

Voluntary Report – Voluntary - Public Distribution

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Report Highlights:

Already reeling from high fruit prices, Korean consumers will face another year of expensive, lower-quality apples. Korea's apple production for marketing year (MY) 2023/24 fell 25 percent year-on-year after orchards suffered a series of adverse weather events in 2023. Apple tree yields were 23 percent below MY 2022/23, as premature flowering followed by spring frost, and subsequent heavy rains, hail, and extreme heat during the summer damaged fruit and led to disease outbreaks. Retail apple prices soared leading into the September Chuseok holiday as MY 2022/23 stored apple supplies ran short, prompting the Government of Korea to offer coupons to ease the burden of rising fruit prices.

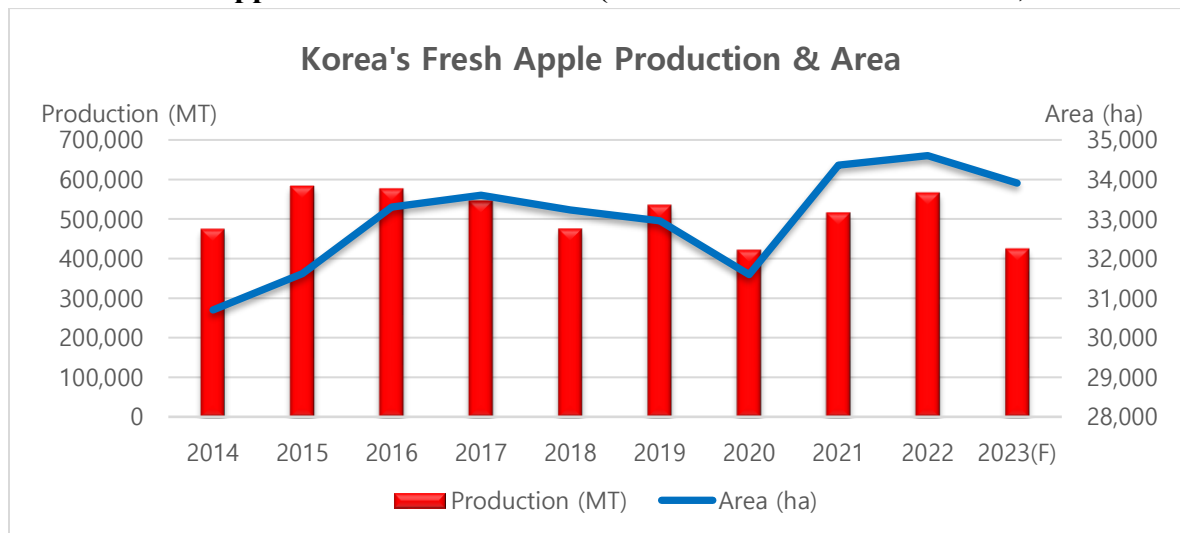
Production

In marketing year (MY) 2023/24 (July – June), Korea's apple production was 425,000 metric tons (MT), down 25 percent from the previous year (566,041 MT), due to a 23-percent year-on-year decrease in yield and a 2-percent decrease in the overall apple planting area. Apple production suffered due to unfavorable weather during the fruit growing period and increased plant diseases such as anthracnose outbreaks, and typhoon damage in August 2023.

In 2023, Korea's fruit industry was negatively impacted by adverse weather conditions, starting with low temperatures during the flowering season and hail damage in spring. In summer, frequent rainfall caused an increase in the occurrence of fruit tree diseases by more than 20 percent compared to the previous year. Damage to apples increased during the extended rainy season in July and subsequent outbreaks of plant diseases, including anthracnose, brown leaf spot, and fire blight. Heatwaves coupled with typhoon damage in the summer season further affected fruit quality. The local fruit industry believes that this year's conditions resulted in the most extensive damage to various seasonal fruits, including apples and pears, over the past five years. Many apple industry contacts expressed concern that adverse weather events such as those seen in 2023 are becoming increasingly frequent with climate change.

Graph 1

Korea's Fresh Apple Production and Area (Unit: Metric Tons & Hectares)



Sources: Ministry of Agriculture, Food, and Rural Affairs (MAFRA) and Korea Rural Economic Institute (KREI)

In 2022/23, Korea's apple production increased by 10 percent to 566,041 MT from the previous year (515,931 MT). Apple yield increased by 9 percent to 1,636 kg per 0.1 hectare (ha) due to a good harvest with favorable weather conditions throughout the year. Accordingly, stored apples for consumption in the following year (February – June) reached around 192,000 MT, about 15 percent higher than average.

In the 2022/23 season, there was less spring cold damage and fewer fruit diseases like anthracnose and brown leaf spot compared to the 2021/22 season. Despite having fewer fruit sets per tree due to the biennial bearing cycle, there was a high proportion of large apples, which boosted production by volume. However, production of medium and small-sized apples was about 20 percent lower than the previous year, which caused apple prices to remain higher than usual due to a limited inventory of stored apples after the Lunar New Year holidays.

Planted Area

Korea's apple acreage accounts for nearly 17 percent of all fruit farms in the country and has the largest cultivated area among local fruit production regions. In the MY 2023/24 season, Korea's apple planted area reached 33,911 ha, a two percent decrease from the previous year (34,603 ha), on account of rising labor costs in the apple farm sector. This year's drop in acreage notwithstanding, Korea's apple-planted area has experienced a gradual annual increase of one percent since 2000, reaching 34,603 ha in 2022. This growth can be attributed to the higher profitability of apple farming compared to other fruits.

Table 1
Korea's Apple Planted Area by Province (Unit: Hectare)

Korea's Apple Planted Area by Province (Unit: Hectare)				
Province	MY 2021/22	MY 2022/23	MY 2023/24	Change (%)
	Cultivated Area (ha)	Cultivated Area (ha)	Cultivated Area (ha)	
Gangwon	1,579	1,630	1,679	3.0
North Chungcheong	3,594	3,703	3,753	1.4
South Chungcheongnam	1,534	1,564	1,448	-7.4
North Gyeongsang	20,955	20,685	20,151	-2.6
South Gyeongsang	3,774	3,820	3,768	-1.4
North Jeolla	2,033	2,317	2,230	-3.8
Other Provinces	890	884	882	0
Total	34,359	34,603	33,911	-2.0

Source: Statistics Korea

The distribution of apple growing areas in Korea is shifting regionally due to climate change, with apple production becoming more challenging in some areas, while more profitable in others. The share of apple planted area in Yeongnam region (North and South Gyeongsang Provinces), the primary apple production region in Korea, has decreased to 71 percent from 73 percent two decades ago. Meanwhile, the ratio of North and South Chungcheong Provinces decreased from 21 percent to 15 percent during the same period because of significant fruit blight outbreaks in recent years. On the other hand, apple production in Gangwon Province, which is a relatively new growing area, increased its ratio from less than 1 percent in 2002 to 5 percent in 2023, as apple cultivation has become more economically feasible in elevated regions

compared to leafy vegetable farming. The Honam region (North and South Jeolla Provinces) also increased its apple production share from 4 to 7 percent during the same period, mainly due to the expansion of high-altitude apple production in areas such as Jangsu and Muju regions.

Table 2
Annual Apple Production in Gangwon Province

Annual Apple Production in Gangwon Province					
	2019/20	2020/21	2021/22	2022/23	2023/24
Area (ha)	1,092	1,124	1,579	1,630	1,679
Production (MT)	10,486	8,215	23,503	24,852	N/A

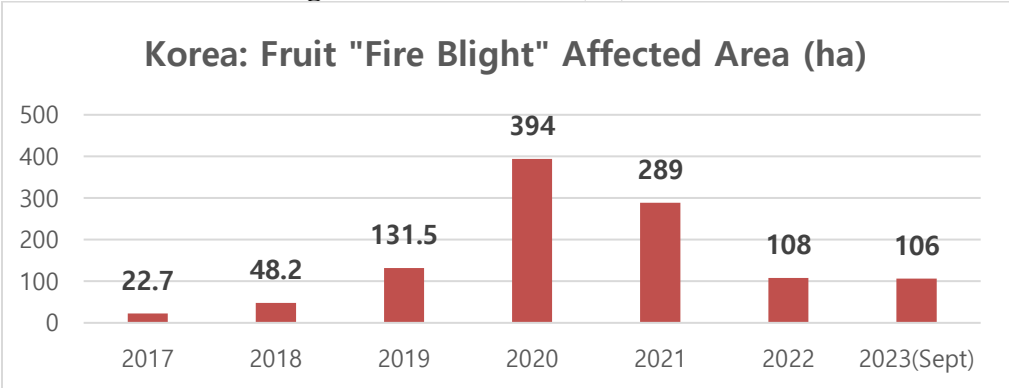
Source: Ministry of Food, Agriculture and Rural Affairs (MAFRA)

Plant Diseases

In 2023, a prolonged rainy season in July followed by a heatwave in August, coupled with the spread of anthracnose in the central regions of Gyeonggi, Chungcheong, and Gangwon Provinces, severely impacted numerous apple-growing areas. This led to a year-on-year production decrease of approximately 20 percent and higher volumes of inferior or non-marketable apples.

Fruit “Fire Blight” has been a notable concern for the Korean apple and pear industry since the first outbreak in 2015. The Korea Rural Development Administration (KRDA) confirmed a total of 108.2 hectares of apple and pear farms (mostly apple farms with 70 percent) were infected by the disease in 2022, about 63 percent lower than in 2021. In 2023, the KRDA confirmed that about 106 hectares were infected as of September.

Graph 2
Korea: Fruit "Fire Blight" Affected Area (ha)



Source: Korea Rural Development Administration (RDA)

Consumption

In 2023/24, Korea's per capita apple consumption is forecast to decrease by about 24 percent (2.6 kilograms) to 8.3 kilograms from the previous year (10.9 kilograms) due to lower domestic apple supply. Because Korea does not allow imports of fresh apples, only domestically produced supplies are available in the market. Industry sources estimate that the ideal apple supply for Korea is above 500,000 MT to meet demand. Therefore, without imports, in low production years, per capita apple consumption will decrease. At the individual level, consumers must choose whether to pay higher prices for apples, substitute with other fruits, or reduce overall fruit consumption. In MY 2020/21, when apple production was at a 10-year low, overall per capita fruit consumption also decreased significantly, indicating that substitution with other fruits may be limited in practice. With fresh fruit prices currently at exceptionally high levels, total per capita fruit consumption is expected to decrease in MY 2023/24.

In 2022/23, per capita apple consumption rose by 10 percent (1 kilogram) to 10.9 kilograms from the previous year (9.9 kilograms), driven by a similar increase in the overall apple supply. With higher production of domestic apples, there was a corresponding increase in total apple consumption. Additionally, demand for stored apples also increased because of lower volumes of other fruits available at the time. The supply of other types of Korean domestically grown seasonal fruit was reduced by adverse weather conditions in the first half of 2023. Imported fruit supplies also decreased due to higher import prices caused by unfavorable exchange rates.

Table 3
Korea: Per Capita Fruit Consumption (Unit: Kg)

Korea: Per Capita Fruit Consumption (Unit: Kg)								
Year	Total Fruits	Apple	Pear	Peach	Grape	Persimmon	Citrus	Others
2018	57.5	9.2	3.3	4.0	4.5	1.9	12.0	22.6
2019	56.6	10.3	3.3	4.1	4.5	1.8	12.1	20.6
2020	51.5	8.1	2.1	3.6	4.3	1.6	12.6	19.1
2021	54.4	9.9	3.6	3.8	4.5	1.3	11.8	19.5
2022 a/	N/A	10.9	4.4	4.0	4.5	2.2	11.9	N/A

a/ Preliminary estimate in January 2022 by Korea Rural Economic Institute (KREI)
Source: Ministry of Agriculture, Food and Rural Affairs (MAFRA)

Over the past decade, Korea's apple acreage has increased steadily but yields and overall production have varied significantly from year to year. Consequently, per capita apple consumption has fluctuated between 8 and 10 kilograms according to availability of domestically grown fruit. To some extent, apples compete against various imported fruits, including tropical fruits, and increasingly against high-quality (high brix) locally grown fruit. However, apples and citrus remain the most popular fruit choices among Korean consumers.

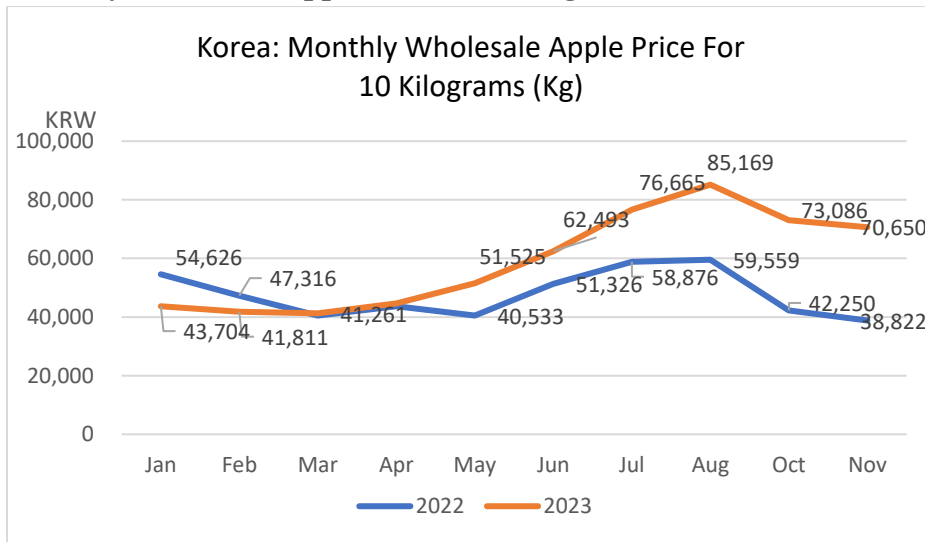
Prices

In 2023, overall local seasonal fruit production, not just of apples, has decreased due to poor weather during the growing season. Reduced availability of fruit resulted in higher market prices for stored MY 2022/23 apples throughout the year. Recently, the price of apples in the market has surged. The average wholesale price for ten kilograms of high-quality apples in August 2023 reached 85,169 Korean won (KRW), up 43 percent from the previous year (KRW 59,559).

To stabilize food prices and stimulate consumer spending for the late September Chuseok holiday, the Korean government subsidized traditional holiday food items, including apples, chicken and mackerel, by 20 to 30 percent through September 28, 2023. Also, retailers and the National Agricultural Cooperative Federation provided consumers with additional vouchers so that many items were discounted 40 to 60 percent. However, even after the MY 2023/24 apple harvest began in September with the predominant “Hongro” and “Fuji” cultivars, wholesale prices remained above KRW 70,000 through October and November 2023 as the new season’s production decrease was confirmed.

Graph 3

Monthly Wholesale Apple Price for 10 Kg (Unit: Korean Won)



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

According to Statistics Korea, the consumer price index for fruit in September and October 2023 was over 45 percent higher than the 2020 basis. Apple prices were a key driver of the fruit price index spike, reaching 153.7 in August and surpassing 164 in October 2023. The Korean press investigated food prices across major cities from the user-generated data site Numbeo, and found that food prices in Seoul were 34 percent higher than Tokyo ([Naver News, in Korean](#)). In particular, apple prices in Korea were found to be the most expensive in the world at U.S. \$6.75 per kilogram, compared to \$5.33 in the United States, \$4.44 in Japan, and \$2.52 in Germany.

Fresh Apples for Processing

Korea utilizes roughly 10 percent of its total annual apple production for processing. The majority (over 80 percent) is used for juice production and the remainder goes into jam, alcohol, or other processed products. With lower supply in the 2023/24 season, fresh apples for processing are expected to be 32,000 MT, down 32 percent (15,000 MT) from the average of 47,000 MT over the past five years (2017-2021). Because of the current supply shortage of apples and other fruit, even lower-quality apples that would normally be considered non-marketable and designated for processing, are instead being sold fresh to satisfy local demand. For example, online retailer Coupang is marketing dimpled apples damaged by hail at a discount to help farmers market visually unappealing fruit.

Table 4
Korea's Apple Volume for Processing (Unit: MT, %)

Korea's Apple Volume for Processing (MT, %)						
Year	2016	2017	2018	2019	2020	2021
Volume (MT)	23,200	50,800	50,999	52,147	45,868	35,955
Production to Processing Ratio (%)	4.0	9.3	10.7	9.7	10.9	7.0

Source: Ministry of Agriculture, Food, and Rural Affairs (MAFRA)

Exports

Normally, Korea's apple exports account for less than 0.5 percent of its annual production volume. The top export destinations in 2022/23 were Taiwan, followed by Vietnam, Hong Kong, and Singapore. In 2023/24, South Korea's apple exports are projected to reach 1,200 MT, a 26 percent decrease from the previous year (1,626 MT). With elevated domestic apple prices, Korean apple farmers are expected to prioritize the domestic market over exports.

Imports

Currently, Korean phytosanitary regulations do not allow fresh apple imports from any country of origin. Foreign apples can be imported if they pass an eight-stage import risk assessment. To date, 11 countries including the United States, Germany, Japan, and New Zealand, have submitted applications for fresh apple access with none receiving approval. The United States submitted its request for Korea to conduct a risk assessment for fresh apples in 1993 but remains at step three (Pre-risk assessment).

Appendix: Korea Apple Update Tables

Table 5
Korea's Apple Production Situation 1/

Year	Area (HA)	Production (MT)	Yield for Bearing Tree (Kg/10 are)
2015	31,620	582,846	1,843
2016	33,300	576,369	1,731
2017	33,601	545,349	1,623
2018	33,234	475,303	1,430
2019	32,954	535,324	1,624
2020	31,598	422,115	1,336
2021	34,359	515,931	1,502
2022	34,603	566,041	1,636
2023 2/	33,911	425,000	1,255

1/ Calendar year basis

2/ Preliminary forecast in December 2023 by Korea Rural Economic Institute (KREI)

Source: Korea Statistical Information Service (KOSIS)

Table 6
Korea's Apple Production as Ratio to Total Fruit Production (Unit: 1,000 MT, Ratio: Percent)

Year	Total Fruits (1,000 MT)	Apple (1,000 MT)	Ratio (%)
2000	2,429	489	20.1
2005	2,611	368	14.1
2015	2,364	583	24.7
2016	2,387	576	24.1
2017	2,358	545	23.1
2018	2,160	475	22.0
2019	2,206	535	24.2
2020	1,976	422	21.4
2021	2,109	516	24.5
2022	2,206	566	25.7

Source: Korea Statistical Information Service (KOSIS)

Table 7
Korea's Apple Utilization (Unit: MT) 1/

Year	Total	Fresh	Export	Processing
2015	582,846	521,905	3,502	57,439
2016	521,622	494,450	3,947	23,225
2017	545,349	491,704	2,843	50,802
2018	475,303	421,665	2,639	50,999
2019	535,424	480,633	2,644	52,147
2020	422,155	374,550	1,737	45,868
2021	515,931	478,710	1,264	35,957
2022	566,041	N/A	1,690	N/A

1/ Calendar year basis

Source: Ministry of Agriculture, Food and Rural Affairs (MAFRA)

Table 9**Monthly Korean Fresh Apple Exports (Unit: MT)**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
'23	111	135	106	45	26	14	6	19	18	21	-	-
'22	183	86	115	66	27	25	2	17	59	77	586	447
'21	147	43	47	25	6	36	5	30	21	71	352	481
'20	224	172	103	106	30	14	6	4	35	96	303	645
'19	451	194	107	53	53	9	4	13	74	270	701	714
'18	481	157	133	71	42	31	7	15	46	177	686	811
'17	311	215	136	78	95	23	14	20	154	140	848	808

Source: Korea Customs Service & Korea International Trade Association

Table 10**Monthly Average Foreign Exchange Rate (Unit: Korean Won / 1U\$)**

Month	2021	2022	2023
Jan.	1097.49	1194.01	1247.25
Feb.	1111.72	1198.34	1270.74
Mar.	1131.02	1221.03	1305.73
Apr.	1119.40	1232.34	1320.01
May	1123.28	1269.88	1328.21
Jun.	1121.30	1277.35	1296.71
Jul.	1143.98	1307.40	1286.30
Aug.	1160.34	1318.44	1318.47
Sep.	1169.54	1391.59	1329.47
Oct.	1182.82	1426.66	1350.69
Nov.	1182.91	1364.66	1310.39
Dec.	1183.70	1296.22	-

Source: Industrial Bank of Korea

Attachments:

No Attachments.