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Overall Potato Consumption Remains Steady but Consumer Preferences Shift Toward Imported Potatoes

Report Categories:
Potatoes and Potato Products

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Report Highlights:
Korean potato production is expected to increase to 530,000 metric tons (MT) in Calendar Year (CY) 2018, as potato farmers respond to higher prices caused by low supply in CY 2017. Overall consumption is expected to remain steady, but consumers continue to shift away from fresh domestic potato consumption and toward consumption of imported potatoes and imported processed potato products (including potatoes used for chipping and French fries). U.S. exports of fresh table potatoes are projected to increase in CY 2018 following the resumption of trade from states in the Pacific Northwest after the resolution of a phytosanitary issue (zebra chip).

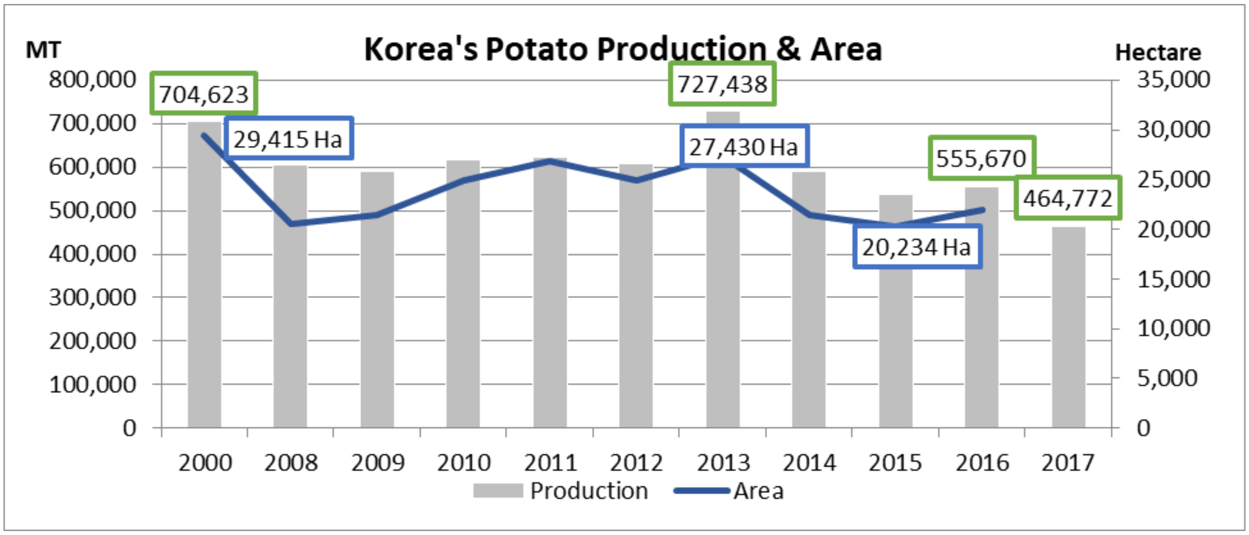
Production

In Calendar Year (CY) 2018, Korea's potato production is expected to increase to 530,000 metric tons (MT), up 14 percent from the previous year, as farmers slightly increase cultivated area in order to recover from reduced production in 2017. In CY 2017, potato production decreased by 16.3 percent, to 464,772 MT, due to unfavorable weather conditions during potato seeding, growing and harvest periods. Consequently, potato retail prices were very strong throughout CY 2017, reaching 3,870 Korean won per kilogram, which was about 30 percent (910 Korean won per kilogram) higher from the price (2,960 Korean won) in CY 2016. As a result of reduced domestic potato production, the Korea Agro-Fisheries & Food Trade Corporation (aT), a governmental trading company under the Ministry of Agriculture, Food and Rural Affairs (MAFRA), has recently allocated about 5,600 MT for imported table potatoes via a tariff rate quota (TRQ) system to mitigate the potato shortage in the market. aT allocated 3,583 MT in January through the KORUS FTA and 2,010 MT in April through the WTO TRQ.

Korea's potato production moves up and down mainly depending on how the yield is influenced by weather conditions, and also as a response to consumer demand. Korea's potato production has declined gradually from 704,623 MT in CY 2000 to 464,772 MT in CY 2017, down 34 percent over the past 18 years due to reduced demand for side dishes in the home caused by an increasing number of smaller size families (single- or two-member households) and increased demand for processed potato products, which are mainly produced with imported potato and potato products (prepared, frozen and dehydrated potatoes). As a result of reduced consumer demand for domestic table potatoes, cultivated area also declined from 29,415 hectares (Ha) in CY 2000 to 20,974 Ha in CY 2017, down 28.7 percent.

