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The Prospective Free Trade Agreement with Korea: Background, Analysis, and Perspectives for California Agriculture

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South Korea (henceforth called simply Korea) and the United States signed a free trade agreement (FTA) on April 1, 2007, after an intensive year-long negotiation process. Although the bilateral negotiations have been finalized, the agreement must be approved by each country's legislature for the agreement to be implemented, and it faces considerable opposition in each country. In the United States, the Bush administration slated passage of the Korean FTA as a major goal for 2008, but other events intervened and the administration had little influence in Congress. The Obama administration has not focused on trade issues yet. In Korea, although negotiated by the previous government, the agreement is strongly supported by the Lee administration. The Korea-United States Free Trade Agreement (KORUS FTA) has the potential to be a significant demand driver for California agriculture. This report explains the agreement and considers its potential impacts.

The Korean economy, comprised of almost 50 million consumers, has been growing rapidly for decades and has per capita income ($20,045 in 2007) that exceeds those of many European countries and approaches that of Spain. As a relatively large, relatively high-income country with a well-developed food and fiber distribution system, Korea is a major market for agricultural goods of the type produced in California.

As the country has become more industrialized overall, Korean agriculture has been increasingly losing competitiveness. Korea has relatively little arable land per capita and is now a highly urban country with agriculture accounting for only 3% of gross domestic product and 7% of the population. Because per capita income is high by world standards, Korea's many small farms have relied on high domestic commodity prices to maintain farm incomes comparable to rapidly improving urban incomes. Nonetheless, the farm population is aging and rapidly declining in number.

Despite high import tariffs, tight import quota quantities, and restrictive sanitary and phytosanitary regulations, Korea has become a major agricultural importer with imported products comprising an increasing share of food consumption expenditures. Korea is an important export destination for many products and typically ranks among the top six export destinations for California agriculture overall. With lower import barriers that would accompany the KORUS FTA, there is significant potential for expanding California agricultural exports to Korea.

Agriculture was at the center of the negotiations and delayed completion of the deal until the very last hour. It also will be at the center of attempts to ratify the agreement in the legislatures of the two countries. In the end, Korea resisted rapid and complete opening of agricultural markets and the United States was not successful in achieving comprehensive free trade in agriculture as soon as possible. These negotiating positions followed from typical pressures on governments to protect weak industries from imports and to support strong exporters.

Overall, the agreement provides for gradual elimination of Korea's high tariffs for most export commodities of interest to California agriculture. Importantly, exceptions include rice, for which a previously negotiated quota is in place and no new market opening was achieved, and fresh citrus fruit, for which high seasonal tariffs that limit shipments of oranges and mandarins will remain.

Because its costs are high and U.S. barriers are already quite low, Korean agriculture has no potential to expand its tiny agricultural exports to the United States. We find that U.S. and California agriculture will expand exports to Korea substantially if free trade is allowed. Some of that increase in exports from California would be derived from trade diversion from other exporters, such as Chile, Australia, New Zealand, and China. This diversion follows from the KORUS FTA lowering the net price in Korea of U.S. goods relative to those of suppliers from other countries. In some cases these goods from other countries have tariff advantages now that would be redressed by the KORUS FTA. Additional exports contribute positively to the California economy, whether by diversion of other global sources or replacement of local Korean

supplies. From a global perspective, trade diversion may reduce global welfare if products from the United States that currently have lower tariffs replace lower-cost products from other exporters that would have higher relative tariffs after the KORUS FTA.

To better understand the potential for implementation and the likely impacts of the negotiated agreement, this report outlines major characteristics and concerns within Korean agriculture and shows where Korean agriculture is most vulnerable to expanded imports that affect Korean producers negatively. We also point out significant gains to Korean food buyers. By analyzing impacts among Korean farmers and consumers, we can improve understanding of the Korean situation and opposition to the agreement in the legislature.

This study provides detailed information on the potential effects of the KORUS FTA for California agriculture on a commodity-by-commodity basis. This helps California agriculture better appreciate and communicate what is at stake for California commodities. The analysis will also help California agriculture prepare for the realistic impacts of the potential market opening in Korea.

The report catalogs agricultural exports from California to Korea commodity by commodity. It also reviews existing trade barriers that limit exports to Korea, considers explicitly the export positions of major competitors, and examines the size of the Korean market for each commodity. This information helps us to assess the degree to which agricultural exports to Korea have been constrained by trade barriers and the potential additional exports that the Korean market can absorb. We provide a detailed market analysis for many important California products.

We find that better access to the Korean market would create significant opportunities for dozens of major commodities. California has the potential to more than double its current exports of about $280 million within a few years and to continue to expand exports as barriers fall gradually on products that are politically sensitive in Korea. For example, lower tariffs and fewer other barriers would allow important export expansions for citrus products, tree nuts, dairy products, beef, grapes and grape products, stone fruits, strawberries, fresh and processed vegetables, flowers and ornamental horticulture, processed tomato products, olives, hides and skins, cotton, and hay. Expanded agricultural output to serve greater demand for California products in Korea will also cause additions to farm employment and expansion of the agricultural economy past the farm gate.

The state of the U.S. and global economy in 2009 provides further impetus for encouraging more open international borders for trade. Countries belonging to the Organization for Economic Cooperation and Development have pledged to resist new trade restrictions and reduce trade barriers to avoid letting the collapse in trade become even more of a drag on economic recovery. The agricultural industries in the U.S. and California are looking for sources of new growth given the decline in domestic demand. Better access to the Korean market could be one source of additional market opportunity for major California commodities.

INTRODUCTION

The Republic of Korea[1] and the United States signed a free trade agreement (FTA) on April 1, 2007. Although the bilateral negotiations have been finalized, the agreement must be approved by each country's legislature in order for implementation of the agreement to take place, but it faces considerable opposition in each country. In the United States, the Bush administration slated passage of the Korean FTA as a major goal for 2008. The Korea-United States Free Trade Agreement (KORUS FTA) has the potential to be a significant demand driver for California agriculture.

The Korean economy, comprised of almost 50 million consumers, has been growing rapidly for decades and has per capita income ($20,045 in 2007) that exceeds those of many European countries and approaches that of Spain. The United States is already Korea's top supplier of a broad variety of agricultural products at $3.5 billion in 2007. The United States is the number one supplier to Korea of such farm products as almonds, fresh cherries, hides and skins, poultry, soybeans, corn, and wheat. As a relatively large, relatively high-income country with a well-developed food and fiber distribution system, Korea is a major market for agricultural goods of the type produced in California.

As the country has become more developed over the past 40 years, Korean agriculture has become less competitive with imports and potential imports. Korea has relatively little arable land per capita and is now a highly urban country with agriculture accounting for only 3% of gross domestic product (GDP) and about 7% of the population. Korea's many small farms have relied on high government-protected commodity prices to maintain farm incomes comparable to rapidly improving urban incomes. Nonetheless, the average age of farmers has been rising. And because young people have avoided farming, the farm population has been declining rapidly in number.

Despite high import tariffs, tight import quota quantities, and restrictive sanitary and phytosanitary regulations, South Korea has become a major agricultural importer with imported products comprising an increasing share of food consumption expenditures. Korea is an important export destination for many products and typically ranks among the top six export destinations for California agriculture overall. With lower import barriers that would accompany the KORUS FTA, there is significant potential for expanding California agricultural exports to Korea. This bilateral agreement, which lowers tariffs on Korean imports of U.S. products, is expected to help the United States compete against other countries, especially China and Australia, and, as a consequence, to expand U.S. sales in the Korean market.

Agriculture was at the center of the negotiations, delaying completion of the deal until the very last hour. It also will be at the center of attempts to ratify the agreement in the legislatures of the two countries (Choi and Schott). In the end, Korea resisted rapid and complete opening of agricultural markets and the United States was not successful in achieving comprehensive free trade in agriculture. These negotiating positions followed from typical pressures on governments to protect weak industries from imports and to support strong exporters.

Agricultural costs of production are high in Korea and U.S. barriers to imports from Korea are already quite low. Therefore, it is generally accepted that Korean agriculture has no potential to expand its limited agricultural exports to the United States.

We find that the significant agricultural effects for California are that U.S. and California agriculture will expand exports to Korea substantially if free trade is allowed. Some of that increase in exports from California would be derived from trade diversion from other exporters, such as Chile, Australia, New Zealand, and China. This diversion follows from the KORUS FTA lowering the net price in Korea of U.S. goods relative to those of suppliers from other countries. In some cases, such goods from other countries have tariff advantages now that would be redressed by the

[1] In this report we refer to the Republic of Korea as South Korea or, more often, as simply Korea. North Korea is a separate country with a government that tightly controls the economy. The proposed free trade agreement is strictly bilateral and does not include North Korea.

KORUS FTA. Additional exports contribute positively to the California economy, whether by diversion of other global sources or replacement of local Korean supplies. From a global perspective, trade diversion may reduce global welfare if products from the United States that currently have lower tariffs replace lower-cost products from other exporters that would have higher relative tariffs after the KORUS FTA.

Because of the size of the Korean economy and the height of pre-existing trade barriers, the KORUS FTA is broadly acknowledged as the most commercially significant free trade agreement the United States has negotiated in nearly twenty years. Several factors underscore the significance for California agriculture of comprehensive and rapidly established free trade with South Korea. First, California agriculture is a major supplier of many fruit, vegetable, and tree nut products. It is also a large supplier of hay, rice, cotton, beef, and dairy products. Second, exports have recently accounted for more than 20% of California agricultural production and are important for the economic success of many commodities (Matthews and Sumner; Rowhani and Sumner). Third, Korea has a large and well-developed consumer base for California agricultural products. Korea has long been an important market for California agriculture even as the leading export commodities have changed over time (Matthews and Sumner; Rowhani and Sumner). Fourth, Korea has high trade barriers for many of the products supplied by California agriculture. Therefore, the potential for expanded imports from California is large. Finally, Korea has little or no potential to increase exports of agricultural products to the United States. Korean domestic prices are high and very few Korean agricultural products could compete successfully in the U.S. market.

We find that better access to the Korean market would create significant opportunities for dozens of major commodities. California has the potential to more than double its current exports of about $280 million within a few years and to continue expanding exports as barriers fall gradually on products that are politically sensitive in Korea. For example, lower tariffs and fewer other barriers would allow important export expansions for citrus products, tree nuts, dairy products, beef, grapes and grape products, stone fruits, strawberries, fresh and processed vegetables, flowers and ornamental horticulture, processed tomato products, olives, hides and skins, cotton, and hay. Expanded agricultural output to serve greater demand for California products in Korea will also cause additions to farm employment and expansion of the agricultural economy past the farm gate.

The rest of this report builds on these general points to consider more specifically the basis for these broad conclusions. It is important to understand some background information before delving into the details of the agreement and its implications. In Part 1, we provide a general background about the negotiation initiation and process; summarize the nature of the Korean economy, especially in agriculture; and describe the two countries' trade positions. Understanding pre-existing overall and bilateral trade will help us appreciate the scope of interaction between the two economies, further understand the potential for trade, and see how the KORUS FTA fits within the context of Korea's society, economy, and agriculture. We then turn our attention to California agriculture and its role as an export provider. Part 2 gives a snapshot of California agriculture that focuses on export commodities. Part 3 provides detailed information on how the KORUS FTA eliminates or reduces the trade barriers currently in place for products important for California agriculture. In Part 4, we discuss the impact of free trade on both Korean and California agriculture. We summarize the impacts for key commodities and commodity groups. The final section concludes the report.

Much of the report consists of a series of detailed tables and charts that show trade patterns and current Korean trade barriers. This information is provided to allow the reader to have ready access to trade data in a form that facilitates consideration of export gains for California agriculture. The bottom line is that the KORUS FTA would make U.S. products relatively cheaper in Korea and, as a result, the Korean market for U.S. products would expand. Further, the larger difference in tariffs on agricultural goods means that there is substantial potential for gains from the KORUS FTA in agricultural trade for the United States and California.

Part 1. Background

To provide context to the KORUS FTA discussion later, this section describes the negotiation process prior to the final terms of the KORUS FTA, a brief overview of Korea's economy and agriculture, and the current status of bilateral and multilateral trade agreements in both countries.

1.1. Negotiation Background

The United States and South Korea formally announced their intention to start negotiations leading to a free trade agreement on February 2, 2006. After negotiation sessions in Washington, D.C., and Seoul, follow-up meetings were held in Seattle, Washington, and on Jeju Island in South Korea in late October 2006. The negotiations were very strenuous given the complexity of trade relations between the two countries coupled with the short deadline to conclude the negotiations (Table 1.a).

In the United States, negotiations were authorized under trade promotion authority (TPA) legislation. The most recent trade promotion negotiation authority was granted to the president under the Bipartisan Trade Promotion Act of 2002 (P.L. 107-210) and expired on July 1, 2007 (Cooper and Manyin). The TPA requires a 90-day presidential notification to Congress of intent to sign the agreement. The KORUS FTA was finalized on the last possible day, April 1, 2007, (Cooper and Manyin) and on June 30, 2007, trade officials representing the United States and South Korea signed it. Once an agreement is signed, the U.S. Congress must pass implementing legislation before the trade agreement can take effect. There is no binding deadline for such legislation and implementation of FTAs has often been delayed until long after the agreements were signed.

Under the TPA legislation, Congress must either pass or reject an agreement as signed and may not amend it. Trade observers consider this provision a requirement for any trade negotiation to proceed. Clearly, trading partners would find it futile to negotiate with the United States if the agreement reached could subsequently be unilaterally changed by Congress. The president must be in a position of authority to negotiate and the agreement must stand or fall as struck.

Besides the World Trade Organization (WTO) negotiations in the Doha Round, the United States has used TPA to engage in free trade initiatives in the western hemisphere, East Asia, Oceania, the Middle East, North Africa, and southern Africa. The United States has completed free trade agreements with Canada,

Table 1.a. Timeline for the Negotiations

Formal declaration of intent to negotiate a free trade agreement: February 2, 2006

- Preparation and analysis by each country in preparation for bilateral sessions: February through May 2006.

Bilateral negotiations

- Formal negotiations begin at a session in Washington, D.C.: June 4–6, 2006.
- Negotiations continue with sessions at various venues alternated between the United States and South Korea: July 2006 through February 2007.
- Final negotiation session completed in Seoul, South Korea: April 2, 2007.

Completed proposed agreement submitted to legislatures in each country

- Notification submitted to U.S. Congress on April 2, 2007.
- Agreement signed by both countries on June 30, 2007.
- Trade negotiation authority expired on July 1, 2007.

Mexico, Singapore, Central America-5 (CAFTA-5), Israel, Australia, Chile, Jordan, and Morocco and has signed an FTA with the Dominican Republic, Peru, Oman, and Bahrain (Schott et al.).[2]

Under a simple definition, an FTA is a pact between or among two or more countries under which tariffs and similar nontariff border restrictions are eliminated among the parties to the agreement. Many, if not all, FTAs achieve less than full free trade. Even when barriers are removed, the gradual scheduling of liberalization and other rules make the agreements complex (Congressional Research Service).

Korea has FTAs with Chile (since April 1, 2004), Singapore (since March 2, 2006), ASEAN-10 (Association of South East Asian Nations-10) (since June 1, 2007), and EFTA-4 (European Free Trade Association-4) (since September 2006). Korea has negotiations under consideration with Japan, Canada, Mexico, and India (Choi; Schott et al.).[3] Korea is also considering FTAs with New Zealand and Australia (Choi).

Korea's existing FTAs allow only limited access for agricultural trade. For example, the Korean FTA with the ASEAN-10, signed in May 2006, excluded a number of agricultural items, including rice (Thailand, a major rice exporter, did not join in the agreement). Previous Korean FTAs also contained provisions intended for gradual market opening, such as schedules for phasing out tariffs and nontariff barriers. Furthermore, those FTAs granted a preferential status (consistent with the rest of South Korea) to the Kaesong Industrial Complex, which houses South Korean companies near the North Korean city of Kaesong. Likewise, previous FTAs signed by the United States have included tariff reduction schedules and provisions for dispute resolution and related issues.

Even though the United States and Korea have been political allies for many decades, they have a history of trade disputes that goes back long before the WTO entered into force in January 1995. Since 1995, the two countries have filed thirteen cases involving bilateral trade problems, seven by the United States and six by Korea. Six of the seven U.S. cases against Korea have involved problems with nontariff protection in agriculture (Schott et al.).

1.2. Rapid Changes in Korea's Society, Economy, and Agriculture

South Korea has experienced phenomenal change in the last half century. It has gone from an extremely poor agrarian economy using nineteenth century technology at best to a wealthy modern society at the cutting edge of applied science and with some of the world's most advanced technological firms dominating the economic landscape. In two generations, Korea went through changes that took 100 years or more in the United States and Europe. As GDP doubled and then doubled again and again, annual income went from only a few hundred dollars per capita to more than $20,000 per capita today. Meanwhile, manufacturing and services expanded and the share of agriculture in the economy declined from about 30% in 1970 to a little more than 3% now.

The changes in dietary patterns in Korea were equally rapid. As recently as 1982, about 32% of monthly food expenditures went to cereal (mostly rice) consumed at home. By 2005, that share had fallen to just 6%. Consumption of all other products at home, except processed products, has also fallen somewhat while food consumed away from home has jumped from just 6% of monthly expenditures to about 46% (Choi). The huge shift in expenditures on food away from home also indicates the nature of Korean society, in which most people live in urban apartments. They spend long hours away from home involved in school, work, commuting, and other activities. Of course, many of the food expenditures away from home are for food preparation and related services that are not included in food costs for home consumption. The same issues are reflected in data for the United States, where expenditures away from home have risen rapidly in recent decades.

The rapid change (and westernization) in the Korean diet may also be gleaned from changes in

[2] CAFTA-5: Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

[3] EFTA-4: Iceland, Lichtenstein, Norway, and Switzerland. ASEAN-10: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. However, Thailand is excluded from that FTA.

nutrient consumption. In 1980, fully 75% of Korean calorie intake came from carbohydrates while 12% came from protein and 13% came from fat. By 2004, carbohydrate intake had fallen to 61% of calories and fat had risen to 26% (Choi). (For comparison, Americans get 47% of their caloric intake from carbohydrates and 37% from fat (Food and Agriculture Organization).) The increased fat intake has been driven by increased consumption of meat and dairy products and the greater role of processed snacks and other processed foods in the diet. It also reflects the different composition of food consumed away from home.

In the context of this economic and social revolution, agriculture has changed but not to the degree that industrial and service economies have. Under tight protection from imports, rice continued and even expanded as the dominant crop with 37% of acreage devoted to rice in 1970 and about 50% currently. Horticultural production has expanded substantially while barley and potato acreages have declined. The arable land devoted to fruit production has expanded from about 2% in 1970 to 8% today and greenhouse production grew from almost nothing to 2% of arable land (Choi). The dairy and beef industries have expanded to meet part of the increased domestic demand. Farm size has grown slowly in Korea but remains far below the average farm size of other industrial economies other than Japan. Korean agriculture has been like Japanese agriculture in another characteristic as well: protection from imports has kept much of agriculture insulated from competitive pressures from abroad, helped maintain rice as the dominant crop, and relied on high prices rather than farm size increases as the mechanism by which to maintain farm incomes relative to nonfarm incomes.

Per capita farm income in Korea grew along with the national average until the last decade. Since the early 1990s, per capita income of the farm population went from rough parity with the nonfarm population to about 80% of nonfarm incomes today (Choi). At the same time, a demographic transformation has occurred in the age pattern of the farm population (Choi). In 1970, more than 50% of the farm population was less than 20 years of age and only about 5% of the population was older than 65. In 2004, about 30% of the population was older than 65 and only about 15% was under 20 (Figure 1). This huge and rapid shift means that there are few young families with children left among farm families. There will be a huge turnover among farmers and, given the lack of successors available, farm consolidation is inevitable.

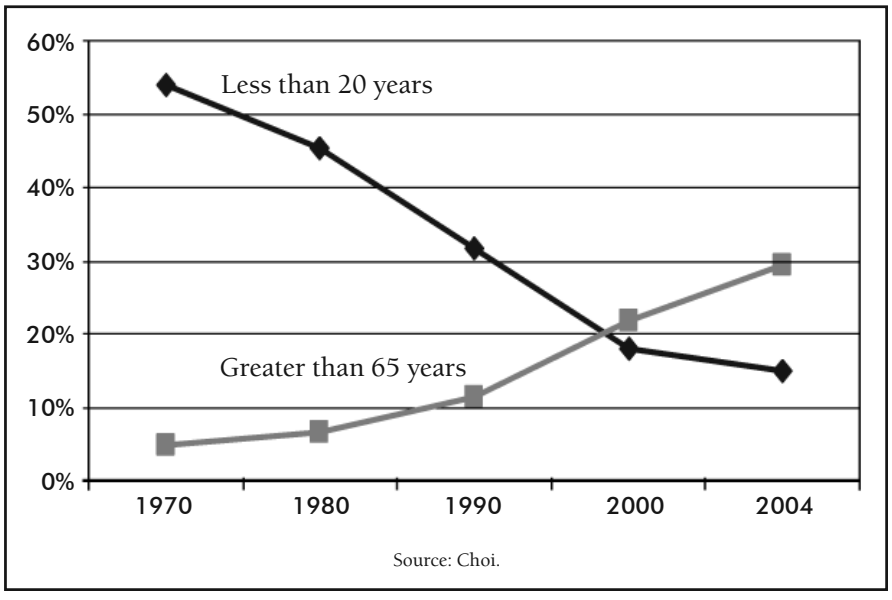
1.3. Historical Perspective on Overall Trade and Bilateral Trade

This section describes the status of trade situations for Korea and the United States using historical trade data. We provide the overall trade balance for both countries and the bilateral trade balance between the two countries.

1.3.1. All Merchandise Trade

Table 1.b reports the value of total merchandise trade for the two countries for the period 2000–2007. The United States incurred a significant trade deficit each year, while Korea has produced a trade surplus each year. The United States trades much more than

Figure 1. Korea's Aging Farm Population, 1970–2004



Source: Choi.

Korea; in 2007, U.S. total trade was more than four times Korean trade in value. However, considering the relative size of the economy, it is important to note that trade has a more significant role in the Korean economy. In 2007, annual trade totaled about one-quarter of U.S. GDP but about 80% for Korea.

For the period 2000–2007, U.S. exports to Korea averaged close to $26 billion and about 3% of total U.S. exports go to Korea. U.S. merchandise exports to Korea declined sharply in 2001 but bounced back gradually, reaching the pre-slump level by 2005. During 2006/07, U.S. exports rose substantially, reaching $33 billion. In the same year, Korea was the seventh largest export market for the United States. Major export items from the United States to Korea include semiconductor chips, manufacturing equipment, aircraft, and agricultural goods.

Korea is equally important as a source for U.S. imports as it is the seventh largest import source. Consistent with the overall U.S. trade deficit, the United States incurs a deficit in bilateral trade with Korea. The trade deficit was $14 billion at the beginning of

Table 1.b. Total Merchandise Trade for the United States and Korea: 2000–2007

	Total U.S. Trade		Total Korean Trade		Bilateral Trade					
	U.S. Exports (A)	U.S. Imports (B)	Korean Exports (C)	Korean Imports (D)	U.S. Exports to Korea (E)	Share of U.S. Exports (E)/(A)	Share of Korean Imports (E)/(D)	U.S. Imports from Korea (F)	Share of U.S. Imports (F)/(B)	Share of Korean Exports (F)/(C)
	$Bil	$Bil	$Bil	$Bil	$Bil			$Bil		
2000	714	1,207	172	160	26.3	4%	16%	39.8	3%	23%
2001	664	1,132	150	141	20.9	3%	15%	34.9	3%	23%
2002	630	1,155	162	152	21.2	3%	14%	35.3	3%	22%
2003	651	1,248	194	179	22.5	3%	13%	36.9	3%	19%
2004	729	1,446	254	224	25.0	3%	11%	45.1	3%	18%
2005	805	1,646	284	261	26.2	3%	10%	43.2	3%	15%
2006	938	1,832	325	309	30.8	3%	10%	44.7	2%	14%
2007	1,043	1,949	370	357	33.0	3%	9%	45.4	2%	12%

Source: U.S. trade data are from the U.S. International Trade Commission (www.dataweb.usitc.gov/scripts/intro.asp); Korean data are from the Korean Customs Service (www.customs.go.kr).

Table 1.c. Market Shares of Korea's Major Trading Partners: 2000–2006

	2000	2001	2002	2003	2004	2005	2006
Share of Korean Exports by Destination							
United States	23%	23%	22%	19%	18%	15%	14%
Japan	12%	11%	9%	9%	9%	8%	8%
China	11%	12%	15%	18%	20%	22%	21%
Share of Korean Import Market by Exporter							
United States	16%	15%	14%	13%	11%	10%	10%
Japan	20%	19%	20%	20%	21%	19%	17%
China	8%	9%	11%	12%	13%	15%	16%

Source: Korean Customs Service, www.customs.go.kr.

the century and has remained in the range of $12 to $14 billion in recent years. Even though U.S. exports to Korea grew substantially, U.S. imports from Korea also increased and the trade deficit has changed little. Almost all imports from Korea are manufactured goods (agricultural goods account for $0.3 billion) (U.S. International Trade Commission (USITC)).

Unlike the United States, which has run a trade deficit overall for decades, Korea has run a trade surplus for many years. However, the trade surplus in general is not large—about 5% of the country's exports—because Korea has to rely on foreign sources for much its raw materials. Over the time period considered, