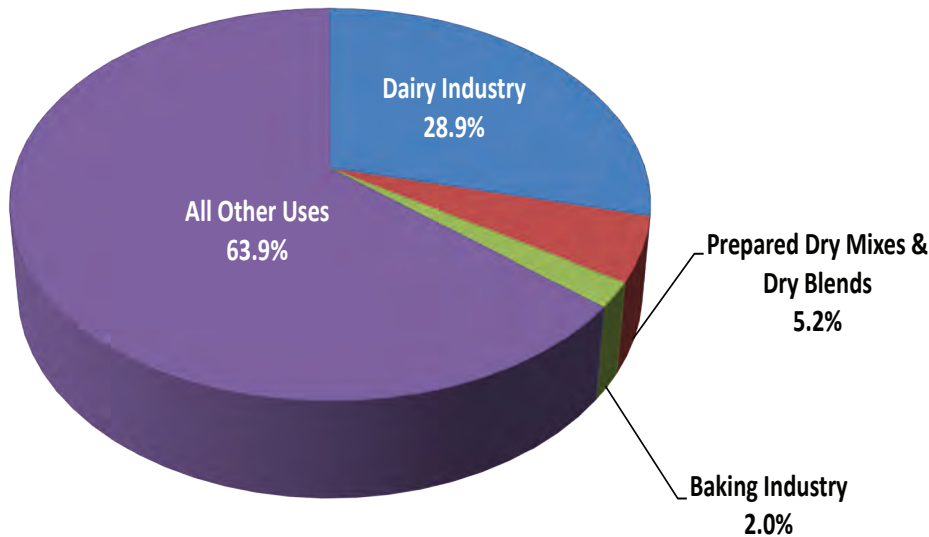
¹ Revised.

² Processed originally for human consumption.

Four Year Comparison of Export Sales (millions of pounds)

	2017		2018		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Infant Formulas	308.2	38.7%	345.8	40.0%	332.4	39.9%	325.0	39.1%	-7.4	-2.2%
Prepared Dry Mixes & Dry Blends	136.2	17.1%	166.0	19.2%	163.2	19.6%	234.1	28.2%	70.9	43.4%
Dairy Industry	117.8	14.8%	144.4	16.7%	162.7	19.5%	139.6	16.8%	-23.1	-14.2%
Confectionery Industry	85.2	10.7%	90.8	10.5%	74.5	8.9%	67.1	8.1%	-7.4	-9.9%
Nutraceuticals, Pharmaceuticals, Special Dietary Use	8.7	1.1%	8.7	1.0%	24.5	2.9%	22.7	2.7%	-1.8	-7.3%
Baking Industry	2.4	0.3%	1.7	0.2%	2.0	0.3%	1.7	0.2%	-0.3	-15.0%
Animal Feed ²							4.5	0.5%	4.5	0.0%
All Other Uses	137.8	17.3%	107.2	12.4%	74.3	8.9%	36.3	4.4%	-38.0	-51.1%
TOTAL EXPORT SALES	796.3	100.0%	864.6	100.0%	833.6	100.0%	831.0	100.0%	-2.6	-0.3%

Whey Permeate Utilization



HIGHLIGHTS:

Domestic Whey Permeate Utilization decreased 1.3% to 369.0 million pounds from 373.9 in 2019.

The **Dairy Industry** was the primary use utilizing 28.9% followed by **Prepared Dry Mixes & Dry Blends** (5.2%), and **Baking Industry** (2.0%).

Four Year Comparison of Domestic End-Uses in Food (millions of pounds)

	2017 ¹		2018 ¹		2019 ¹		2020		Change 2019-2020	
	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent	Mil. Lbs.	Percent
Dairy Industry	222.8	56.3%	230.1	57.2%	109.6	29.3%	106.6	28.9%	-3.0	-2.7%
Prepared Dry Mixes & Dry Blends	142.2	35.9%	132.3	32.9%	51.6	13.8%	19.3	5.2%	-32.3	-62.6%
Baking Industry	4.0	1.0%	6.8	1.7%	4.1	1.1%	7.5	2.0%	3.4	82.9%
Hot Cocoa	19.0	4.8%	27.7	6.9%	9.7	2.6%	5.5	1.5%	-4.2	-43.3%
Beverage Manufacturers	4.0	1.0%	5.2	1.3%	1.5	0.4%	1.7	0.5%	0.2	13.3%
Animal Feed ²					197.4	52.8%	228.4	61.9%	31.0	15.7%
All Other Uses	4.0	1.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
TOTAL DOMESTIC NON-GOVERNMENT USE	396.0	100.0%	402.1	100.0%	373.9	100.0%	369.0	100.0%	-4.9	-1.3%

¹ Revised.

² Processed originally for human consumption.

Whey & Whey Products Utilization

Animal Feed¹

Four Year Comparison of End-Uses in Feed (millions of pounds)

	2017		2018		2019		2020		Change 2019-2020	
									Mil. Lbs.	Percent
<u>Dairy/Calf/Cattle Feeds</u>										
Concentrated Whey	1.1	0.3%	0.0	0.0%	10.2	2.9%	10.8	2.7%	0.6	5.9%
Dried Whey	21.5	6.9%	12.1	3.3%	9.2	2.6%	11.5	2.9%	2.3	25.0%
Dried Whey Product	13.5	4.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Whey Protein Concentrate (25.0-49.9%)	3.4	1.1%	2.1	0.6%	5.0	1.4%	2.4	0.6%		
Whey Protein Concentrate (50.0-89.9%)	0.5	0.2%	0.2	0.1%	0.5	0.1%	0.8	0.2%		
Whey Protein Concentrate (Total)	3.9	1.3%	2.3	0.6%	5.5	1.5%	3.2	0.8%	-2.3	-41.8%
Lactose	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Whey Permeate	0.1	0.1%	0.0	0.0%	257.8	72.9%	316.2	80.1%	58.4	22.7%
Whey Solids in Wet Blends	45.0	14.5%	56.7	15.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
<u>Swine Feeds</u>										
Concentrated Whey	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Dried Whey	2.1	0.6%	4.1	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Dried Whey Product	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Whey Protein Concentrate (25.0-49.9%)	0.3	0.1%	0.2	0.1%	0.0	0.0%	0.0	0.0%		
Whey Protein Concentrate (50.0-89.9%)	0.0	0.0%	0.4	0.1%	0.0	0.0%	0.0	0.0%		
Whey Protein Concentrate (Total)	0.3	0.1%	0.6	0.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Lactose	19.5	6.3%	29.9	8.1%	14.9	4.2%	20.1	5.1%	5.2	34.9%
Whey Permeate	80.1	25.8%	104.0	28.2%	37.0	10.5%	28.7	7.3%	-8.3	-22.4%
Whey Solids in Wet Blends	12.1	3.9%	22.0	6.0%	6.2	1.8%	3.4	0.9%	-2.8	-45.2%
<u>Other Feeds</u>										
Concentrated Whey	0.0	0.0%	9.1	2.5%	2.5	0.7%	0.0	0.0%	-2.5	-100.0%
Dried Whey	61.8	19.9%	67.3	18.3%	1.0	0.3%	0.0	0.0%	-1.0	-100.0%
Dried Whey Product	3.1	1.0%	12.5	3.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Whey Protein Concentrate (25.0-49.9%)	0.3	0.1%	0.4	0.1%	0.0	0.0%	0.0	0.0%		
Whey Protein Concentrate (50.0-89.9%)	1.1	0.3%	1.1	0.3%	0.0	0.0%	0.0	0.0%		
Whey Protein Concentrate (Total)	1.4	0.4%	1.5	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Lactose	5.6	1.8%	8.5	2.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Whey Permeate	31.3	10.1%	30.4	8.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Whey Solids in Wet Blends	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
<u>Feed Use, Undesignated</u>	8.4	2.7%	7.2	1.9%	9.1	2.6%	0.6	0.2%	-8.5	-93.4%
TOTAL	310.8	100.0%	368.2	100.0%	353.4	100.0%	394.5	100.0%	41.1	11.6%

¹ Includes both direct & indirect sales.



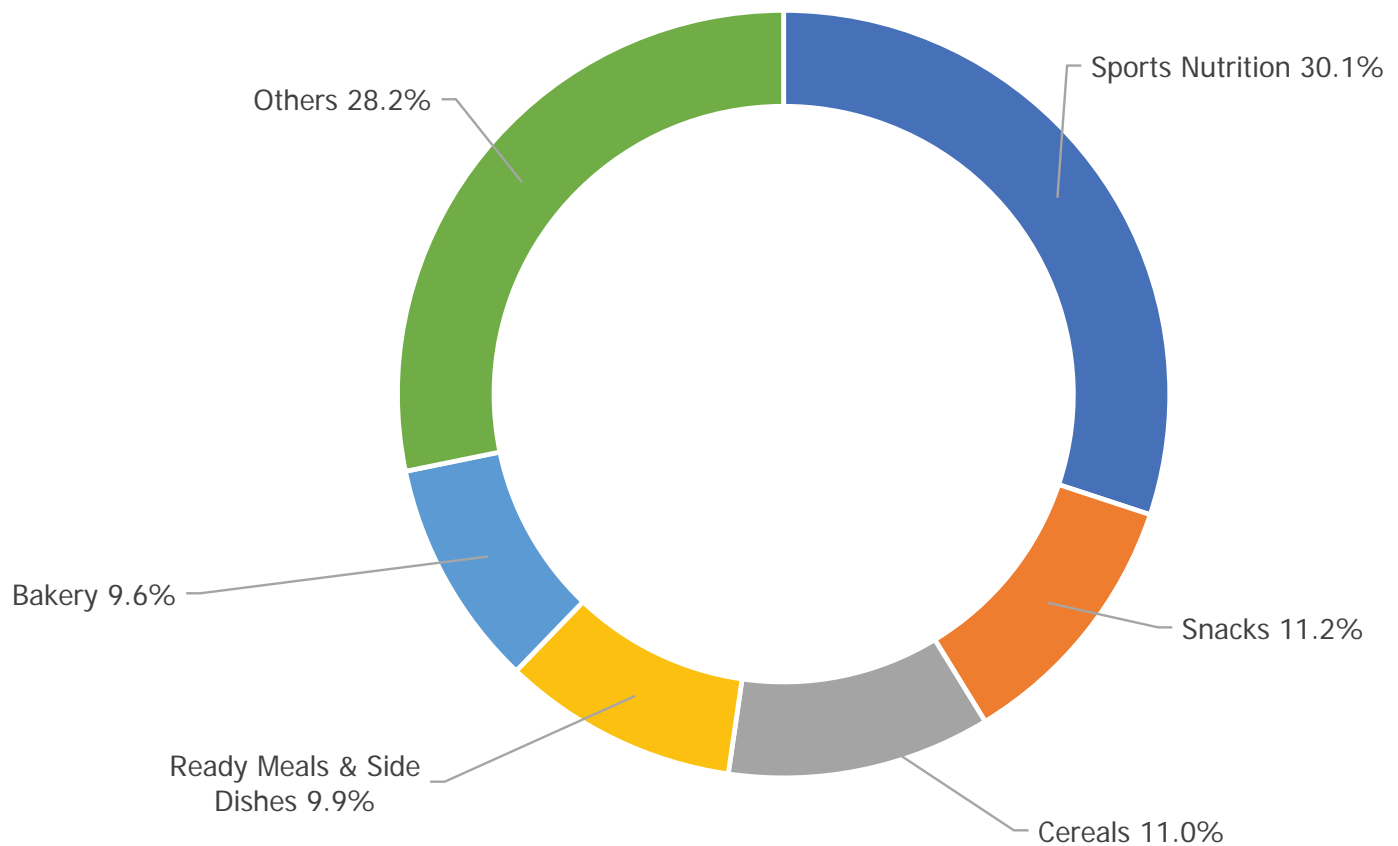
WHEY NEW PRODUCT INTRODUCTIONS



**American Dairy[®]
Products Institute**

Whey Protein Concentrates

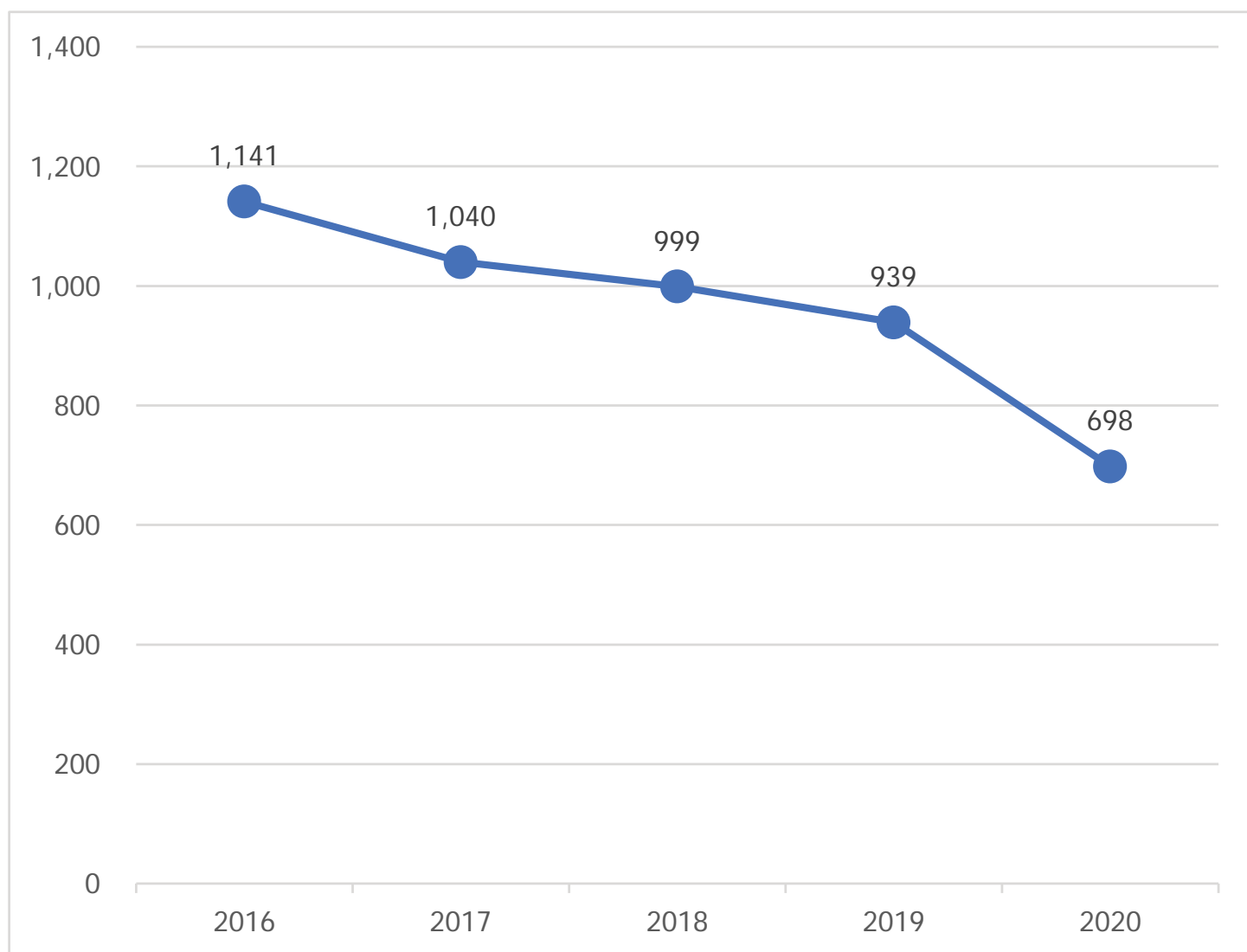
Product Introductions with Whey Protein Concentrates per Category, 2020, United States



Source: Innova Database

Whey Protein Concentrates

Product Introductions with Whey Protein Concentrates, 2016 - 2020, United States



Whey Protein Concentrates

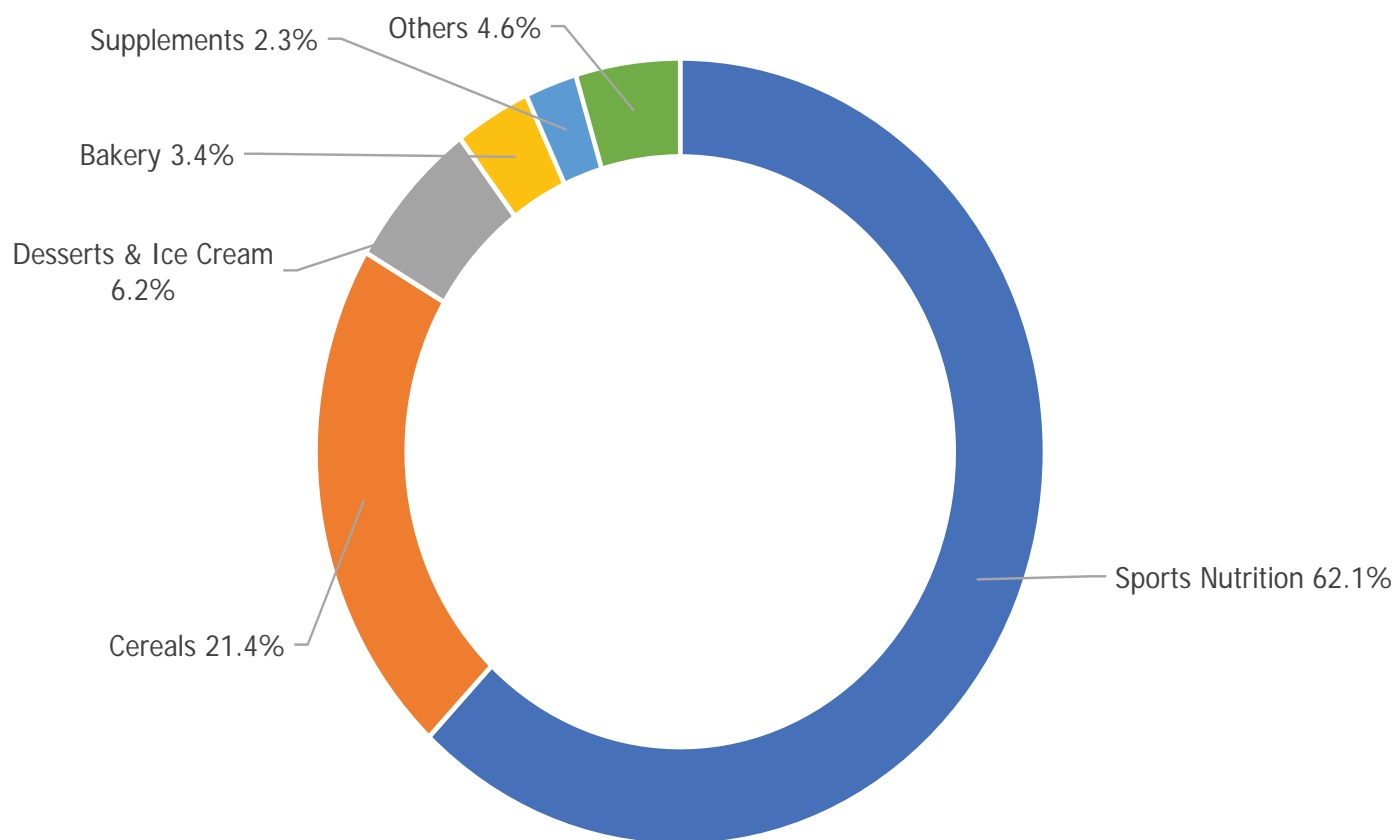
Product Introductions with Whey Protein Concentrates, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Sports Nutrition	583	51.1%	451	43.4%	456	45.6%	268	28.5%	210	30.1%
Snacks	52	4.6%	73	7.0%	66	6.6%	102	10.9%	78	11.2%
Cereals	79	6.9%	78	7.5%	76	7.6%	106	11.3%	77	11.0%
Ready Meals & Side Dishes	91	8.0%	102	9.8%	86	8.6%	105	11.2%	69	9.9%
Bakery	74	6.5%	124	11.9%	94	9.4%	90	9.6%	67	9.6%
Baby & Toddlers	46	4.0%	63	6.1%	70	7.0%	85	9.1%	63	9.0%
Dairy	86	7.5%	49	4.7%	59	5.9%	57	6.1%	47	6.7%
Desserts & Ice Cream	62	5.4%	47	4.5%	51	5.1%	56	6.0%	39	5.6%
Soup	21	1.8%	21	2.0%	15	1.5%	32	3.4%	28	4.0%
Soft Drinks	47	4.1%	32	3.1%	26	2.6%	38	4.0%	20	2.9%
TOTAL	1,141		1,040		999		939		698	

Source: Innova Database

Whey Protein Isolates

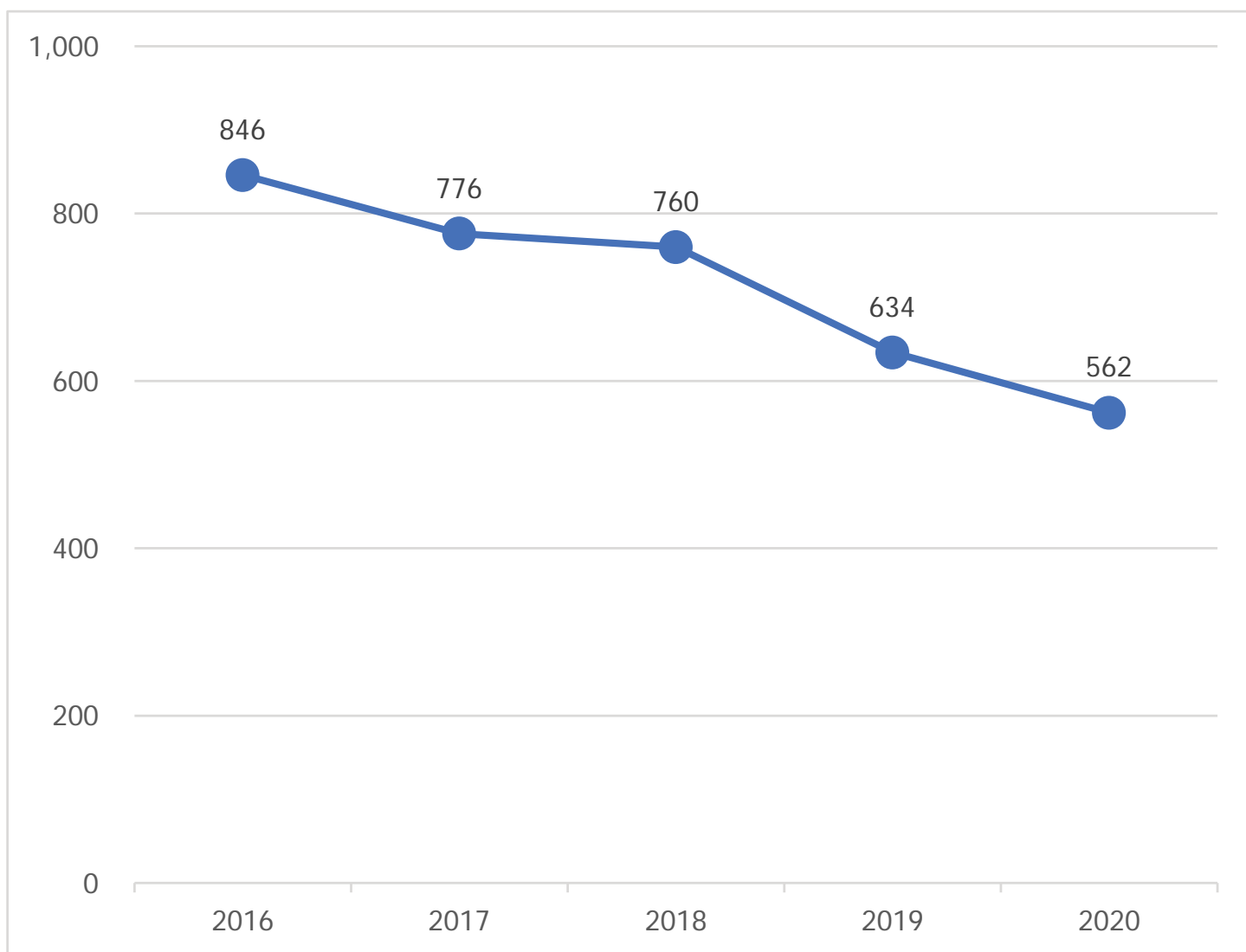
Product Introductions with Whey Protein Isolates per Category, 2020, United States



Source: Innova Database

Whey Protein Isolates

Product Introductions with Whey Protein Isolates, 2016 - 2020, United States



Whey Protein Isolates

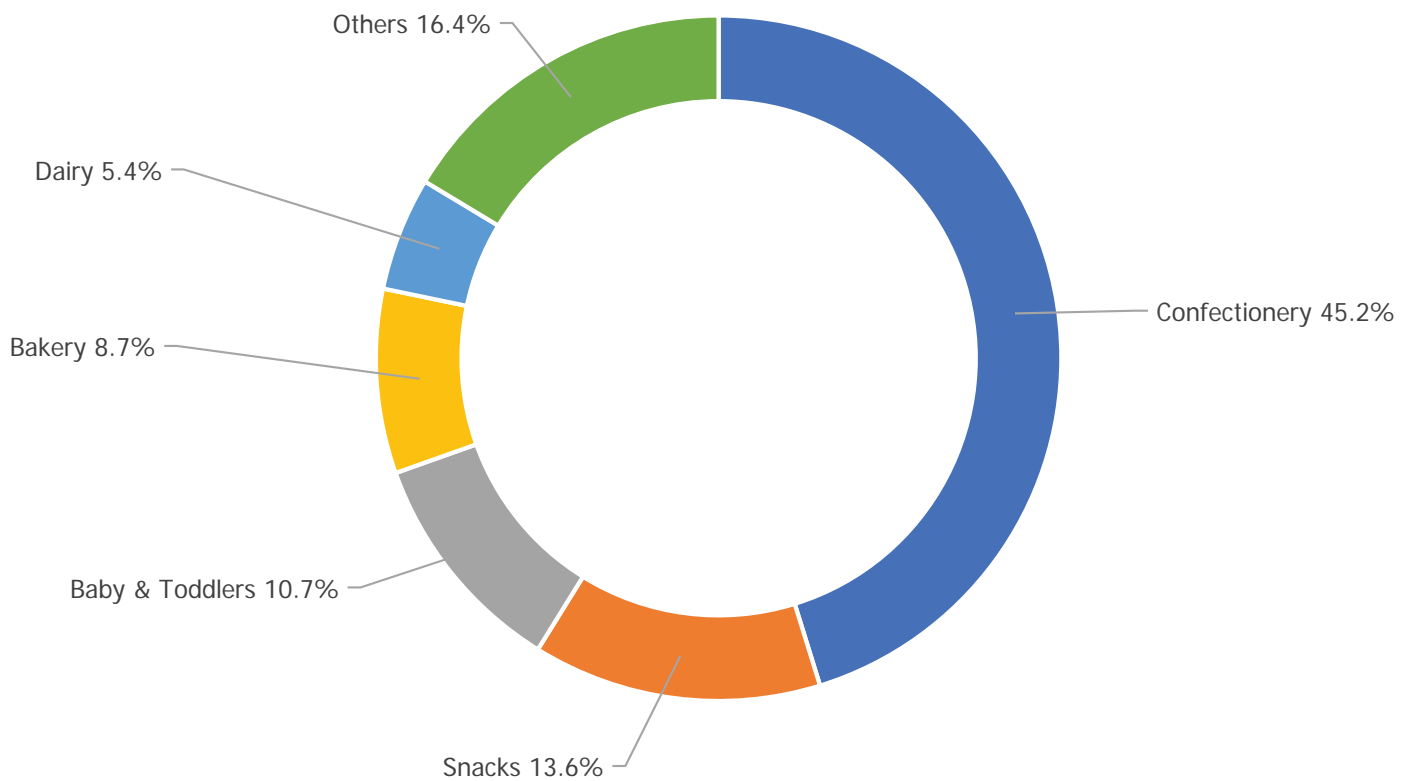
Product Introductions with Whey Protein Isolates, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Sports Nutrition	641	75.8%	596	76.8%	593	78.0%	405	63.9%	349	62.1%
Cereals	100	11.8%	85	11.0%	72	9.5%	123	19.4%	120	21.4%
Desserts & Ice Cream	1	0.1%	1	0.1%	3	0.4%	3	0.5%	35	6.2%
Bakery	18	2.1%	35	4.5%	30	3.9%	44	6.9%	19	3.4%
Supplements	8	0.9%	7	0.9%	17	2.2%	8	1.3%	13	2.3%
Soft Drinks	59	7.0%	23	3.0%	24	3.2%	29	4.6%	8	1.4%
Confectionery	4	0.5%	2	0.3%	3	0.4%	2	0.3%	6	1.1%
Snacks	1	0.1%	12	1.5%	8	1.1%	10	1.6%	6	1.1%
Spreads	14	1.7%	8	1.0%	6	0.8%	1	0.2%	5	0.9%
Dairy	0	0.0%	7	0.9%	4	0.5%	9	1.4%	1	0.2%
TOTAL	846		776		760		634		562	

Source: Innova Database

Lactose

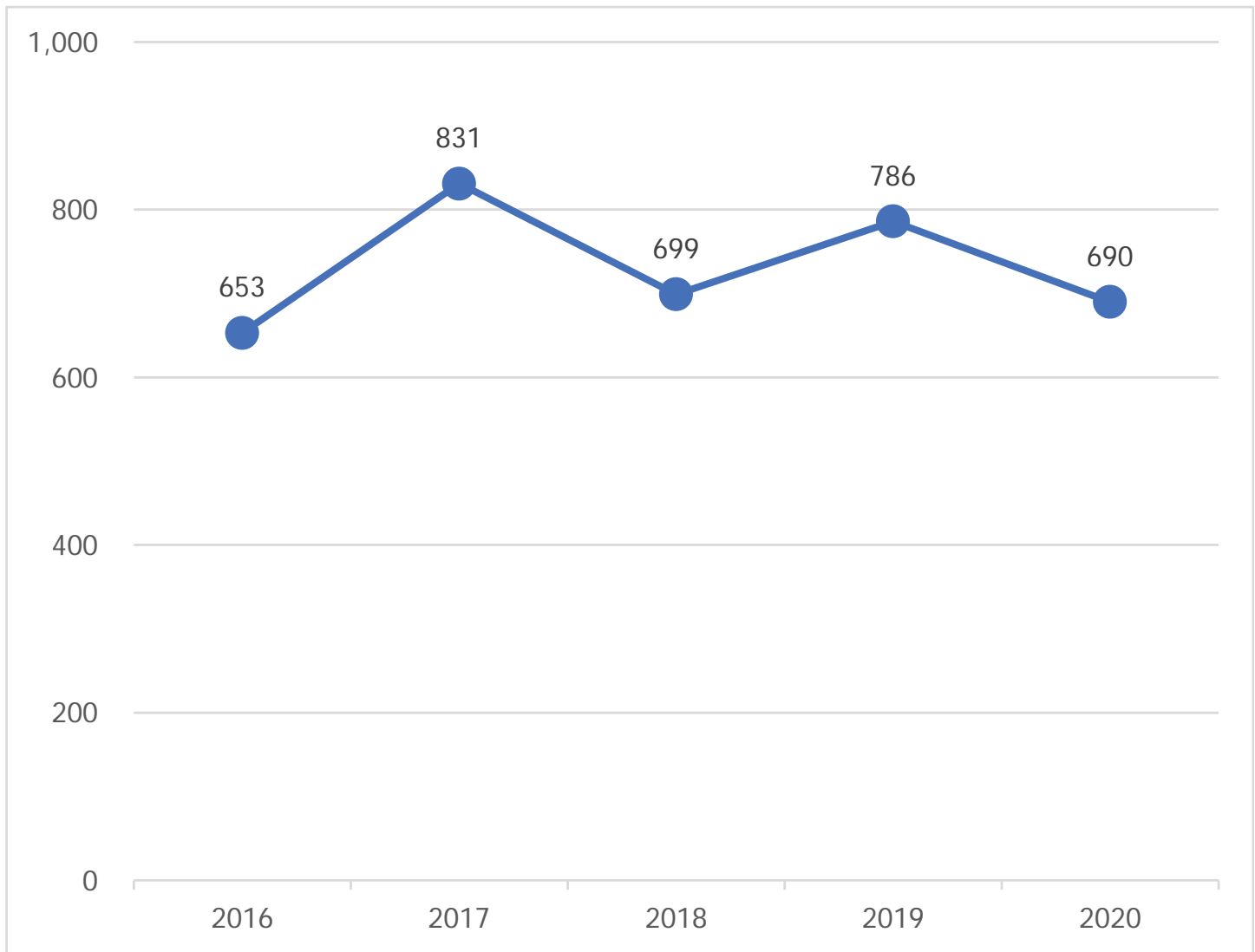
Product Introductions with Lactose per Category, 2020, United States



Source: Innova Database

Lactose

Product Introductions with Lactose, 2016 - 2020, United States



Lactose

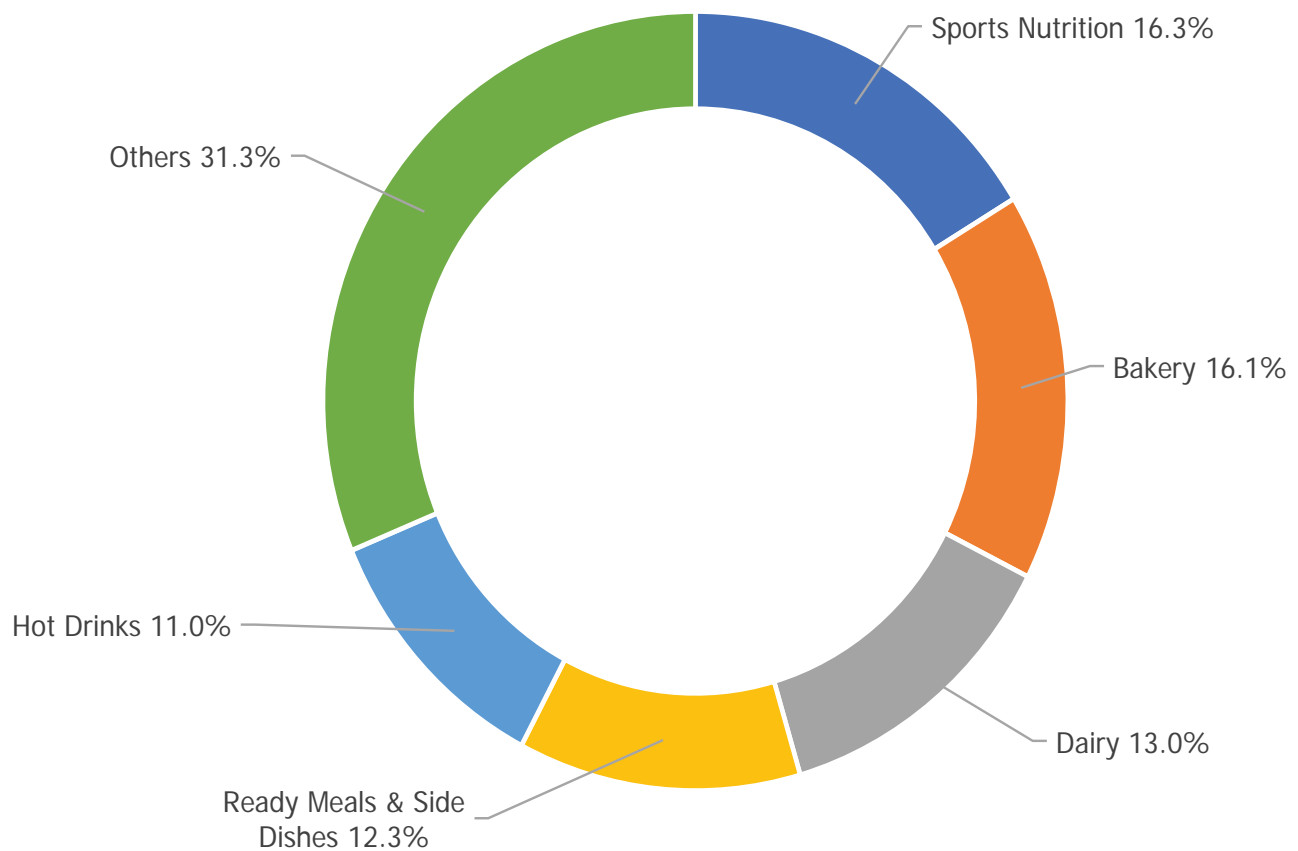
Product Introductions with Lactose, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Confectionery	265	40.6%	346	41.6%	283	40.5%	335	42.6%	312	45.2%
Snacks	84	12.9%	105	12.6%	96	13.7%	105	13.4%	94	13.6%
Baby & Toddlers	50	7.7%	63	7.6%	74	10.6%	69	8.8%	74	10.7%
Bakery	57	8.7%	92	11.1%	57	8.2%	70	8.9%	60	8.7%
Dairy	40	6.1%	36	4.3%	43	6.2%	45	5.7%	37	5.4%
Ready Meals & Side Dishes	69	10.6%	101	12.2%	56	8.0%	82	10.4%	35	5.1%
Supplements	35	5.4%	36	4.3%	26	3.7%	25	3.2%	35	5.1%
Desserts & Ice Cream	22	3.4%	22	2.6%	21	3.0%	26	3.3%	24	3.5%
Sports Nutrition	10	1.5%	13	1.6%	22	3.1%	13	1.7%	10	1.4%
Cereals	21	3.2%	17	2.0%	21	3.0%	16	2.0%	9	1.3%
TOTAL	653		831		699		786		690	

Source: Innova Database

Casein & Caseinates

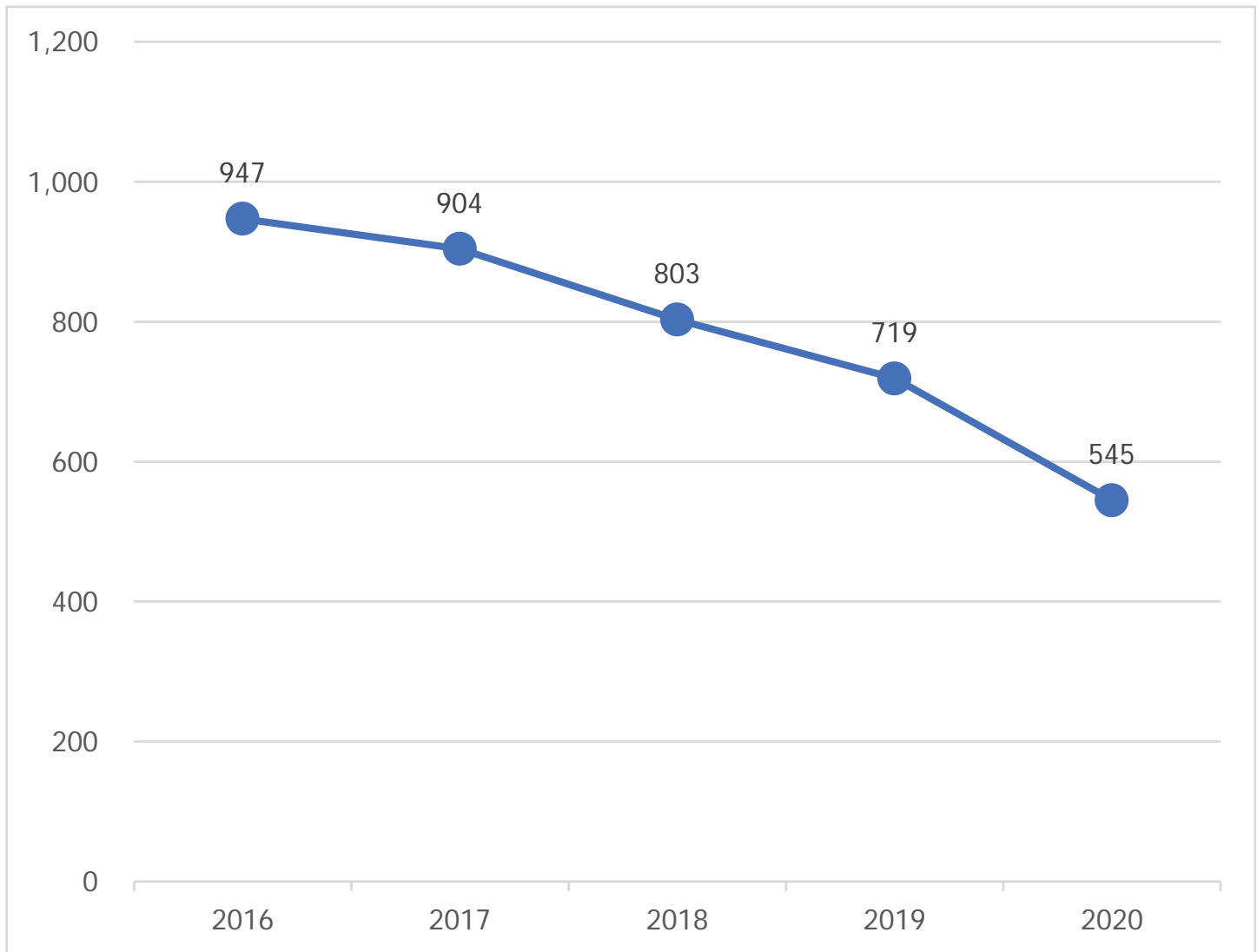
Product Introductions with Casein & Caseinate per Category, 2020, United States



Source: Innova Database

Casein & Caseinates

Product Introductions with Casein & Caseinate, 2016 - 2020, United States



Casein & Caseinates

Product Introductions with Casein & Caseinate, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Sports Nutrition	330	34.8%	318	35.2%	263	32.8%	154	21.4%	89	16.3%
Bakery	93	9.8%	125	13.8%	102	12.7%	111	15.4%	88	16.1%
Dairy	61	6.4%	62	6.9%	67	8.3%	64	8.9%	71	13.0%
Ready Meals & Side Dishes	136	14.4%	118	13.1%	109	13.6%	94	13.1%	67	12.3%
Hot Drinks	125	13.2%	105	11.6%	84	10.5%	79	11.0%	60	11.0%
Snacks	43	4.5%	58	6.4%	70	8.7%	67	9.3%	54	9.9%
Cereals	28	3.0%	25	2.8%	43	5.4%	56	7.8%	44	8.1%
Soft Drinks	60	6.3%	42	4.6%	28	3.5%	34	4.7%	42	7.7%
Sauces & Seasonings	32	3.4%	28	3.1%	14	1.7%	18	2.5%	20	3.7%
Desserts & Ice Cream	39	4.1%	23	2.5%	23	2.9%	42	5.8%	10	1.8%
TOTAL	947		904		803		719		545	

Source: Innova Database

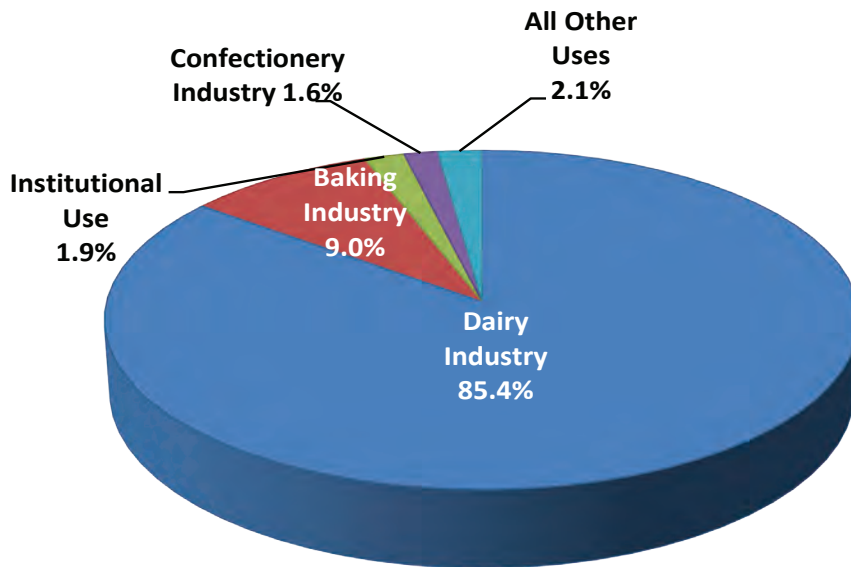


INGREDIENTS UTILIZATION



**American Dairy[®]
Products Institute**

Butter Utilization



HIGHLIGHTS:

2020 Domestic Butter Utilization was 2,097.8 million pounds.

The **Dairy Industry** was the primary use utilizing 85.4% followed by **Baking Industry** (9.0%), **Institutional Use** (1.9%) and **Confectionery Industry** (1.6%).

Domestic End-Uses (millions of pounds)

	2020	
Dairy Industry	1,791.6	85.4%
Baking Industry	188.8	9.0%
Institutional Use	39.9	1.9%
Confectionery Industry	33.6	1.6%
Sauces	23.1	1.1%
Pudding/Mousse	2.1	0.1%
All Other Uses	18.8	0.9%
TOTAL DOMESTIC NON-GOVERNMENT USE	2,097.9	100.0%
Government & Export Sales	46.9	
TOTAL SALES	2,144.8	

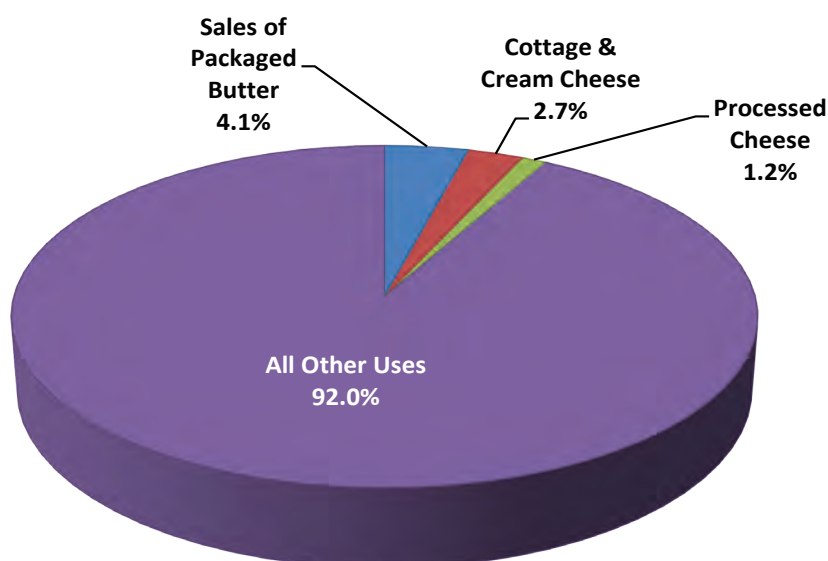
Export End-Uses (millions of pounds)

	2020	
Baking Industry	31.9	68.0%
Dairy Industry	12.0	25.6%
Confectionery Industry	1.5	3.2%
All Other Uses	1.5	3.2%
TOTAL EXPORT SALES	46.9	100.0%

Butter Utilization

Dairy Industry Domestic End-Uses
(millions of pounds)

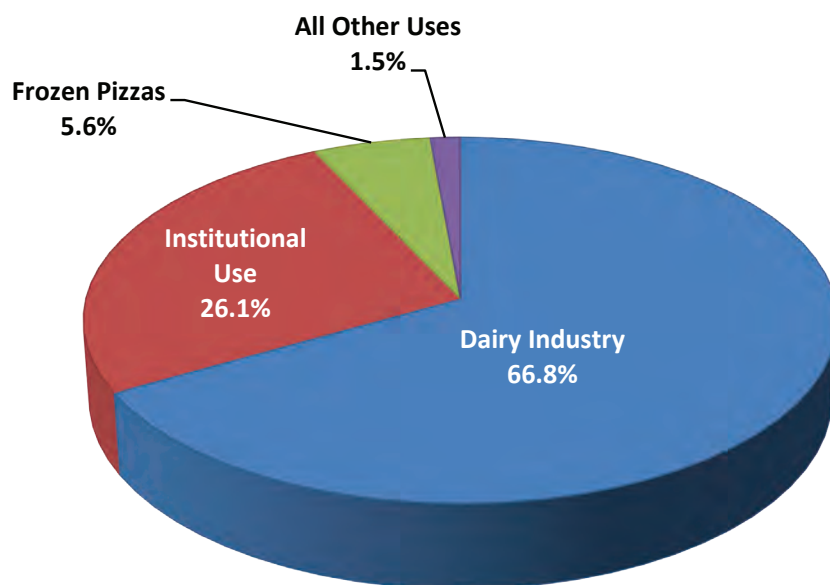
	2020	
Sales of Packaged Butter	72.8	4.1%
Cottage & Cream Cheese	48.5	2.7%
Processed Cheese	21.0	1.2%
Hard Cheese	6.4	0.4%
Frozen Desserts	3.4	0.2%
Cultured Products	2.0	0.1%
Sales For All Other Dairy Uses	1,637.5	91.3%
TOTAL DOMESTIC SALES	1,791.6	100.0%



Dairy Industry Export End-Uses
(millions of pounds)

	2020	
Processed Cheese	7.6	63.0%
Frozen Desserts	1.3	11.1%
Sales of Packaged Butter	0.4	3.7%
Sales For All Other Dairy Uses	2.7	22.2%
TOTAL DOMESTIC SALES	12.0	100.0%

Cheese Utilization



HIGHLIGHTS:

2020 Domestic Cheese Utilization was 15,003.5 million pounds.

The **Dairy Industry** was the primary use utilizing 66.8% followed by **Institutional Use** (26.1%) and **Frozen Pizzas** (5.6%).

Domestic End-Uses
(millions of pounds)

	2020	
Dairy Industry	10,024.8	66.8%
Institutional Use	3,915.9	26.1%
Frozen Pizzas	845.7	5.6%
Beverage Manufacturers	106.3	0.7%
Sauces	91.1	0.6%
Baking Industry	19.7	0.2%
TOTAL DOMESTIC NON-GOVERNMENT USE	15,003.5	100.0%
Government & Export Sales	829.8	
TOTAL SALES	15,833.3	

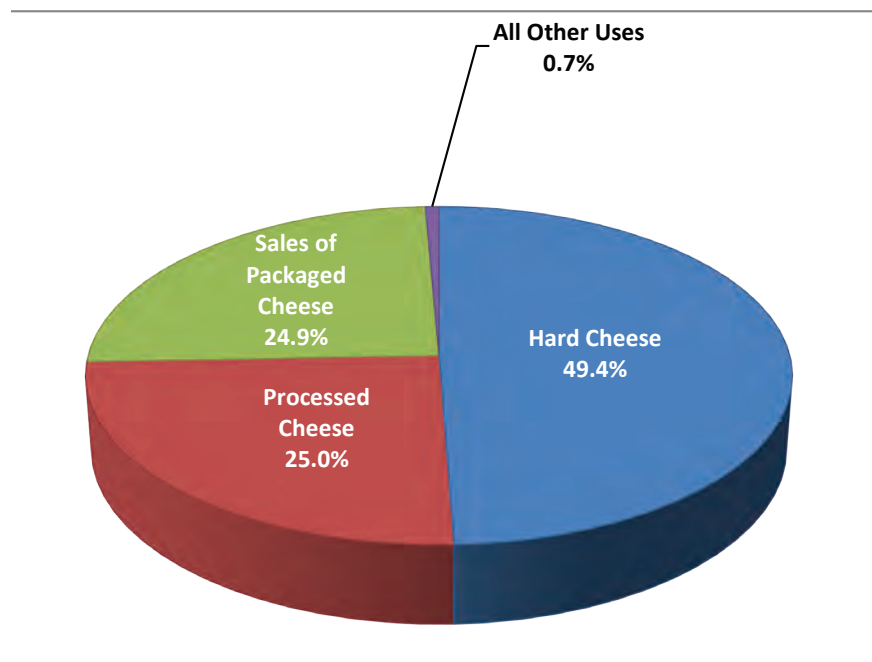
Export End-Uses
(millions of pounds)

	2020	
Dairy Industry	652.6	78.6%
Institutional Use	172.8	20.8%
All Other Uses	4.4	0.6%
TOTAL EXPORT SALES	829.8	100.0%

Cheese Utilization

Dairy Industry Domestic End-Uses
(millions of pounds)

	2020	
Hard Cheese	4,952.3	49.4%
Processed Cheese	2,506.2	25.0%
Sales of Packaged Cheese	2,496.2	24.9%
Sales For All Other Dairy Uses	70.1	0.7%
TOTAL DOMESTIC SALES	10,024.8	100.0%



Dairy Industry Export End-Uses
(millions of pounds)

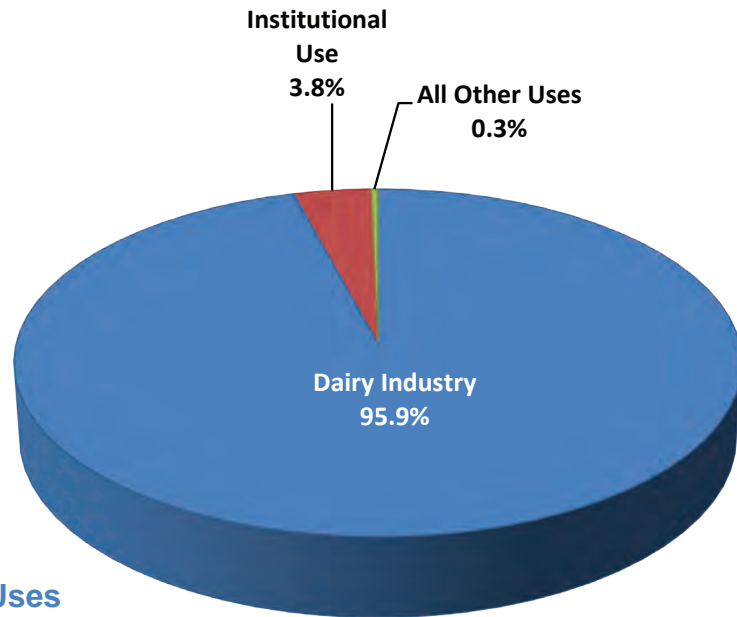
	2020	
Processed Cheese	393.5	60.3%
Hard Cheese	217.5	33.3%
Sales of Packaged Cheese	8.2	1.3%
Sales For All Other Dairy Uses	33.4	5.1%
TOTAL DOMESTIC SALES	652.6	100.0%

Cream Utilization

HIGHLIGHTS:

2020 Domestic Cream Utilization was 1,499.5 million pounds.

The **Dairy Industry** was the primary use utilizing 95.9% followed by **Institutional Use** (3.8%).

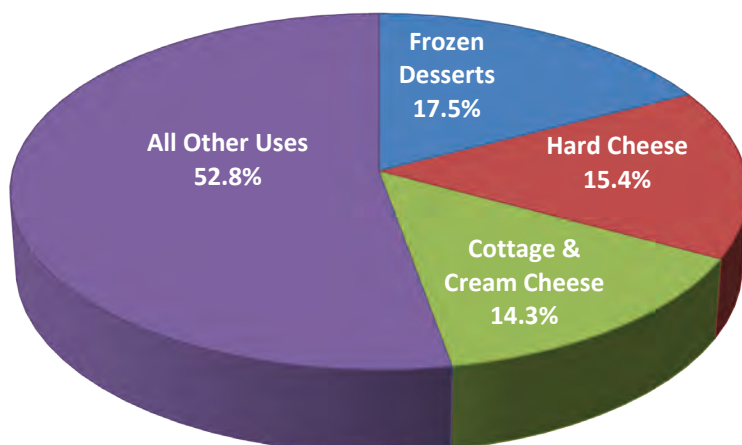


Domestic End-Uses
(millions of pounds)

	2020	
Dairy Industry	1,437.4	95.9%
Institutional Use	57.1	3.8%
Sauces	1.4	0.1%
All Other Uses	3.6	0.2%
TOTAL DOMESTIC NON-GOVERNMENT USE	1,499.5	100.0%

Dairy Industry Domestic End-Uses
(millions of pounds)

	2020	
Frozen Desserts	250.9	17.5%
Hard Cheese	221.4	15.4%
Cottage & Cream Cheese	205.7	14.3%
Sales For All Other Dairy Uses	759.4	52.8%
TOTAL DOMESTIC SALES	1,437.4	100.0%





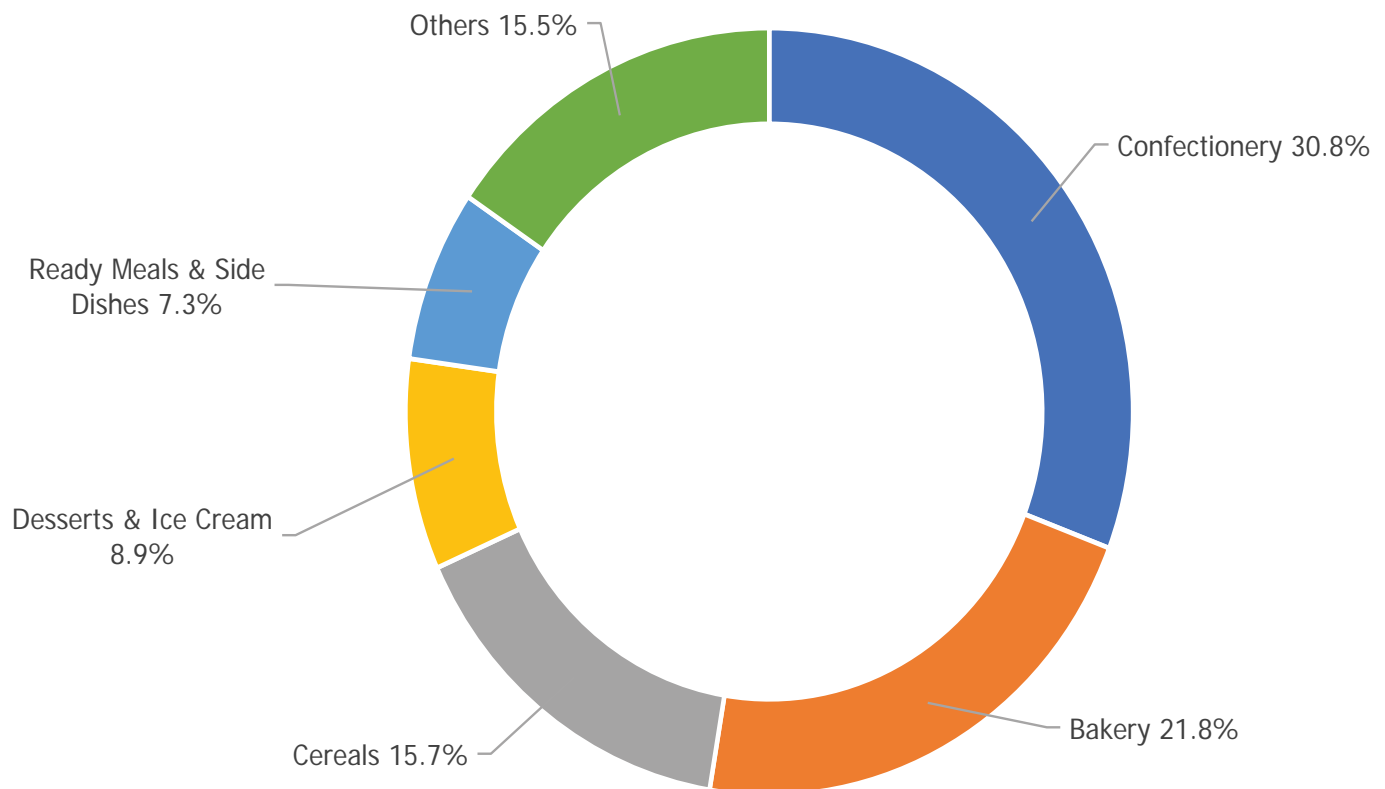
INGREDIENT NEW PRODUCT INTRODUCTIONS



**American Dairy[®]
Products Institute**

Butter

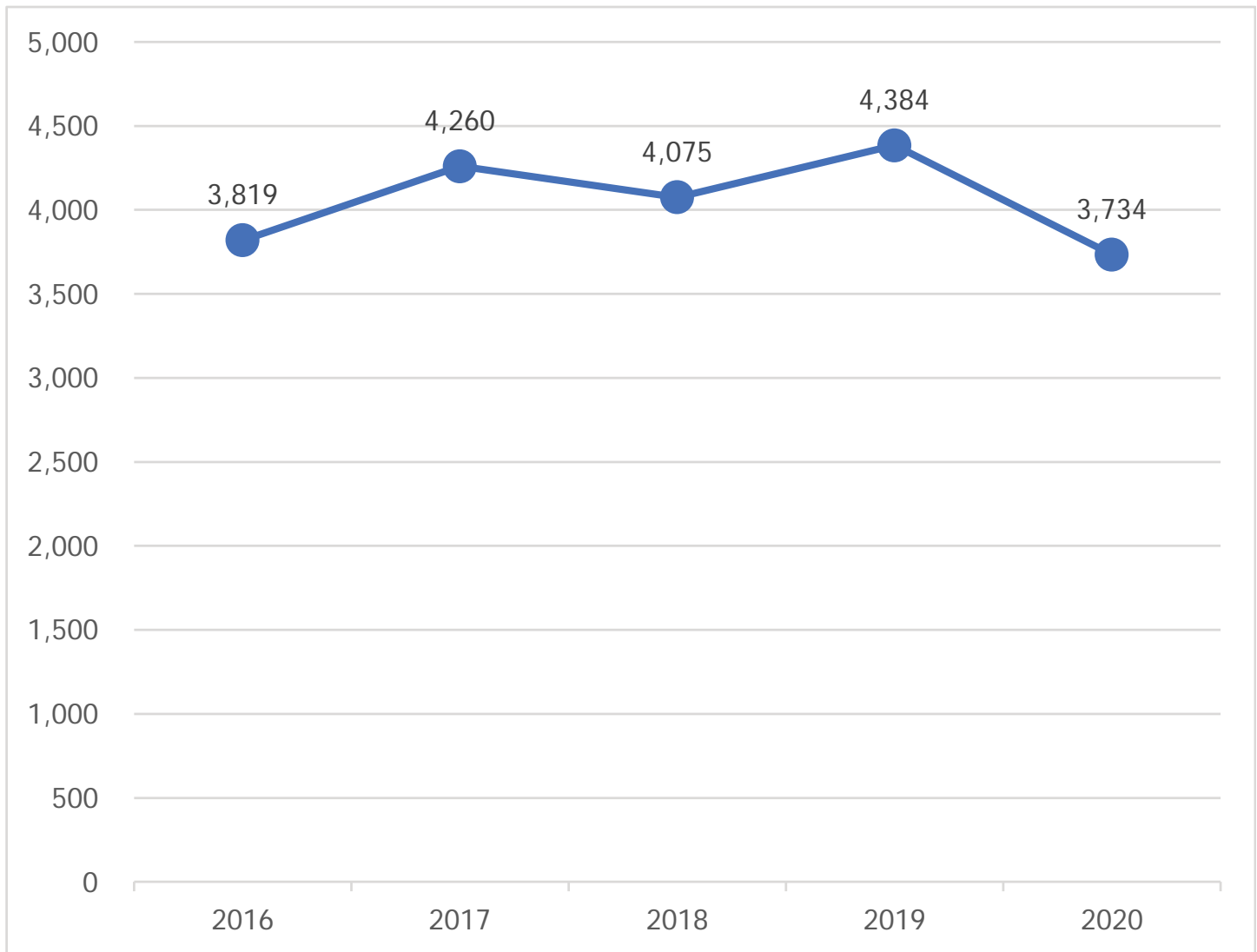
Product Introductions with Butter per Category, 2020, United States



Source: Innova Database

Butter

Product Introductions with Butter, 2016 - 2020, United States



Butter

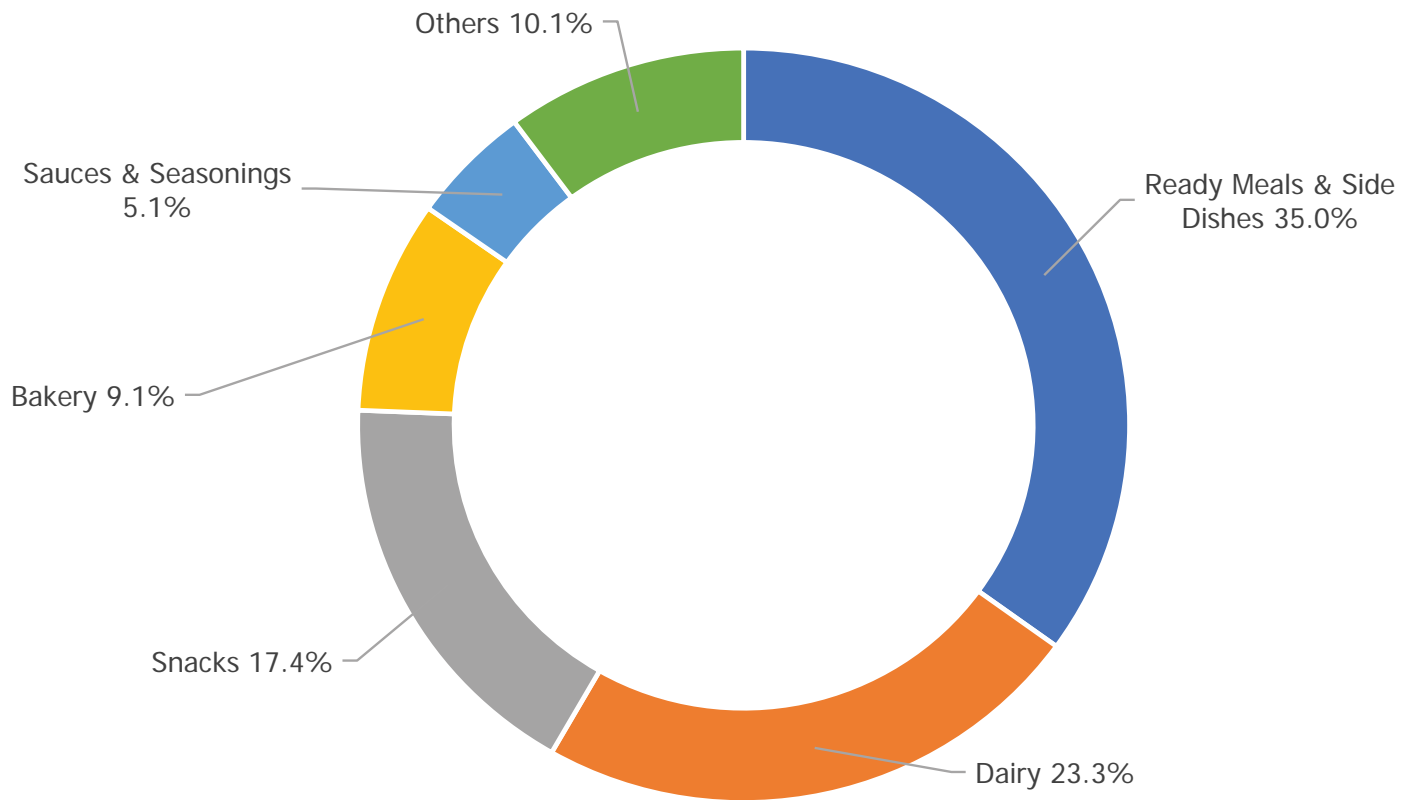
Product Introductions with Butter, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Confectionery	1,099	28.8%	1,395	32.7%	1,227	30.1%	1,352	30.8%	1,150	30.8%
Bakery	865	22.6%	1,028	24.1%	927	22.7%	1,051	24.0%	815	21.8%
Cereals	515	13.5%	442	10.4%	472	11.6%	503	11.5%	586	15.7%
Desserts & Ice Cream	366	9.6%	321	7.5%	331	8.1%	426	9.7%	332	8.9%
Ready Meals & Side Dishes	329	8.6%	322	7.6%	341	8.4%	358	8.2%	271	7.3%
Snacks	252	6.6%	317	7.4%	301	7.4%	287	6.5%	254	6.8%
Sports Nutrition	175	4.6%	178	4.2%	197	4.8%	134	3.1%	126	3.4%
Dairy	70	1.8%	102	2.4%	121	3.0%	120	2.7%	82	2.2%
Sauces & Seasonings	81	2.1%	89	2.1%	89	2.2%	98	2.2%	62	1.7%
Soup	67	1.8%	66	1.5%	69	1.7%	55	1.3%	56	1.5%
TOTAL	3,819		4,260		4,075		4,384		3,734	

Source: Innova Database

Cheese

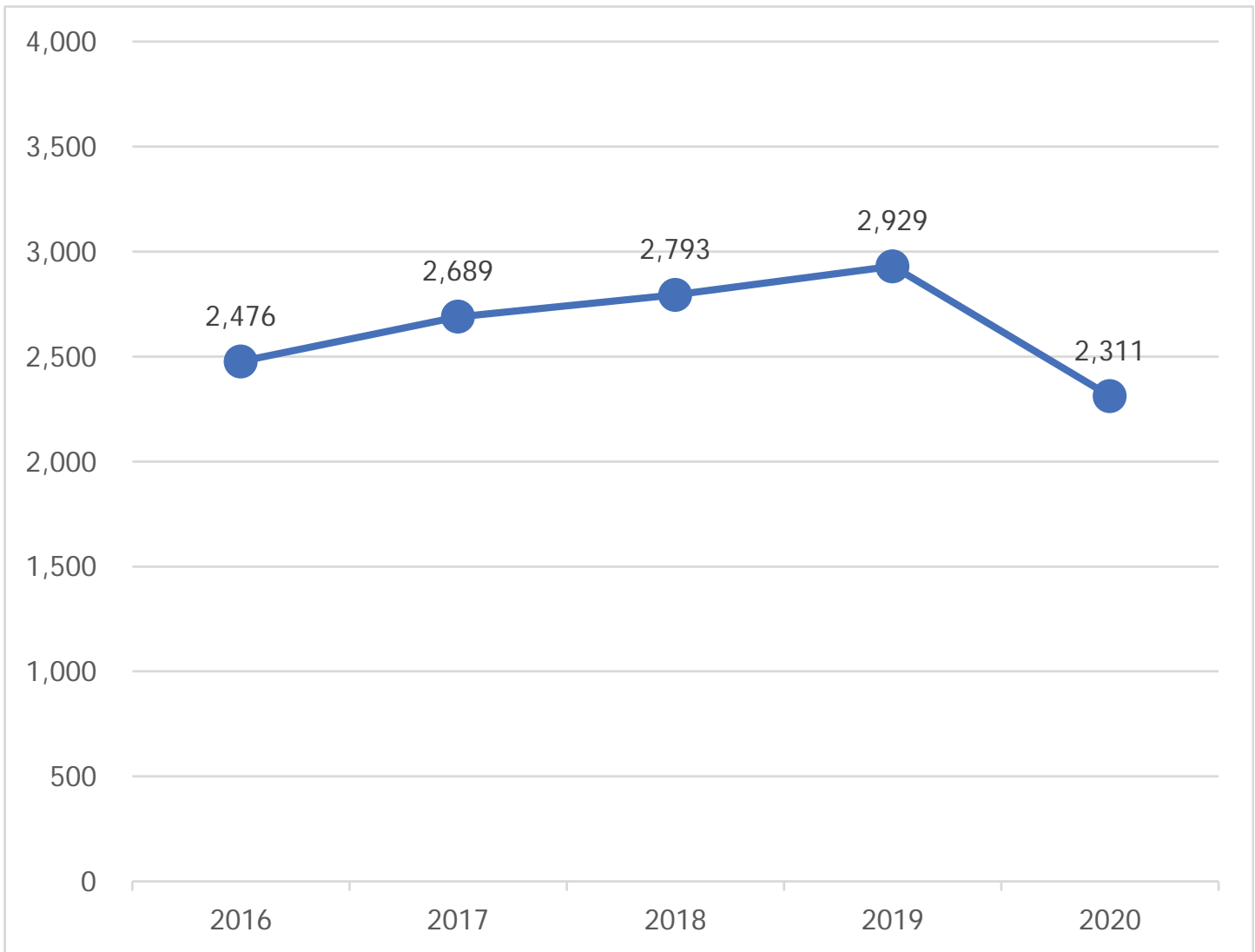
Product Introductions with Cheese per Category, 2020, United States



Source: Innova Database

Cheese

Product Introductions with Cheese, 2016 - 2020, United States



Cheese

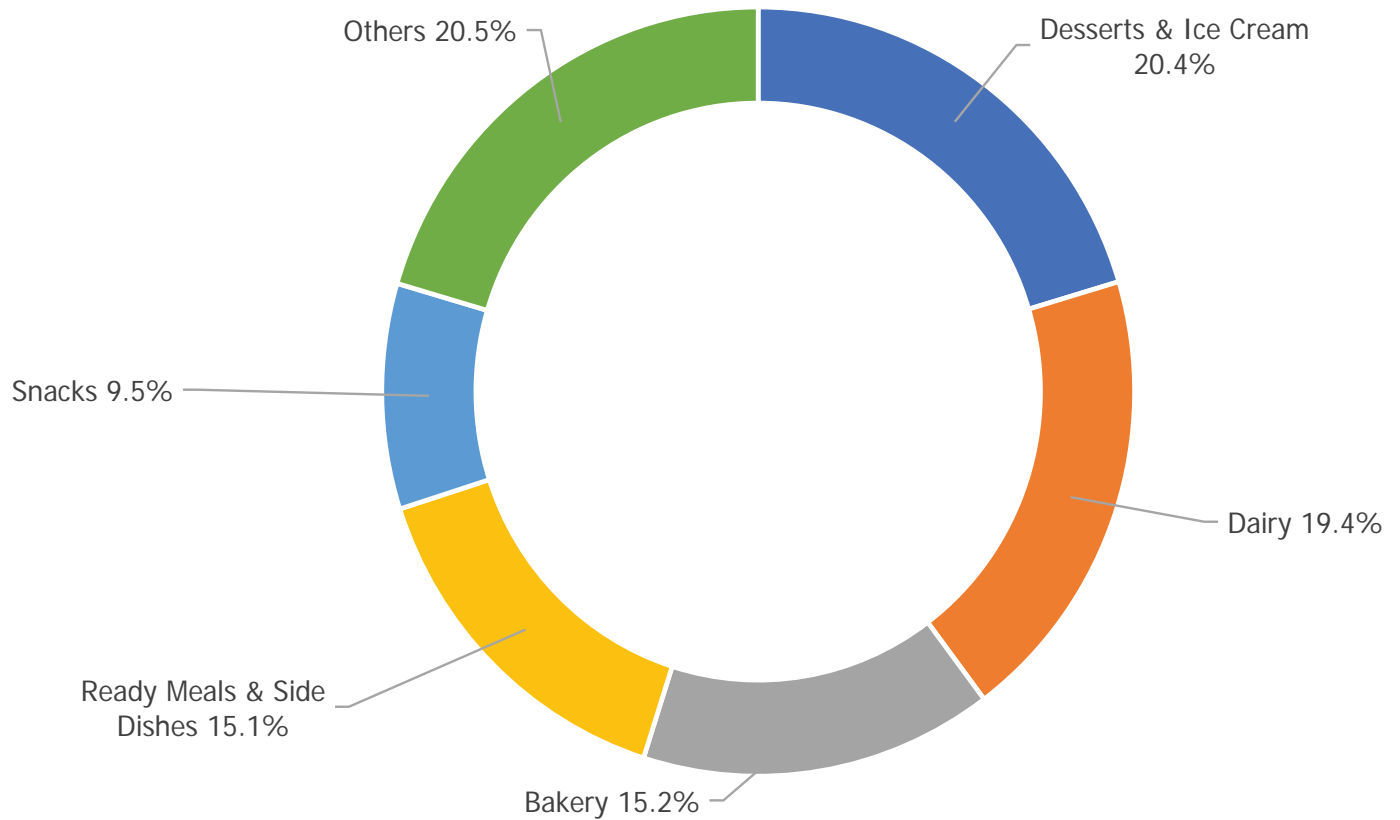
Product Introductions with Cheese, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Ready Meals & Side Dishes	1,055	42.6%	1,012	37.6%	1,016	36.4%	1,012	34.6%	808	35.0%
Dairy	475	19.2%	602	22.4%	689	24.7%	782	26.7%	539	23.3%
Snacks	302	12.2%	386	14.4%	383	13.7%	470	16.0%	401	17.4%
Bakery	208	8.4%	240	8.9%	256	9.2%	232	7.9%	211	9.1%
Sauces & Seasonings	201	8.1%	210	7.8%	206	7.4%	179	6.1%	118	5.1%
Meat, Fish & Eggs	99	4.0%	104	3.9%	92	3.3%	97	3.3%	108	4.7%
Desserts & Ice Cream	31	1.3%	37	1.4%	34	1.2%	55	1.9%	50	2.2%
Soup	48	1.9%	47	1.7%	44	1.6%	43	1.5%	38	1.6%
Baby & Toddlers	30	1.2%	23	0.9%	33	1.2%	30	1.0%	22	1.0%
Fruit & Vegetables	27	1.1%	28	1.0%	40	1.4%	29	1.0%	16	0.7%
TOTAL	2,476		2,689		2,793		2,929		2,311	

Source: Innova Database

Cream

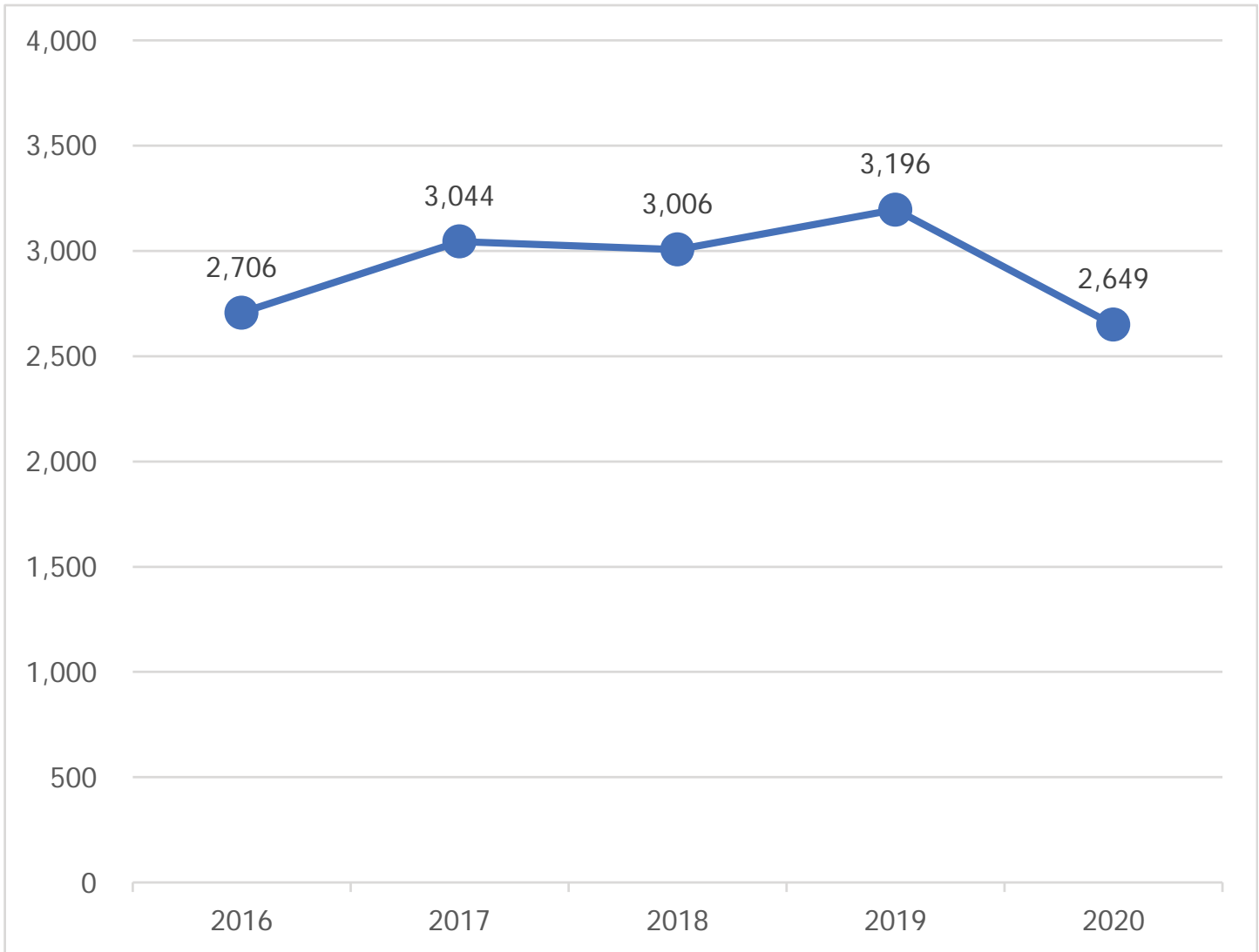
Product Introductions with Cream per Category, 2020, United States



Source: Innova Database

Cream

Product Introductions with Cream, 2016 - 2020, United States



Cream

Product Introductions with Cream, 2016 - 2020, United States (Top 10 Products)

	2016		2017		2018		2019		2020	
	# of products	%	# of products	%	# of products	%	# of products	%	# of products	%
Desserts & Ice Cream	704	26.0%	745	24.5%	680	22.6%	783	24.5%	540	20.4%
Dairy	471	17.4%	559	18.4%	612	20.4%	607	19.0%	513	19.4%
Bakery	343	12.7%	429	14.1%	450	15.0%	452	14.1%	402	15.2%
Ready Meals & Side Dishes	468	17.3%	461	15.1%	455	15.1%	515	16.1%	401	15.1%
Snacks	209	7.7%	257	8.4%	233	7.8%	264	8.3%	251	9.5%
Confectionery	210	7.8%	245	8.0%	217	7.2%	226	7.1%	235	8.9%
Soup	119	4.4%	117	3.8%	126	4.2%	95	3.0%	106	4.0%
Sauces & Seasonings	82	3.0%	127	4.2%	137	4.6%	120	3.8%	79	3.0%
Meat, Fish & Eggs	55	2.0%	61	2.0%	48	1.6%	82	2.6%	74	2.8%
Spreads	45	1.7%	43	1.4%	48	1.6%	52	1.6%	48	1.8%
TOTAL	2,706		3,044		3,006		3,196		2,649	

Source: Innova Database



U.S. DRY MILK PRODUCTION



**American Dairy[®]
Products Institute**

Nonfat Dry Milk

Production, Total Disappearance, Domestic Consumption, Per Capita Consumption

<u>Year</u>	<u>Production</u> <u>(1,000</u> <u>lbs.)</u>	<u>Total</u> <u>Disappearance</u> <u>(1,000,000 lbs.)</u>		<u>Domestic</u> <u>Consumption</u> <u>(1,000,000 lbs.)</u>	<u>Per Capita</u> <u>Consumption</u> <u>(lb.)</u>
		Total	Fed to Animals		
2011	1,499,477	1,934	13	947	3.0
2012	1,764,449	2,141	11	1,141	3.6
2013	1,477,864	2,168	10	924	2.9
2014	1,764,632	2,220	8	1,002	3.1
2015	1,822,348	2,316	17	1,057	3.3
2016	1,752,634	2,301	14	966	3.0
2017	1,835,277	2,285	30	909	2.8
2018	1,777,503	2,384	28	780	2.4
2019 ¹	1,851,110	2,471	22	901	2.7
2020 ²	1,990,935				

¹ Revised.

² Preliminary.

Dry Milks Production¹

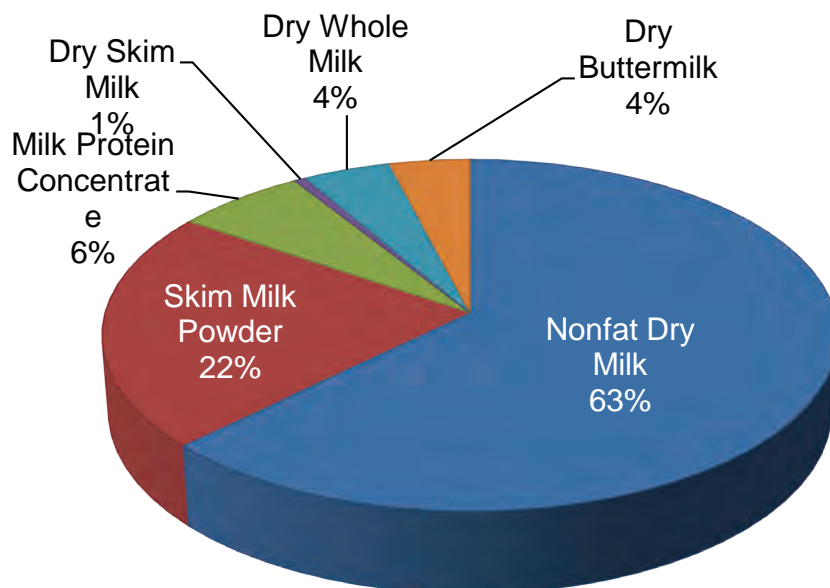
2020²

	Nonfat Dry Milk	Skim Milk Powder	Milk Protein Concentrate	Dry Skim Milk	Dry Whole Milk	Dry Buttermilk
January	184,097	41,232	20,673	903	8,839	12,983
February	174,749	38,751	21,505	9,199	11,352	13,370
March	173,665	55,841	14,594	920	11,056	13,457
April	202,632	51,611	20,698	650	14,238	10,520
May	157,236	56,669	13,354	1,042	14,384	12,196
June	154,033	60,519	17,890	697	10,305	8,844
July	166,138	61,369	18,219	848	10,215	8,918
August	147,194	69,232	11,976	1,017	10,195	7,967
September	126,249	81,084	12,258	781	10,391	7,838
October	141,255	63,309	18,498	786	12,125	8,525
November	155,435	64,961	17,881	659	12,821	10,033
December	208,252	50,648	18,767	845	12,197	12,154
Total	1,990,935	695,226	206,313	18,347	138,118	126,805

GRAND TOTAL: 3,175,744

¹In thousands of pounds.

²Preliminary.



Dry Milks Production¹

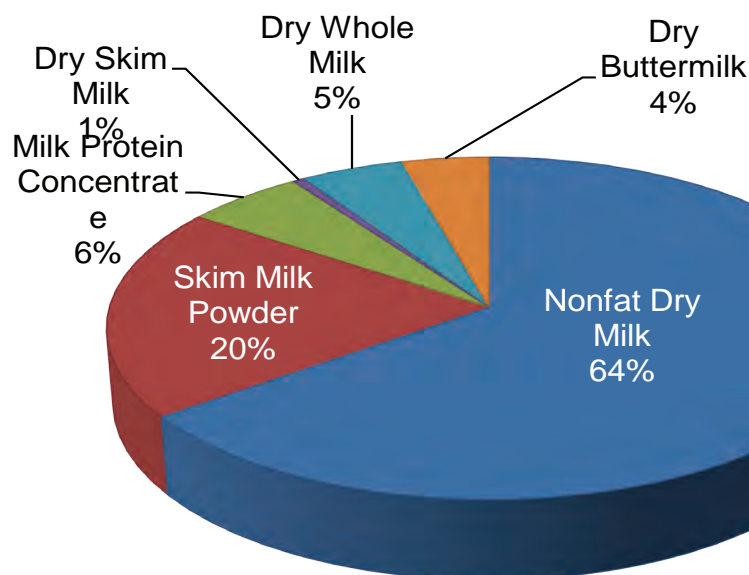
2019²

	Nonfat Dry Milk	Skim Milk Powder	Milk Protein Concentrate	Dry Skim Milk	Dry Whole Milk	Dry Buttermilk
January	177,280	36,153	13,096	547	12,504	13,521
February	153,417	33,901	14,790	534	9,445	9,668
March	161,829	48,274	14,405	1,121	18,470	9,979
April	167,758	46,244	15,879	618	18,465	10,239
May	173,666	26,604	17,029	949	17,955	10,108
June	157,948	52,062	19,707	750	13,392	8,354
July	172,329	46,708	8,677	811	8,573	9,857
August	132,525	60,768	9,049	717	7,652	8,047
September	117,806	58,764	10,619	544	7,603	8,847
October	132,716	47,386	13,529	710	8,130	8,905
November	138,967	50,955	10,310	8,057	9,856	8,883
December	164,869	64,893	14,693	791	8,920	11,850
Total	1,851,110	572,712	161,783	16,149	140,965	118,258

GRAND TOTAL: 2,860,977

¹In thousands of pounds.

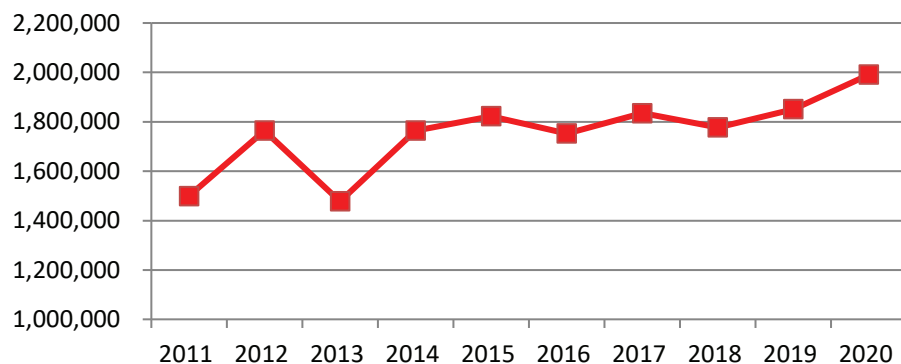
²Preliminary.



Dry Milks Production¹

Nonfat Dry Milk Manufactured In U.S.¹

The Compounded Annual Growth Rate (2011-2020) is 2.88%



¹In thousands of pounds.

HIGHLIGHTS:

Dry milks production increased 11.0% to 3,175,744 thousand pounds from 2,860,977 thousand pounds in 2019.

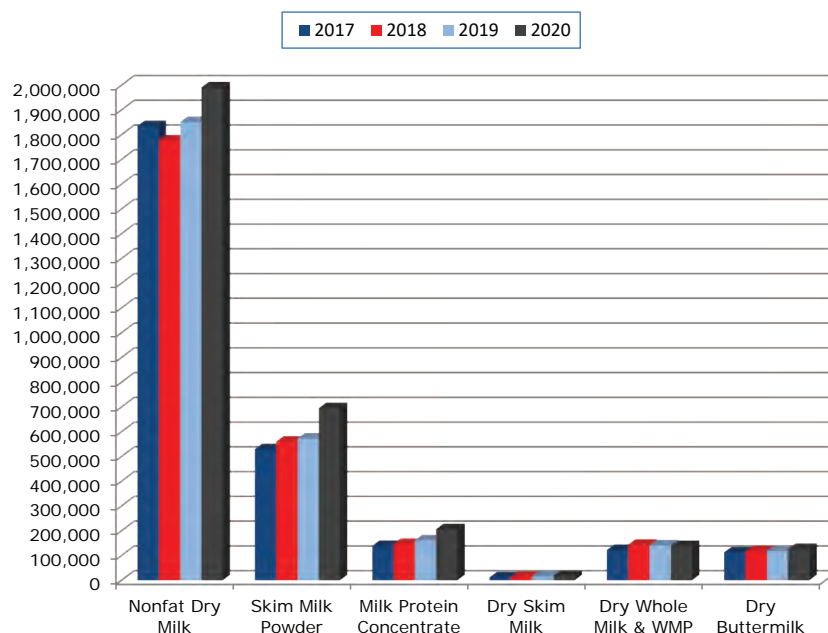
Nonfat Dry Milk increased 7.6%, **Skim Milk Powder** increased 21.4%, **Milk Protein Concentrate** increased 27.5%, **Dry Skim Milk** increased 13.6%, **Dry Whole Milk** decreased 2.0% and **Dry Buttermilk** increased 7.2%.

Type	2017	2018	2019 ²	2020 ³
Nonfat Dry Milk	1,835,277	1,777,503	1,851,110	1,990,935
Skim Milk Powder	529,633	560,294	572,712	695,226
Milk Protein Concentrate	139,047	147,322	161,783	206,313
Dry Skim Milk	11,862	14,015	16,149	18,347
Dry Whole Milk & WMP	122,397	144,094	140,965	138,118
Dry Buttermilk	112,904	118,075	118,258	126,805
GRAND TOTAL:	2,751,120	2,761,303	2,860,977	3,175,744

¹ In thousands of pounds.

² Revised

³ Preliminary



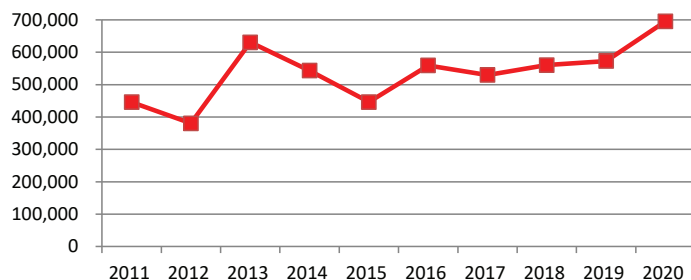
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Dry Milks Production

Dry Milk Products Annual Growth Rate

Skim Milk Powder Manufactured In U.S.¹

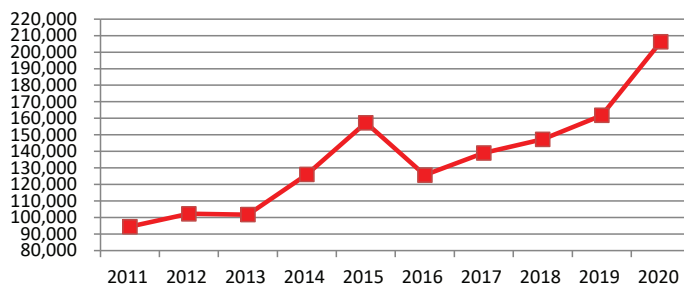
The Compounded Annual Growth Rate (2011-2020) is 4.54%



¹In thousands of pounds.

Milk Protein Concentrate Manufactured In U.S.¹

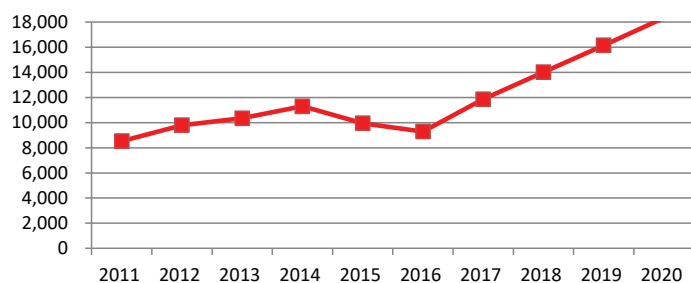
The Compounded Annual Growth Rate (2011-2020) is 8.12%



¹In thousands of pounds

Dry Skim Milk Manufactured In U.S.¹

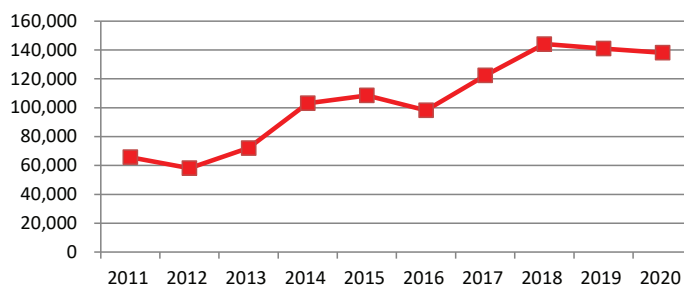
The Compounded Annual Growth Rate (2011-2020) is 7.95%



¹In thousands of pounds

Dry Whole Milk & WMP Manufactured In U.S.¹

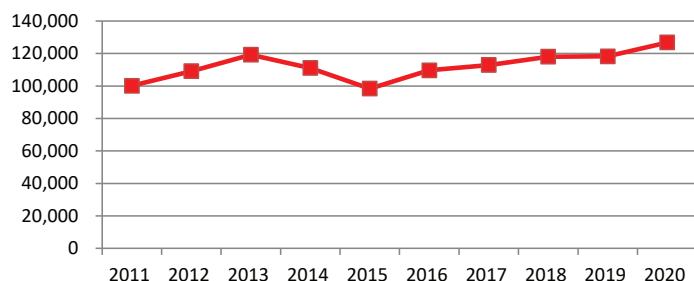
The Compounded Annual Growth Rate (2011-2020) is 7.70%



¹In thousands of pounds.

Dry Buttermilk Manufactured In U.S.¹

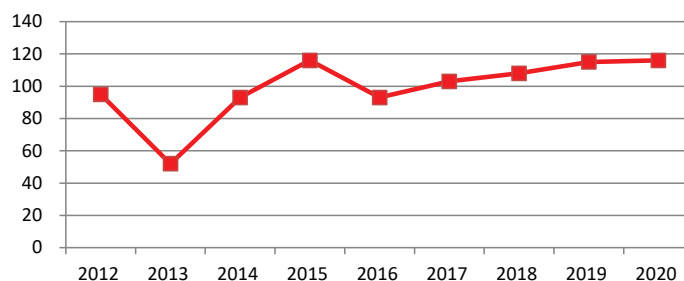
The Compounded Annual Growth Rate (2011-2020) is 2.39%



¹In thousands of pounds.

Milk Permeate Manufactured In U.S.¹

The Compounded Annual Growth Rate (2012-2020) is 2.24%



¹In thousands of pounds.



U.S. WHEY & LACTOSE PRODUCTION



**American Dairy[®]
Products Institute**

Fluid Whey Production

Estimated U.S. Fluid Whey & Whey Solids Production (by Type) and Resulting Quantity of Whey Solids Further Processed (millions of pounds)

	2011	2012	2013	2014	2015	2016	2017	2018	2019 ¹	2020 ²
<u>Sweet-type Whey Production</u>										
Cheese Production ³	9,913	10,886	11,102	11,512	11,831	12,182	12,640	13,037	13,137	13,253
Calculated Fluid Whey ⁴	89,217	97,974	99,918	103,608	106,479	109,638	113,760	117,333	118,233	119,277
Calculated Whey Solids ⁵	5,353	5,878	5,995	6,216	6,389	6,578	6,826	7,040	7,094	7,157
<u>Acid-type Whey Production</u>										
Cottage Cheese Production ³	714	709	678	668	681	697	675	695	686	671
Calculated Fluid Whey ⁴	4,284	4,254	4,068	4,008	4,086	4,182	4,050	4,170	4,116	4,026
Calculated Whey Solids ⁵	257	255	244	240	245	251	243	250	247	242
Total Whey Production (fluid basis):	93,501	102,228	103,986	107,616	110,565	113,820	117,810	121,503	122,349	123,303
Total Whey Production (solids basis):	5,610	6,133	6,239	6,456	6,634	6,829	7,069	7,290	7,341	7,399
<u>Whey Solids Further Processed</u>										
A - Concentrated Whey Solids	104	81	89	92	122	128	106	109	126	109
B - Dry Whey										
- Human Food	1,024	946	916	856	961	932	1,007	982	962	932
- Animal Feed	58	53	37	14	17	23	28	18	16	19
C - Modified Dry Whey Products										
- Reduced Lactose & Minerals Whey	89	90	90	93	69	63	61	57	56	57
- Whey Protein Concentrate	443	459	498	540	493	468	489	514	491	478
D - Whey Solids Utilized for Lactose ⁶	1,192	1,642	1,665	1,813	1,678	1,758	1,799	1,853	1,963	1,764
E - Whey Protein Isolate	43	65	87	81	101	111	117	122	120	117
Total Whey Solids Further Processed (A+B+C+D+E) ⁷ :	2,953	3,336	3,382	3,489	3,441	3,483	3,607	3,655	3,734	3,476
Total Whey Solids Further Processed as % of Total Whey Production (solids basis):	52.6%	54.4%	54.2%	54.0%	51.9%	51.0%	51.0%	50.1%	50.9%	47.0%

¹ Revised.

² Preliminary.

³ USDA/NASS.

⁴ Whey Production: approximately 9 lb/1 lb cheese produced (except Cottage).
approximately 6 lb/1 lb Cottage Cheese produced.

⁵ Average total solids content of whey: 6.0%.

⁶ Approximately 1.6 lb whey solids utilized/1 lb lactose produced.

⁷ Does not include whey permeate, whey protein isolate and other whey fractions.

Whey & Whey Products Production¹

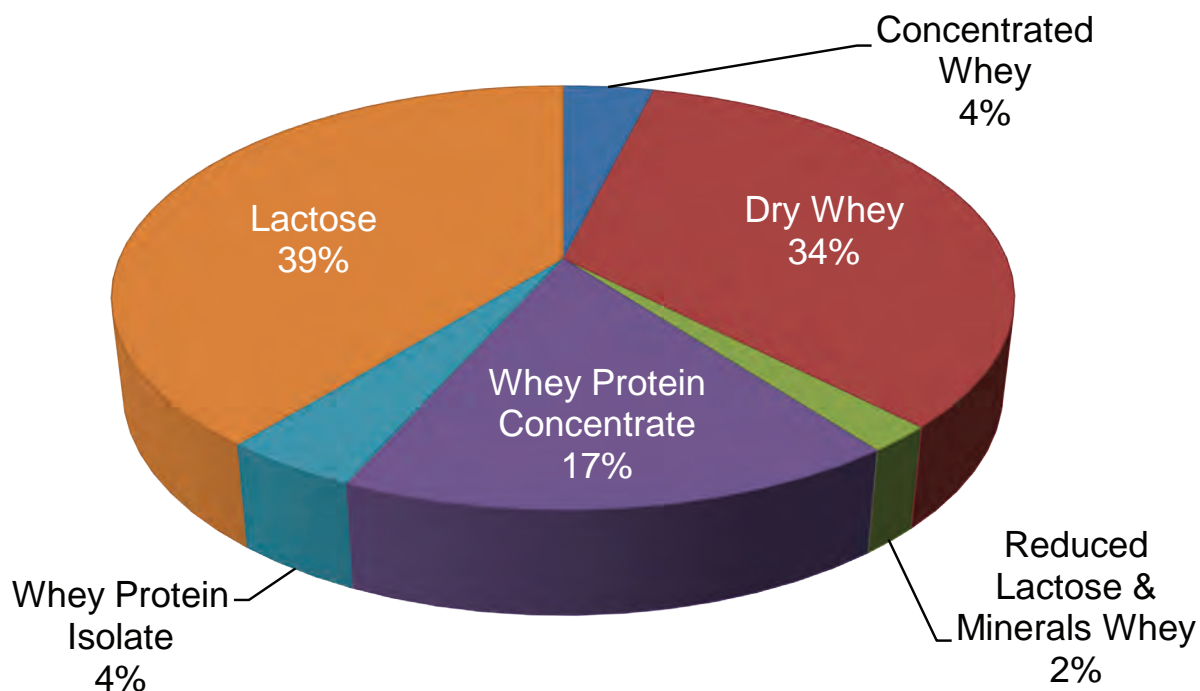
2020²

	Concentrated Whey	Dry Whey	Reduced Lactose & Minerals Whey	Whey Protein Concentrate	Whey Protein Isolate	Lactose
January	9,937	85,353	5,181	41,350	9,555	84,665
February	8,931	77,137	4,650	35,487	9,022	84,265
March	9,433	83,482	5,755	40,094	10,276	94,831
April	9,395	75,824	4,441	37,341	9,555	88,674
May	9,164	84,109	5,055	39,074	10,823	90,928
June	9,032	81,713	5,092	40,189	10,160	102,804
July	9,075	82,616	4,559	39,655	9,725	99,916
August	9,394	78,720	3,706	40,061	9,208	95,837
September	8,785	76,954	4,618	40,988	8,946	93,454
October	8,678	75,148	5,486	40,971	10,466	86,843
November	8,654	68,652	4,543	39,311	8,316	85,542
December	8,491	81,301	4,387	43,137	10,941	95,013
Total	108,969	951,009	57,473	477,658	116,993	1,102,772

GRAND TOTAL: 2,814,874

¹In thousands of pounds.

²Preliminary.



Whey & Whey Products Production¹

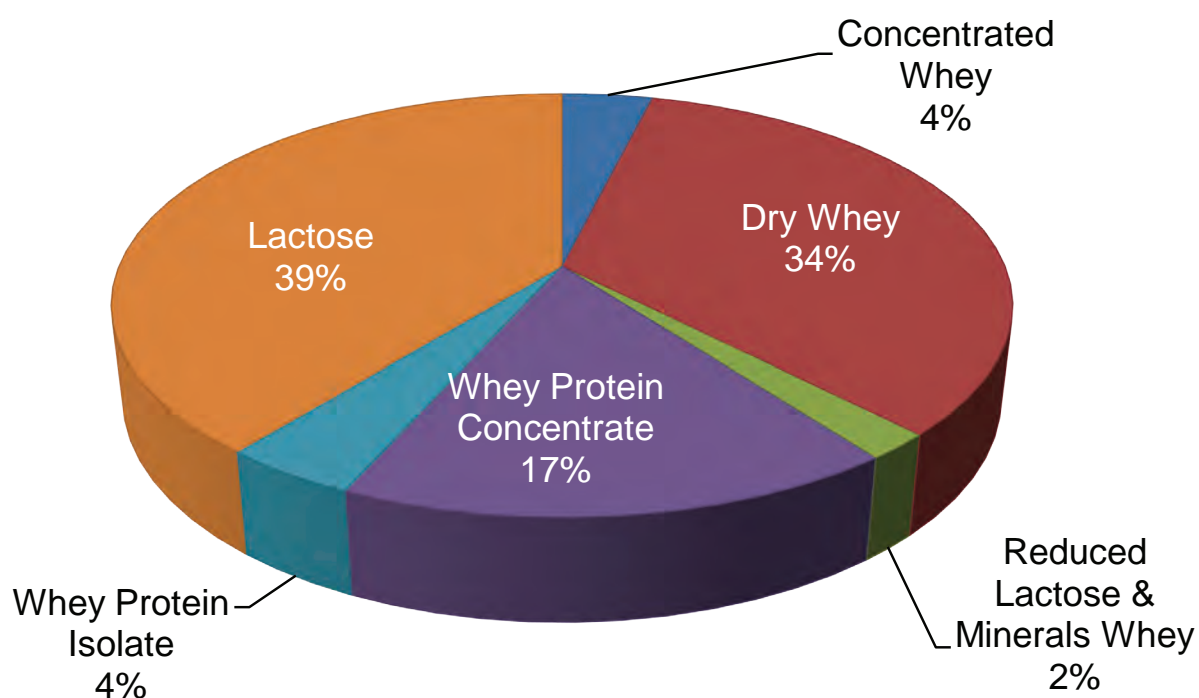
2019²

	Concentrated Whey	Dry Whey	Reduced Lactose & Minerals Whey	Whey Protein Concentrate	Whey Protein Isolate	Lactose
January	10,951	82,765	5,924	43,871	11,737	112,832
February	10,482	76,146	4,635	38,551	10,183	98,231
March	10,987	77,378	4,762	42,026	10,151	114,157
April	11,821	74,998	4,872	40,639	9,460	108,057
May	12,086	79,090	4,574	41,911	10,257	109,722
June	10,752	82,976	4,617	39,516	10,564	107,903
July	10,359	82,906	4,503	39,802	9,754	106,989
August	9,816	84,897	4,420	39,903	9,423	94,974
September	8,511	90,627	4,965	40,068	9,951	95,488
October	9,633	90,843	4,320	40,672	9,675	96,493
November	10,653	75,111	4,205	40,696	9,321	88,375
December	10,215	79,821	4,490	43,106	9,422	93,634
Total	126,266	977,558	56,287	490,761	119,898	1,226,855

GRAND TOTAL: 2,997,625

¹In thousands of pounds.

²Preliminary.

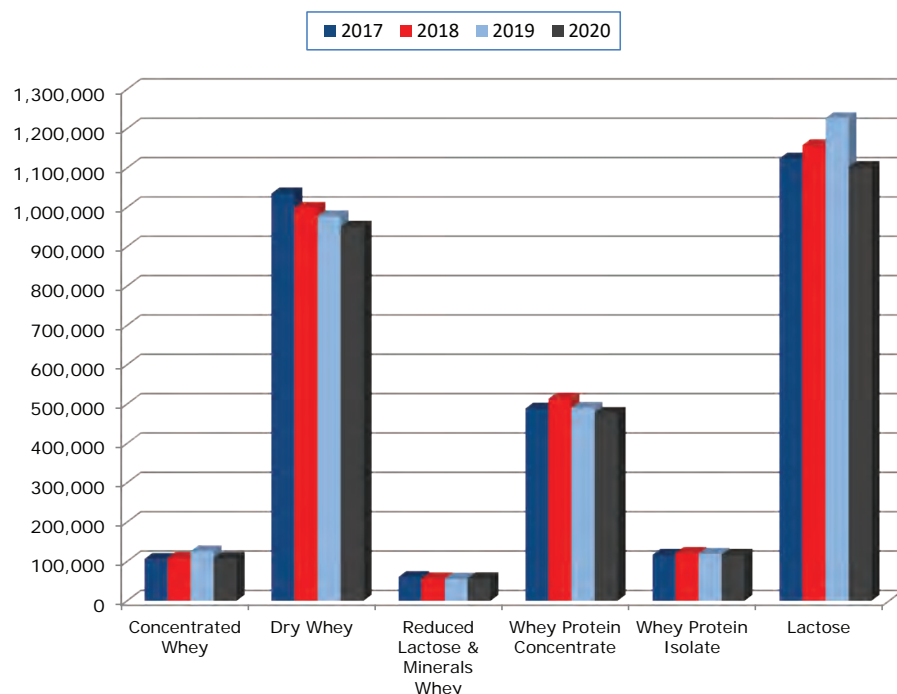


Whey & Whey Products Production¹

HIGHLIGHTS:

Dry whey & whey products production decreased 6.1% to 2,814,874 thousand pounds from 2,997,625 thousand pounds in 2019.

Concentrated Whey decreased 13.7%, **Dry Whey** decreased 2.7%, **Reduced Lactose & Minerals Whey** increased 2.1%, **Whey Protein Concentrate** decreased 2.7%, **Whey Protein Isolate** decreased 2.4% and **Lactose** decreased 10.1%.



Type	2017	2018	2019 ²	2020 ³
Concentrated Whey	106,576	109,185	126,266	108,969
Dry Whey	1,035,414	999,356	977,558	951,009
Reduced Lactose & Minerals Whey	60,763	56,943	56,287	57,473
Whey Protein Concentrate	488,922	513,953	490,761	477,658
Whey Protein Isolate	116,831	121,541	119,898	116,993
Lactose	1,124,157	1,158,300	1,226,855	1,102,772
GRAND TOTAL:	2,932,663	2,959,278	2,997,625	2,814,874

¹ In thousands of pounds.

² Revised

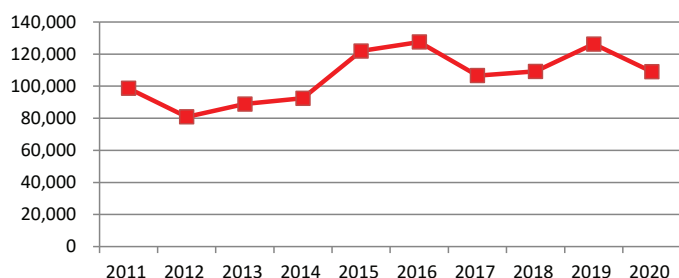
³ Preliminary

Whey & Whey Products Production

Whey & Whey Products Annual Growth Rate

Concentrated Whey Manufactured In U.S.¹

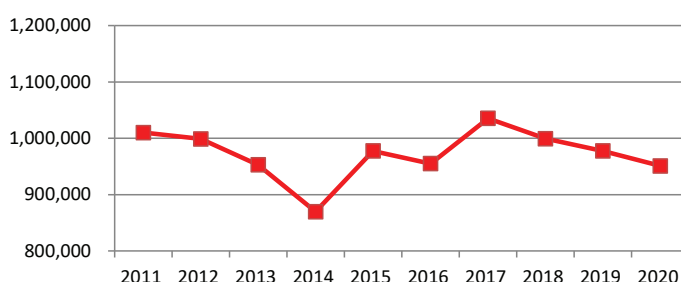
The Compounded Annual Growth Rate (2011-2020) is 1.00%



¹In thousands of pounds of solids.

Dry Whey Manufactured In U.S.¹

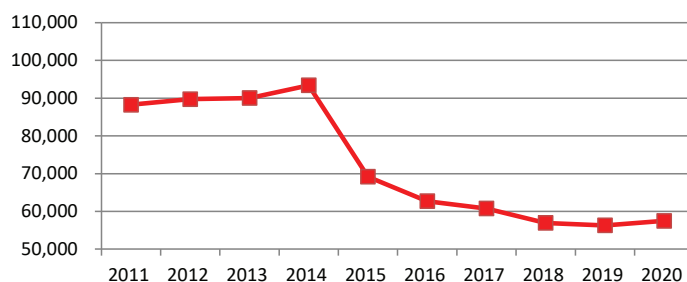
The Compounded Annual Growth Rate (2011-2020) is -0.60%



¹In thousands of pounds.

Modified Whey Manufactured In U.S.¹

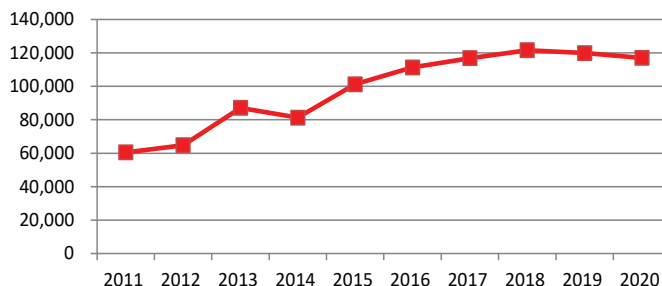
The Compounded Annual Growth Rate (2011-2020) is -4.20%



¹In thousands of pounds.

Whey Protein Isolate Manufactured In U.S.¹

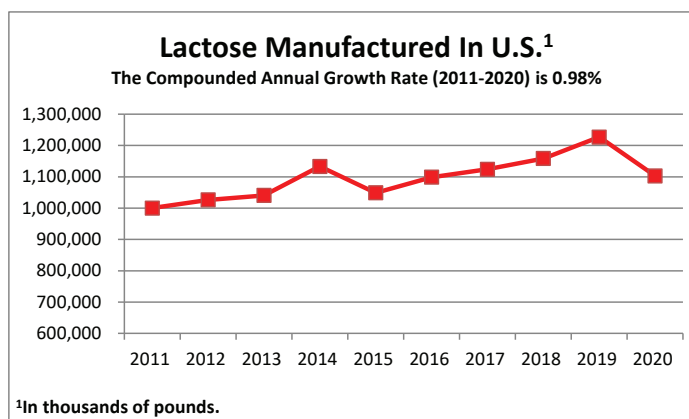
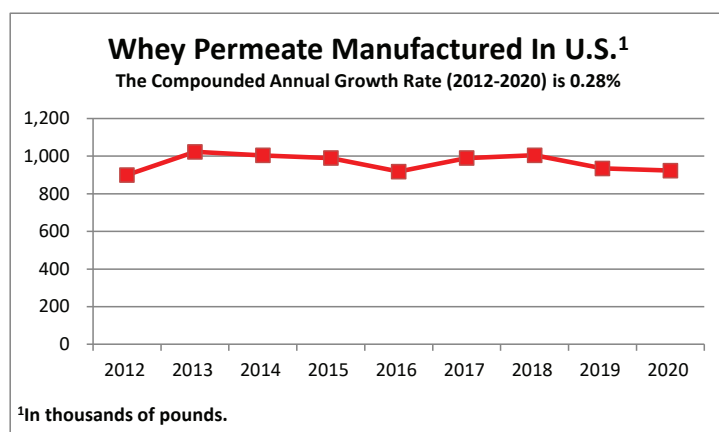
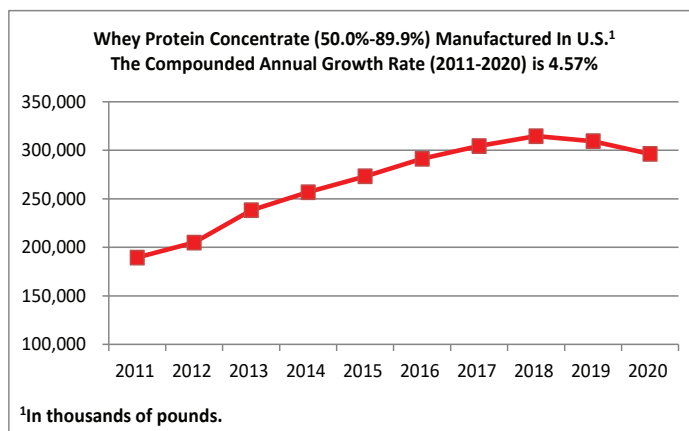
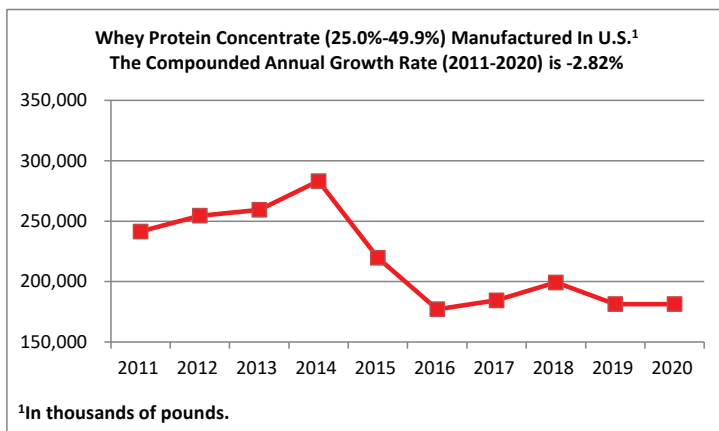
The Compounded Annual Growth Rate (2011-2020) is 6.82%



¹In thousands of pounds.

Whey & Whey Products Production

Whey & Whey Products Annual Growth Rate



U.S. Dry Whey Production¹

Year	Production	Year	Production
2011	1,010,117	2016	955,141
2012	998,898	2017	1,035,414
2013	952,980	2018	999,356
2014	869,701	2019 ²	977,558
2015	977,568	2020 ³	951,009

¹ In thousands of pounds.

² Revised

³ Preliminary



U.S. CHEESE PRODUCTION



**American Dairy[®]
Products Institute**

Cheese Production¹

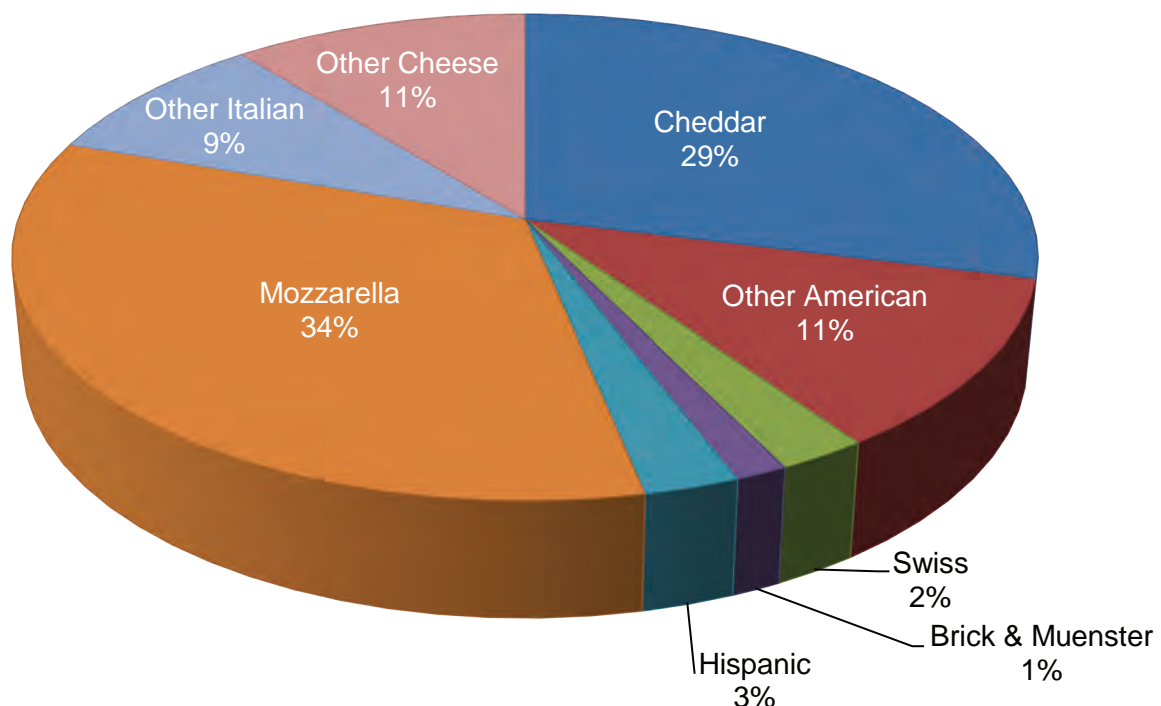
2020²

	Cheddar	Other American	Swiss	Brick & Muenster	Hispanic	Mozzarella	Other Italian	Other Cheese
January	323,344	118,863	28,379	15,036	28,068	384,730	103,962	122,386
February	296,659	117,496	26,766	14,760	26,950	352,735	93,030	104,511
March	314,114	132,309	27,396	16,684	31,839	386,397	99,149	113,558
April	330,119	116,406	25,754	13,573	28,953	353,043	94,605	89,506
May	315,704	125,444	24,242	18,188	29,871	379,446	102,877	105,439
June	302,960	128,822	26,314	17,343	30,969	389,307	96,454	129,429
July	322,775	130,321	26,340	16,319	29,475	364,832	90,166	129,887
August	323,153	121,984	28,424	14,535	28,119	355,527	90,011	129,793
September	303,253	128,861	27,438	16,252	29,938	371,610	98,213	128,670
October	325,354	134,863	28,070	16,842	29,092	371,411	101,883	129,348
November	321,553	128,230	27,985	16,755	26,589	358,817	96,087	126,276
December	349,162	125,784	27,793	13,785	27,561	382,737	108,141	119,520
Total	3,828,150	1,509,383	324,901	190,072	347,424	4,450,592	1,174,578	1,428,323

GRAND TOTAL: 13,253,423

¹In thousands of pounds.

²Preliminary.



Cheese Production¹

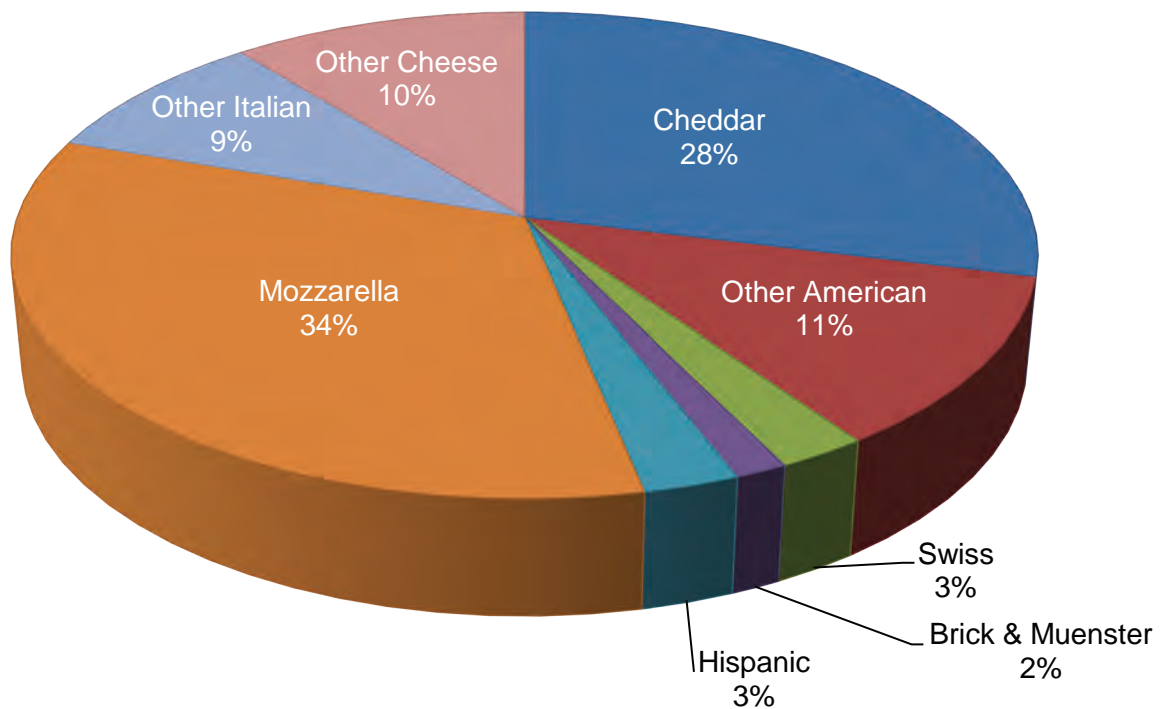
2019²

	Cheddar	Other American	Swiss	Brick & Muenster	Hispanic	Mozzarella	Other Italian	Other Cheese
January	336,799	115,176	29,976	18,222	25,207	381,103	102,103	108,182
February	289,254	109,836	26,443	14,853	28,195	346,363	94,070	94,589
March	315,235	127,490	27,683	14,806	28,347	391,165	102,119	115,139
April	306,514	124,012	27,601	16,927	27,721	372,684	102,787	106,528
May	321,124	122,578	29,839	18,167	29,532	374,769	99,763	109,835
June	307,397	120,238	28,290	16,749	27,441	370,363	91,333	107,449
July	305,909	128,542	29,104	17,710	26,829	368,166	95,697	115,656
August	321,194	130,834	28,896	15,723	27,529	370,384	96,195	122,741
September	284,145	131,541	27,705	15,664	28,072	375,725	94,915	122,760
October	309,585	136,009	29,136	19,217	30,255	384,612	100,948	128,188
November	309,224	123,202	26,100	15,745	27,699	375,265	96,697	119,250
December	330,373	126,012	27,534	15,123	26,422	383,977	99,360	113,721
Total	3,736,753	1,495,470	338,307	198,906	333,249	4,494,576	1,175,987	1,364,038

GRAND TOTAL: 13,137,286

¹In thousands of pounds.

²Preliminary.

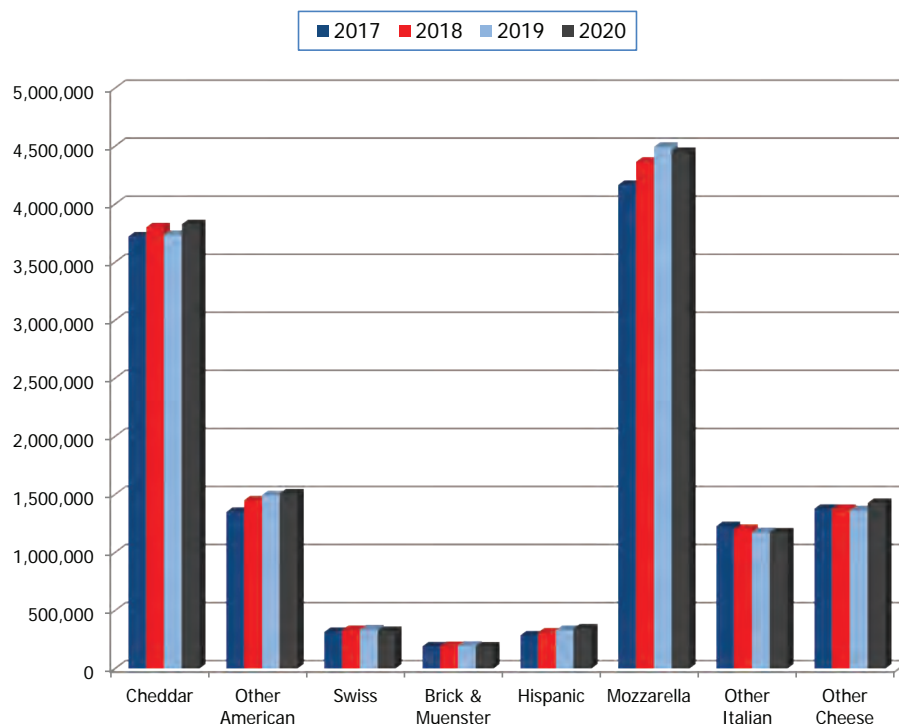


Cheese Production¹

HIGHLIGHTS:

Cheese production increased 0.9% to 13,253,423 thousand pounds from 13,137,286 thousand pounds in 2019.

Cheddar increased 2.4%, **Other American** increased 0.9%, **Swiss** decreased 4.0%, **Brick & Muenster** decreased 4.4%, **Hispanic** increased 4.3%, **Mozzarella** decreased 1.0%, **Other Italian** decreased 0.1% and **Other Cheese** increased 4.7%.



Type	2017	2018	2019 ²	2020 ³
Cheddar	3,721,468	3,801,724	3,736,753	3,828,150
Other American	1,350,661	1,452,038	1,495,470	1,509,383
Swiss	316,654	332,309	338,307	324,901
Brick & Muenster	191,591	193,523	198,906	190,072
Hispanic	286,521	311,910	333,249	347,424
Mozzarella	4,167,492	4,366,396	4,494,576	4,450,592
Other Italian	1,227,756	1,203,145	1,175,987	1,174,578
Other Cheese	1,377,819	1,376,331	1,364,038	1,428,323
GRAND TOTAL:	12,639,962	13,037,376	13,137,286	13,253,423

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Cheese Production by State¹

2020

	<u>Cheddar</u>	<u>Other American</u>	<u>Swiss</u>	<u>Mozzarella</u>	<u>Other Italian</u>	<u>Total Cheese</u>
California	294,770	286,357	²	1,487,912	115,362	2,434,870
Idaho	²	²	²	321,788	6,457	1,014,224
Iowa	121,150	92,788	²	²	²	355,222
Minnesota	606,046	18,795	²	²	114,104	741,743
New Mexico	²	²	²	²	²	962,449
New York	²	²	²	183,131	179,758	870,080
Ohio	²	²	155,817	²	²	245,118
Oregon	193,952	²	²	²	²	228,578
Pennsylvania	²	²	7,240	216,587	44,601	435,874
South Dakota	²	²	²	²	²	450,413
Vermont						147,275
Wisconsin	743,236	320,210	15,023	1,078,817	567,117	3,389,763
All Others	1,868,996	791,233	146,821	1,162,357	147,179	1,977,814
TOTAL U.S.	3,828,150	1,509,383	324,901	4,450,592	1,174,578	13,253,423

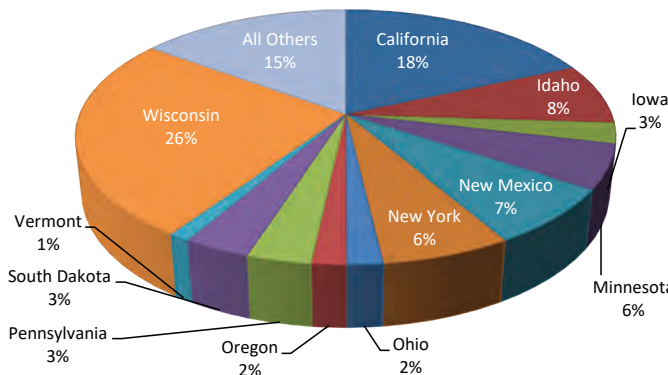
2019

	<u>Cheddar</u>	<u>Other American</u>	<u>Swiss</u>	<u>Mozzarella</u>	<u>Other Italian</u>	<u>Total Cheese</u>
California	309,173	287,260	²	1,566,228	131,332	2,542,827
Idaho	²	²	²	308,374	7,218	1,008,066
Iowa	106,390	96,841	²	²	²	333,932
Minnesota	589,695	18,558	²	²	118,317	730,412
New Mexico	²	²	²	²	²	956,501
New York	²	²	²	188,957	168,285	831,951
Ohio	²	²	155,483	²	²	226,811
Oregon	171,921	²	²	²	²	211,143
Pennsylvania	²	²	8,077	223,022	40,368	432,187
South Dakota	²	²	²	²	²	347,675
Vermont						145,151
Wisconsin	712,557	290,469	16,976	1,110,363	588,571	3,362,487
All Others	1,847,017	802,342	157,771	1,097,632	121,896	2,008,143
TOTAL U.S.	3,736,753	1,495,470	338,307	4,494,576	1,175,987	13,137,286

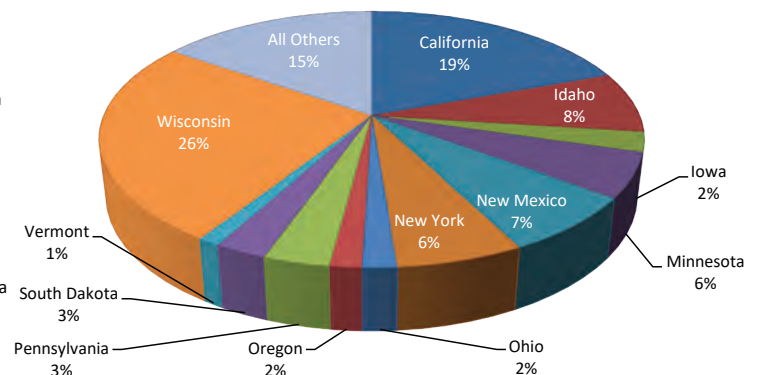
¹ Figures in thousands of pounds.

² Production figure is not shown when less than 3 plants report to USDA. This production is included in the totals under "All Others".

2020



2019



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MISCELLANEOUS U.S. PRODUCTION DATA



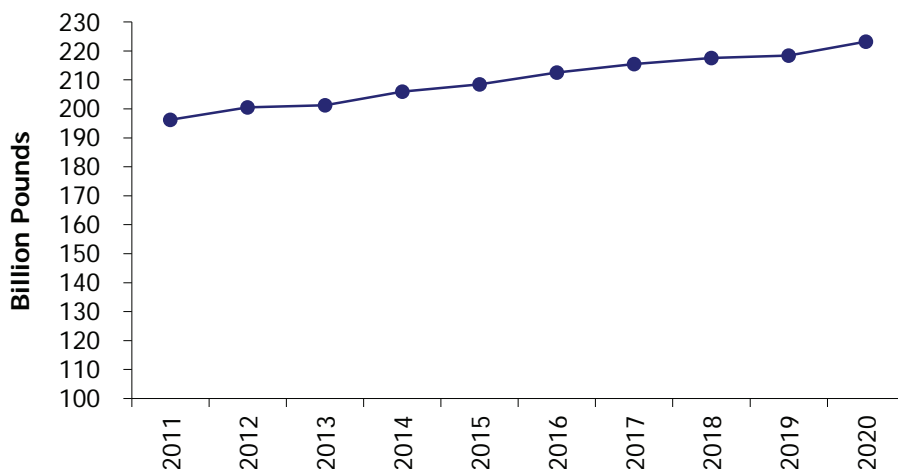
**American Dairy[®]
Products Institute**

U.S. Milk Production

HIGHLIGHTS:

Average growth rate of 1.30% per year the last ten years - primarily driven by increased production per cow.

2020 production was 223.2 billion pounds an increase of 2.2% over 2019. Number of milk cows increased 0.5% over 2019. Average milk per cow increased 1.6% over 2019.



Year	Number of Milk Cows ¹ (Thousands)	Average Milk Per Cow ² (Pounds)	Milk Production ² (Billion Pounds)
2011	9,194	21,336	196.2
2012	9,233	21,720	200.5
2013	9,224	21,819	201.3
2014	9,261	22,249	206.0
2015	9,320	22,372	208.5
2016	9,334	22,761	212.5
2017	9,406	22,914	215.5
2018	9,398	23,150	217.6
2019 ³	9,337	23,395	218.4
2020 ⁴	9,388	23,777	223.2

¹ Includes dry cows, excludes heifers not yet fresh.

² Excludes milk sucked by calves.

³ Revised.

⁴ Preliminary.

U.S. Milk Production by State

Ten Largest Dairy States¹, 2013 - 2020 (millions of pounds)

State	2013	2014	2015	2016	2017	2018	2019	2020 ²
California	41,256	42,339	40,897	40,469	39,798	40,404	40,595	41,282
Wisconsin	27,572	27,795	29,030	30,110	30,333	30,579	30,588	30,730
Idaho	13,431	13,873	14,114	14,665	14,633	15,146	15,632	16,241
New York	13,472	13,739	14,083	14,777	14,929	14,882	15,122	15,337
Texas	9,610	10,310	10,301	10,773	12,054	12,860	13,850	14,831
Michigan	9,164	9,609	10,261	10,876	11,231	11,171	11,385	11,683
Pennsylvania	10,552	10,664	10,800	10,812	10,893	10,657	10,108	10,276
Minnesota	9,138	9,127	9,462	9,666	9,867	9,868	9,922	10,149
New Mexico	8,057	8,105	7,831	7,711	8,212	8,285	8,187	8,169
Washington	6,336	6,576	6,606	6,650	6,531	6,736	6,783	6,817

Percentage of Top Ten Dairy States

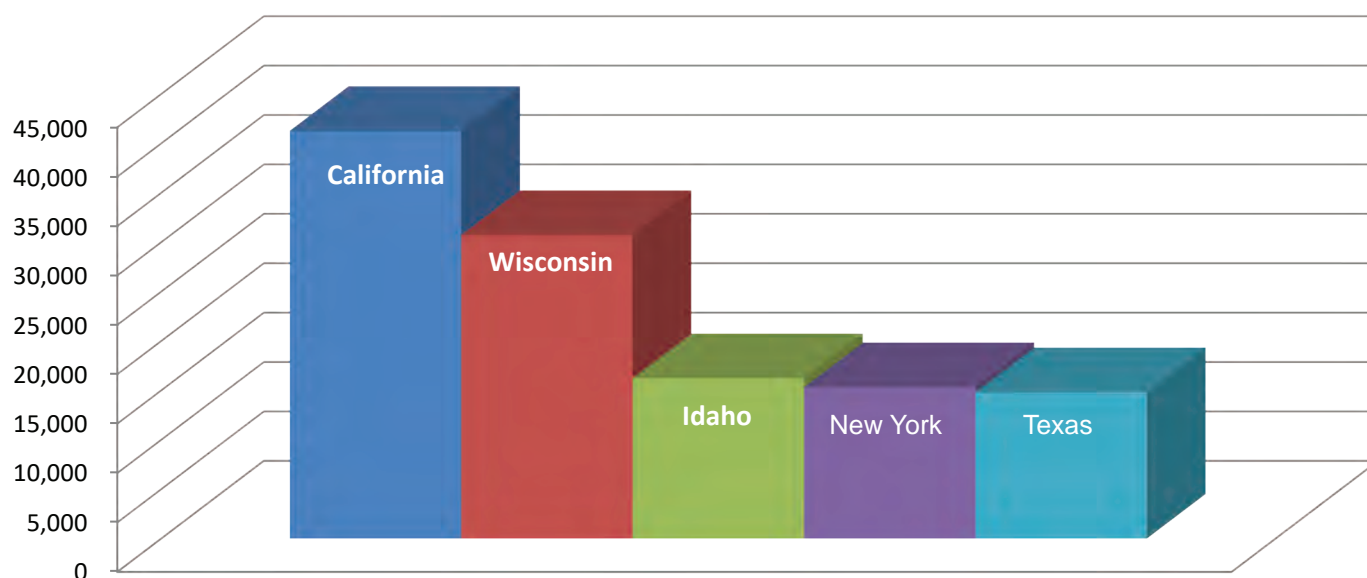
Top 10	148,588	152,137	153,385	156,509	158,481	160,588	162,172	165,515
% Total ³	74%	74%	74%	74%	74%	74%	74%	74%
Total U.S.	201,260	206,048	208,508	212,451	215,527	217,568	218,441	223,220

¹ Ranked by 2020 Milk Production.

² Preliminary.

³ Milk Production and percent of total milk are the top 10 states in the year indicated.

2020 Top Five Largest Dairy States¹



Source: USDA, National Agricultural Statistics Service

Dry Milk & Whey Products Production & Casein Imports¹

Year	Dry Milk Products				Whey Products				Total Dry Milk & Whey	Casein Imports	Casein % of Total
	Nonfat Dry Milk ²	Dry Whole Milk	Dry Buttermilk	Dried Skim Milk	Dry Whey	Concentrated Whey	Modified Whey	Lactose			
2011	1,945.5	65.8	100.1	8.5	1,010.1	98.7	579.7	1,000.2	4,808.6	196.5	4.1
2012	2,145.1	58.1	109.1	9.8	998.9	80.6	614.0	1,026.1	5,041.7	185.9	3.7
2013	2,108.6	72.1	119.3	10.4	953.0	88.9	674.8	1,040.8	5,067.9	182.5	3.6
2014	2,308.1	103.1	111.1	11.3	869.7	92.5	714.8	1,133.0	5,343.6	168.8	3.2
2015	2,268.7	108.5	98.4	10.0	977.6	121.9	663.4	1,049.0	5,297.5	162.4	3.1
2016	2,311.8	98.2	109.6	9.3	955.1	127.5	642.4	1,098.9	5,352.8	123.7	2.3
2017	2,364.9	122.4	112.9	11.9	1,035.4	106.6	666.5	1,124.2	5,544.8	110.8	2.0
2018	2,337.8	144.1	118.1	14.0	999.4	109.2	692.4	1,158.3	5,573.3	101.8	1.8
2019	1,851.1	141.0	118.3	16.1	977.6	126.3	666.9	1,226.9	5,124.2	108.7	2.1
2020	1,990.9	138.1	126.8	18.3	951.0	109.0	652.1	1,102.8	5,089.0	101.2	2.0

¹ Figures in millions of pounds.

² Includes Skim Milk Powders.

Casein Imports - Blimling Figures 350110 Casein



GLOBAL BUTTER & CHEESE PRODUCTION



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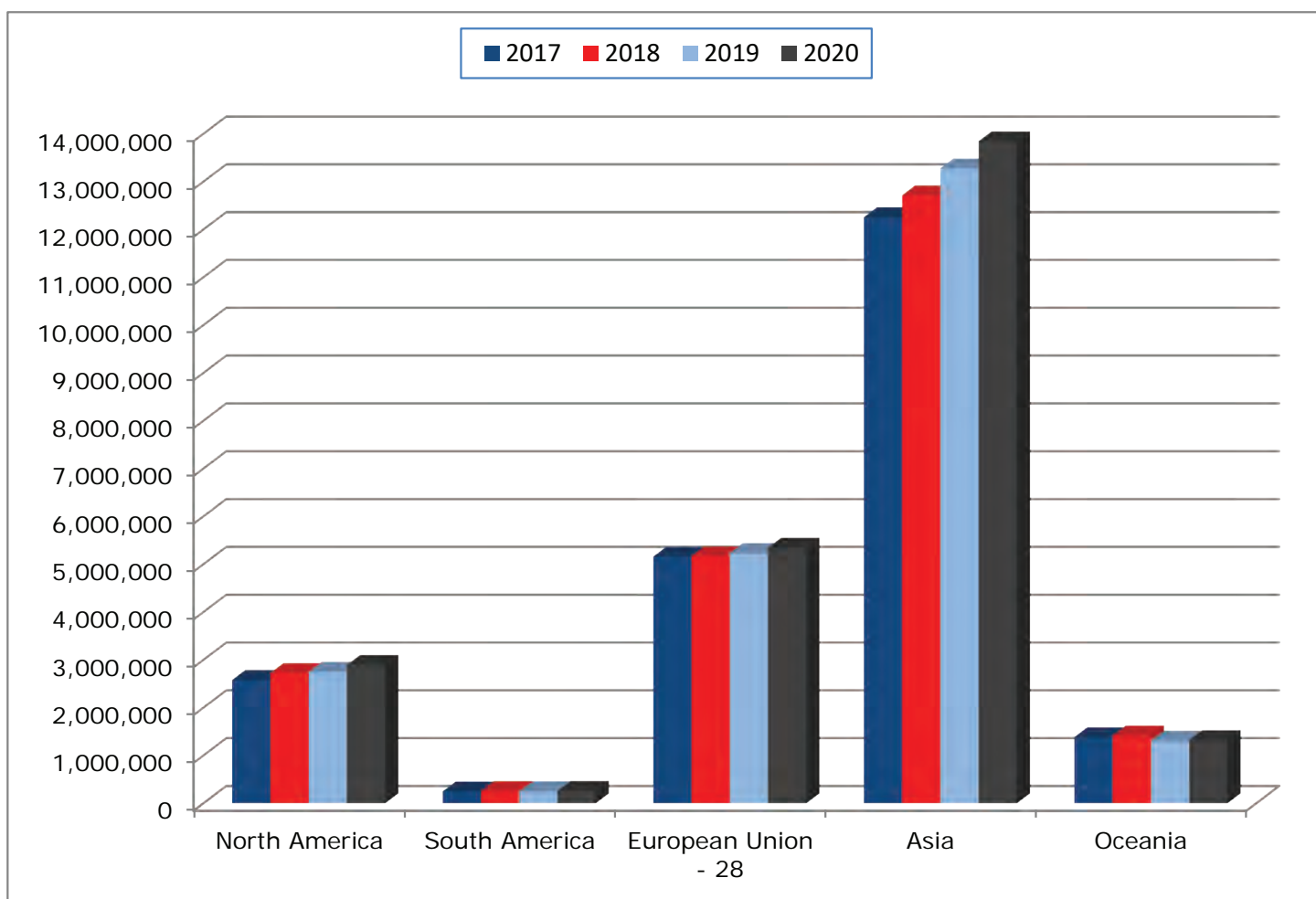
Butter Production¹

Global Production for Selected Countries

<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020²</u>
North America	2,579,382	2,727,090	2,751,341	2,894,640
South America	249,120	260,143	251,324	262,347
European Union - 28	5,158,764	5,169,787	5,235,925	5,346,155
Former Soviet Union	1,100,095	1,051,594	1,029,548	1,036,162
Asia	12,255,371	12,716,133	13,276,101	13,844,888
Oceania	1,384,489	1,417,558	1,311,737	1,322,760
TOTAL SELECTED COUNTRIES:	22,727,221	23,342,305	23,855,977	24,706,952

¹ In thousands of pounds.

² Preliminary.



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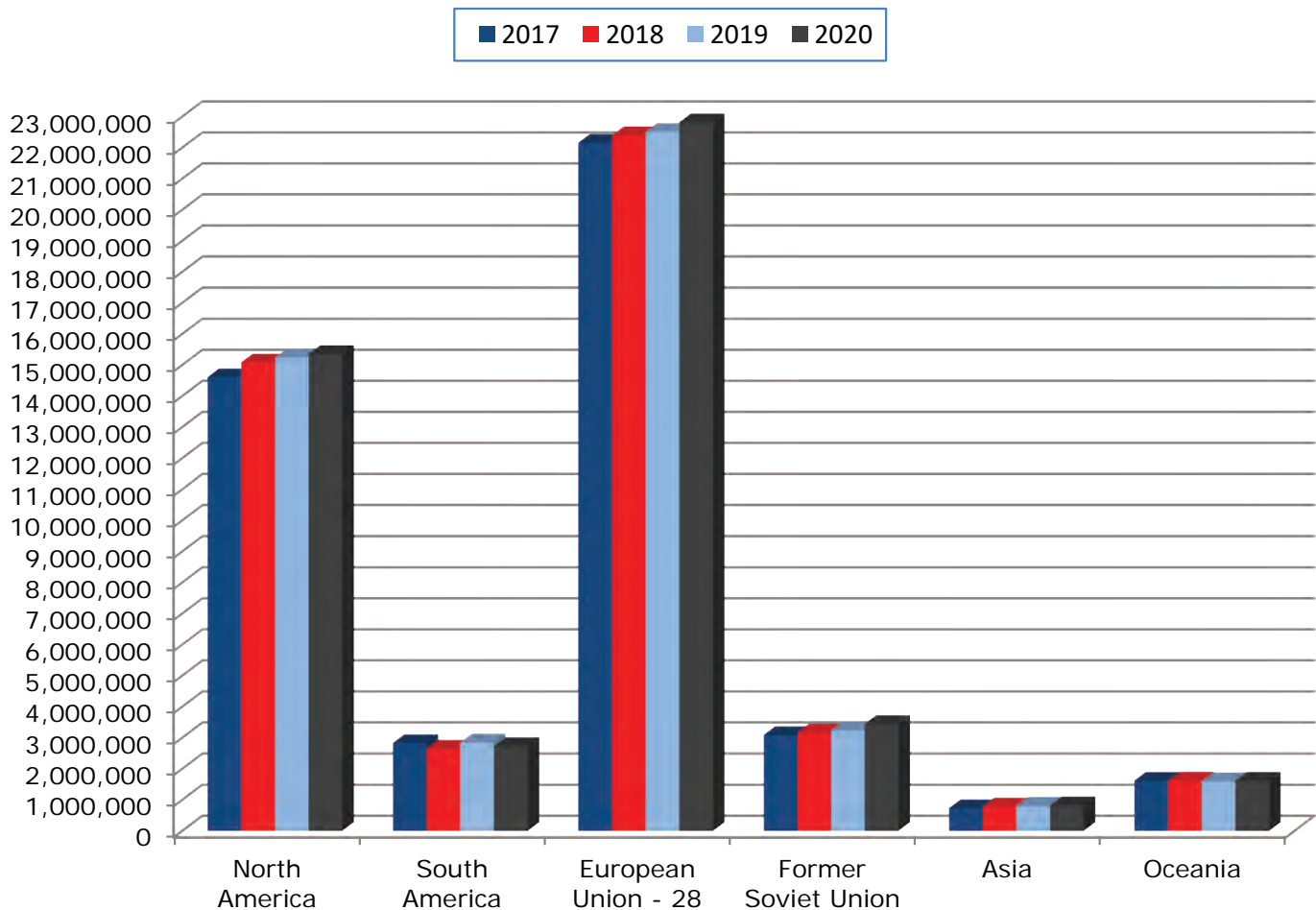
Cheese Production¹

Global Production for Selected Countries

<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020²</u>
North America	14,607,680	15,086,078	15,235,991	15,355,039
South America	2,832,911	2,654,338	2,850,548	2,729,295
European Union - 28	22,156,230	22,398,736	22,508,966	22,817,610
Former Soviet Union	3,088,645	3,168,010	3,240,762	3,441,381
Asia	731,927	793,656	811,293	822,316
Oceania	1,618,176	1,622,586	1,607,153	1,620,381
TOTAL SELECTED COUNTRIES:	45,035,569	45,723,404	46,254,713	46,786,021

¹ In thousands of pounds.

² Preliminary.





GLOBAL DRY MILK PRODUCTION



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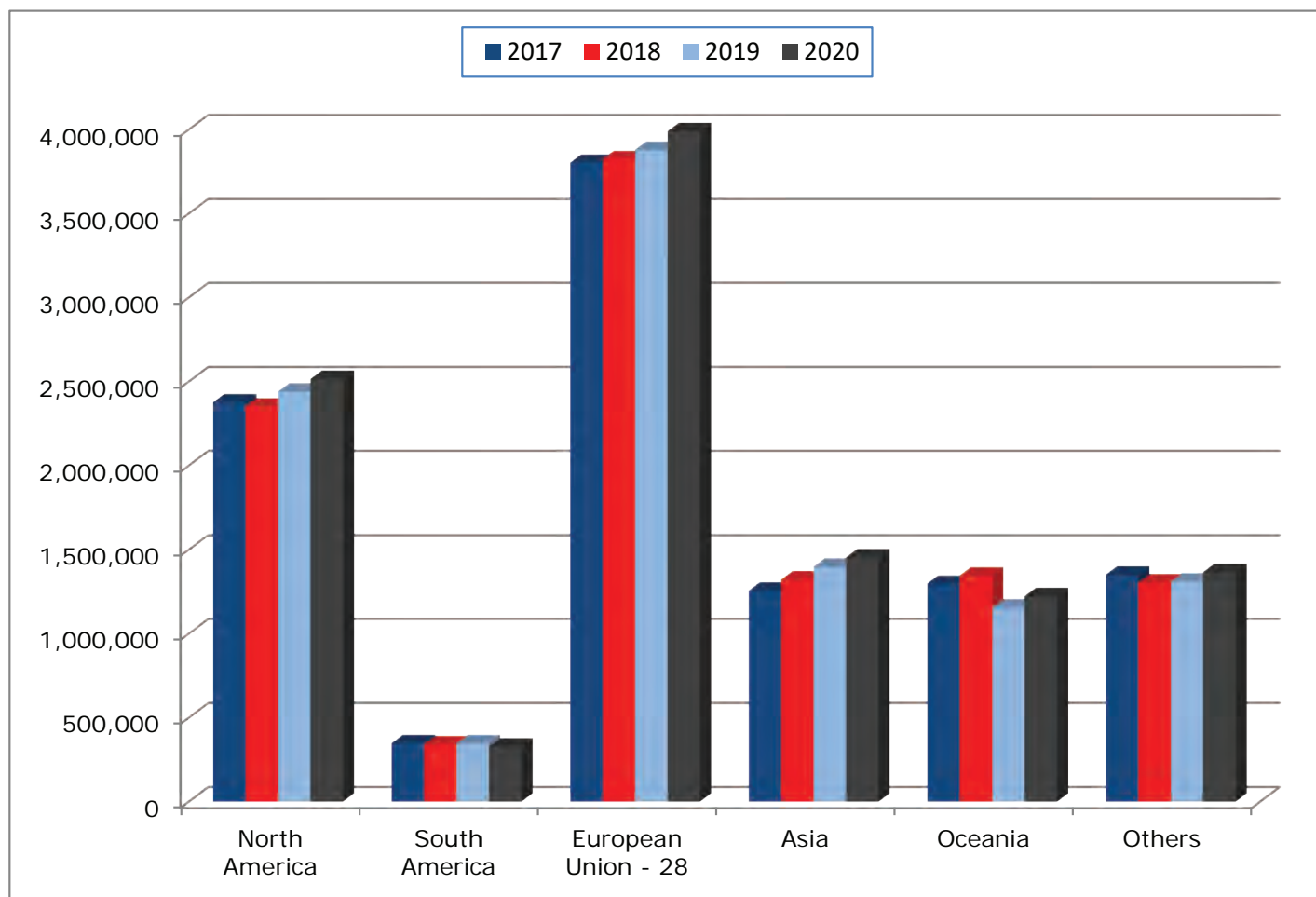
Skimmed Milk Powder Production¹

Global Production for Selected Countries

<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020²</u>
North America	2,376,559	2,352,308	2,440,492	2,515,449
South America	348,327	341,713	348,327	328,485
European Union - 28	3,802,935	3,824,981	3,880,096	3,990,326
Asia	1,256,622	1,322,760	1,399,921	1,455,036
Oceania	1,298,509	1,347,011	1,157,415	1,223,553
Others	1,351,420	1,305,123	1,311,737	1,366,852
TOTAL SELECTED COUNTRIES:	10,434,372	10,493,896	10,537,988	10,879,701

¹ In thousands of pounds.

² Preliminary.



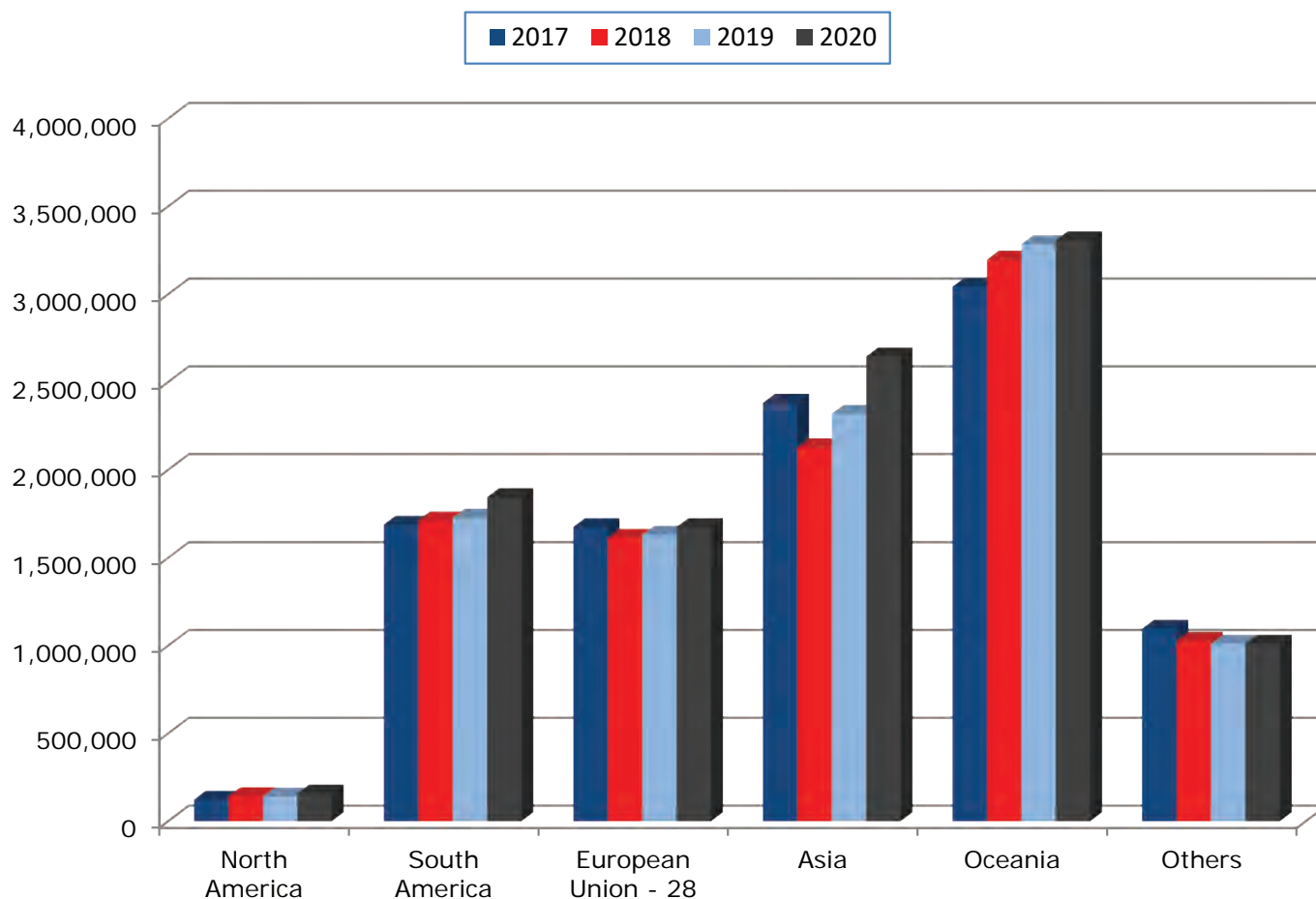
Whole Milk Powder Production¹

Global Production for Selected Countries

<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020²</u>
North America	123,458	143,299	141,094	158,731
South America	1,688,724	1,712,974	1,728,406	1,845,250
European Union - 28	1,675,496	1,613,767	1,631,404	1,675,496
Asia	2,380,968	2,127,439	2,319,239	2,645,520
Oceania	3,042,348	3,196,670	3,284,854	3,306,900
Others	1,095,686	1,027,344	1,011,911	1,011,911
TOTAL SELECTED COUNTRIES:	10,006,679	9,821,493	10,116,909	10,643,809

¹ In thousands of pounds.

² Preliminary.





GLOBAL WHEY & LACTOSE PRODUCTION



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Dry Whey Production¹

Global Production

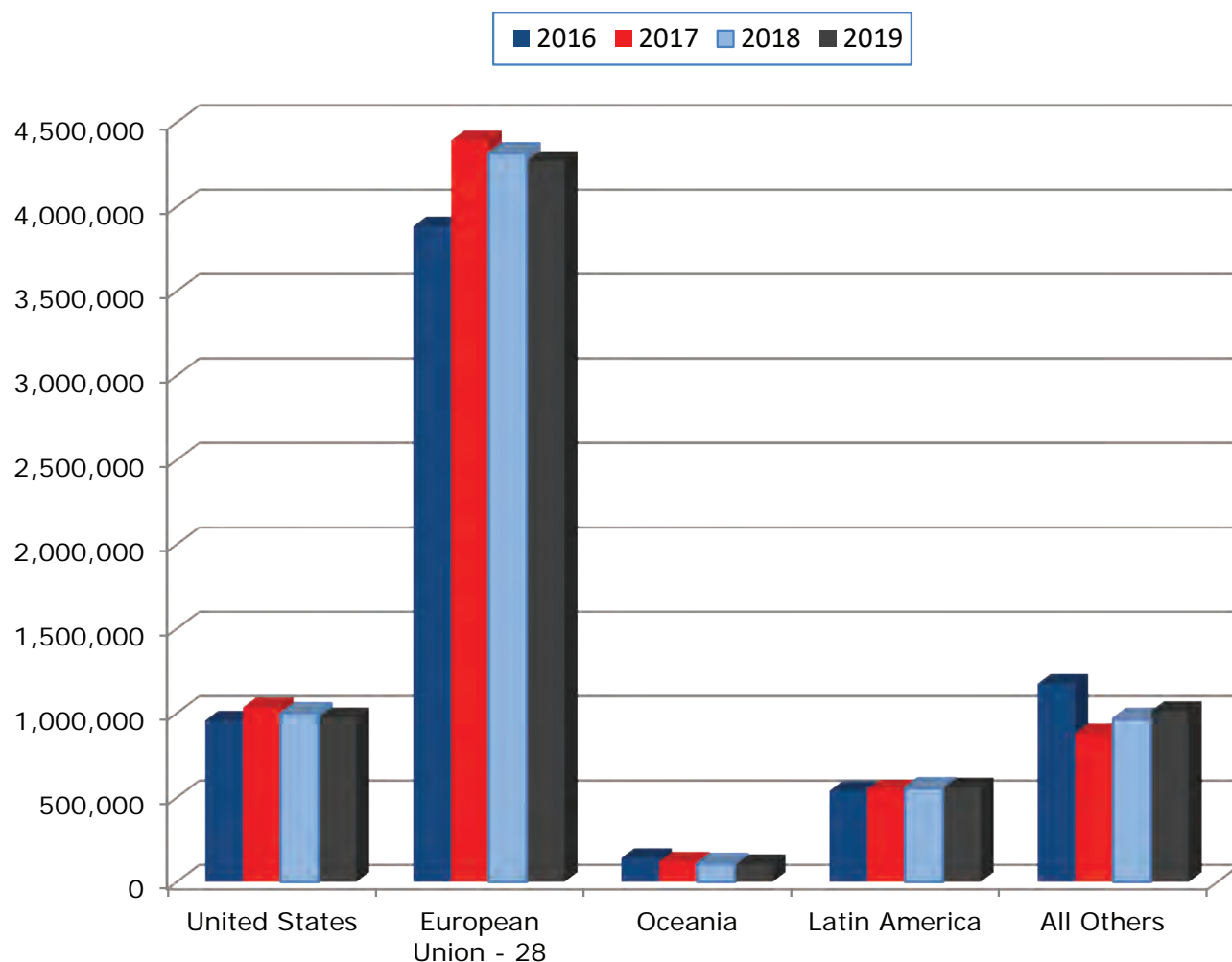
<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019²</u>	<u>2020³</u>
United States	1,036,162	1,000,888	976,638	950,183
European Union - 28	4,393,768	4,318,811	4,272,515	4,254,878
Oceania	121,253	108,025	105,821	103,616
Latin America	551,150	557,764	562,173	568,787
All Others	881,840	967,819	1,014,116	1,040,571
TOTAL WORLD:	6,984,173	6,953,308	6,931,262	6,918,035

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Source: 3A Business Consulting



Whey Protein Concentrate Production¹

(25.0% - 49.9% Protein)

Global Production

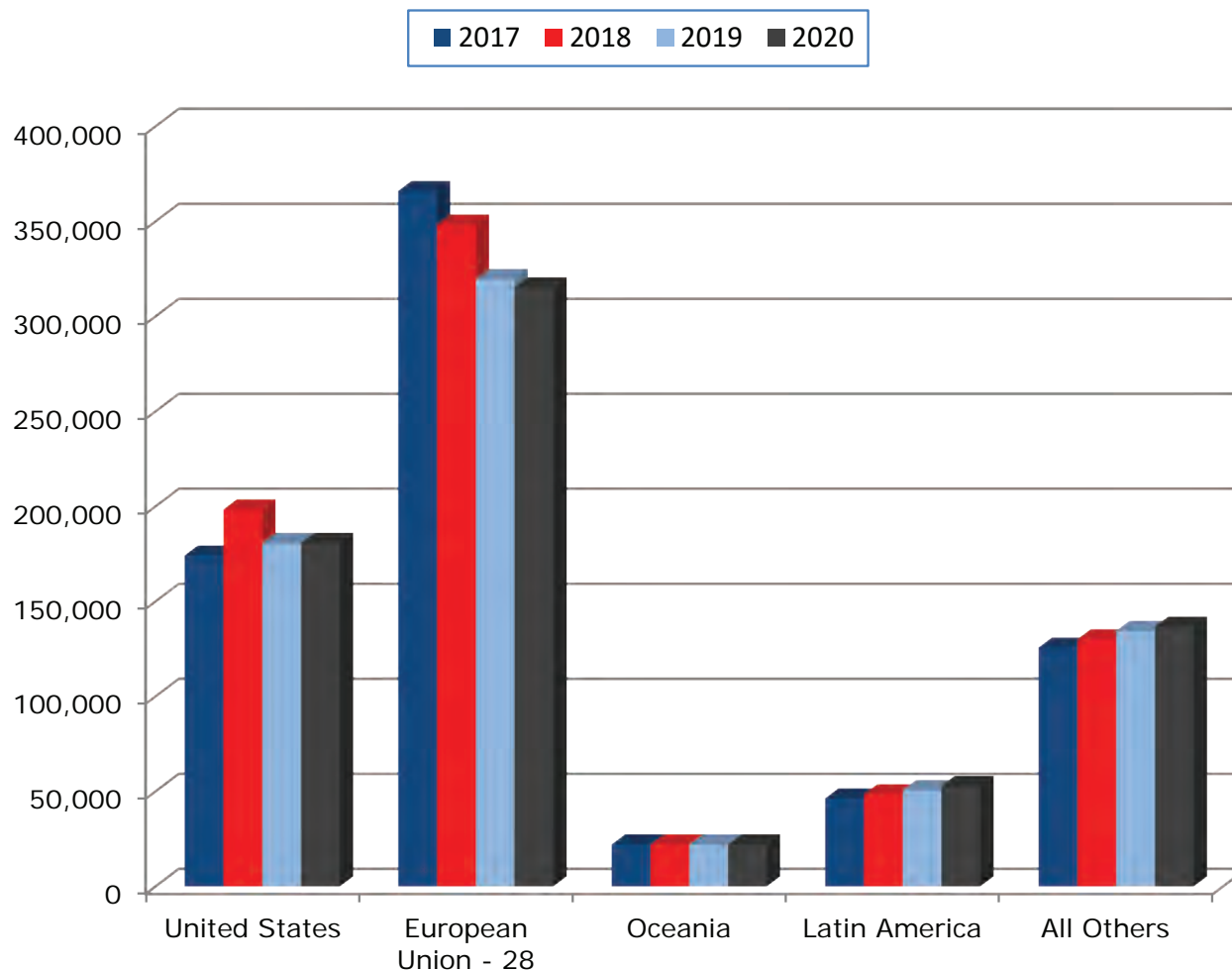
Country	2017	2018	2019²	2020³
United States	174,163	198,414	180,777	180,777
European Union - 28	365,964	348,327	319,667	315,258
Oceania	22,046	22,046	22,046	22,046
Latin America	46,297	48,501	50,706	52,910
All Others	125,662	130,071	134,481	136,685
TOTAL WORLD:	734,132	747,359	707,677	707,677

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Source: 3A Business Consulting



Whey Protein Concentrate Production¹

(50.0% - 89.9% Protein)

Global Production

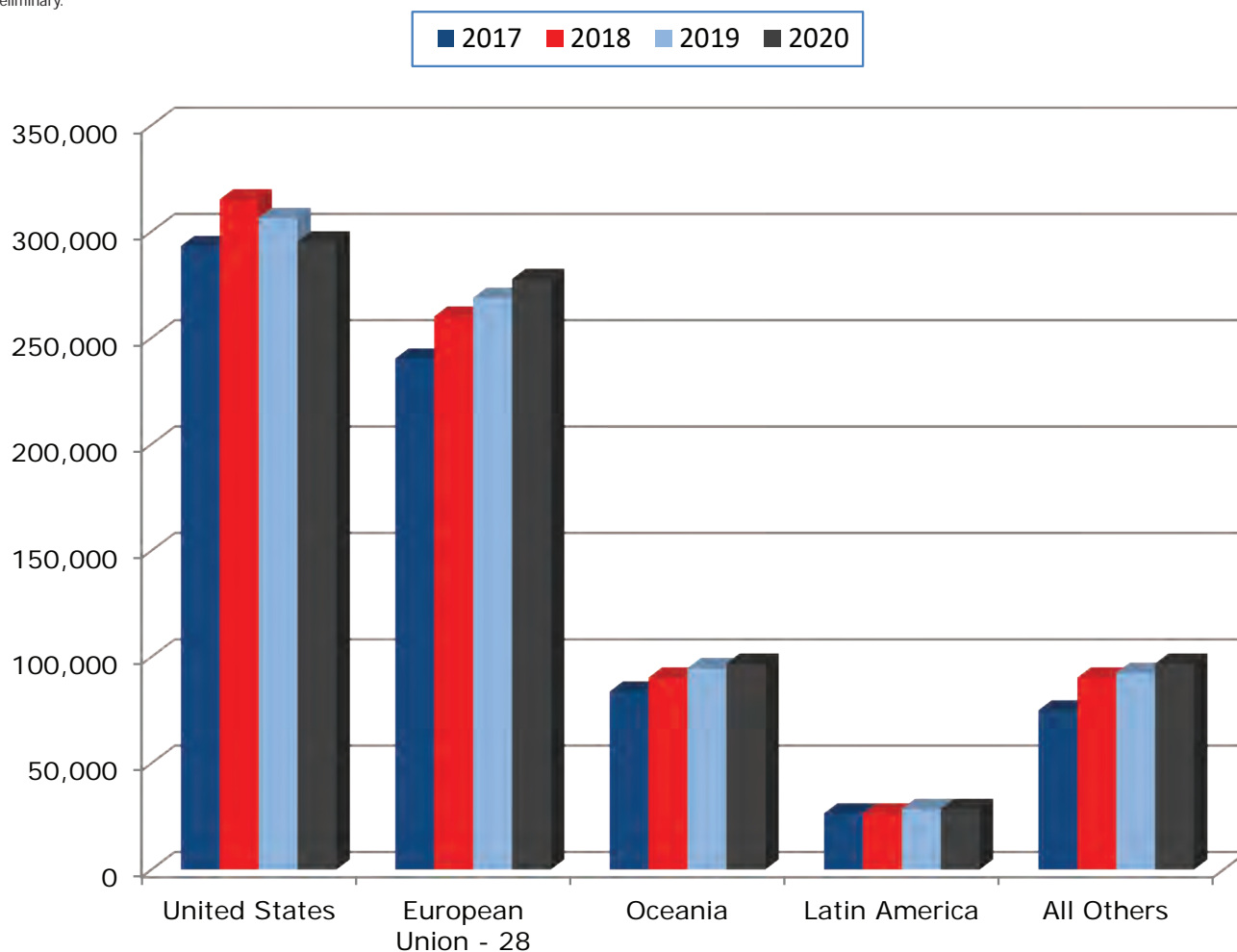
Country	2017	2018	2019²	2020³
United States	293,212	315,258	306,439	295,416
European Union - 28	240,301	260,143	268,961	277,780
Oceania	83,775	90,389	94,798	97,002
Latin America	26,455	26,455	28,660	28,660
All Others	74,956	90,389	92,593	97,002
TOTAL WORLD:	718,700	782,633	791,451	795,861

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Source: 3A Business Consulting



Whey Protein Isolate Production¹

Global Production

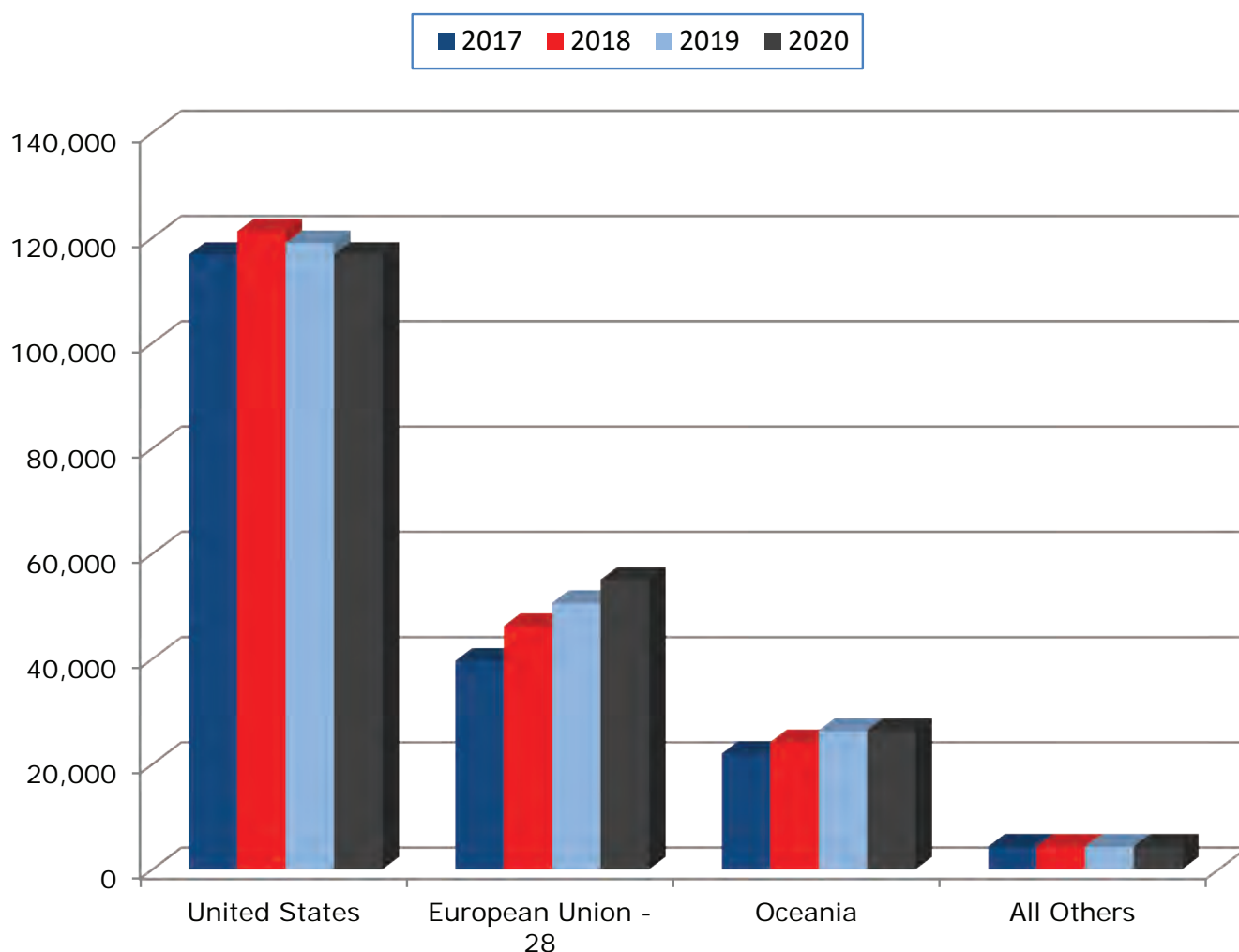
<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019²</u>	<u>2020³</u>
United States	116,844	121,253	119,048	116,844
European Union - 28	39,683	46,297	50,706	55,115
Oceania	22,046	24,251	26,455	26,455
All Others	4,409	4,409	4,409	4,409
TOTAL WORLD:	182,982	196,209	200,619	202,823

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Source: 3A Business Consulting



Reduced Lactose & Mineral Whey Production¹

Global Production

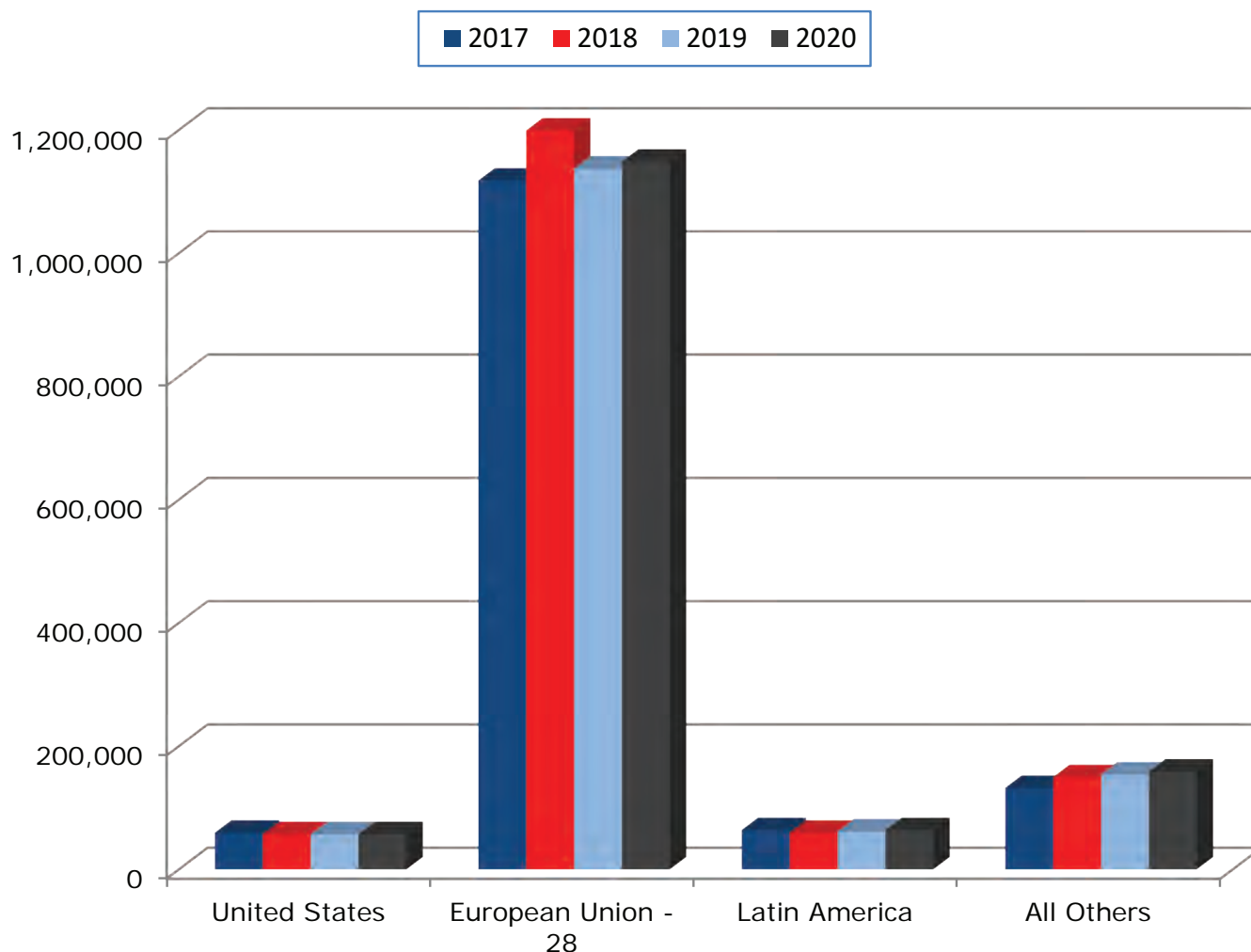
<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019²</u>	<u>2020³</u>
United States	59,524	57,320	57,320	57,320
European Union - 28	1,117,732	1,199,302	1,137,574	1,148,597
Latin America	63,933	59,524	61,729	63,933
All Others	132,276	149,913	154,322	158,731
TOTAL WORLD:	1,373,466	1,466,059	1,410,944	1,428,581

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Source: 3A Business Consulting



Lactose Production¹

Global Production

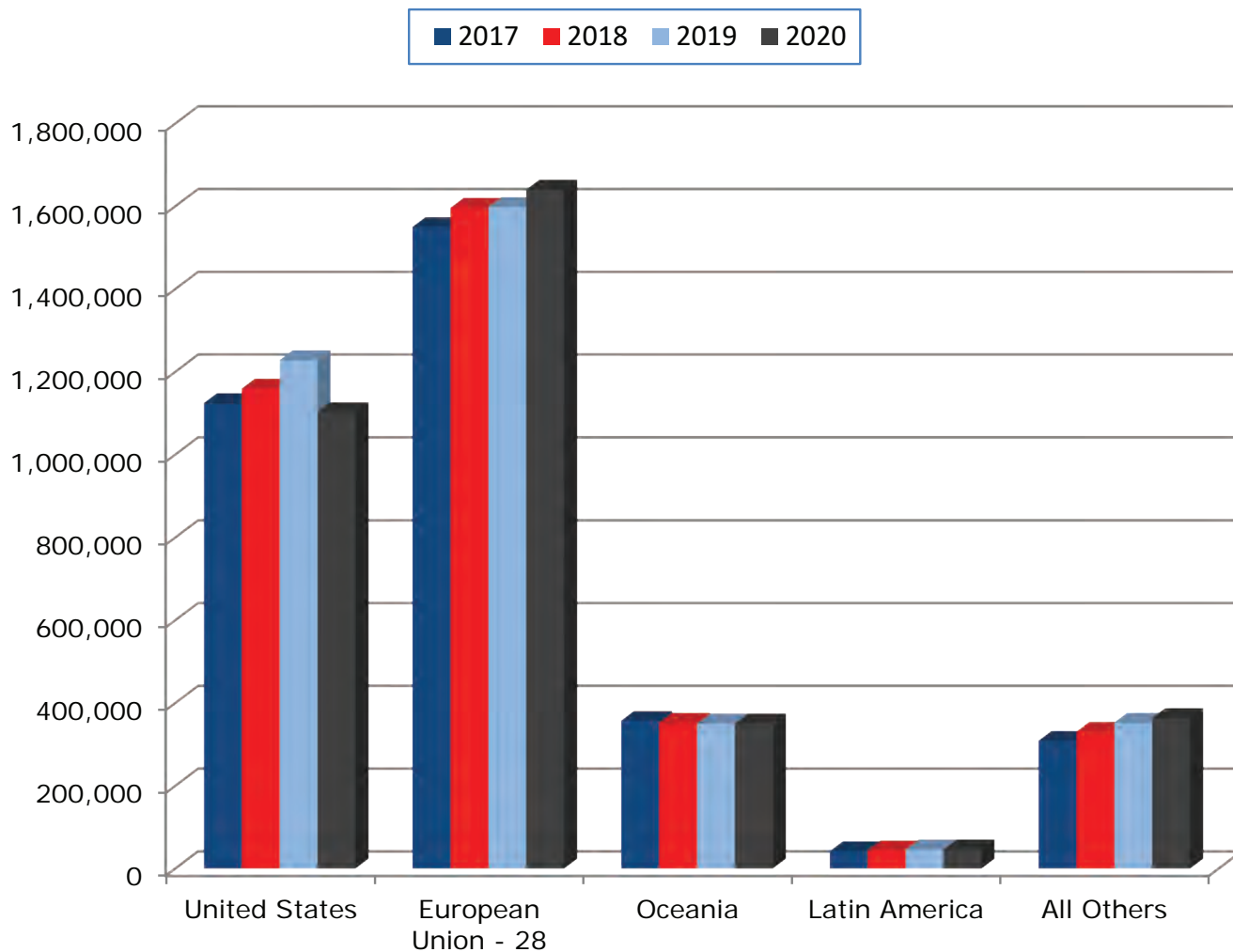
<u>Country</u>	<u>2017</u>	<u>2018</u>	<u>2019²</u>	<u>2020³</u>
United States	1,124,346	1,159,620	1,227,962	1,102,300
European Union - 28	1,549,834	1,596,130	1,598,335	1,640,222
Oceania	357,145	352,736	350,531	350,531
Latin America	41,887	44,092	46,297	46,297
All Others	308,644	330,690	352,736	363,759
TOTAL WORLD:	3,381,856	3,483,268	3,575,861	3,503,109

¹ In thousands of pounds.

² Revised.

³ Preliminary.

Source: 3A Business Consulting



Whey Permeate Production¹

Global Production

Country	<u>2017</u>	<u>2018</u>	<u>2019²</u>	<u>2020³</u>
United States ⁴	1,058,208	1,108,914	934,927	922,625
European Union - 28	410,056	390,214	363,759	359,350
Latin America	108,025	112,435	112,435	116,844
All Others	121,253	123,458	145,504	149,913
TOTAL WORLD:	1,697,542	1,735,020	1,556,624	1,548,732

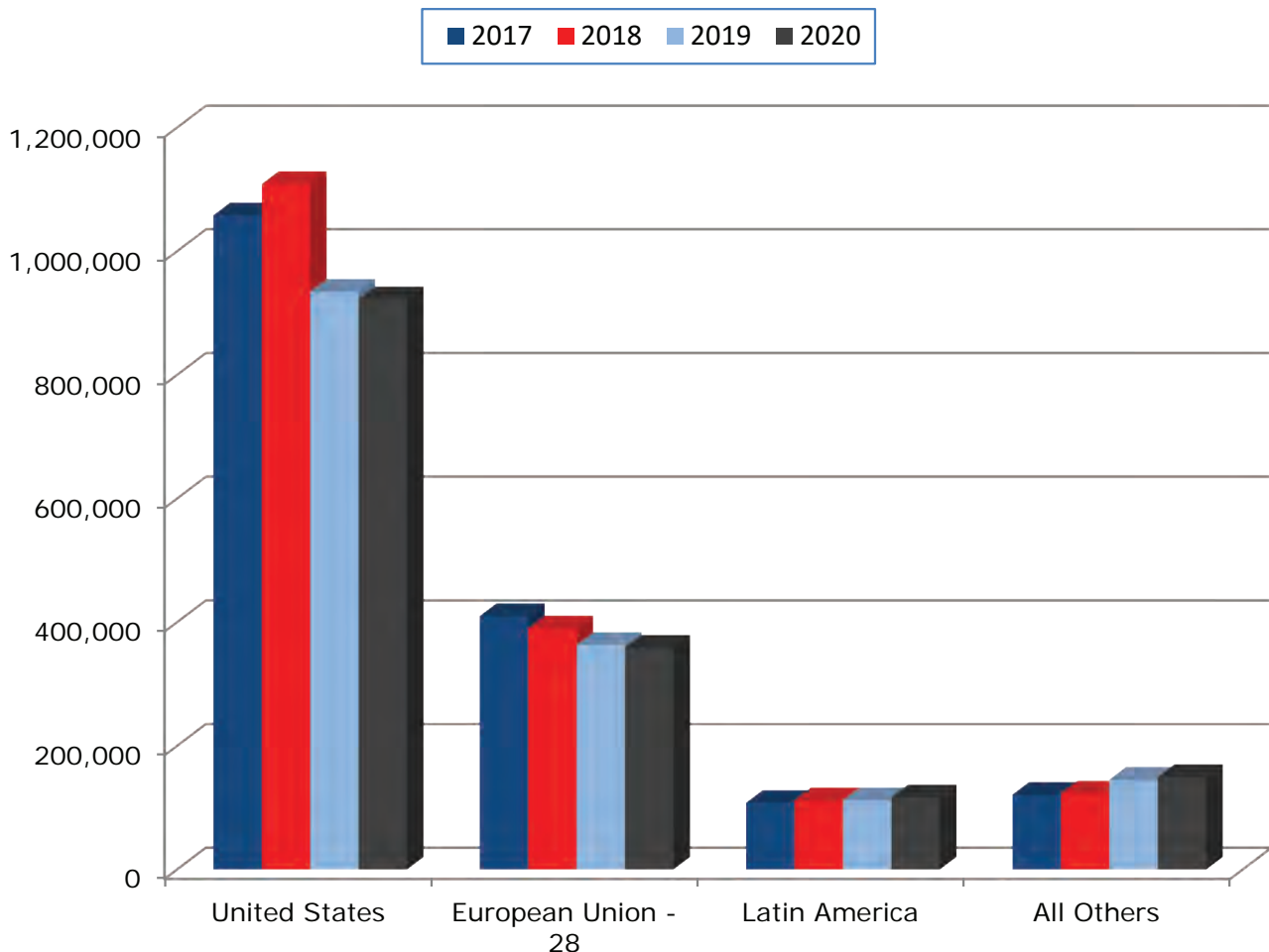
¹ In thousands of pounds.

² Revised.

³ Preliminary.

⁴ ADPI Estimates.

Source: 3A Business Consulting





U.S. EXPORTS



**American Dairy[®]
Products Institute**

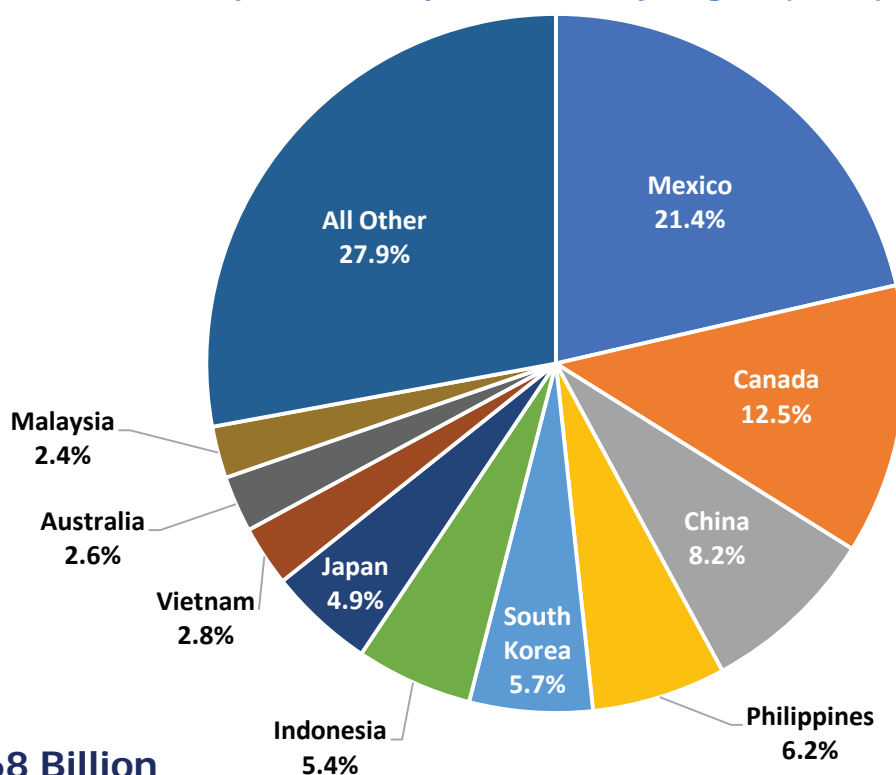
U.S. Exports of Dairy Products

2020 Top U.S. Dairy Export Markets

Destination	2020 Export (Millions, USD)	% of Total U.S. Dairy Exports
(1) Mexico	\$1,405	21.4%
(2) Canada	823	12.5%
(3) China	539	8.2%
(4) Philippines	410	6.2%
(5) South Korea	372	5.7%
(6) Indonesia	351	5.4%
(7) Japan	322	4.9%
(8) Vietnam	184	2.8%
(9) Australia	172	2.6%
(10) Malaysia	156	2.4%
Top Ten	4,740	72.1%
World	\$6,568	

Source: USDEC

2020 U.S. Exports of Dairy Products - by Region (Value)



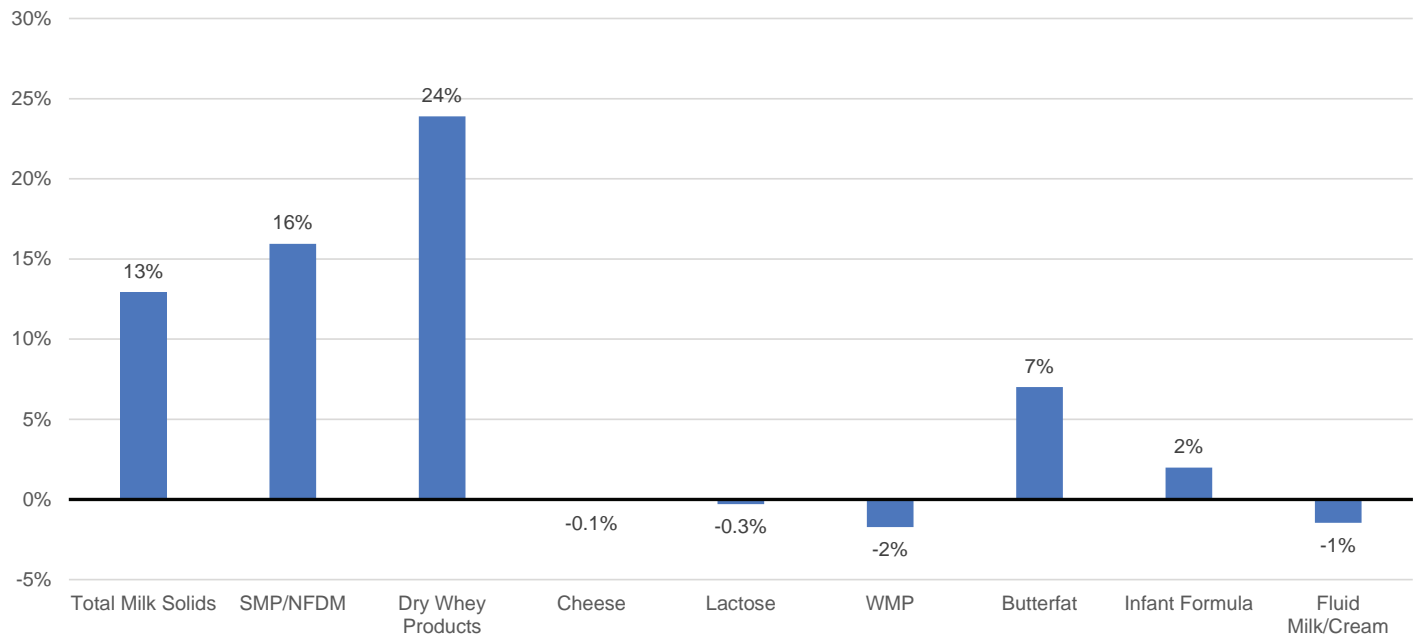
2020 = \$6,568 Billion

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Source: USDEC

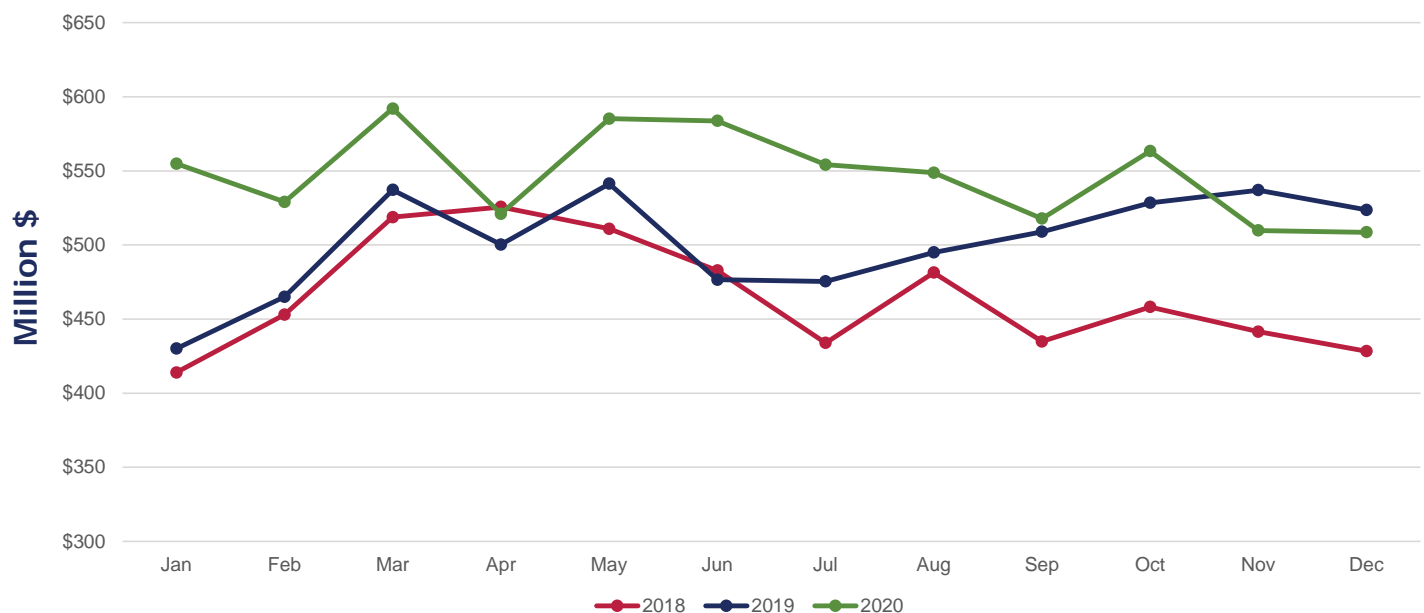
U.S. Exports of Dairy Products

U.S. Exports of Dairy Products - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

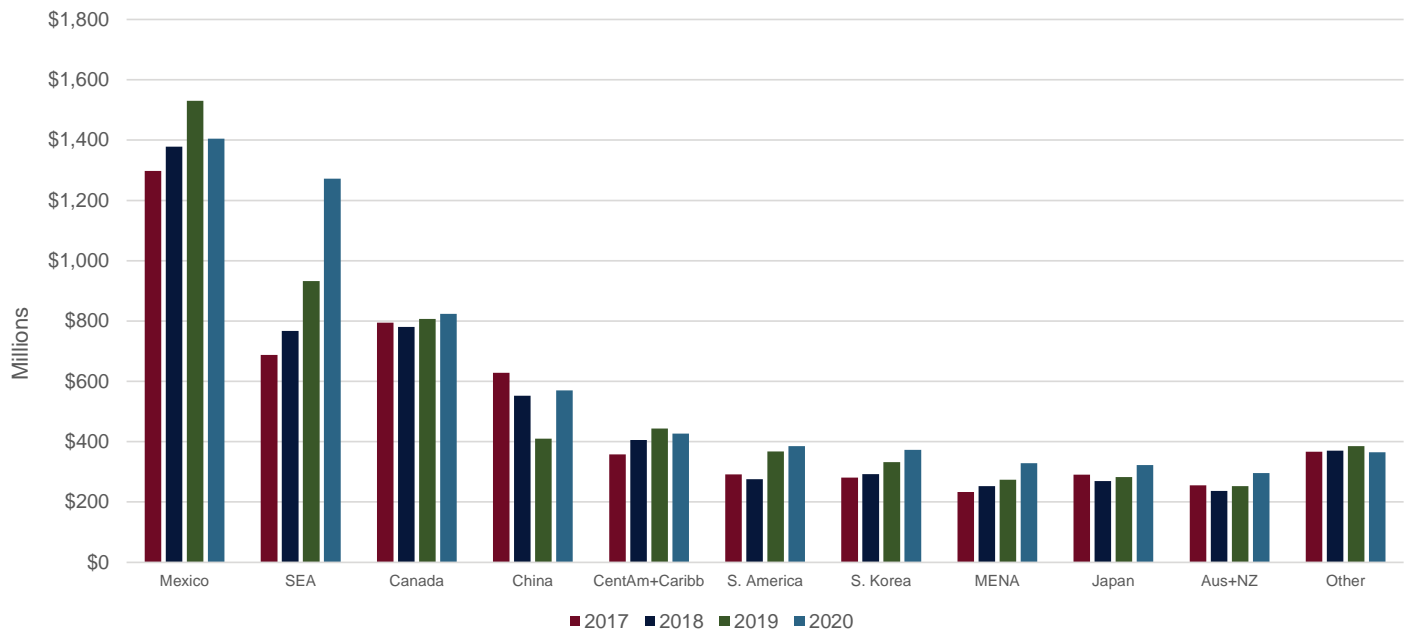
U.S. Exports of Dairy Products by Month (value)



Source: USDEC, Trade Data Monitor

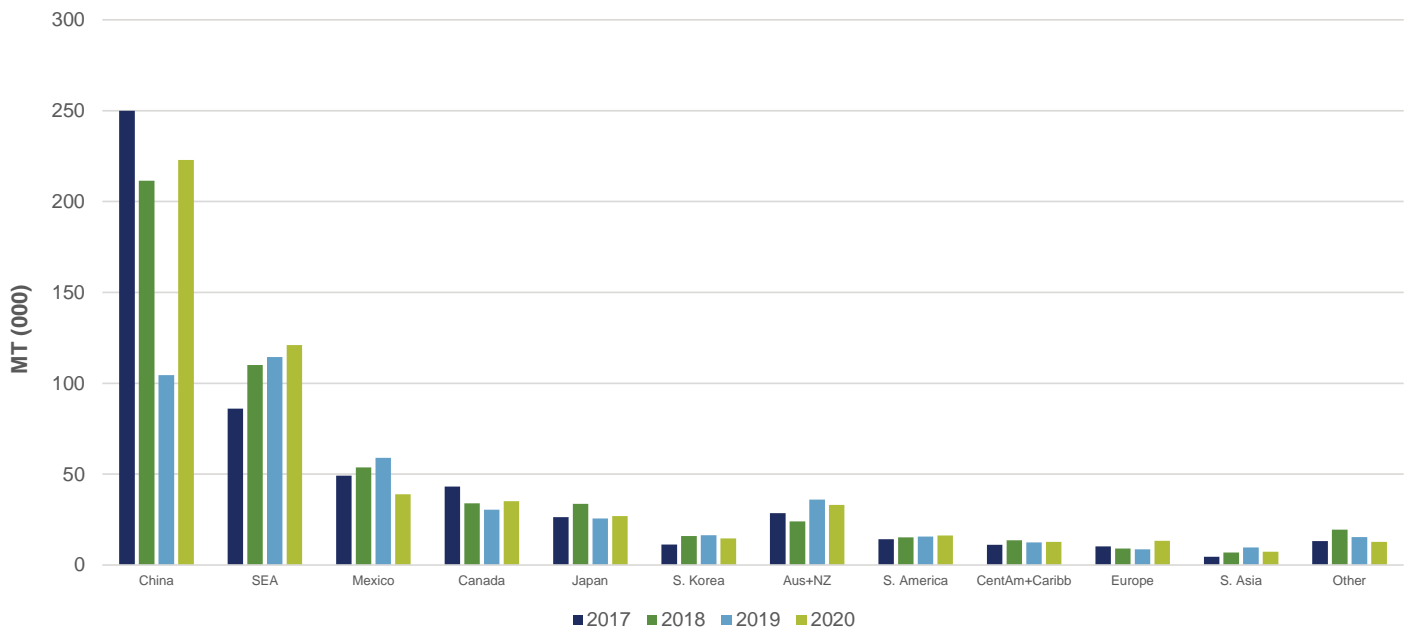
U.S. Exports by Region

U.S. Total Exports By Region (value)



Source: USDEC, Trade Data Monitor

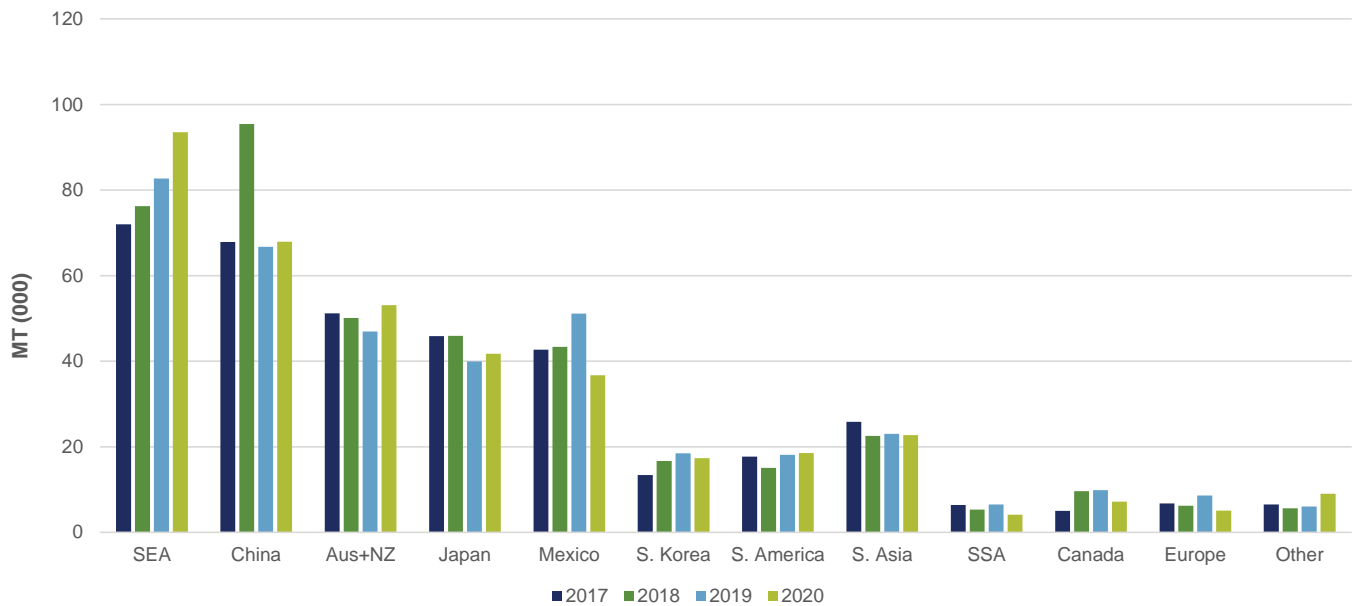
U.S. Exports of Whey Products - by Region



Source: USDEC, Trade Data Monitor

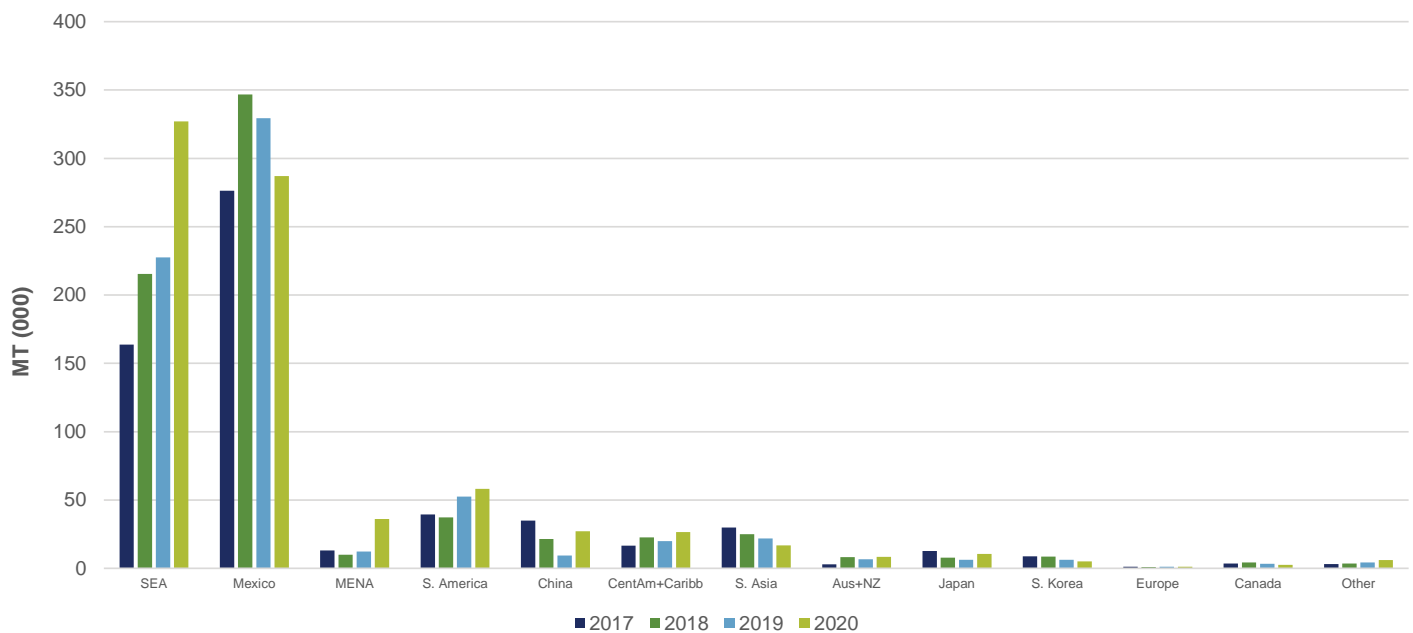
U.S. Exports by Region

U.S. Exports of Lactose - by Region



Source: USDEC, Trade Data Monitor

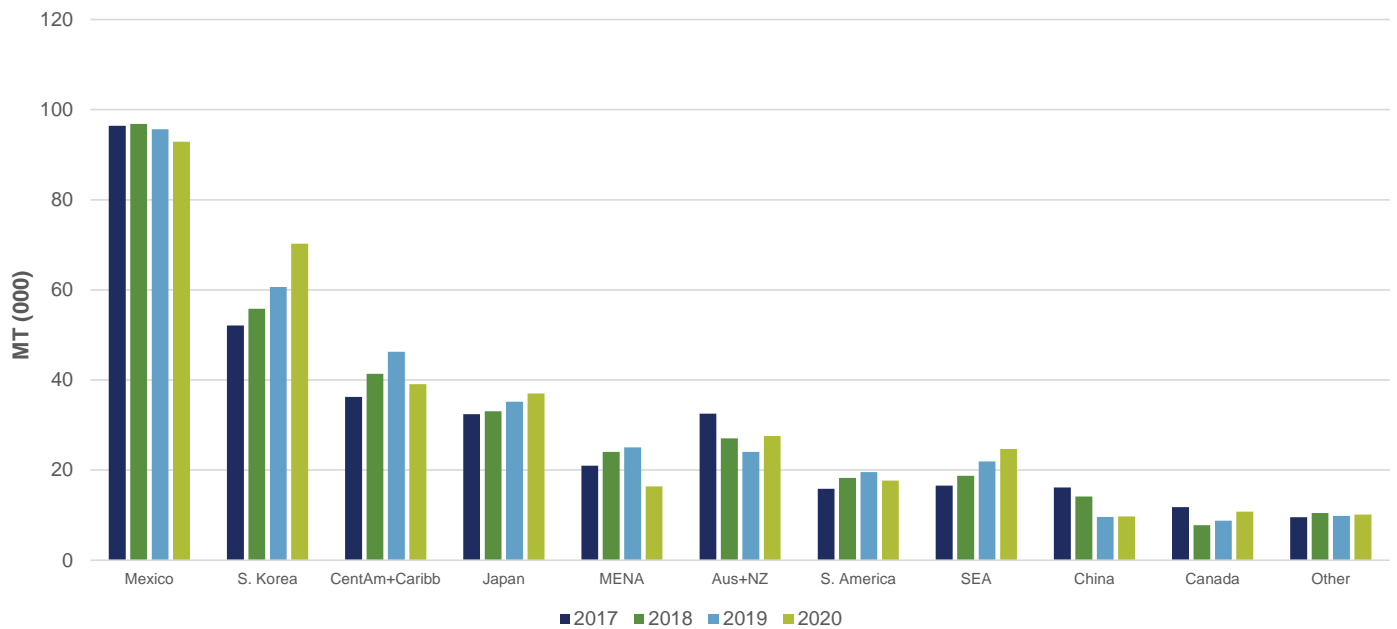
U.S. Exports of NDM/SMP - By Region



Source: USDEC, Trade Data Monitor

U.S. Exports by Region

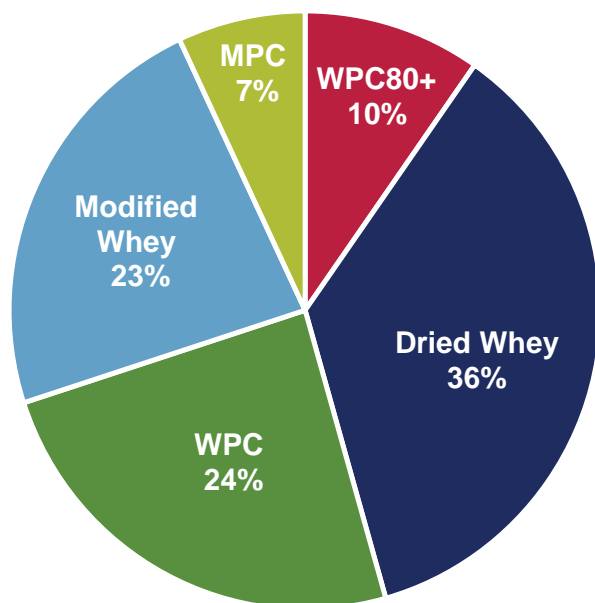
U.S. Exports of Cheese - By Region



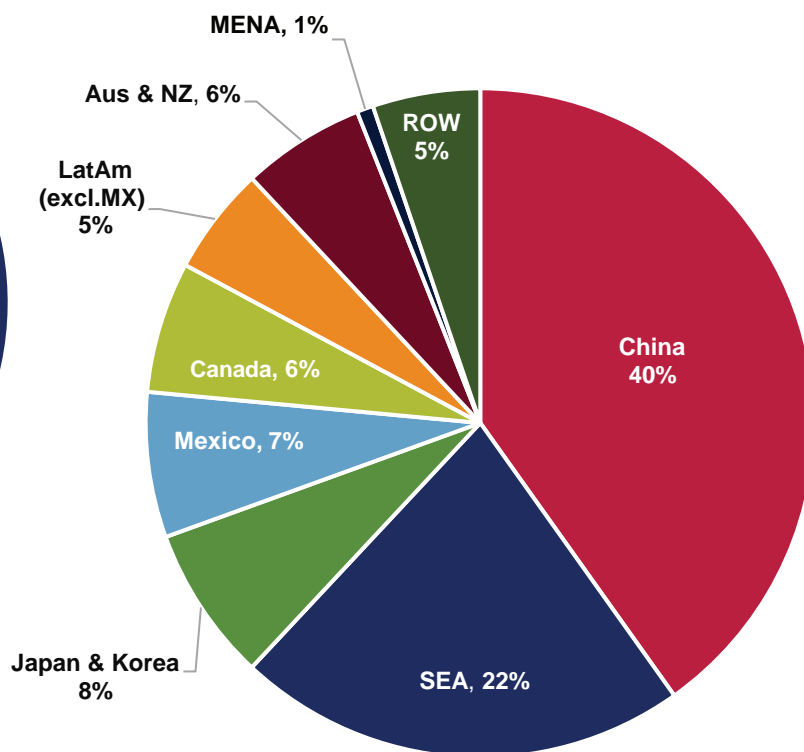
Source: USDEC, Trade Data Monitor

U.S. Exports of Dry Whey & Milk Proteins

2020 U.S. Exports of Whey & Milk Products -
By Type (Volume)

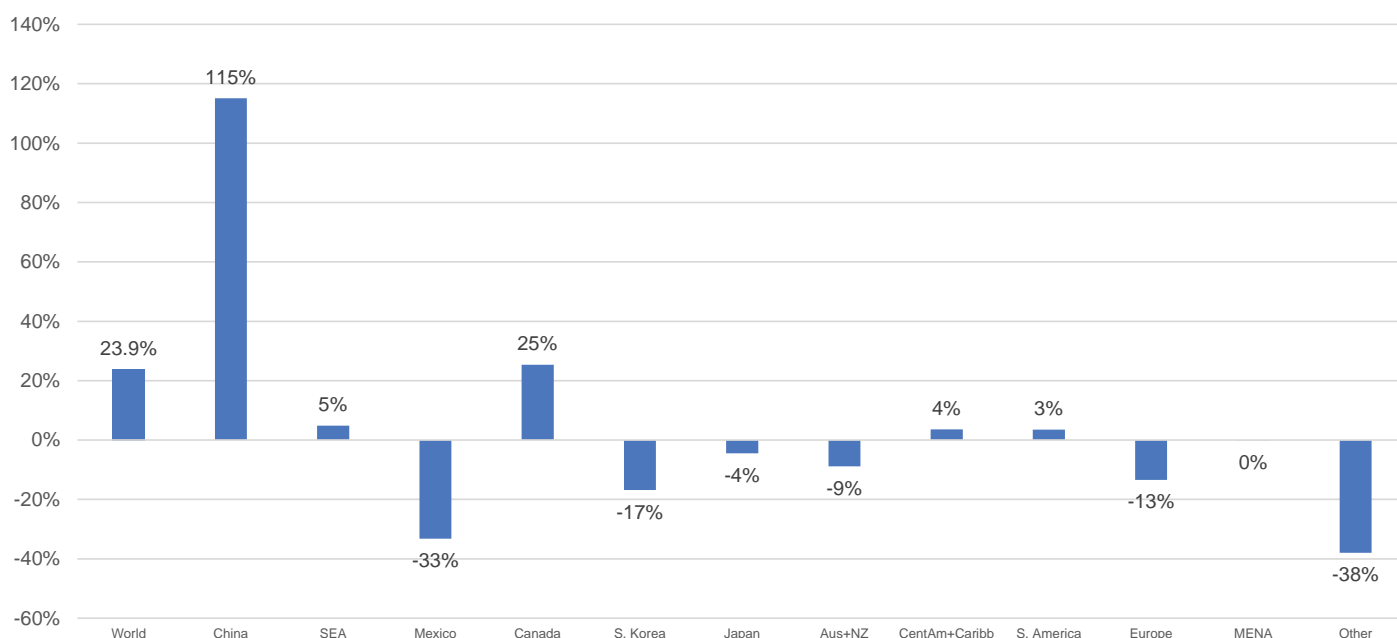


2020 Destinations for U.S. Whey Production



Source: USDEC, Trade Data Monitor

U.S. Exports of All-Dry Whey - 2020 vs. 2019



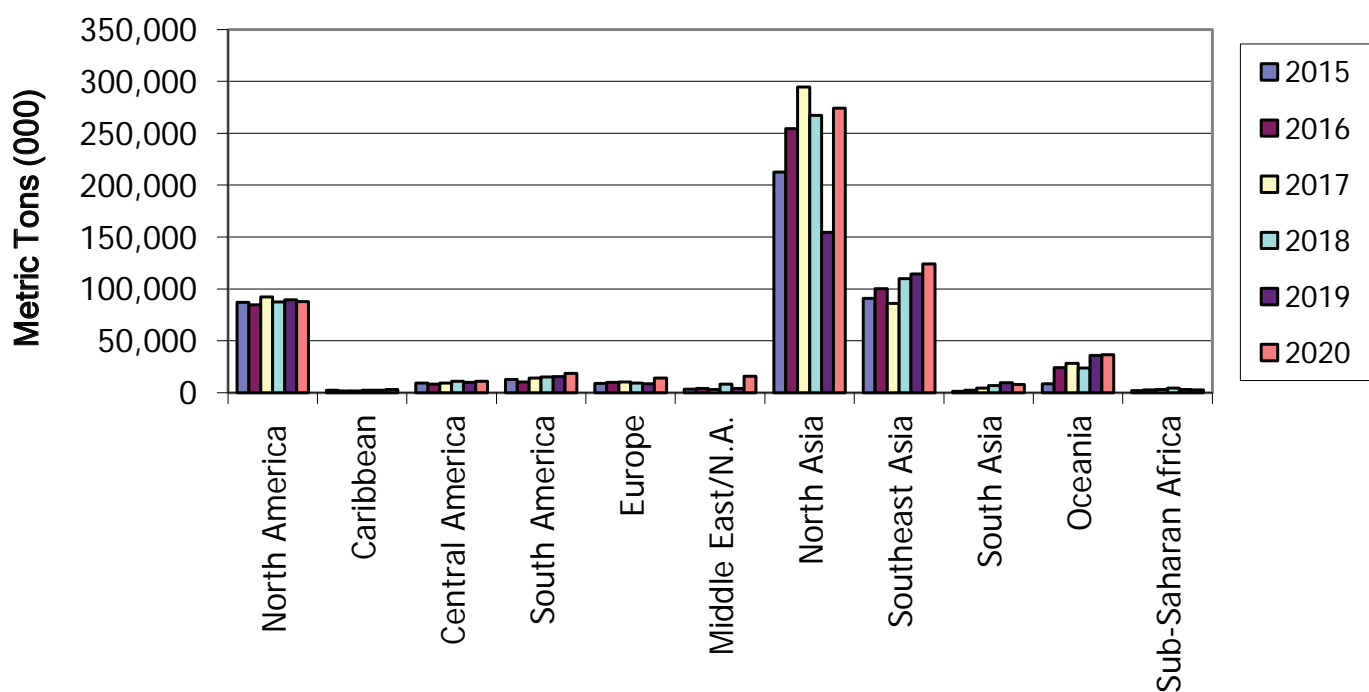
Source: USDEC, Trade Data Monitor

U.S. Exports of All Dry Whey¹

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	87,191	84,777	92,431	87,574	89,410	87,855	98%
Caribbean	2,378	1,684	1,805	2,349	2,391	3,023	126%
Central America	9,254	8,289	9,290	11,270	10,090	11,101	110%
South America	12,810	10,509	14,140	15,158	15,630	18,824	120%
Europe	9,197	10,135	10,366	9,271	8,690	14,251	164%
Middle East/N.A.	3,653	4,119	3,113	8,230	4,186	15,923	380%
North Asia	212,558	254,333	294,428	267,363	154,393	273,973	177%
Southeast Asia	90,788	100,342	86,018	110,050	114,393	124,218	109%
South Asia	1,485	2,331	4,510	6,865	9,682	7,921	82%
Oceania	8,794	24,361	28,534	24,039	35,977	36,628	102%
Sub-Saharan Africa	2,112	2,653	3,149	4,542	3,125	2,937	94%
World	440,220	503,533	547,784	546,711	447,967	596,654	133%

¹Category includes: 0404101 Dry Whey, 04041005 Whey Protein Concentrate, 040410085 Modified Whey NESOI, 04049 Nat. Mk. Pro. NESOI, and 35022 Milk Albumin



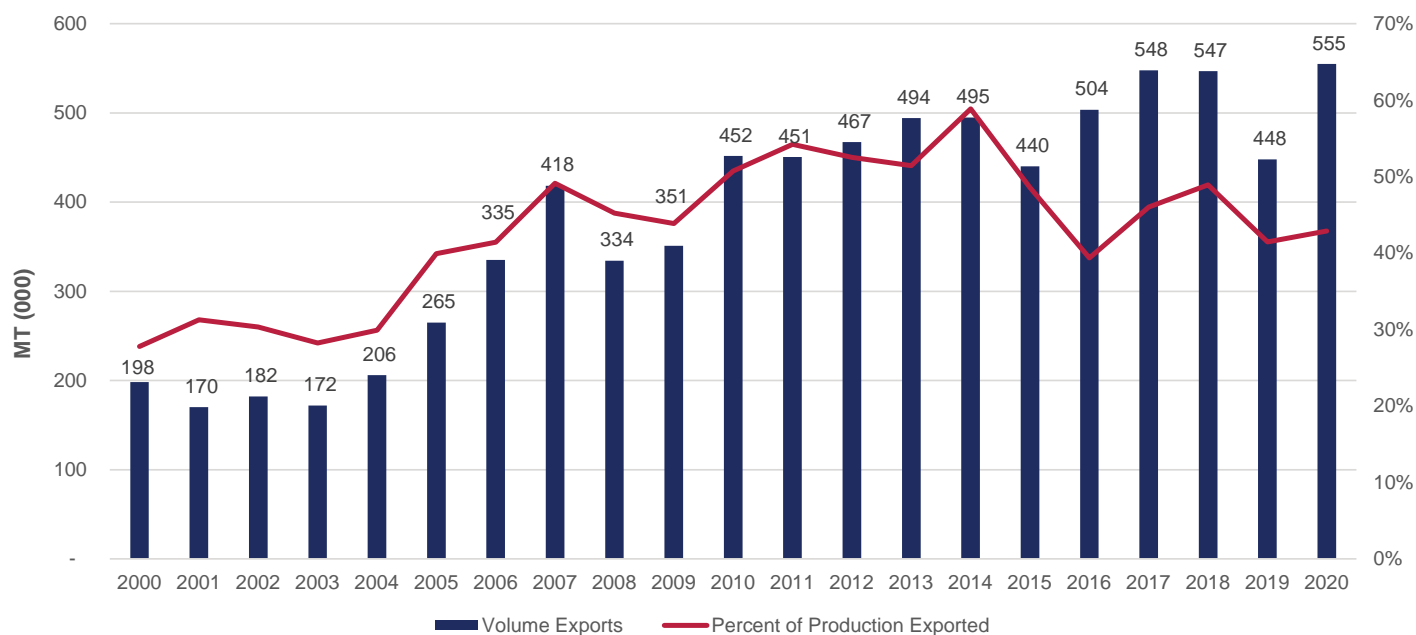
Source: USDEC

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U.S. Exports of All Dry Whey

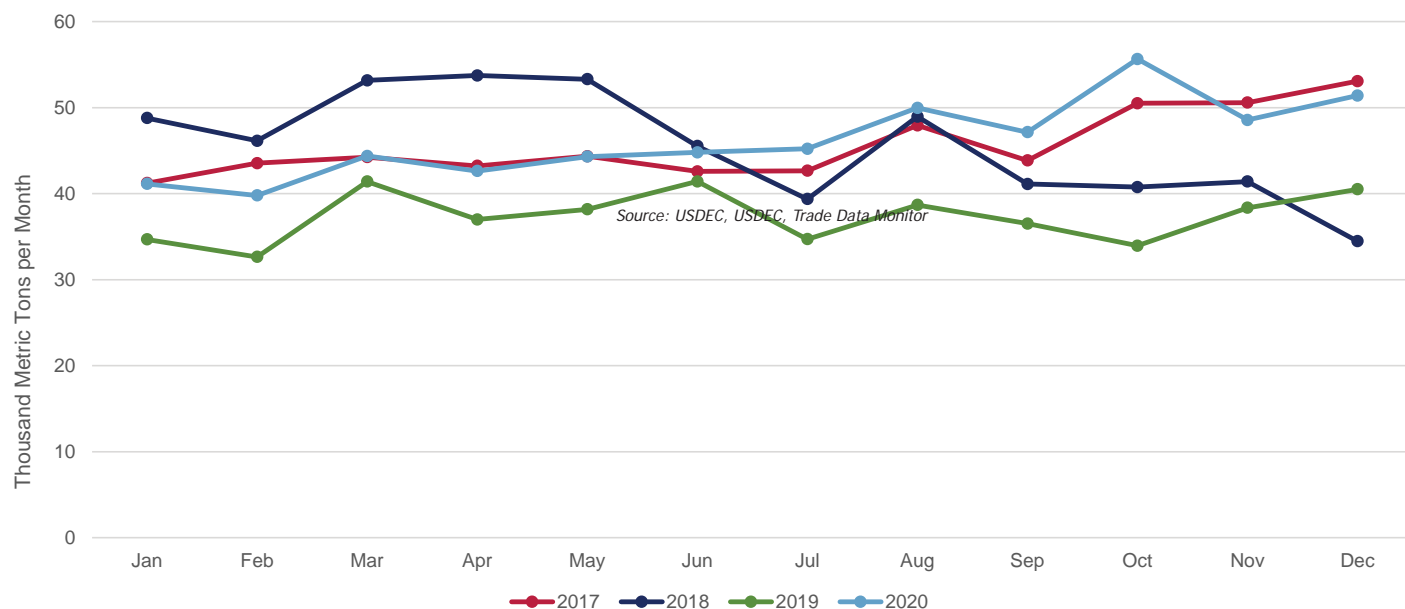
U.S. Exports of All Dry Whey and % of Production Exported

MT (000)



Source: USDEC, USDEC, Trade Data Monitor

U.S. Exports of All Whey - by Month (Volume)



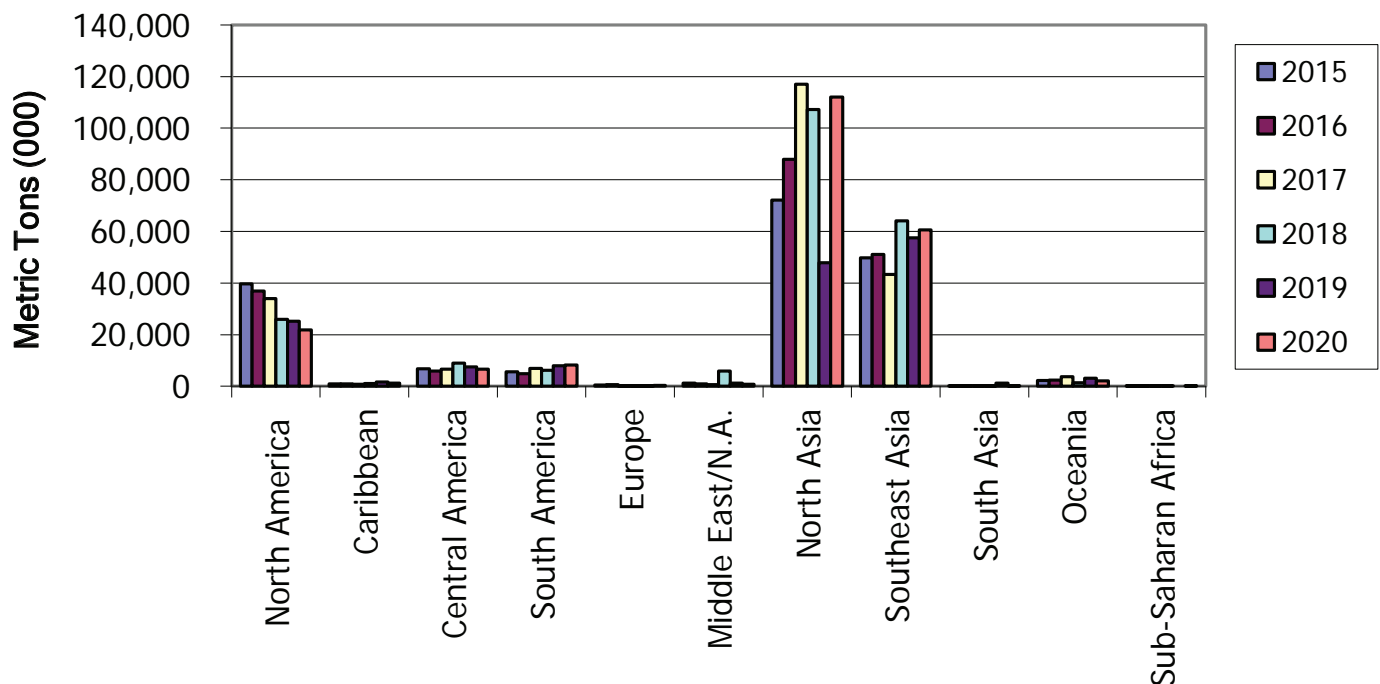
Source: USDEC, USDEC, Trade Data Monitor

U.S. Exports of Dry Sweet Whey¹

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	39,736	36,909	34,038	25,974	25,245	21,874	87%
Caribbean	927	993	732	1,073	1,638	1,218	74%
Central America	6,795	5,921	6,683	8,940	7,486	6,638	89%
South America	5,596	4,851	6,896	6,129	7,902	8,254	104%
Europe	449	615	188	178	255	418	164%
Middle East/N.A.	1,291	971	607	5,913	1,258	768	61%
North Asia	72,190	87,893	117,012	107,195	47,853	112,039	234%
Southeast Asia	49,747	51,046	43,385	64,043	57,520	60,560	105%
South Asia	57	31	145	213	1,222	242	20%
Oceania	2,293	2,408	3,746	1,378	3,120	2,131	68%
Sub-Saharan Africa	199	209	131	16	0	1	0%
World	179,280	191,847	213,563	221,052	153,499	214,143	140%

¹ Includes 0404101 Dry Whey (sweet whey and whey permeate).



Source: USDEC

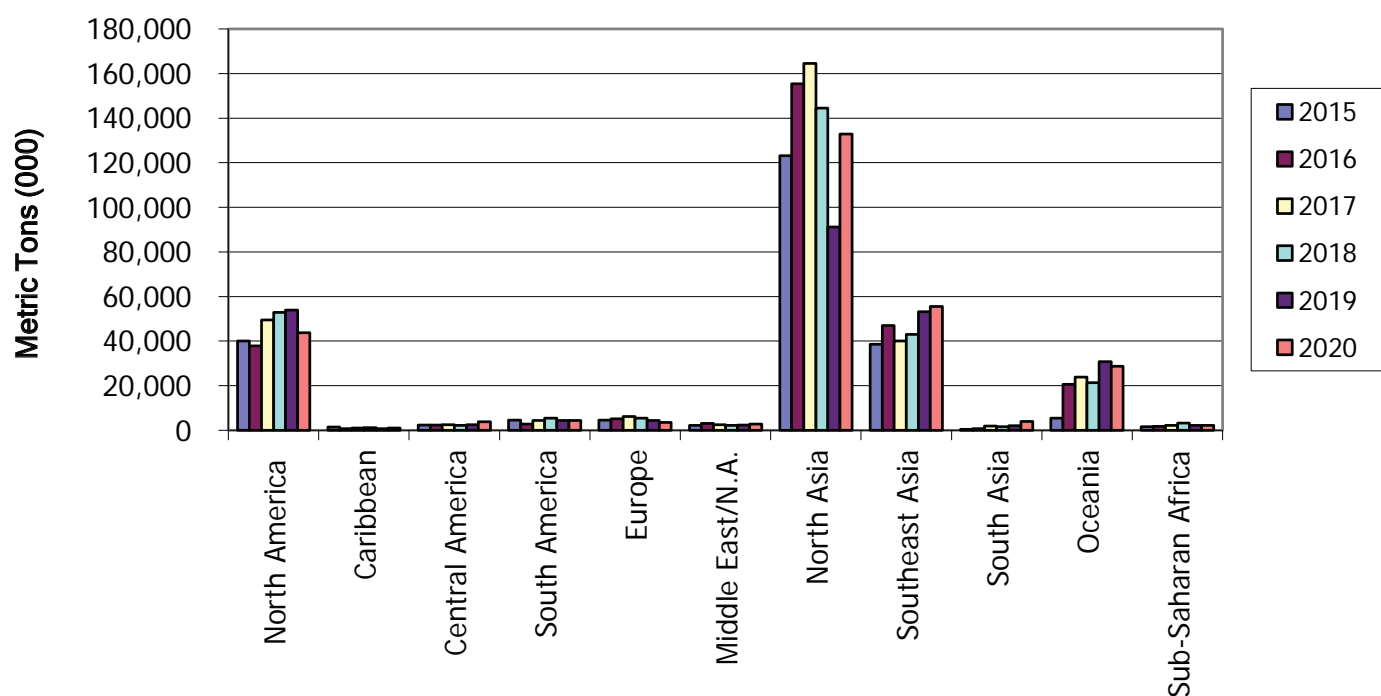
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U.S. Exports of Whey Protein Concentrate¹

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	40,065	37,838	49,541	52,857	53,858	43,753	81%
Caribbean	1,450	666	1,050	1,105	669	962	144%
Central America	2,343	2,289	2,532	2,274	2,448	3,858	158%
South America	4,604	2,834	4,468	5,492	4,382	4,459	102%
Europe	4,625	5,114	6,159	5,393	4,406	3,604	82%
Middle East/N.A.	2,224	3,066	2,452	2,192	2,323	2,808	121%
North Asia	123,164	155,397	164,590	144,577	91,245	132,901	146%
Southeast Asia	38,561	46,920	40,121	43,077	53,219	55,550	104%
South Asia	459	671	1,851	1,673	2,087	3,949	189%
Oceania	5,474	20,565	23,882	21,329	30,772	28,751	93%
Sub-Saharan Africa	1,608	1,804	2,205	3,204	2,156	2,273	105%
World	224,577	277,164	298,851	283,173	247,565	282,868	114%

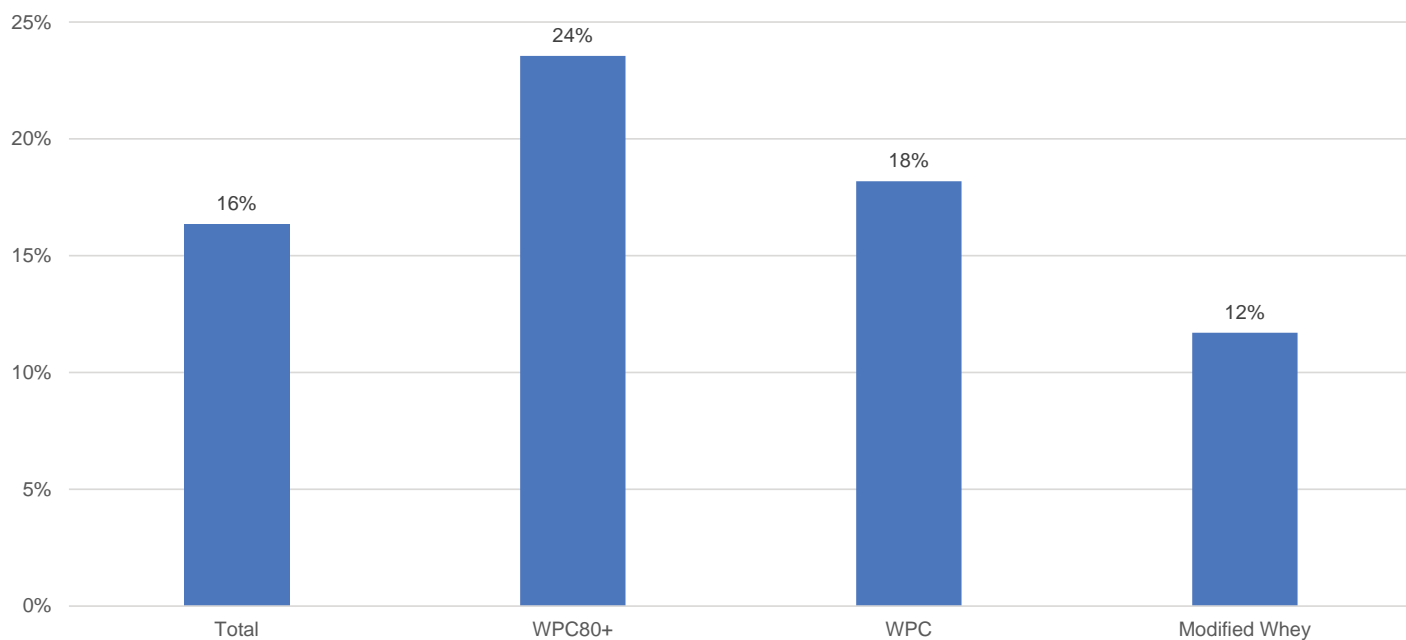
¹Includes whey protein concentrate (04041005) and modified whey NEC (040410085).



Source: USDEC

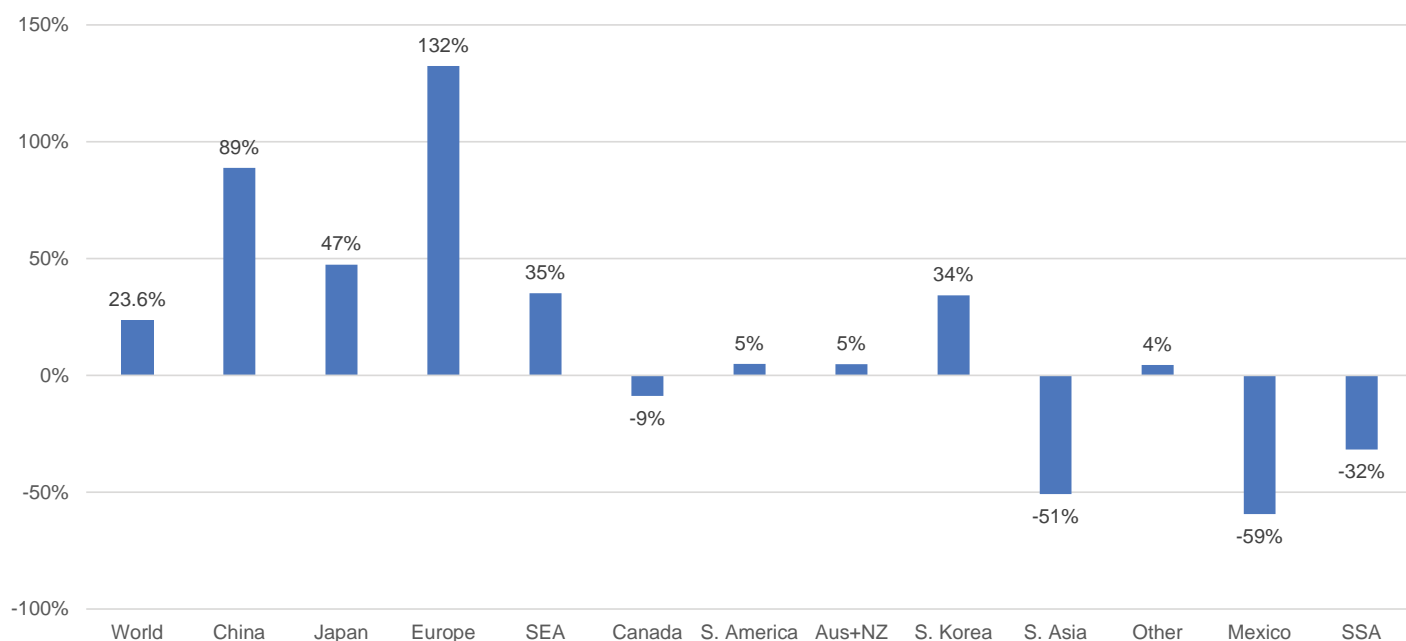
U.S. Exports of Whey Protein Concentrate

U.S. Exports of Whey Protein Concentrate & Modified Whey - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

U.S. Exports of High Value Whey Protein (>80%) - 2020 vs. 2019

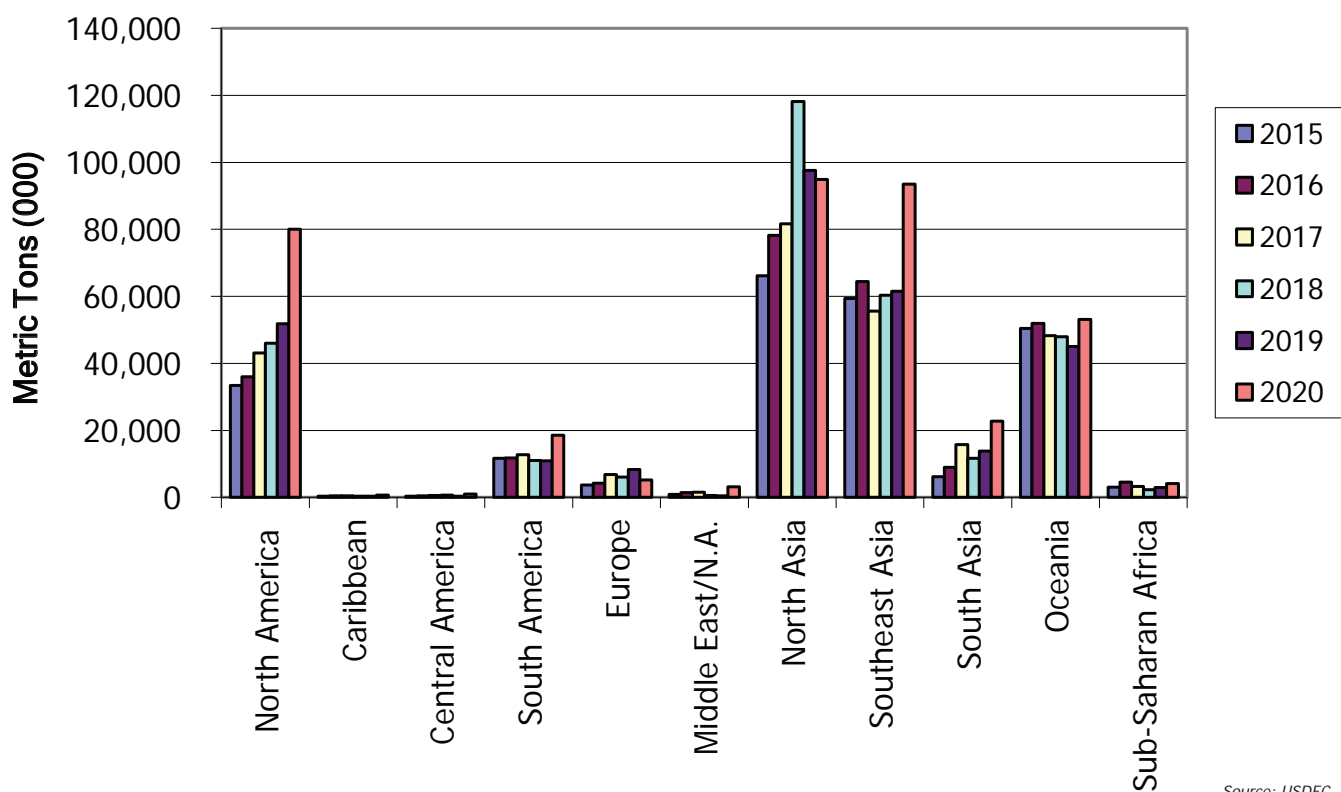


Source: USDEC, Trade Data Monitor

U.S. Exports of Lactose

Metric Tons (000)

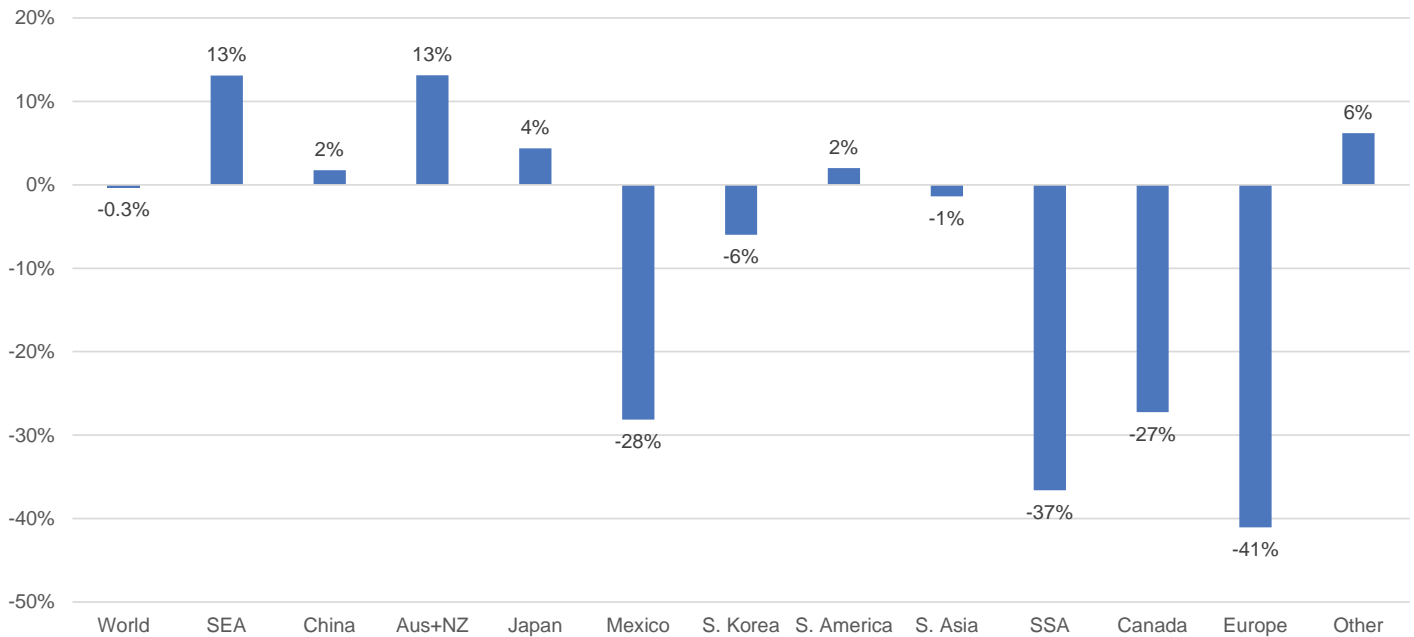
	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	33,442	35,955	43,152	46,016	51,825	80,012	154%
Caribbean	337	419	431	370	318	665	209%
Central America	306	507	599	625	338	994	294%
South America	11,709	11,809	12,687	10,987	10,880	18,513	170%
Europe	3,707	4,267	6,831	6,104	8,299	5,250	63%
Middle East/N.A.	882	1,413	1,522	559	426	3,125	734%
North Asia	66,093	78,222	81,684	118,118	97,628	94,905	97%
Southeast Asia	59,349	64,472	55,549	60,323	61,488	93,530	152%
South Asia	6,167	9,000	15,735	11,694	13,766	22,723	165%
Oceania	50,467	51,934	48,281	47,925	45,025	53,084	118%
Sub-Saharan Africa	3,032	4,596	3,280	2,238	2,945	4,146	141%
World	235,491	262,594	269,751	304,959	292,938	376,947	129%



Source: USDEC

U.S. Exports of Lactose

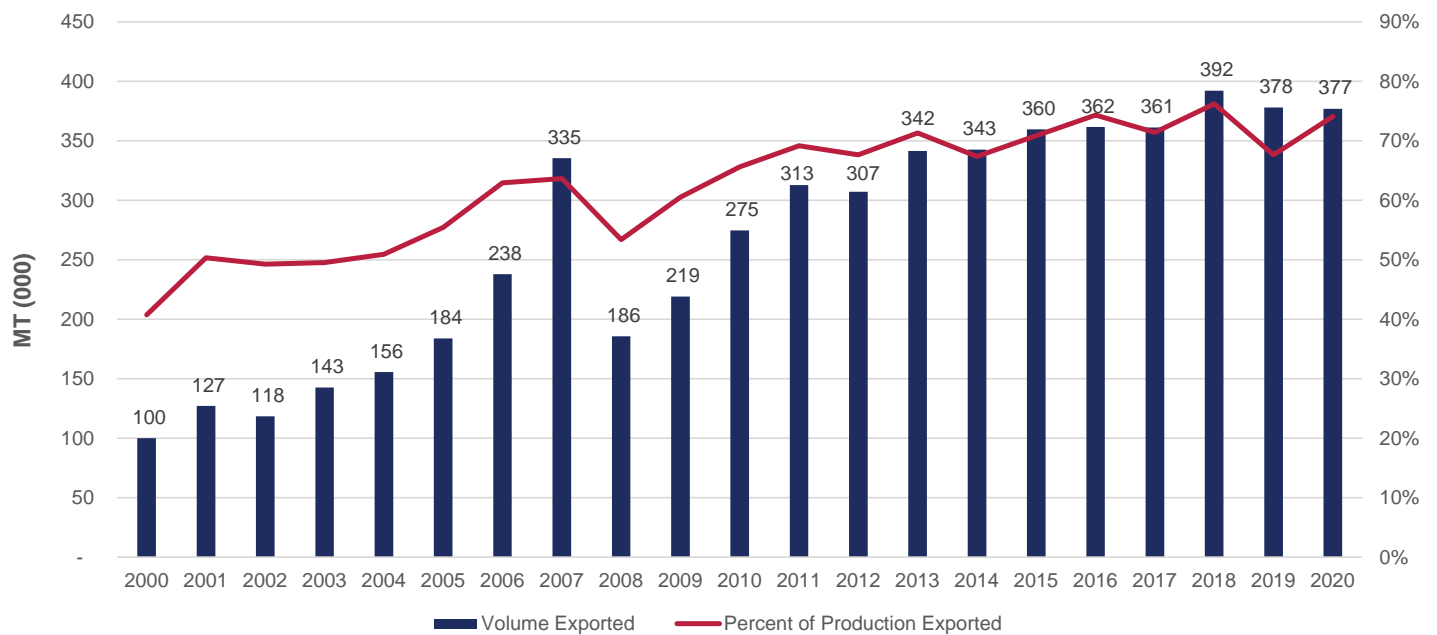
U.S. Exports of Lactose - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

U.S. Lactose Exports and % of Production Exported

MT (000)

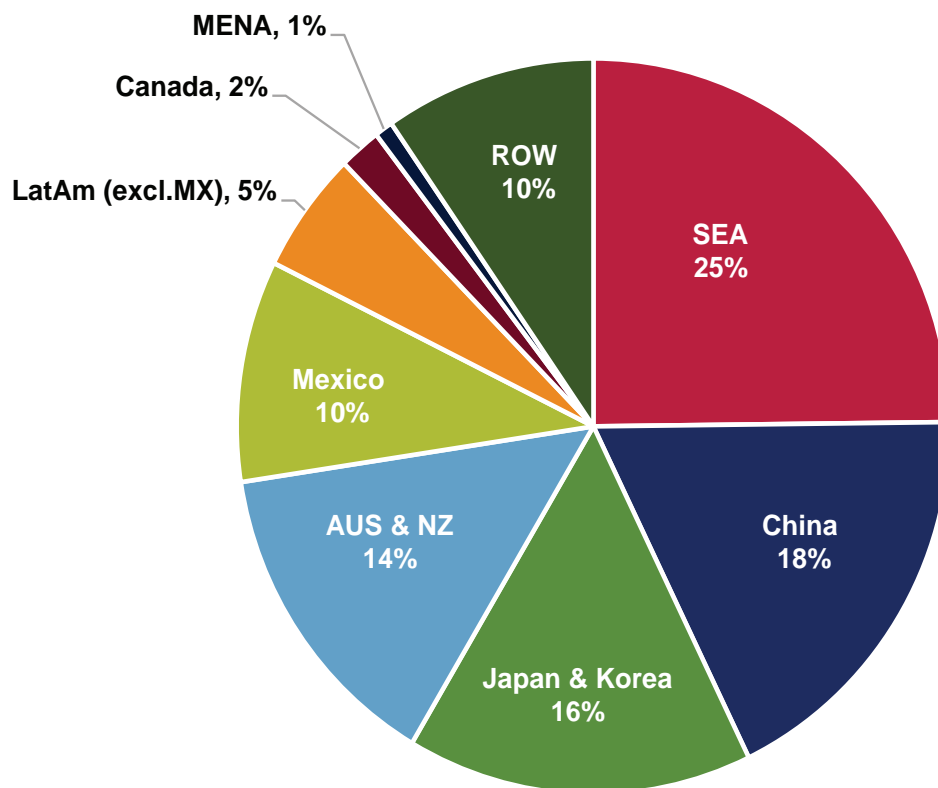


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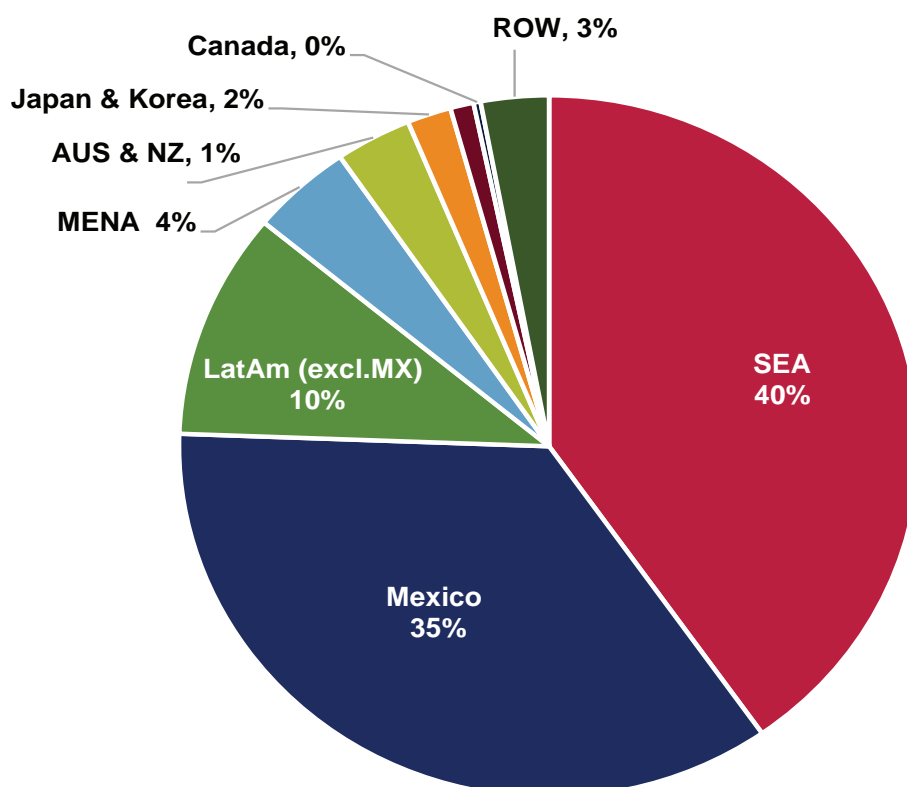
Source: USDEC, Trade Data Monitor

U.S. Exports of Lactose & SMP/NDM

2020 Destinations for U.S. Lactose

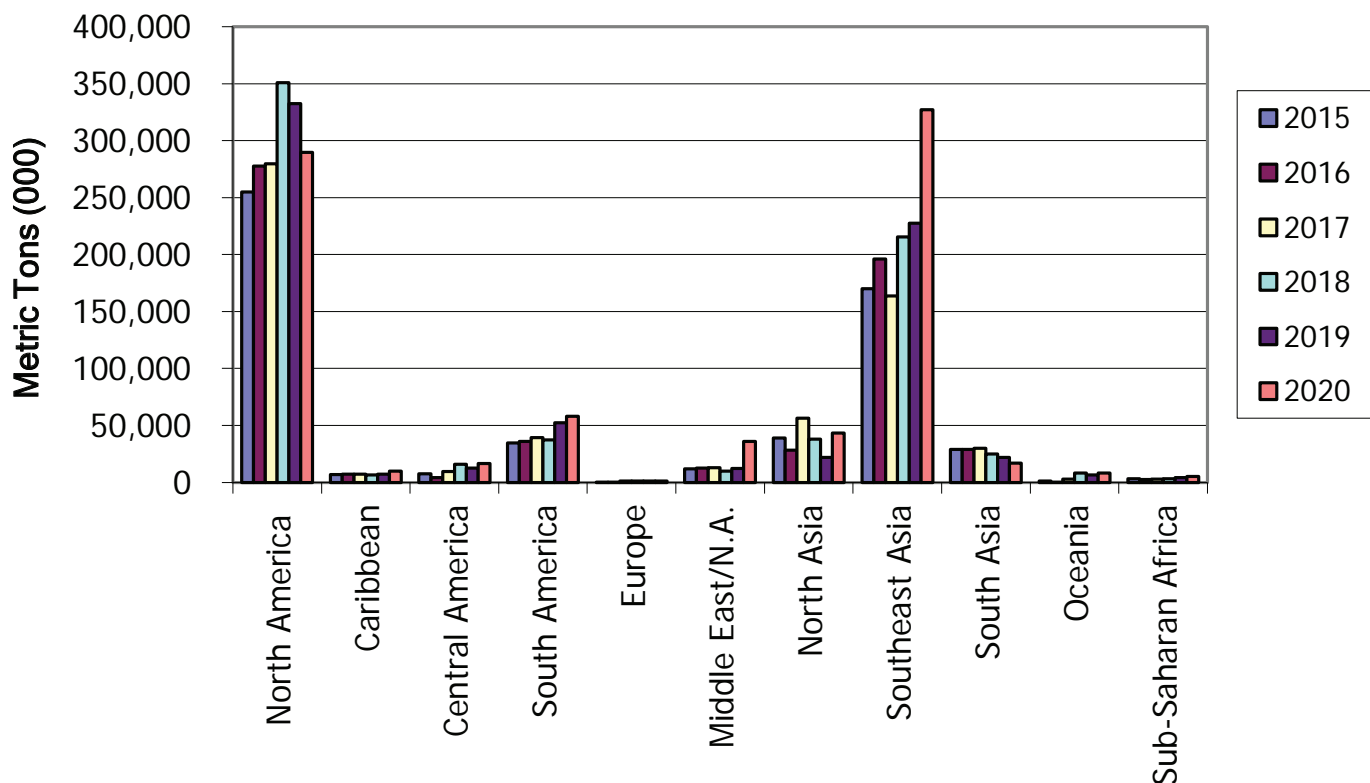


2020 Destinations for U.S. NFDM/SMP



U.S. Exports of SMP/NDM

	Metric Tons (000)						% 2020 of 2019
	2015	2016	2017	2018	2019	2020	
North America	254,919	277,803	279,792	351,019	332,653	289,616	87%
Caribbean	6,867	7,211	7,101	6,591	7,366	9,886	134%
Central America	7,534	4,165	9,534	16,009	12,528	16,732	134%
South America	34,626	35,841	39,372	37,337	52,421	58,194	111%
Europe	192	152	1,184	1,133	1,263	1,328	105%
Middle East/N.A.	11,820	12,577	13,071	9,862	12,256	36,042	294%
North Asia	39,087	28,379	56,453	37,941	22,094	43,389	196%
Southeast Asia	170,114	196,155	163,629	215,389	227,513	327,032	144%
South Asia	28,976	28,953	29,940	25,073	21,945	16,839	77%
Oceania	1,251	100	2,878	8,286	6,722	8,306	124%
Sub-Saharan Africa	3,064	2,710	3,048	3,367	4,149	5,319	128%
World	558,450	594,046	606,002	712,007	700,910	812,683	116%

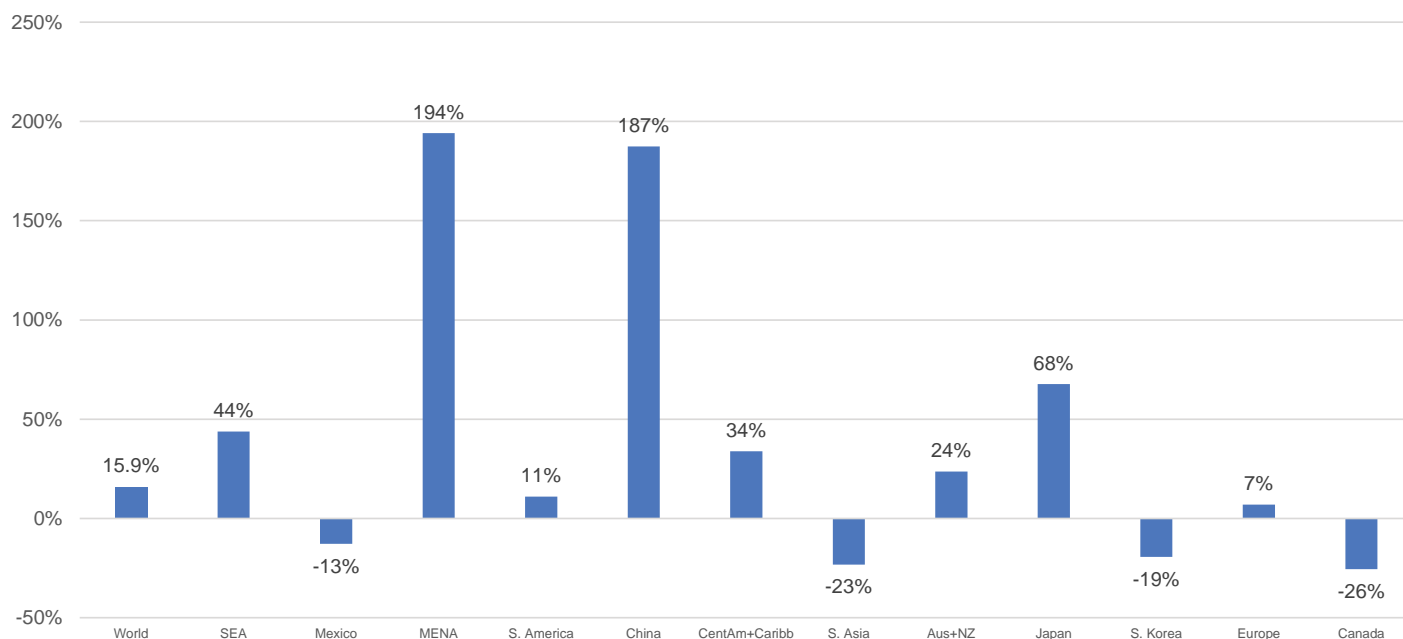


Source: USDEC

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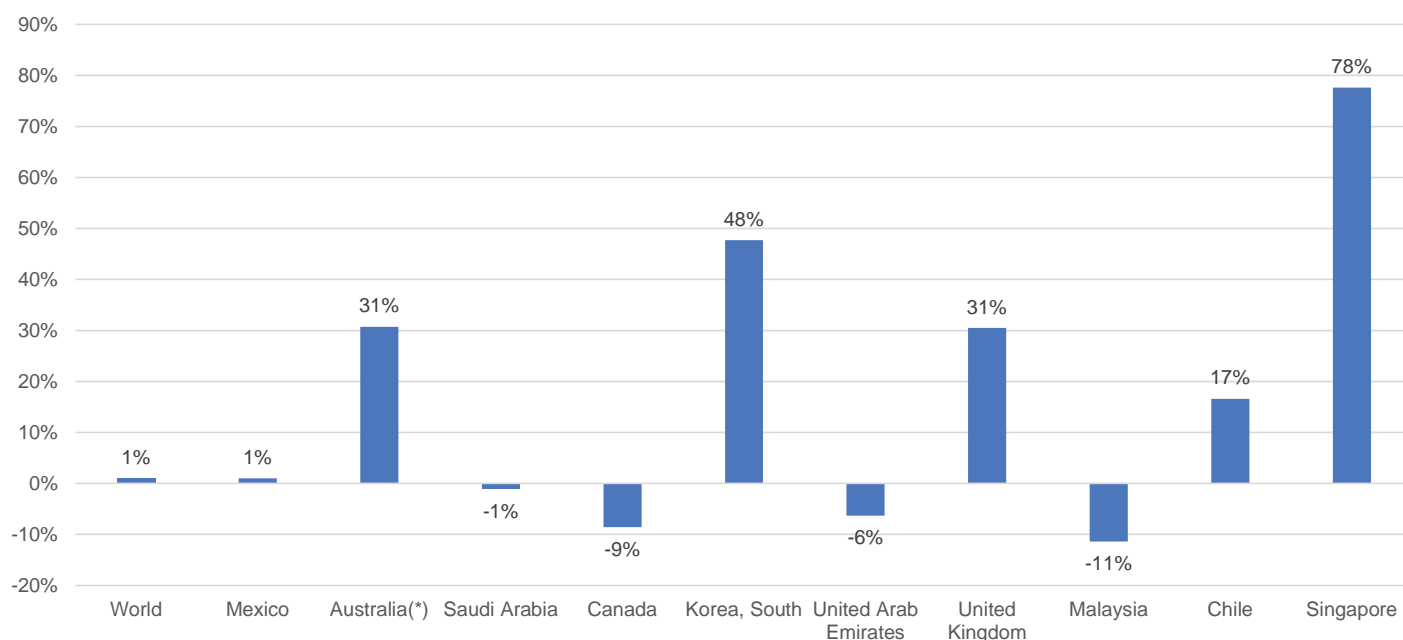
U.S. Exports of SMP/NDM & Ice Cream

U.S. Exports of SMP/NDM - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

U.S. Exports of Ice Cream - 2020 vs. 2019

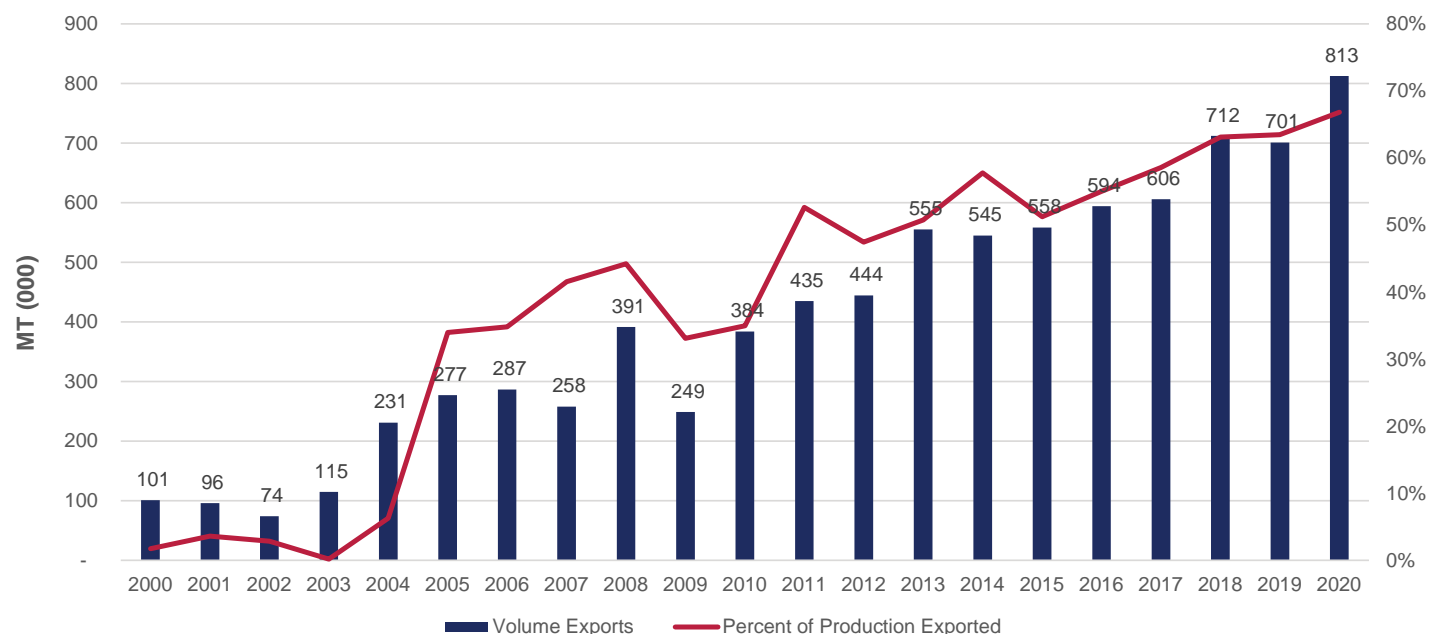


Source: USDEC, Trade Data Monitor

U.S. Exports of SMP/NDM

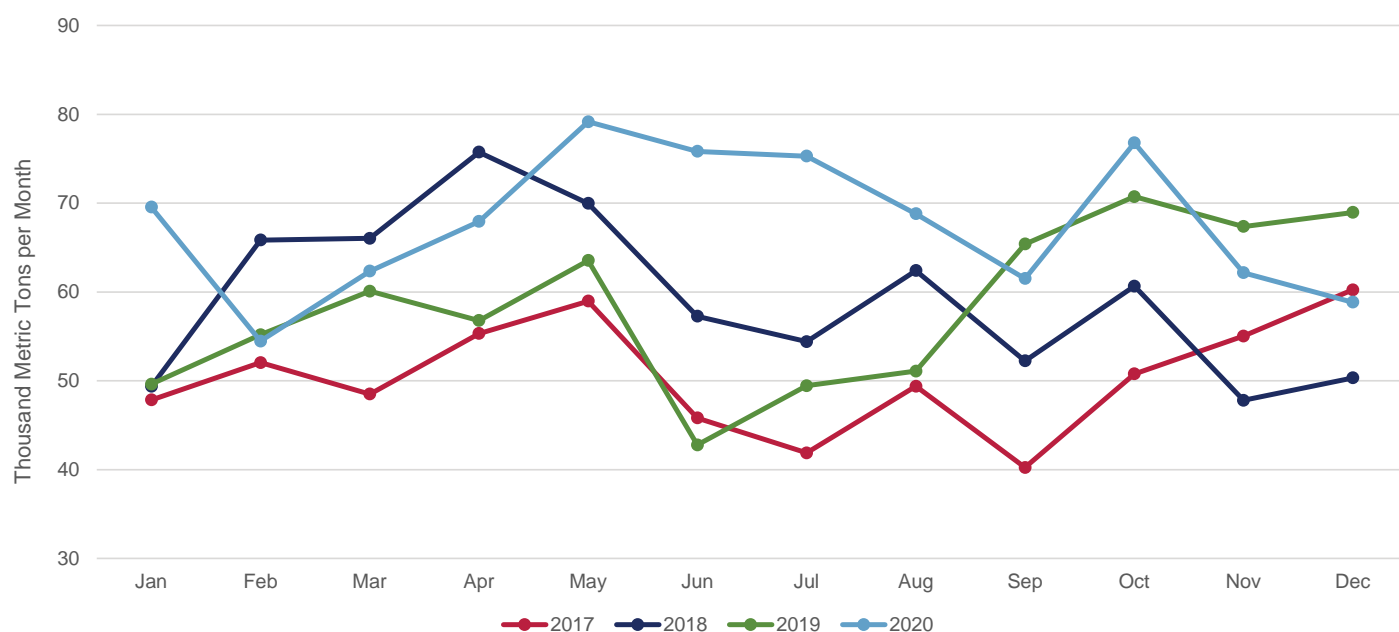
U.S. Exports of SMP/NDM and % of Production Exported

MT (000)



Source: USDEC, Trade Data Monitor

U.S. Exports of SMP/NDM - by Month



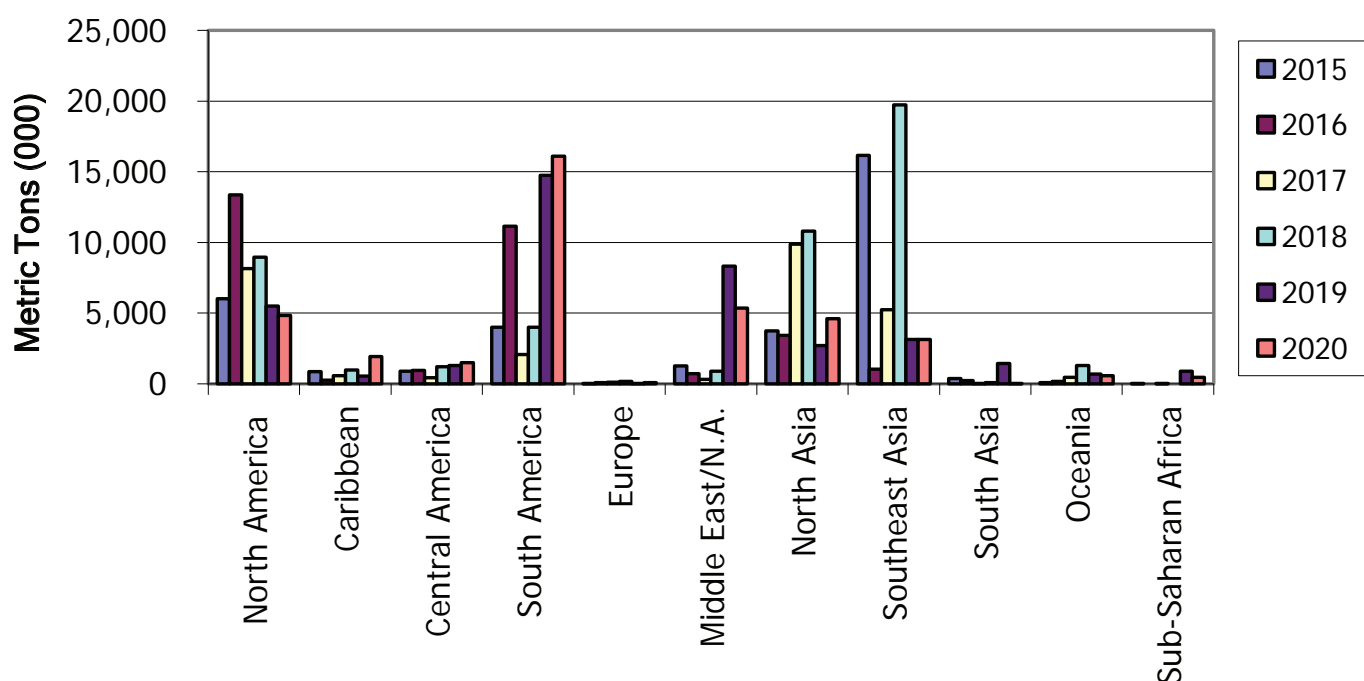
Source: USDEC, Trade Data Monitor

U.S. Exports of Whole Milk Powder¹

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	6,011	13,359	8,143	8,943	5,502	4,835	88%
Caribbean	846	252	568	969	547	1,925	352%
Central America	891	937	439	1,199	1,284	1,497	117%
South America	4,008	11,157	2,075	3,991	14,750	16,110	109%
Europe	23	83	119	157	13	89	685%
Middle East/N.A.	1,249	712	306	875	8,314	5,348	64%
North Asia	3,737	3,421	9,872	10,811	2,714	4,590	169%
Southeast Asia	16,164	1,042	5,239	19,741	3,148	3,131	99%
South Asia	377	228	11	73	1,421	1	0%
Oceania	76	166	453	1,286	677	575	85%
Sub-Saharan Africa	5	0	14	0	875	463	53%
World	33,387	31,357	27,239	48,045	39,245	38,564	98%

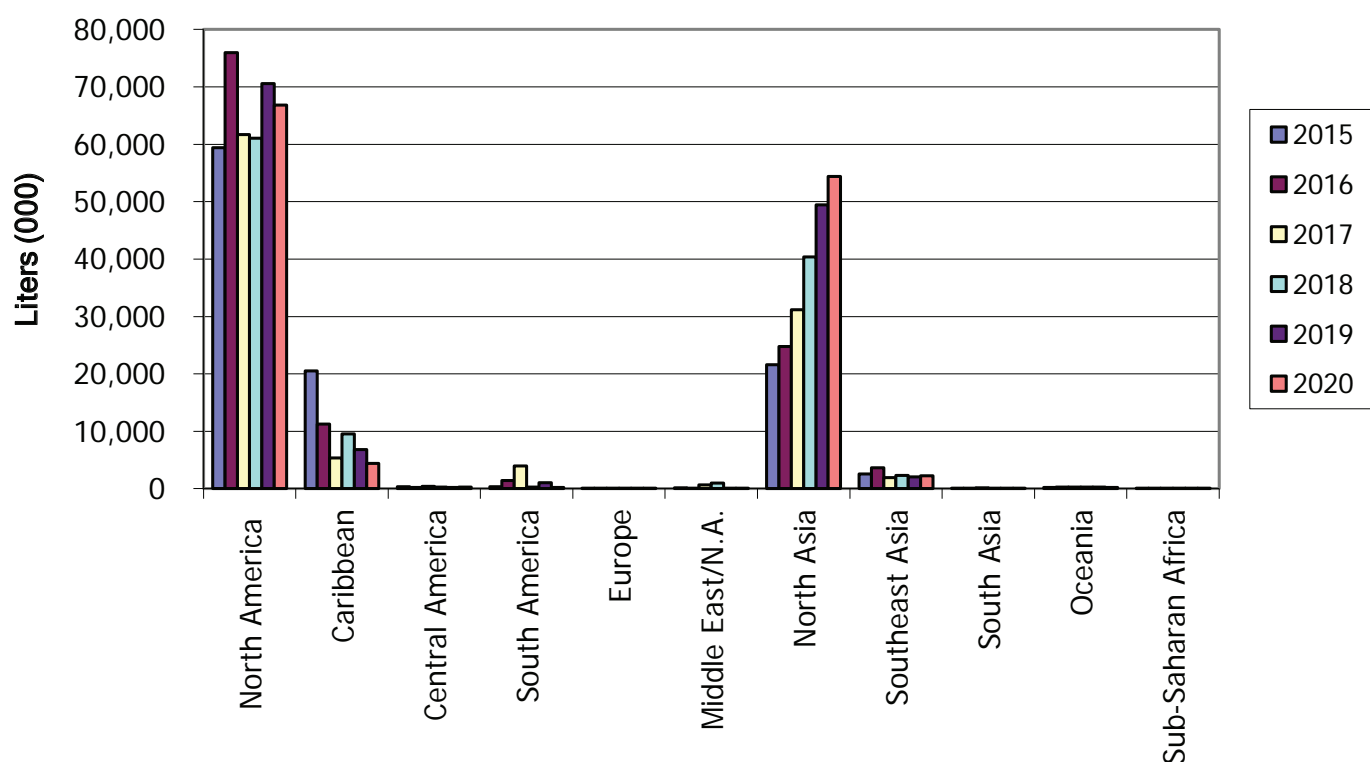
¹ Includes NFDM, > 1.5% Fat (040221) and Milk & Cream, >1.5% Fat (040229).



U.S. Exports of Fluid Milk and Cream

Liters (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	59,407	75,964	61,662	61,059	70,543	66,821	95%
Caribbean	20,502	11,254	5,331	9,513	6,832	4,430	65%
Central America	334	218	431	265	214	288	135%
South America	338	1,397	3,945	312	1,045	229	22%
Europe	17	13	60	67	39	67	172%
Middle East/N.A.	183	113	644	972	123	87	71%
North Asia	21,568	24,798	31,153	40,385	49,456	54,377	110%
Southeast Asia	2,576	3,614	1,963	2,295	2,077	2,224	107%
South Asia	16	7	157	84	30	6	20%
Oceania	197	290	287	254	262	196	75%
Sub-Saharan Africa	23	11	32	1	32	13	41%
World	105,161	117,679	105,665	115,207	130,653	128,738	99%

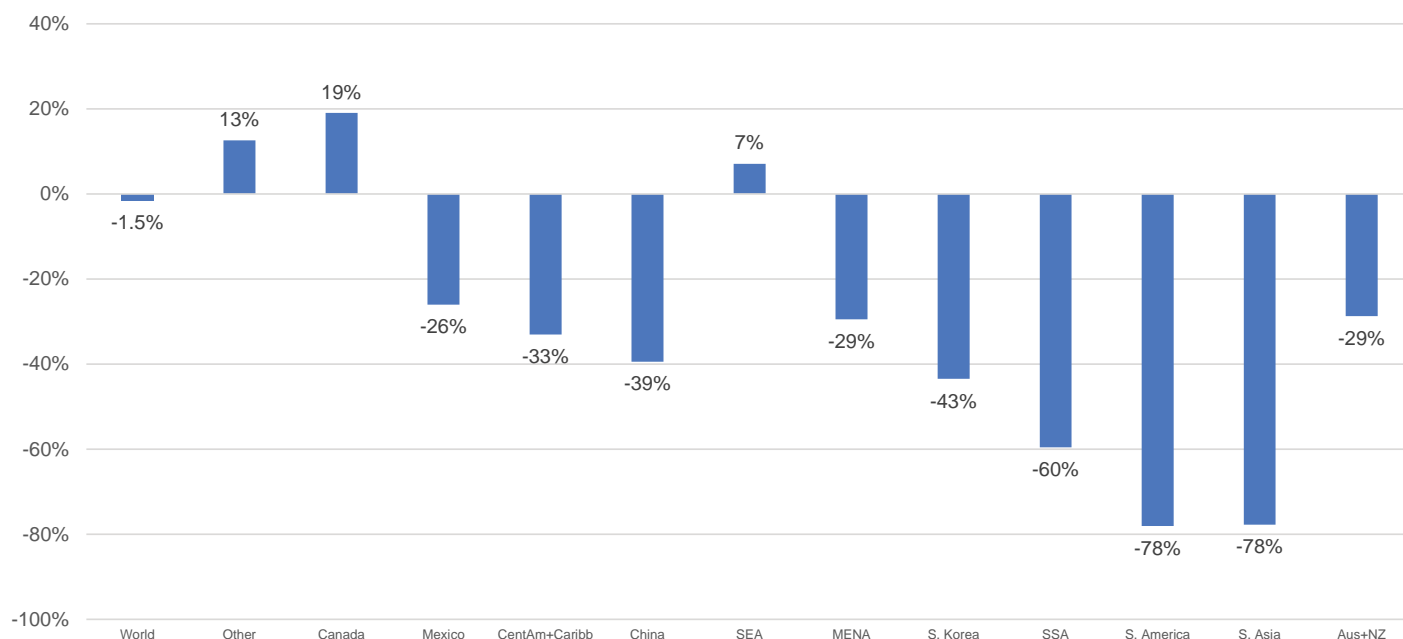


Source: USDEC

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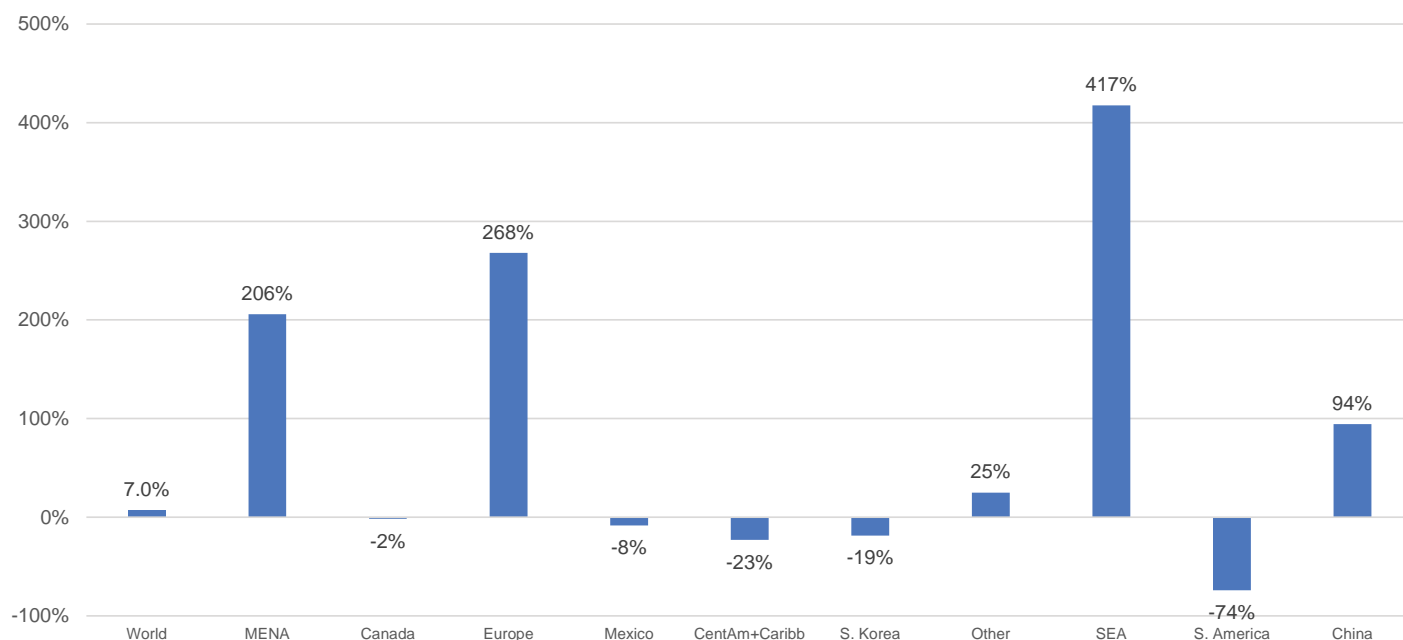
U.S. Exports of Fluid Milk, Cream & Butterfat

U.S. Exports of Fluid Milk & Cream - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

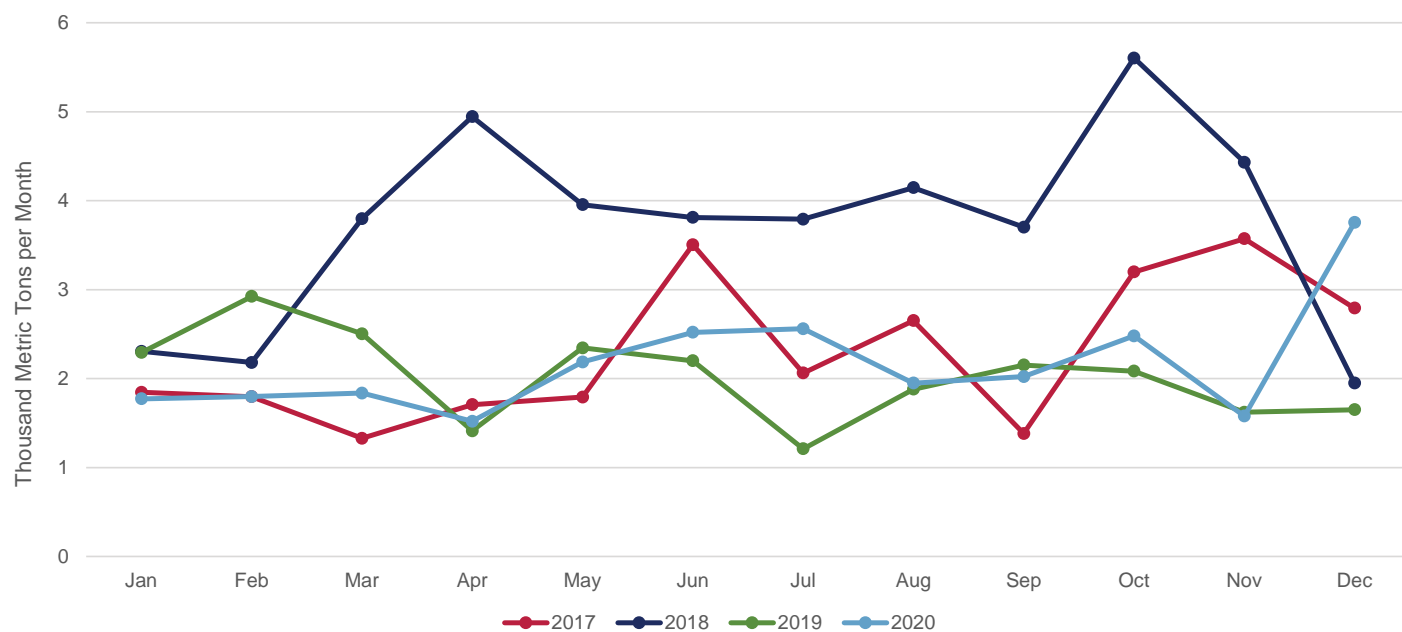
U.S. Exports of Butterfat - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

U.S. Exports of Fluid Milk, Cream & Butterfat

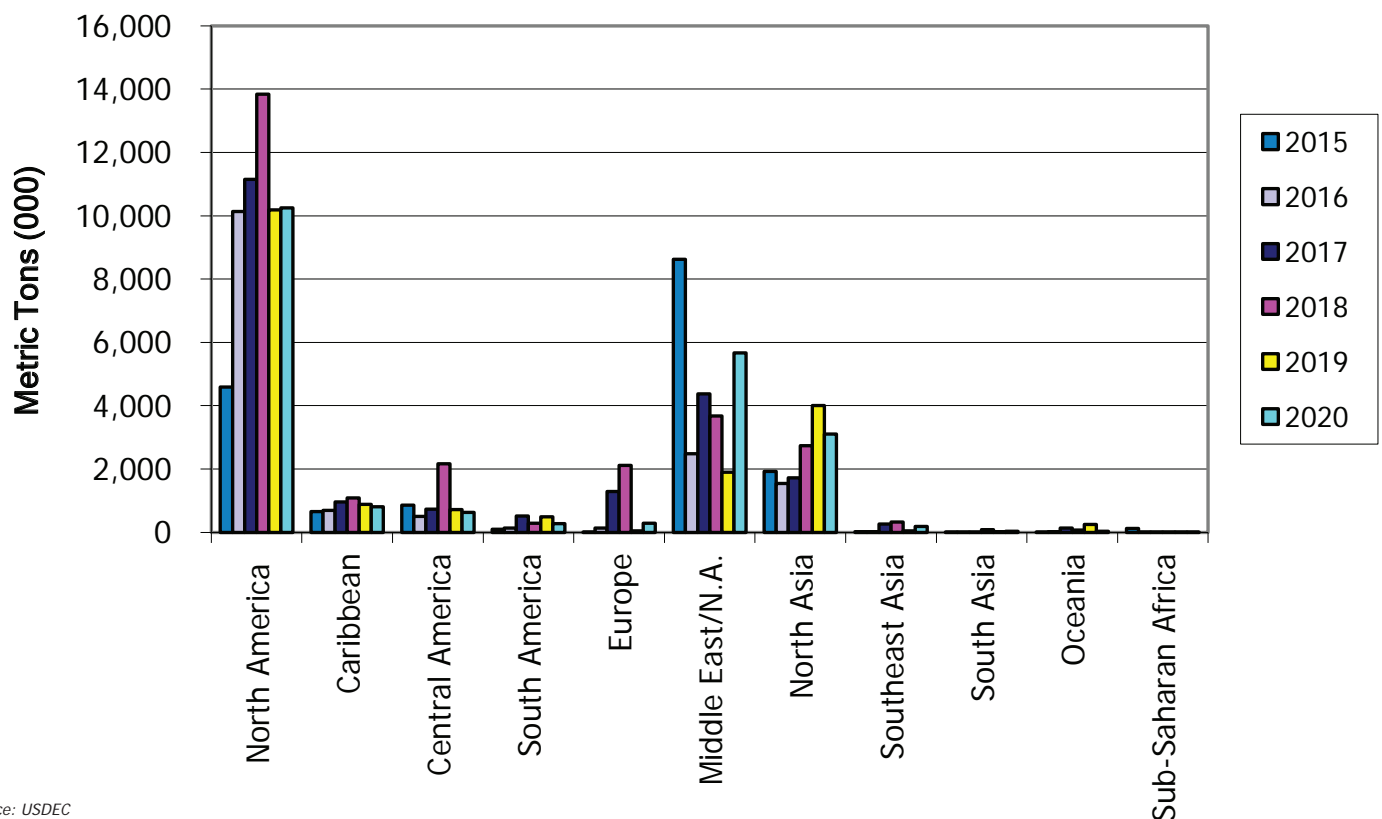
U.S. Exports of Butterfat -by Month



Source: USDEC, Trade Data Monitor

U.S. Exports of Butter

	Metric Tons (000)						% 2020 of 2019
	2015	2016	2017	2018	2019	2020	
North America	4,583	10,131	11,150	13,841	10,185	10,245	101%
Caribbean	656	692	958	1,085	885	809	91%
Central America	859	509	735	2,164	722	627	87%
South America	98	142	514	290	488	271	56%
Europe	14	142	1,291	2,114	42	282	671%
Middle East/N.A.	8,627	2,477	4,372	3,676	1,897	5,668	299%
North Asia	1,930	1,547	1,725	2,734	4,000	3,099	77%
Southeast Asia	18	17	258	321	47	192	409%
South Asia	13	9	12	89	18	32	178%
Oceania	14	17	133	77	251	38	15%
Sub-Saharan Africa	125	1	9	4	11	10	91%
World	16,937	15,684	21,157	26,395	18,546	21,273	115%



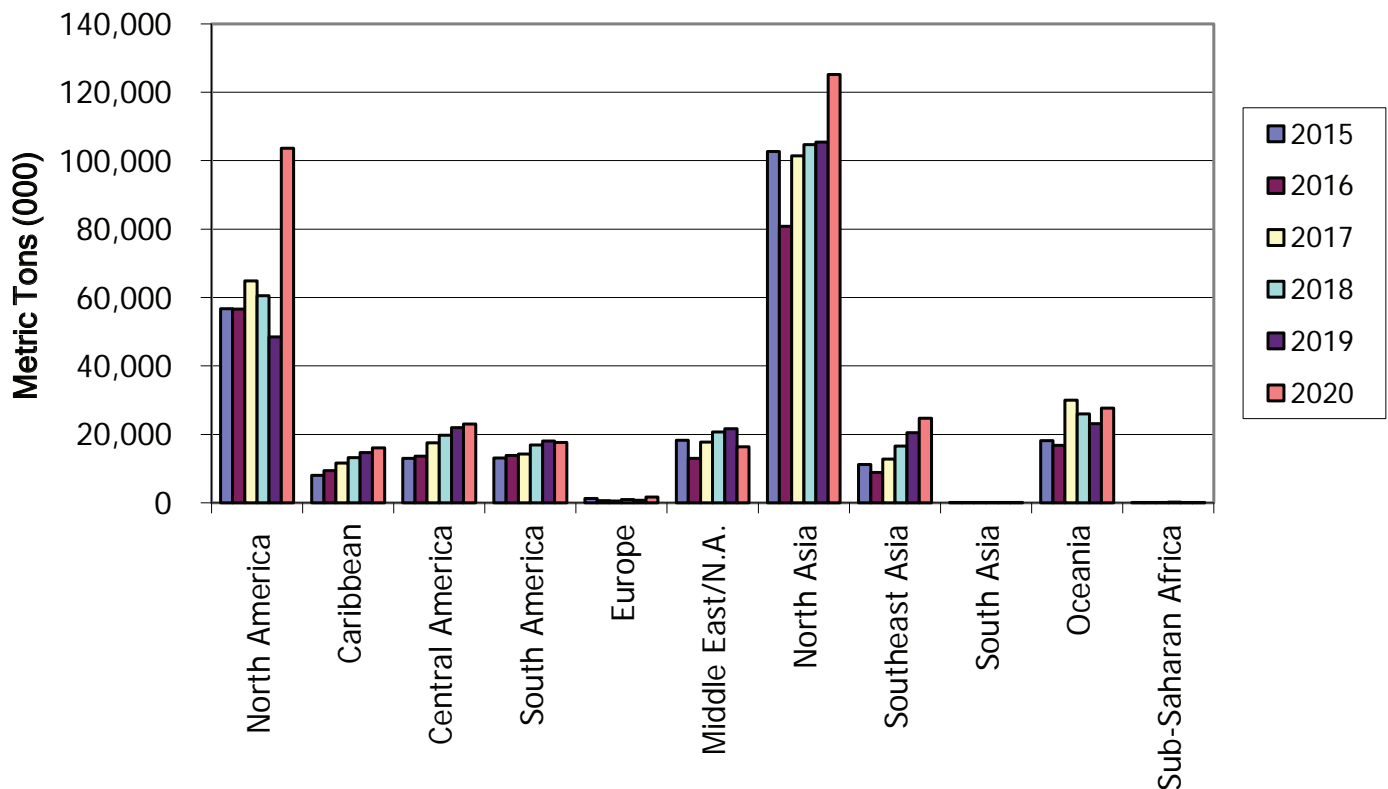
Source: USDEC

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U.S. Exports of Cheese - All Types

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	56,688	56,597	64,895	60,583	48,495	103,665	214%
Caribbean	8,085	9,439	11,593	13,258	14,669	16,026	109%
Central America	13,027	13,685	17,506	19,729	22,016	23,016	105%
South America	13,074	13,867	14,247	16,872	18,038	17,681	98%
Europe	1,262	639	548	973	800	1,715	214%
Middle East/N.A.	18,280	13,033	17,737	20,723	21,703	16,386	76%
North Asia	102,657	80,844	101,372	104,638	105,456	125,186	119%
Southeast Asia	11,208	8,885	12,768	16,572	20,463	24,706	121%
South Asia	41	72	126	133	90	50	56%
Oceania	18,201	16,834	29,969	25,974	23,090	27,680	120%
Sub-Saharan Africa	73	59	135	235	104	74	71%
World	242,596	213,954	270,896	279,690	274,924	356,185	130%

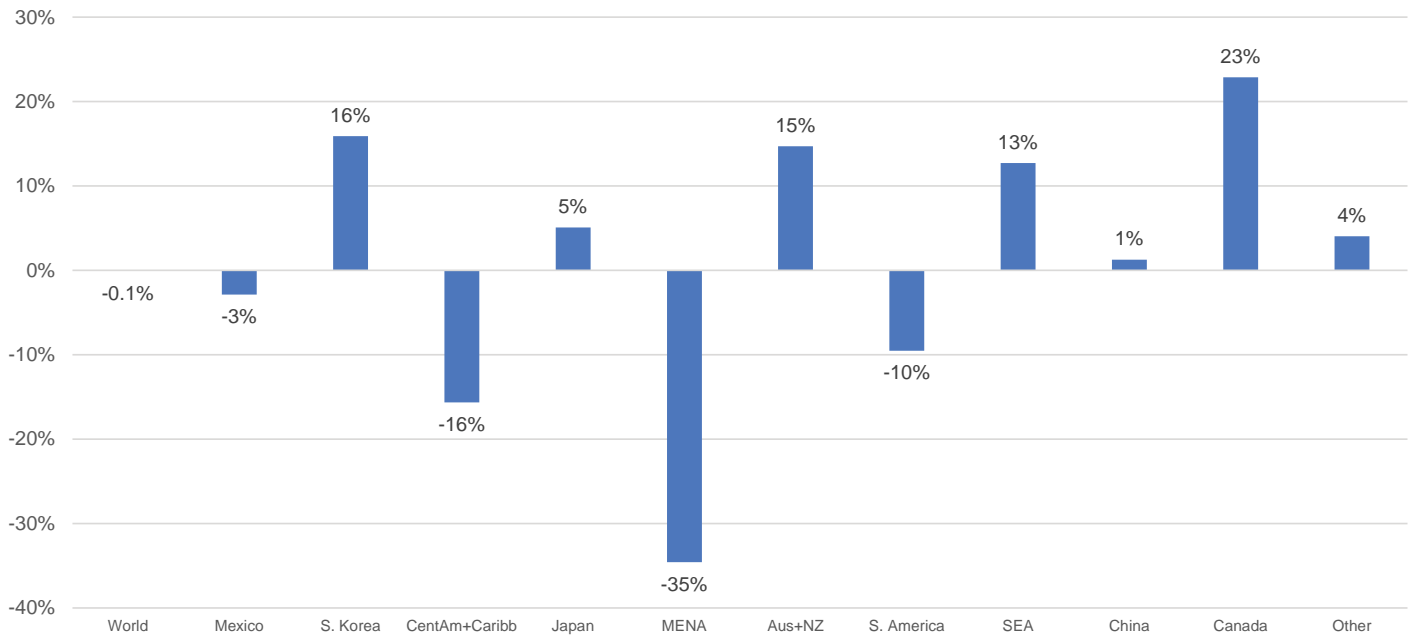


Source: USDEC

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U.S. Exports of Cheese

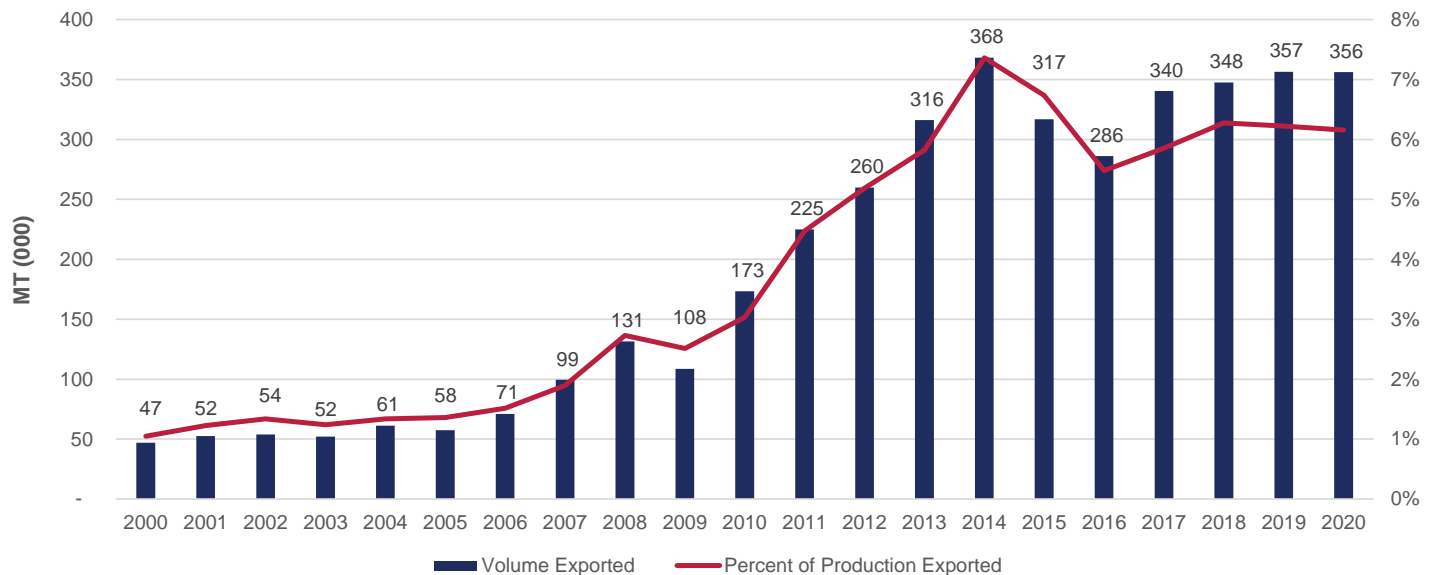
U.S. Exports of Cheese - 2020 vs. 2019



Source: USDEC, Trade Data Monitor

U.S. Exports of Cheese and % of Production Exported

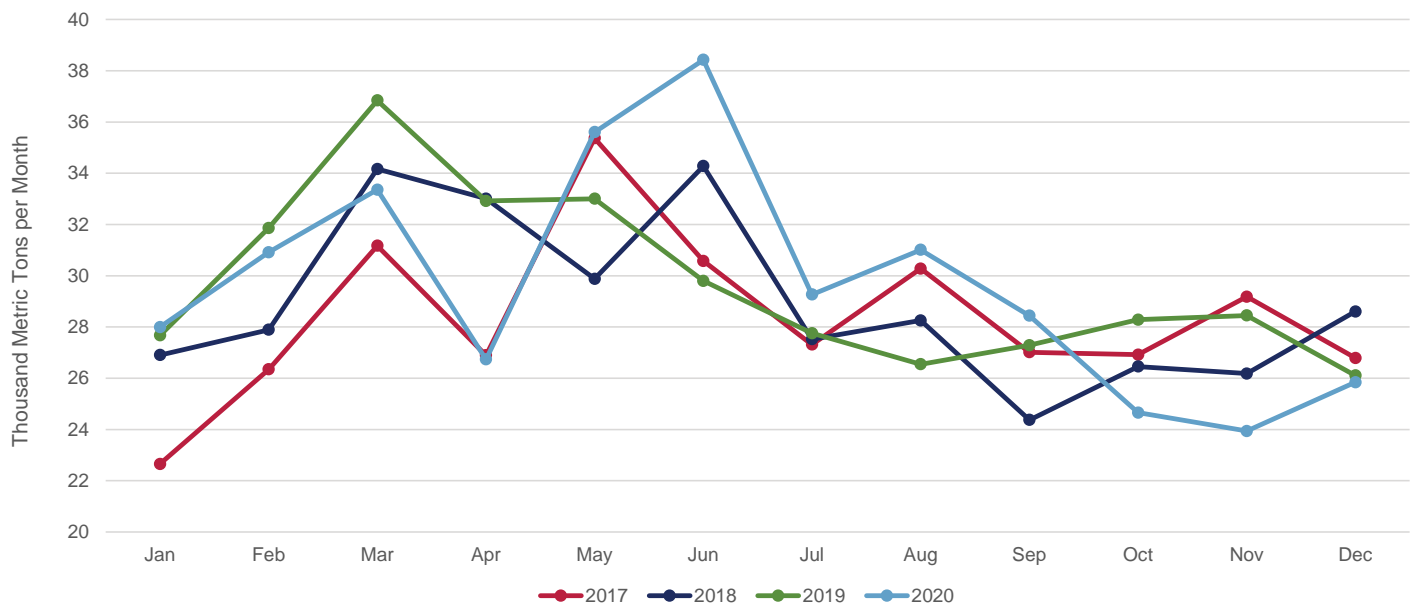
MT (000)



Source: USDEC, Trade Data Monitor

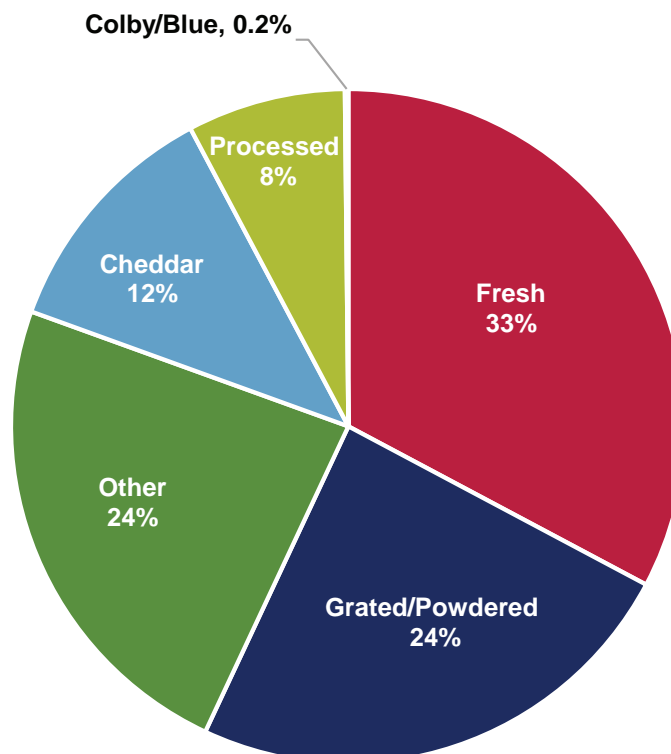
U.S. Exports of Cheese

U.S. Exports of Cheese - by Month (MT)



Source: USDEC, Trade Data Monitor

2020 U.S. Exports of Cheese - % Volume by Variety/Form

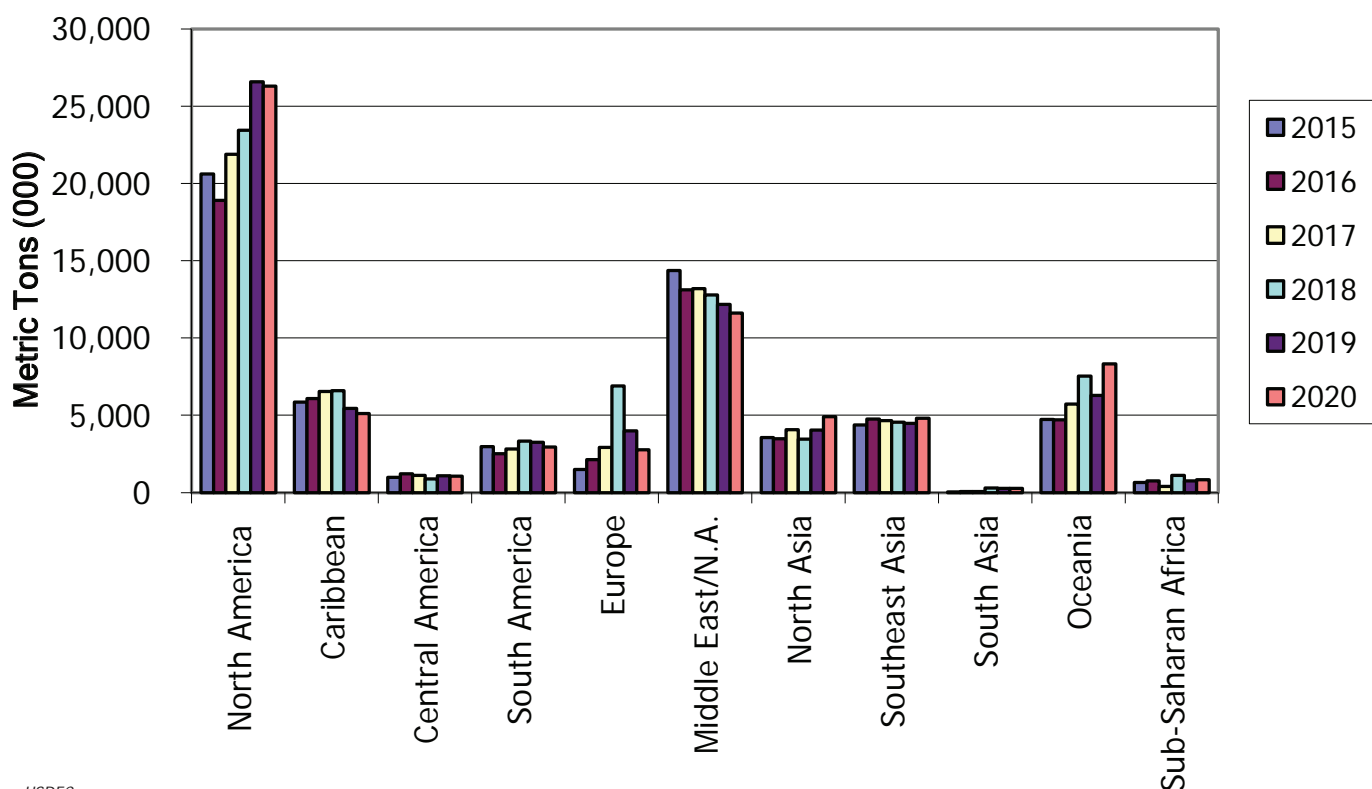


Source: USDEC, Trade Data Monitor

U.S. Exports of Ice Cream

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	20,630	18,909	21,905	23,452	26,575	26,315	99%
Caribbean	5,844	6,096	6,532	6,585	5,434	5,119	94%
Central America	985	1,220	1,103	871	1,097	1,072	98%
South America	2,978	2,517	2,818	3,320	3,246	2,945	91%
Europe	1,502	2,139	2,913	6,890	3,981	2,756	69%
Middle East/N.A.	14,378	13,113	13,206	12,790	12,179	11,607	95%
North Asia	3,564	3,495	4,075	3,449	4,044	4,905	121%
Southeast Asia	4,387	4,750	4,649	4,556	4,466	4,808	108%
South Asia	47	67	59	292	259	265	102%
Oceania	4,731	4,719	5,726	7,525	6,286	8,337	133%
Sub-Saharan Africa	644	764	409	1,108	748	832	111%
World	59,690	57,789	63,395	70,838	68,315	68,961	101%

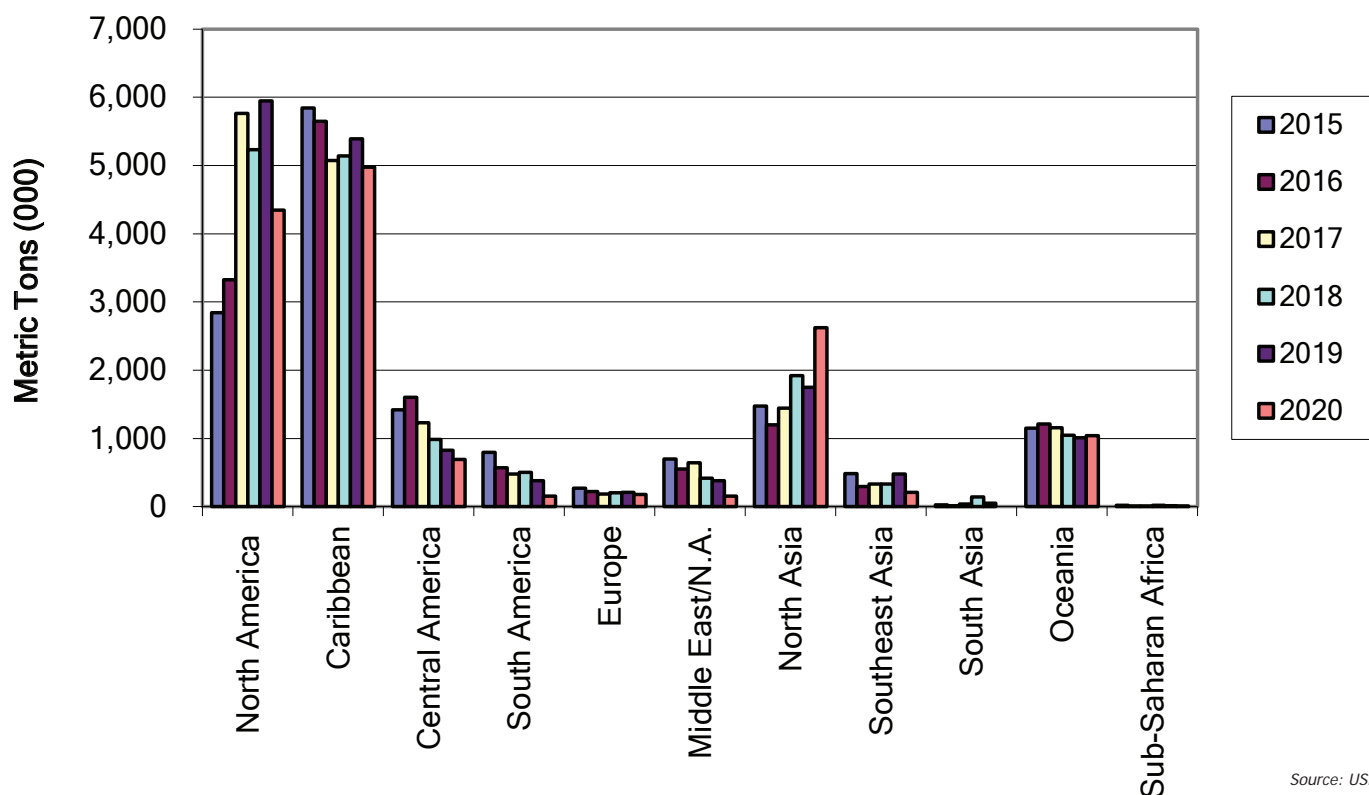


Source: USDEC

U.S. Exports of Yogurt

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	2,843	3,327	5,763	5,230	5,944	4,346	73%
Caribbean	5,845	5,649	5,072	5,143	5,389	4,978	92%
Central America	1,422	1,601	1,228	987	825	693	84%
South America	794	570	478	504	382	154	40%
Europe	272	221	189	207	211	178	84%
Middle East/N.A.	701	552	642	420	381	158	41%
North Asia	1,474	1,203	1,442	1,921	1,752	2,622	150%
Southeast Asia	488	299	334	335	480	210	44%
South Asia	25	18	41	141	54	0	0%
Oceania	1,149	1,214	1,156	1,046	1,010	1,043	103%
Sub-Saharan Africa	24	1	7	21	13	6	46%
World	15,037	14,655	16,352	15,955	16,441	14,388	88%

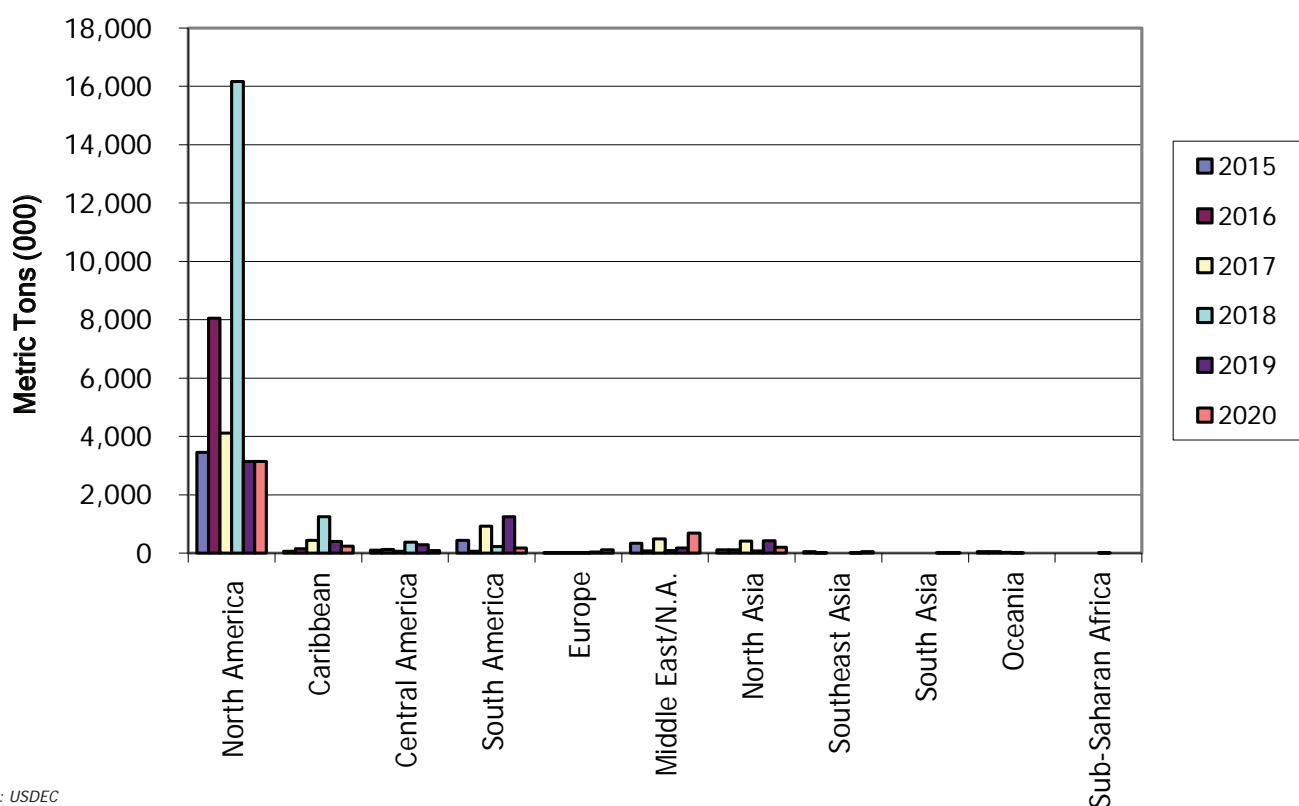


Source: USDEC

U.S. Exports of Anhydrous Milkfat

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	3,450	8,056	4,117	16,163	3,141	3,141	100%
Caribbean	61	145	436	1,253	396	235	59%
Central America	96	122	66	371	284	85	30%
South America	441	62	928	231	1,249	178	14%
Europe	16	19	5	9	39	116	297%
Middle East/N.A.	342	75	489	86	180	681	378%
North Asia	114	110	409	82	428	205	48%
Southeast Asia	52	9	0	0	1	56	5600%
South Asia	0	0	0	0	6	1	17%
Oceania	57	54	23	18	0	0	0%
Sub-Saharan Africa	0	0	0	9	0	0	0%
World	4,629	8,652	6,473	18,222	5,724	4,698	82%



Source: USDEC

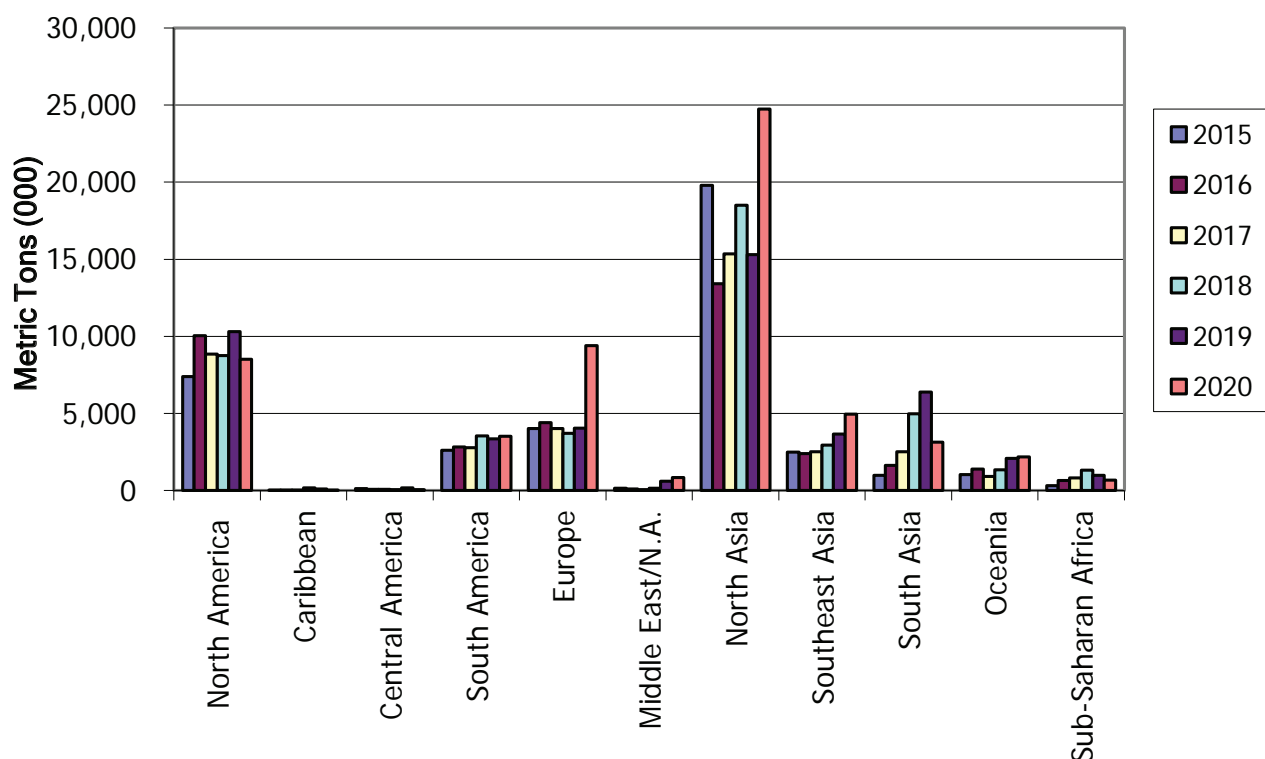
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U.S. Exports of Milk Albumin (WPI)¹

Metric Tons (000)

	2015	2016	2017	2018	2019	2020	% 2020 of 2019
North America	7,389	10,030	8,853	8,743	10,306	8,505	83%
Caribbean	1	25	23	171	84	7	8%
Central America	117	79	75	56	156	55	35%
South America	2,610	2,824	2,776	3,536	3,346	3,510	105%
Europe	4,023	4,406	4,019	3,699	4,029	9,403	233%
Middle East/N.A.	138	83	54	145	605	835	138%
North Asia	19,783	13,419	15,338	18,505	15,295	24,735	162%
Southeast Asia	2,480	2,376	2,512	2,930	3,654	4,938	135%
South Asia	969	1,629	2,513	4,959	6,373	3,136	49%
Oceania	1,028	1,388	906	1,332	2,085	2,183	105%
Sub-Saharan Africa	305	639	814	1,323	969	661	68%
World	38,843	36,898	37,883	45,399	46,902	57,968	124%

¹ Category includes: 35022 Milk Albumin.





PRODUCT DEFINITIONS



**American Dairy[®]
Products Institute**

Milk Product Definitions

Nonfat Dry Milk is the product resulting from the removal of fat and water from milk and contains the lactose, milk proteins, and milk minerals in the same relative proportions as in the fresh milk from which it was made. It contains not over 5% by weight of moisture. The fat content is not over 1.5% by weight unless otherwise indicated.

Skim Milk Powder is the product resulting from the partial removal of fat and water from milk. The protein content of the milk may have been adjusted to a min. of 34% by using milk retentate, milk permeate or lactose in a way as not to alter the whey protein to casein ratio of the milk being adjusted. It contains not over 5% moisture. The fat content is not over 1.5%.

Dry Whole Milk is the product resulting from the removal of water from milk and contains not less than 26%, but less than 40% milkfat and not more than 5.0% moisture (as determined by weight of moisture on a milk solids-not-fat basis).

Whole Milk Powder is the product resulting from the partial removal of fat and water from milk. The protein content of the milk may have been adjusted to a min. of 34% by using milk retentate, milk permeate or lactose in a way as not to alter the whey protein to casein ratio of the milk being adjusted. It contains not over 5% moisture. The fat content is min. 26% and less than 42%.

Dry Buttermilk is the product resulting from the removal of water from liquid buttermilk derived from the churning of butter. It shall contain not less than 4.5% milkfat and not more than 5% moisture. Dry buttermilk shall have a protein content of not less than 30%.

Dry Buttermilk Product is the product resulting from the removal of water from liquid buttermilk derived from the churning of butter. It shall contain not less than 4.5% milkfat and not more than 5% moisture. Dry buttermilk product contains less than 30% protein, the label of which should specify the minimum protein content.

Milk Protein Concentrate is the substance obtained by the partial removal of sufficient non-protein constituents (lactose & mineral) from skim milk so that the finished dry product contains 42% or more protein by weight. Milk Protein Concentrate may be produced by filtration (Microfiltration, Ultrafiltration & Diafiltration), dialysis or any other process by which all or part of the lactose is removed by a safe and suitable procedure. It contains casein and whey protein in their original proportions found in milk, without combining separately produced casein (caseinate) and whey proteins.

Milk Protein Isolate is the substance obtained by the partial removal of sufficient non-protein constituents (lactose & mineral) from skim milk so that the finished dry product contains 90% or more protein by weight. Milk Protein Isolate may be produced by filtration (Microfiltration, Ultrafiltration & Diafiltration), dialysis or any other process by which all or part of the lactose is removed by a safe and suitable procedure. It contains casein and whey protein in their original proportions found in milk, without combining separately produced casein (caseinate) and whey proteins.

Milk Permeate is produced by the removal of protein and other solids from milk resulting in a product with a high concentration of lactose. The dry product shall contain at least 76% lactose, a minimum of 2% protein and 14% ash maximum. Removal of the dairy constituents is accomplished by physical separation techniques such as filtration and diafiltration. The acidity of Milk Permeate may be adjusted by the addition of safe and suitable pH adjusting ingredients.

Whey Product Definitions

Whey is the liquid substance obtained by separating the coagulum from milk, cream, or skim milk in cheese making. Whey obtained from a procedure in which a significant amount of lactose is converted to lactic acid, or from the curd formation by direct acidification of milk, is known as acid whey. Whey obtained from a procedure in which there is insignificant conversion of lactose to lactic acid is known as sweet whey. Sweet whey has a maximum titratable acidity of not more than 0.16 percent, calculated as lactic acid, and an alkalinity of ash not more than 225 ml of 0.1N Hydrochloric acid per 100 grams. The acidity of whey, sweet or acid, may be adjusted by the addition of safe and suitable pH-adjusting ingredients.

Concentrated Whey is the liquid substance obtained by the partial removal of water from whey, while leaving all other constituents in the same relative proportions as in whey.

Dry Whey is the substance obtained by the removal of water from whey, while leaving all other constituents in the same relative proportions as in whey.

Lactose (Milk Sugar) is a white to creamy white crystalline product, possessing a mildly sweet taste. It may be anhydrous, contain one molecule of water of hydration, or be a mixture of both forms. It is manufactured from whey or permeate by evaporating, crystallizing, refining and then drying the lactose crystals.

Reduced Lactose Whey is the substance obtained by the removal of lactose from whey. The lactose content of the finished dry product shall not exceed 60 percent. Removal of the lactose is accomplished by physical separation techniques such as precipitation, filtration, or dialysis. As with whey, reduced lactose whey can be used as a fluid, concentrate, or a dry product form. The acidity of reduced lactose whey may be adjusted by the addition of safe and suitable pH-adjusting ingredients.

Reduced Minerals Whey is the substance obtained by the removal of a portion of the minerals from whey. The dry product shall not contain more than 7 percent ash. Reduced minerals whey is produced by physical separation techniques such as precipitation, filtration, or dialysis. As with whey, reduced minerals whey can be used as a fluid, concentrate, or dry product form. The acidity of reduced minerals whey may be adjusted by the addition of safe and suitable pH-adjusting ingredients.

Whey Protein Concentrate is the substance obtained by the removal of sufficient non-protein constituents from whey so that the finished dry product contains not less than 25% protein. Whey protein concentrate is produced by physical separation techniques such as precipitation, filtration, or dialysis. As with whey, whey protein concentrate can be used as a fluid, concentrate, or dry product form. The acidity of whey protein concentrate may be adjusted by the addition of safe and suitable pH-adjusting ingredients.

Whey Protein Isolate is the substance obtained by the removal of sufficient non-protein constituents from whey so that the finished dry product contains not less than 90% protein on a dry basis. Whey protein isolate is produced by separation techniques such as precipitation, membrane filtration and/or ion exchange. Whey protein isolate can be used as liquid or as a dry product. The acidity of whey protein isolate may be adjusted by the addition of safe and suitable pH-adjusting ingredients.

Dairy Product Solids are modified dairy products (permeates and products derived therefrom) obtained by the removal of protein and/or lactose, and/or minerals from milk or whey. The dry product shall contain at least 59% lactose, 10% protein maximum, and 27% ash maximum. Removal of the dairy constituents is accomplished by separation techniques such as precipitation, membrane filtration or dialysis. Dairy Product Solids can be used as liquid or as a dry product. The acidity of dairy product solids may be adjusted by the addition of safe and suitable pH-adjusting ingredients.

Whey Permeate is produced by the removal of protein and other solids from whey resulting in a product with a high concentration of lactose. The dry product shall contain at least 76% lactose, a maximum of 7% protein and 14% ash maximum. Removal of the dairy constituents is accomplished by physical separation techniques such as filtration and diafiltration. The acidity of Whey Permeate may be adjusted by the addition of safe and suitable pH adjusting ingredients.

Whey Protein Phospholipid Concentrate (WPPC) is a product obtained through the microfiltration of whey which concentrates whey proteins and whey phospholipids. The acidity of WPPC may be adjusted by the addition of safe and suitable pH adjusting ingredients.



ADPI INFORMATION & MEETINGS



**American Dairy[®]
Products Institute**

The American Dairy Products Institute

Now with over 260+ members, the American Dairy Products Institute (ADPI) is the leading trade association representing the dairy ingredient industry. Our mission is to increase the world-wide use of dairy ingredients by marshaling the technical, manufacturing and marketing resources of our members and others.

ADPI has been recognized by its current name since 1986, following a merger of the American Dry Milk Institute (ADMI) and the Whey Products Institute (WPI) and joined a year later by the Evaporated Milk Association – but the origins of the institute date back to 1925 when 18 dry milk manufacturing firms got together to form ADMI, making it one of the nation's oldest dairy trade associations.

Our members manufacture and market the majority of the milk-based and whey-based ingredients produced in the U.S., including:

Dry Milk Products: Nonfat Dry Milk, Whole Milk Powder, Milk Protein Concentrates and Isolates, etc.

Whey Products: Condensed and Dry Whey, Lactose, Whey Protein Concentrates and Isolates, Permeate, Specialty Whey Fractions, etc.

Evaporated Milk, “Filled” Milk and Sweetened Condensed Milk

Buttermilk Powder, Buttermilk product

Additionally, ADPI serves its membership by:

- Leading the development of dairy ingredient product standards and specifications that are used globally.
- Hosting top flight meetings and seminars to help promote the industry, build relationships, expand the knowledge base and most importantly, provide the perfect environment for conducting business:
 - The ADPI Annual Meeting in Chicago each April draws over 1,000 attendees from around the world – it is known as “the place where the dairy industry does business”
 - Other events include: the ADPI Dairy Ingredient Seminar; the ADPI Technical Symposium; the ADPI/CME Dairy Risk Management Seminar; the International Whey Conference; and the Global Cheese Technology Forum
- Monitoring and disseminating current dairy industry information and new developments.
- Providing a comprehensive analysis of the annual production and utilization of dairy-based ingredients by conducting a survey of our members.
- Providing technical assistance and marketing support, including access to the ADPI “Center of Excellence” - a pool of seasoned industry professionals ready to answer member questions.

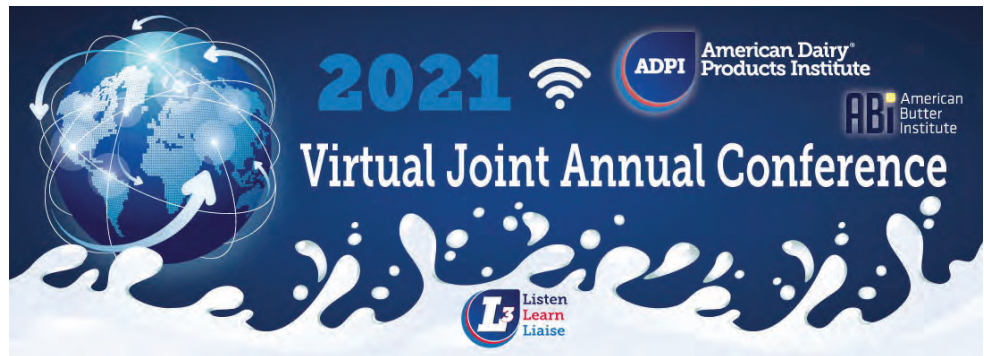


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Elmhurst, Illinois 60126
630-530-8700
www.adpi.org

Upcoming ADPI Conferences/Seminars

o **2021**
August 16 - 20

ADPI/ABI Virtual Joint Annual Conference
Virtual Event



o **2021**
September 27 -30

ADPI/CME Dairy Purchasing and Risk Management
Virtual Event



o **2021**
October 25 - 28

ADPI Dairy Technology Week in Reno
Hybrid Event - In-Person: Peppermill Resort, Reno, NV

**Two great events
in one fun location!**



We will start the week on Monday, October 25th with the ADPI Dairy Ingredients Technology Symposium. The 2021 theme will focus around the topic of “Dairy Ingredients – Playing a Role in Global Recovery.”



“On Wednesday, October 27th, we will kick off the Global Cheese Technology Forum. This biennial event brings together all aspects of the industry to focus on cheese and whey products.

Upcoming ADPI Conferences/Seminars

- o **2021**
December 6 - 8 **ADPIDairy Ingredients Seminar**
Hilton Beachfront Resort, Santa Barbara, CA



- o **2022**
April 24 - 26 **ADPI/ABI Joint Annual Conference**
Hyatt Regency Downtown, Chicago, IL
- o **2022**
September 11 - 13 **International Whey Conference**
Hyatt Regency Downtown, Chicago, IL

The American Dairy Products Institute expresses its sincere appreciation to all who assisted by assembling information and reporting the same to make this publication a useful marketing tool.

Members of the American Dairy Products Institute, other cooperating processors and distributors of dried dairy ingredients participated in this survey. Projections have been made from the survey data to the total industry. This data is intended to indicate market patterns and serve as a guide in directing promotional efforts to continue the expansion of commercial markets.

ADPI Scholarship Program



The **ADPI Jim Page Memorial Scholarship** was created in memory of James J. Page who enjoyed a distinguished marketing career in the dairy industry and demonstrated exceptional leadership skills while serving as the Chief Executive Officer of ADPI from 2002 through 2008.

The **Phillip Tong Educational Scholarship** was established in honor of Phillip Tong Ph.D., who served as ADPI's Director of Dairy Science, Education, Research from 2016 to 2021. This annual scholarship endowed by ADPI, is in recognition of Dr. Tong's contributions to the Training, Education and Development of people in the dairy industry and most recently within the scope of Dairy Science & Technology realm and the domain of ADPI member companies, their employees, and/or members of employee families.

These scholarships are awarded to the dependent of an employee or to an employee whose company is a member of ADPI. The scholarships are a one year grant, of a minimum of \$1,000. The recipients must be in good standing academically at an accredited college or university, pursuing a course of study that will lead to a bachelor's degree, have completed at least one full semester (or the equivalent thereof) and must have a cumulative GPA of at least 3.0 on a standard 4.0 scale.

These awards may also be used for any tuition expense that a student may have in furthering his/her education. The recipients of these scholarships are announced at the ADPI/ABI Annual Conference held in Chicago, IL each year.

Interested in Making a Donation?

If you would like to make a contribution to the ADPI Scholarship Program or if you are a dependent of an employee or an employee of an ADPI member company, and would like more information on the scholarship, including application forms, please visit www.adpi.org or contact the ADPI office at info@adpi.org or 630-530-8700.



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