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Korea - Republic of

Dairy and Products Annual

2018 Dairy and Products

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Report Highlights:
In 2017, domestic raw milk production totaled 2.06 million MT, down less than 1% from 2016. Since the FMD outbreak in 2010, local raw milk production has overcorrected while at the same time consumption has declined. The Korean government and local industry continue to seek to reduce oversupply. In 2017, domestic cheese production totaled 35,214 MT, up from 28,842 MT in 2016. Consumption continues to grow and outpace production. In 2017, cheese imports totaled $536 million, up 25.9% from 2016. The increase in imports is in large part due to free trade agreements (FTAs). In 2017, NFDM production totaled 9,041 MT, a 6% increase from the previous year, but considerably lower than excessive 2013 and 2014 levels. In 2017, the NFDM inventory was down to 8,200 MT. It could take several years for NFDM inventories to normalize to 5,000-6,000 MT.

Executive Summary:

Milk production will continue to decrease due to government efforts to manage supply and decrease the powdered milk inventory. Consumers enjoyed more milk-based beverages through the foodservice channel and consumed more flavored milk, while consumption of fresh milk is showing a decreasing trend. However, low-fat milk, organic milk and fortified milk posted positive performances. Hypermarkets and supermarkets will continue to be major distribution channels for fresh milk in multipacks.

The retail sales value of cheese reached 356.8 billion KRW in 2017, up 14.6% from 2013. The retail cheese market is expected to grow 1.7% by volume in 2018. Within the cheese market, processed cheese is showing fast growth. Consumption of cheese continues to increase in both the consumer market and food processing industry. Cheese is a popular snack for both kids and adults. It is considered a nutritious snack for kids, and cubed or portion cheese products are also popular among male consumers as light snacks to have along with alcohol. Due to the continued popularity of pizzas, mozzarella accounts for the majority of fresh cheese and curd imports as it is used widely in the foodservice and food processing industries.

Less expensive NFDM imports and over production of fresh milk resulted in inventories remaining high since 2014. In 2017, local NFDM production amounted to 9,041 MT, which increased 6% from 2016, but is still very low considering 2013 or 2014 levels. NFDM consumption levels decreased, but due to the lower production levels in 2017, year-end inventory was down to 8,200 tons.

Table 1. Korea's Key Dairy Product Import (Metric Ton)

	2013		2014		2015		2016		2017	
	U.S.	Total	U.S.	Total	U.S.	Total	U.S.	Total	U.S.	Total
Cheese (HS:0406)	42,530	85,069	63,800	97,200	54,821	111,522	39,966	109,621	49,012	125,002
NFDM (HS:0402.10)	5,907	19,710	7,700	21,100	5,660	21,260	5,882	20,610	7,473	23,187
WFDM (HS:0402.21)	357	1,990	300	2,100	39	2,035	235	3,498	292	4,625
Mixed Milk (HS:0404.90 & 1901.90.20)	180 +987 =1,167	25,577 +8281 =33,858	495 +1,246 =1,741	28,370 +9,723 = 38,093	5 +1,054 =1,059	22,649 +8,476 =31,127	43 + 617 =660	28,429 +9,965 =38,394	44 +737 =781	34,917 +12,040 =46,957
Butter (HS:0405.10)	1,218	3,355	1,187	3,523	1,135	3,412	537	5,189	624	5,119
Whey Powder (HS:0404.10)	18,201	35,091	12,700	31,400	15,073	34,419	12,271	35,444	11,658	33,728
Ice Cream (HS:2105)	1,264	4,744	1,200	5,400	1,104	5,661	1,146	6,308	1,332	7,409
Total	70,64	184,81	88,62	198,81	78,91	209,41	60,69	215,981	71,17	246,02

	4 (38%)	7	8 (45%)	6	3 (38%)	3	7 (28%)		2 (29%)	7

Source: Korea Customs Office

Commodities:
Dairy, Milk, Fluid

Production:

In 2018, Korean milk production is expected to decline 1.7% due to government and industry's continued efforts to manage supply. In 2014, domestic milk production amounted to 2.21 million MT. Due to the oversupply of milk, milk inventory reached over 200,000 MT and powdered milk inventory approached 20,000 MT. As a result, the Korean government has sought measures to manage the supply of raw milk and domestic raw milk production has been declining. In 2017, domestic milk production declined less than 1% from 2016 to 2.06 million MT.

In 2018, South Korea experienced the hottest summer in 111 years. In Korea, 99% of milk cows are Holstein breeds, which are susceptible to heat stress. In August 2018, production was down more than 10% compared to August 2017. Due to the heat wave, milk production in 2018 is likely to decline more than 1.7%.

Korean consumers are shifting towards processed milk products. The fresh milk market, which was 1.01 trillion KRW in 2013, decreased to 936 billion KRW in 2017. However, the flavored milk market continues to grow. In 2017, the flavored milk market totaled 722 billion KRW, up more than 30% compared to 537 billion KRW in 2013. In 2017, manufacturers not only introduced new flavors but also launched new products, many of which featured cartoon characters or famous brands. Some of the new products used popular flavors such as those of famous chips, ice creams, and sweet and sour candies. Seoul Dairy Cooperative collaborated with Disney and launched 'Mickey Mouse Chocolate Milk,' and 'Minnie Mouse Strawberry Milk.' Binggrae launched 'Milktime' packaged in Kakao Friends tumblers. Processed milk products are also becoming healthier as products now have less artificial ingredients or superfood as ingredients.

Consumers continue to prefer environmentally friendly options such as organic, antibiotic-free, animal welfare approved milk products. Unlike the overall sluggish milk market, the organic milk market is experiencing strong growth. The organic milk market, which was 5 billion KRW in 2008, is expected to grow to 100 billion KRW in 2018. This increase is due to Korean consumers being very sensitive towards food safety issues, and parents wanting to provide their children with the best products available.

Table 2. Korea Raw Fluid Milk Supply and Demand (1,000 Metric Ton)

	2013	**2014**	**2015**	**2016**	**2017**
Beginning Inventory	92	93	233	253	132

Production	Domestic Production	2093	2214	2168	2070	2058
	Import	1586	1683	1788	1832	2116
	Total	3679	3897	3956	3902	4174
Consumption	Domestic Consumption	3582	3646	3834	3914	4092
	Export	96	111	102	109	107
	Total	3678	3757	3936	4023	4199
Ending Inventory		93	233	253	132	108

Source: Korea Dairy Industries Association

Table 3. Production Cost of Raw Fluid Milk (USD)

	2013	**2014**	**2015**	**2016**	**2017**
Total raising cost of dairy cow per head	6317.92	6466.71	6414.20	6393.93	6416.79
Feed cost of dairy cow per head	3551.65	3557.14	3583.81	3611.68	3561.50
Production cost per 100L milk	71.43	70.46	67.48	67.22	67.85
Feed cost per 100L milk	41.07	39.73	38.95	39.65	39.14

Source: KOSIS

Table 4. Domestic Raw Fluid Milk Usage (1,000 MT)

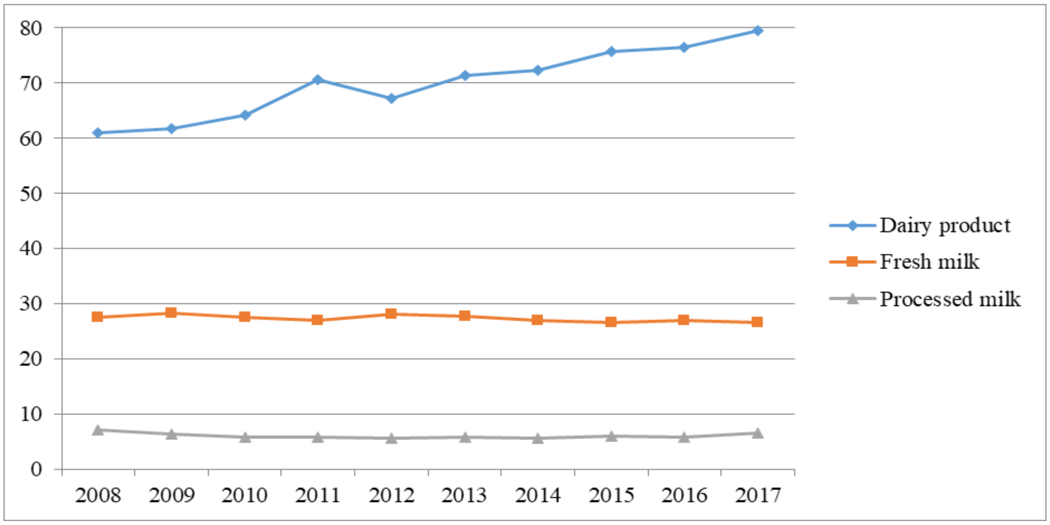
	2013	**2014**	**2015**	**2016**	**2017**
Drinking Use	1,587 (76%)	1,540 (70%)	1,529 (71%)	1,565 (76%)	1,570 (76%)
Processed Use	506 (24%)	674 (30%)	639 (29%)	505 (24%)	488 (24%)
Total	2,093(100%)	2,214(100%)	2,168(100%)	2,070(100%)	2,058(100%)

Source: Korea Dairy Industries Association

Consumption:

In 2017, dairy consumption reached 4.19 million MT, up 4.4% compared to 2016. While total milk consumption increased less than 1%, fresh milk consumption is showing a decreasing trend. Due to the low fertility rate in Korea, the number of children (age 0 to 14) has dropped from 9.91 million in 2000 to 6.86 million in 2017. As the number of children has declined, demand for fresh milk has decreased. In 2017, fresh milk consumption decreased 1.1% to 1.36 million MT. However, as more consumers find flavored milk as easy-to-drink snacks, consumption of flavored milk (processed) increased 10% to 0.31 million tons. If this trend continues, sales of processed milk could exceed the sales of fresh milk. In some retail outlets, particularly convenience stores, 70-80% of milk sales come from processed milk.

Figure 1. Per Capita Consumption (kg)



Source: Korea Dairy Industries Association

Marketing:

Hypermarkets and supermarkets will continue to be major distribution channels for fresh milk products. Both fresh milk and flavored milk drinks will be distributed mainly in multipacks at hypermarkets and supermarkets, targeting sales to homemakers.

In Korea, primary schools provide fresh milk at cheaper prices than retail channels; however, the number of children is decreasing due to the falling birth rate. As a result, sales of milk to schools have decreased. The value share of fresh milk products sold through direct selling (home delivery) also declined, as fewer consumers drink milk on a daily basis. However, the value share of fresh milk products increased at convenience stores and mixed retailers, such as variety shops.

Production, Supply and Demand Data Statistics:

Table 5. PSD TABLE for Fluid Milk

Dairy, Milk, Fluid	2017		2018		2019	
Market Begin Year	Jan 2017		Jan 2018		Jan 2019	
Korea, Republic of	**USDA Official**	**New Post**	**USDA Official**	**New Post**	**USDA Official**	**New Post**
Cows In Milk	190	198	191	205	0	200
Cows Milk Production	2081	2081	2091	2045	0	2030
Other Milk Production	0	0	0	0	0	0
Total Production	2081	2081	2091	2045	0	2030
Other Imports	0	0	0	0	0	0
Total Imports	0	0	0	0	0	0
Total Supply	2081	2081	2091	2045	0	2030
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Fluid Use Dom. Consum.	1540	1561	1568	1575	0	1580
Factory Use Consum.	541	520	523	470	0	450
Feed Use Dom. Consum.	0	0	0	0	0	0
Total Dom. Consumption	2081	2081	2091	2045	0	2030

Total Distribution	2081	2081	2091	2045	0	2030
(1000 HEAD) ,(1000 MT)						

Commodities:
Dairy, Cheese

Production:
Cheese production has been increasing over the past few years. In 2017, domestic production totaled 35,214 MT, up 57.3% from 22,389 MT in 2013. Although production of fresh cheese is decreasing, production of processed cheese is growing fast. In 2017, Korea produced 31,606 MT of processed cheese, which was nearly 90% of the total cheese production.

Domestic cheese manufacturers have been aggressive in launching different kinds of products, which has led to an increase in cheese production. In 2015, string cheese and other cheese for snacks became popular, which led many companies to launch new products. More than 30 new products have since been introduced to the market.

Domestic manufacturers are focusing more on producing processed cheese. It is difficult to compete against imported fresh cheese on price and quality. Given the massive initial investment required, only large dairy manufacturers are in the business. Some of the major players are Seoul Dairy Cooperative, Maeil Dairies, Namyang Dairy Products, and Dongwon F&B.

Table 6. Cheese Production and Consumption (MT)

		2013	2014	2015	2016	2017
Production	Fresh Cheese	5,700	8,582	7,248	4,233	3,608
	Processed Cheese	16,700	15,197	15,940	24,609	31,606
	Import (Fresh Cheese)	76,900	87,170	101,519	99,071	113,666
	Import (Processed)	8,200	10,045	10,002	10,550	11,336
	Total	107,500	120,994	134,709	138,463	160,216
Consumption	Fresh Cheese	69,400	93,995	106,399	104,994	115,700
	Processed Cheese	18,500	23,832	26,194	35,434	42,912
	Export (Fresh Cheese)	124	206	395	232	137
	Export (Processed)	28	33	55	165	183
	Total	88,052	118,066	133,043	140,825	158,932

Source: Dairy Statistics Yearbook

Consumption:
Consumption of cheese is continues to increase in both the consumer market and food processing industry. Retail sales value of cheese reached 356.8 billion KRW in 2017, up 14.6% from 311.3 billion KRW in 2013. Retail sales of processed cheese were 216.1 billion KRW, accounting for over 60% of total sales. The retail cheese market is expected to grow 1.7% in 2018.

Cheese is becoming a popular snack for both kids and adults. Cheese is considered a nutritious snack for kids. Therefore, kids under 5 consume large amounts of cheese. Indeed, cheese consumption per capita is found the highest among toddlers (age 1-2). Manufacturers are launching products targeted just for kids. Cubed or portion cheese products are also popular among male consumers as light snacks to have along with alcohol.

Besides the snack concept of soft cheese, ricotta, brie and types of natural cheese that can be eaten after being grilled were widely introduced and popular in Korea. Consumers were attracted to such products due to their convenience. Within soft cheese, fresh mozzarella cheese and string cheese show strong performance in the Korean market due to the continued popularity of pizzas.

Cheese is also an important ingredient in the food processing industry. Convenience food is a growing market in Korea. Packaged convenience foods and ready meals are a growing trend in Korea. Ready meals are increasingly being sold in convenience stores, bakery stores, hypermarkets and coffee shops, either to take out or to eat in. As cheese is known to enhance the texture and taste of food, manufacturers are launching hot and spicy packaged convenience food products with cheese in them.

Trade:
With the FTAs in place, the price of imported cheese dropped, leading to increased imports. Korea imported cheese valued at $536 million of cheese in 2017, up 25.9% from 2016. In 2017, fresh cheese and curd (HS Code 040610) accounted for 62.3% of total cheese imports. Within the fresh cheese and curd category, mozzarella cheese imports dominated at $260 million.

In 2017, the top exporters, by value, were the U.S. (39%), European Union (36.8%), New Zealand (14.9%), and Australia (7.7%). In 2017, cheese imports from the U.S. totaled 49,000 MT in valued at $210 million, due in largely to the KORUS FTA. In addition, as milk production increased in the United States export prices decreased. Therefore, although the imports by volume increased 15.2% compared to 2013, the imports by value only saw an increase of 11.0% during the same period.

Tariff reductions and increases in TRQs for cheese products under the KORUS FTA have been pivotal for the United States in expanding its market share against competitors. The competition is still fierce. The EU has had an advantage in trade as it signed its FTA with Korea in 2011 prior to the implementation of the KORUS FTA in 2012. Moreover, Korea became one of the target markets after the Russian ban on agricultural exports. Also, ever since new FTAs with New Zealand and Australia were implemented in 2016, imports from these countries are growing as well.

Table 7. Korean Imports of Cheese

	2013		2014		2015		2016		2017	
	$1,000	MT	$1,000	MT	$1,000	MT	$1,000	MT	$1,000	MT
World	403,041	85,069	497,416	97,215	501,741	111,522	429,009	109,621	535,769	125,003
United States	188,384	42,530	301,316	63,848	250,749	54,821	168,634	39,966	209,126	49,012
New Zealand	102,242	23,883	50,522	10,139	63,614	15,643	55,466	16,646	79,932	19,803
EU	69,698	10,217	108,865	16,212	136,507	26,833	174,779	44,780	197,001	44,476
Australia	26,817	5,749	27,043	5,374	32,703	8,047	27,945	7,605	41,376	9,910
Other Countries	15,900	2,690	9,670	1,642	18,168	6,178	2,185	624	8,334	1,802

Source: Korea Customs Office 2016, HS 0406, Cheese and Curd

The KOR-US FTA creates a zero-duty tariff-rate quota for cheeses covered under tariff lines 0406101000, 0406200000, 0406300000 and 0406900000. In the first year in-quota amount is 7,000 MT in 2012 and rises to 8,358 MT in 2018. All U.S. cheeses will enter duty-free by 2026.

Table 8. Cheese Tariff Phase-Out Schedule under KORUS FTA

HS Code	Description	Base Rate	2012	2013	2014	2015	2016	2017	2018
0406101000**	Fresh Cheese**	36.0%	33.6%	31.2%	28.8%	26.4%	24.0%	21.6%	19.2%
0406102000	Curd	36.0%	32.4%	28.8%	25.2%	21.6%	22.8%	19.2%	15.6%
0406200000**	Grated or powdered cheese of all kinds**	36.0%	33.6%	31.2%	28.8%	26.4%	24.0%	21.6%	19.2%
0406300000**	Processed cheese, not grated or powdered**	36.0%	33.6%	31.2%	28.8%	26.4%	24.0%	21.6%	19.2%
0406400000	Blue-veined cheese	36.0%	32.4%	29.0%	25.4%	21.8%	18.2%	19.2%	15.6%
0406900000**	Cheese, NES, including cheddar**	36.0%	33.6%	31.2%	28.8%	26.4%	24.0%	21.6%	19.2%
	TRQ Volume (MT)		7,000	7,210	7,426	7,649	7,878	8,115	8,358

The Korea Dairy Industries Association (KDIA) shall administer these TRQs and allocate the in-quota quantity to historical and new importers through a licensing system. See detailed current (base) tariffs and tariff reductions that will occur under implementation of the KORUS FTA at:
http://www.ustr.gov/Trade_Agreements/Bilateral/Republic_of_Korea_FTA/Final_Text/Section_Index.html
A sector report on the implications of the Korea-U.S. Free Trade Agreement is available at:
http://www.fas.usda.gov/info/factsheets/Korea/commodity-dairy.asp

Production, Supply and Demand Data Statistics:

Table 9. PSD Table for Cheese

Dairy, Cheese	2017		2018		2019	
Market Begin Year	Jan 2017		Jan 2018		Jan 2019	
Korea, Republic of	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	2	1	5	2	0	9
Production	27	35	28	43	0	45
Other Imports	125	125	125	142	0	150
Total Imports	125	125	125	142	0	150
Total Supply	154	161	158	187	0	204
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Human Dom. Consumption	149	159	155	178	0	195
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	149	159	155	178	0	195
Total Use	149	159	155	178	0	195
Ending Stocks	5	2	3	9	0	9
Total Distribution	154	161	158	187	0	204
(1000 MT)						

Commodities:
Dairy, Milk, Nonfat Dry

Production:

Local NFDM production increased by 6% to 9,041 MT in 2017, after experiencing a 50% decrease in 2016. The Korean government implemented a policy to increase milk production in 2010 after 30,000 milk cows were slaughtered due to the outbreak of foot and mouth disease. The policy overcorrected and Korea experienced an excess of milk production in 2014 and 2015. As a result, the NFDM inventory, which was 7,053 MT in 2013 more than doubled to 17,532 MT in 2014 and 19,220 MT in 2015.

Since 2014, the government has sought to manage milk production and decrease NFDM inventory. For 2018, milk production is forecast to decrease due to the heat wave that attacked Korea during the summer. As a result, NFDM production is also expected to decrease and continue to decrease over the next several years. The industry is targeting 5,000 to 6,000 MT as a normal range for inventories.

Consumption:

Less expensive NFDM imports and over production of fresh milk resulted in inventories remaining high since 2014. Local NFDM production amounted to 9,041 MT in 2017, which increased 6% from 2016, but is still very low considering 2013 or 2014 levels. In 2017, NFDM consumption levels decreased, but due to the low production levels, year-end inventory was down to 8,200 tons.

NFDM is used primarily for bakeries, infant formula and as an ingredient in other dairy products. In 2017, some news articles pointed out that 8 out of 10 domestically produced flavored milks do not contain milk at all and are made of NFDM. While flavored milk has become more popular, the news created a negative image of flavored milk products. Consumers are advised to check the milk content of the product when purchasing flavored milk, which could lead to a decrease in consumption of flavored milk with NFDM in the following years.

Table 10. NFDM Production, Imports, Consumption by Year (Metric Ton)

	2013	2014	2015	2016	2017
Production	11,670	21,395	17,076	8,540	9,041
Import	19,749	21,129	21,260	20,611	23,187
Export	23	17	3	23	115
Year End Inventory	7,053	17,532	19,220	9,977	8,200
Consumption	31,445	32,028	36,645	38,371	33,890

Source: Dairy Statistics Yearbook

Trade:

Table 11. NFDM Tariff and TRQ Schedule on Korea-US FTA Implementation

HS Code	Description	Base Rate	2012	2013	2014	2015	2016	2017	2018
040210	In powder, fat content not	176%	176%	176%	176%	176%	176%	176%	176%

	exceeding 1.5%								
	Duty free quota (MT)*		5,000	5,150	5,304	5,463	5,628	5,797	5,971

* Additional compound increase of 3% every year

The method of TRQ allocation is Imports Rights Auction (IRA). The Korea Agro Fisheries & Food Trade Corporation (known as the aT Center), a quasi government agency, processes the auction.

Table 12. NFDM Imports by Country of Origin in 2016 (HS 0402.10)

	U.S.	Australia	New Zealand	E.U.	Total
Import Volume (MT)	5,882	5,641	1,435	7,652	20,610
Import Value ($1,000)	11,827	11,390	2,923	16,571	42,713
Unit Price per MT ($)	2,011	2,019	2,037	2,166	2,072

Source: Korea Trade Information Service

The Korea Customs Service reimburses the high out-of-quota tariff of 176% to importers when they have re- exported processed dairy-based products made from the imported NFDM. Korean dairy manufacturing companies are looking forward to expanding the market opportunities for exporting to China. Local food processors import NFDM for the purpose of processing into infant formula, bakery use and re-exporting to other countries, including China.

Production, Supply and Demand Data Statistics:

Table 13. NFDM PSD Table

Dairy, Milk, Nonfat Dry	2017		2018		2019	
Market Begin Year	Jan 2017		Jan 2018		Jan 2019	
Korea, Republic of	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Beginning Stocks	10	12	6	10	0	7
Production	9	9	9	8	0	8
Other Imports	26	23	35	24	0	24
Total Imports	26	23	35	24	0	24
Total Supply	45	44	50	42	0	39
Other Exports	0	0	0	0	0	0
Total Exports	0	0	0	0	0	0
Human Dom. Consumption	39	34	40	35	0	33
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	39	34	40	35	0	33
Total Use	39	34	40	35	0	33
Ending Stocks	6	10	10	7	0	6
Total Distribution	45	44	50	42	0	39
(1000 MT)						