In CY 2018, potato cultivated area is expected to increase slightly to 21,500 Ha, due to an anticipated increased farmer's willingness to engage in potato farming as market prices are strong after a decreased potato supply throughout CY 2017.

However, Korea's potato production is forecast to decline gradually in the coming years due mainly to a lower frequency of families eating at home, and also due to smaller family sizes (increased single- or two-member households). Meanwhile, potato imports are forecast to increase steadily due to increased demand for recipes using potatoes in restaurants and in the quick service restaurant (QSR) sector.



Source: Statistics Korea & Korea Rural Economic Institute (KREI)

An increased number of low temperature warehouse facilities in Korea have created the possibility for longer potato storage periods. Therefore, autumn potato production, which was previously distributed during the winter season, has gradually declined. Meanwhile, spring potatoes are seeded in February and harvested and marketed from the end of May. Of the total potato production in Korea in CY 2016, spring potatoes accounted for 71 percent (393,670 MT), highland (summer season) potatoes accounted for a 22 percent (121,927 MT), and autumn potatoes accounted for 7.2 percent (40,073 MT).

Korea: Area planted (Ha), Production (TMT) from 2014-2017

	2014		2015		2016		2017	
Cropping Pattern	Ha	TMT	Ha	TMT	Ha	TMT	Ha	TMT
Spring	15,596	432	14,545	367	15,259	394	14,943	322
Highland	2,975	109	3,403	132	3,759	122	3,244	99
Autumn	2,901	50	2,286	39	3,162	40	2,787	44
Total	21,472	591	20,234	538	22,180	556	20,974	465

Source: Korea Rural Economic Institute (KREI)

In CY 2013, increased yields for spring potato production (571,024 MT) led to a substantial increase in Korea's overall potato production (727,438 MT). However, the CY 2014 production decreased to 591,000 MT, down 24.3 percent from the previous year, due mainly to the reduced spring potato production (432,000 MT). In CY 2015, potato production decreased due to the drought in the spring and a reduced area for spring potatoes. In CY 2016, autumn potato production decreased significantly to 40,000 MT, down from a peak of 186,000 MT in CY 2005, due to an increased number of low temperature warehouses in the rural sector leading to an increased storage period.

Consumption

As a result of reduced stored potato inventory caused by reduced potato production throughout CY 2017, the average retail price for the first three months of CY 2018 increased to KRW 5,297 per Kilogram, up 13 percent from CY 2017 and up 58 percent from CY 2016. Current high retail prices are expected to decrease gradually beginning in June with the start of spring potato production in open fields.

Korea's Retail Price for Fresh Potatoes by Month (Unit: Korean Won / Kg)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
2015	2,860	3,640	3,560	3,950	4,230	3,560	2,480	2,350	2,320	2,350	2,580	2,700	3,030
2016	2,470	3,060	4,520	4,470	3,610	2,840	2,250	2,170	2,280	2,360	2,550	2,960	2,960
2017	5,140	5,260	4,900	4,130	3,960	3,320	2,650	2,960	3,300	3,340	3,500	4,040	3,870
2018	4,840	5,390	5,660	7,500	-	-	-	-	-	-	-	-	5,770

Source: Korea Agro-Fisheries & Food Trade Corporation (aT)

In CY 2017, average annual retail price was KRW 3,870 per kilogram, up 30.7 percent from the price in CY 2016, due mainly to reduced potato supply (spring, highland and autumn potatoes) caused by drought and water damage caused by frequent rainfalls during the growing and harvest period.

Korea's per capita potato consumption has been about 14.5 kg for the past five years. Per capita potato consumption is expected to maintain the 14 kg level for the time being due to recovered domestic production and stable demand for imported potatoes. In the past, Korean consumers used to eat potatoes as a side dish, but now Koreans consume them in various new ways as dietary patterns shift to more westernized menus with household income increase, increased single- and two-member households, and an increase in dining out culture. As a result, demand for domestic fresh potatoes has declined gradually, while potato imports, mostly processed potatoes (prepared, frozen and dehydrated potatoes) have increased steadily for the past decade. Within total potato consumption, the percent of imported potatoes increased steadily to 28 percent in CY 2017 from 20 percent in CY 2014. Of total potato imports, prepared potato products (frozen French fries) imports accounted for 72 percent in CY 2017.

Korea: Per Capita Potato Consumption (2012-2017)

	2012	2013	2014	2015	2016	2017
Per Capita Consumption (kg)	14.75	17.45	14.69	14.3	13.4	12.6

Source: Korea Rural Economic Institute (KREI)

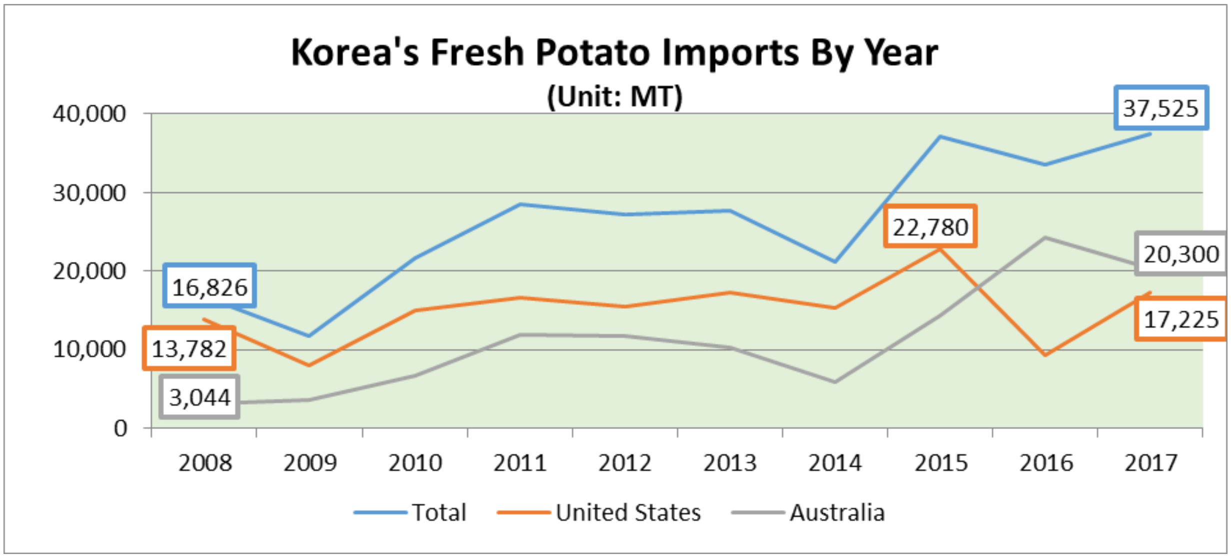
Trade

Korea's potato imports increased substantially over the past decade to 155,371 MT in CY 2017, up 161 percent from 59,421 MT in CY 2008 for two reasons: 1) changed dietary patterns to more westernized diets and 2) increased demand for various processed potato products in restaurants and the Quick Service Restaurant (QSR) sector. For the past decade (CY 2008 – CY 2017), prepared potato products (frozen French fries) imports increased 172 percent to 111,670 MT in CY 2017 from 41,023 MT in CY 2008. Meanwhile, fresh potato imports (mainly chipping potatoes) increased 123 percent to 37,525 MT in CY 2017 from 16,826 MT in CY 2008.

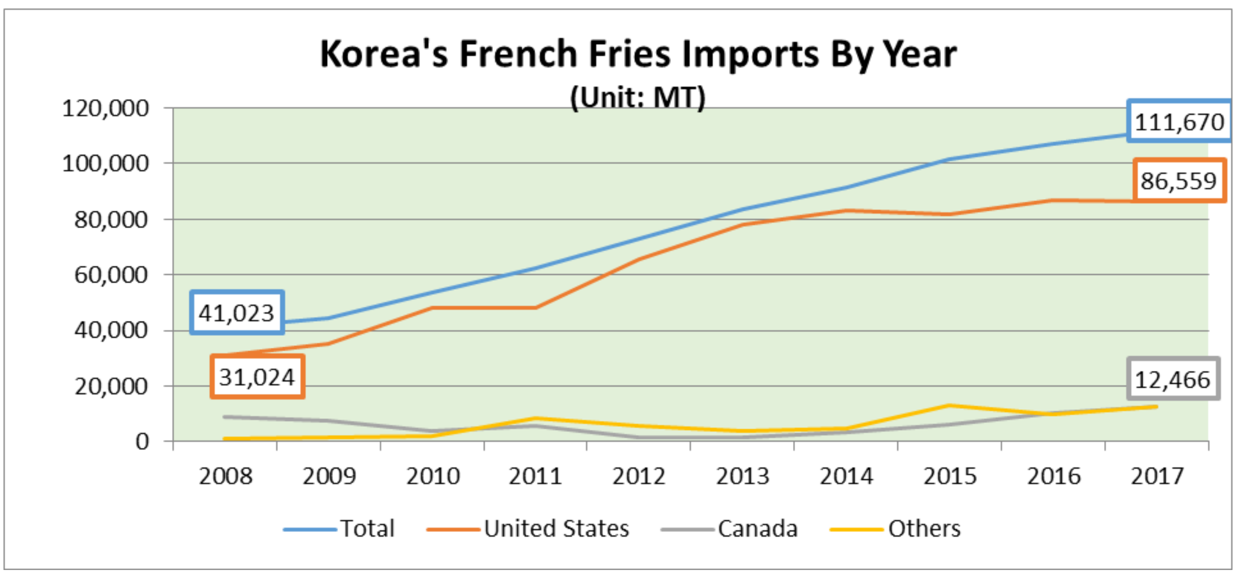
In particular, imports of French fries comprised 72 percent (111,670 MT) of total potato and potato products imports (155,371 MT) in CY 2017. The French fries were mainly imported from the United States and Canada, with 86,559 MT (77.5 percent) and 12,645 MT (11.3 percent), respectively.

Korea's fresh potato imports increased significantly from CY 2015 due to the popularity of potato chips, including honey butter flavored products in the snack market. The United States and Australia are the main suppliers for fresh potatoes (chipping potatoes) in the Korean market, covering 46 percent and 54 percent, respectively in CY 2017. Fresh potatoes come into Korea during the December – April period (during the off-season of local potatoes) with a zero duty (seasonal duty) under the Free Trade Agreements (FTAs) between Korea – United States (KORUS) and Korea - Australia. Australian and U.S. chipping potatoes are produced at different times of the year. Australian chipping potatoes come in as new crops since their season aligns with the off-season for local potatoes. However, U.S. chipping potatoes have stable quality, so while they are produced earlier in the year, they are still high quality when they are shipped to Korea during the off-season for local potatoes.

The United States can export about 3,500 tons of fresh table potatoes annually to Korea under the Tariff Rate Quota (TRQ) system in the KORUS FTA. However, since August 2012, the United States had been unable to fully access the Korean table potato market due to a phytosanitary issue (zebra chip detection) from main potato production states in the Pacific North West (PNW) region. The main U.S. states for fresh potatoes (Washington, Oregon and Idaho) could not supply table potatoes under the TRQ until the settlement of the issue in December CY 2017. The U.S. table potato TRQ under the KORUS FTA increases 3 percent annually. In CY 2018, the U.S. table potato TRQ (3,583 MT) is projected to be filled due to a good reputation for high quality, anticipated demand (baked potato purpose) by the camping population, and reduced domestic fresh potato production.



Since CY 2009, imports of processed potato products (prepared potato products, frozen potatoes, potato powder, etc.) increased steadily to 117,846 MT, accounting for 76 percent of total potato imports (155,371) in CY 2017. As demand for French fries increased, prepared potato product imports increased by 172 percent to 111,670 MT in CY 2017 from 41,203 MT in CY 2008.



In CY 2017, of the total imported potato and potato products (155,371 MT), the United States was the dominant supplier in Korea with a 70 percent share (108,076 MT) followed by Australia with a 13 percent share, and Canada with an 8.1 percent share. Fresh potatoes for chipping are imported seasonally to avoid competition with domestic production, while prepared potato products (French fries) are imported throughout the year.

Korea's Potatoes Imports By Year (Unit: MT)

Commodity & H.S. code	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
French Fries 2004.10.0000	41,023	44,286	53,521	62,277	73,195	83,723	91,602	101,411	107,229	111,670
Fresh Potatoes 0701.90.0000	16,826	11,662	21,699	28,581	27,176	27,654	21,212	37,125	33,539	37,525
Fr. Potatoes 0710.10.0000	1,548	1,416	1,431	1,808	3,293	3,577	3,742	4,484	4,139	4,554
Potato Flour 0712.90.2093	24	38	22	96	1,655	2,871	2,321	2,318	1,716	1,622
Total	**59,421**	**57,402**	**76,673**	**92,762**	**105,319**	**117,825**	**118,877**	**145,338**	**146,623**	**155,371**

Source: Korea Customs Service (KCS)

Imported fresh potatoes have strong price competitiveness over domestic fresh potatoes. In CY 2017, the average import price for fresh potatoes was KRW 618/kg, which was about 70 percent cheaper than the wholesale price for domestic fresh potatoes. Thus, local potato chip processors use imported chipping potatoes during the off season for domestic potatoes. Annually, Korea uses about 70,000 MT of chipping potatoes and of that total, about 35,000 MT are imported.

Annual Retail & Wholesale Price for No.1 Potatoes

Year	Average Annual Retail Price (₩/kg)	Average Annual Wholesale Price (₩/kg)	Annual Average Exchange Rate (₩/$)	U.S. Import Price (₩/kg)[1]
2013	2,850	1,170	1,095	704
2014	2,400	1,144	1,053	609
2015	3,030	1,628	1,131	646
2016	2,960	1,448	1,161	628
2017	3,870	2,055	1,131	618
2018 1/	5,700	3,383	1,072	N/A

Note 1/: 2018 data for Retail & Wholesale Price is average from 01/01/2018 – 04/25/2018

Source: Korea Agro-Fisheries & Food Trade Corporation (aT) (Retail & Wholesale Price); Bank of Korea (Annual Average Exchange Rate); Korea International Trade Association (U.S. Import Value and Import Quantity)

As domestic potato production decreased gradually over the past decade, total domestic potato supply also decreased due to the decreased demand for domestic potatoes in the changed family format (increased percentage of single- or two-member households) and westernized dietary patterns. Therefore, the self-sufficiency rate of potato declined to 71.2 percent in CY 2017 from 93.1 percent in CY 2005.

Inspection & Quarantine for U.S. Potatoes:

Due to quarantine regulations, 27 U.S. states (Maryland, Pennsylvania, West Virginia, New York, Utah, Nebraska, California, Montana, Arizona, Colorado, New Mexico, North Dakota, Kansas, Wyoming, Delaware, Oklahoma, South Dakota, Nevada, Maine, Michigan, Minnesota, Mississippi, New Hampshire, Ohio, Wisconsin, Texas, and North Carolina) are not allowed to export fresh potatoes to Korea.
Potato spindle tuber viroid, *Synchytrium endobioticum* (potato wart), *Globodera rostochiensis* (golden nematode), *Globodera pallida*, and zebra chip are the main quarantine pests of concern to Korea. Accordingly, all potato shipments imported into Korea are subject to quarantine inspection for the related pests of concern. Imported fresh potatoes must be washed and be reasonably free of soil and foreign materials.

Korea: Production, Supply, & Demand (MT) from 2014-2015

PSD	2014	2015	2016	2017
Total Supply	739,287	716,609	735,000	652,682
Domestic Production	590,532	537,738	555,670	464,772
Imports 1/	**150,312**	**180,603**	**180,486**	**189,294**
Exports	1,557	1,191	1,156	1,384
Self-Sufficiency Rate (%)	**79.9**	**75.0**	**75.6**	**71.2**

Note: Imports (dehydrated, prepared and frozen potatoes) are converted into fresh potatoes based on yield
Source: Korea Rural Economic Institute (KREI)

Trade Tables

Korea: Fresh Potato Import $ & MTs from 2014-2017

	2014		2015		2016		2017	
Country	$(1,000)	MT	$(1,000)	MT	$(1,000)	MT	$(1,000)	MT
Australia	4,282	5,942	8,559	14,345	12,981	24,219	10,817	20,300
U.S.	7,967	15,257	12,658	22,780	5,165	9,320	9,691	17,225
Other	22	13	0	0	0	0	0	0
Total	**12,272**	**21,212**	**21,217**	**37,125**	**18,146**	**33,539**	**20,507**	**37,525**

Source: Korea International Trade Association (KITA)

Korea: Prepared Potato Import Dollars & Metric Tons from 2014-2017

	2014		2015		2016		2017	
Country	$(1,000)	MT	$(1,000)	MT	$(1,000)	MT	$(1,000)	MT
U.S.	105,126	83,222	107,131	81,821	107,588	86,932	107,518	86,559
Canada	4,940	3,628	9,914	6,406	17,136	10,204	20,416	12,645
China	1,928	1,026	5,120	3,396	1,875	1,065	2,037	1,178
Belgium	1,516	1,332	5,139	4,774	6,797	5,567	9,717	8,021
Netherlands	2,285	1,954	3,973	3,921	3,090	3,144	3,144	2,934
Other	879	439	1,603	1,092	588	317	625	333
Total	**116,673**	**91,602**	**132,881**	**101,411**	**137,074**	**107,229**	**143,457**	**111,670**

Source: KITA

Korea: Table Stock Potato (0701900000a) TRQ under KORUS FTA

	2018	2019	2020	2021	2022
In-quota rate (%)	0	0	0	0	0

Out-of-quota rate (%)	304	304	304	304	304
TRQ (MT)	3,583	3,690	3,801	3,915	4,032

Korea: Chipping Potatoes (0701900000b & 0701900000c) TRQ

	2018	**2019**	**2020**	**2021**	**2022**
b: May 1st – Nov.30th rate (%)	304	266	228	190	152
c: Dec. 1st – April 30th rate (%)	0	0	0	0	0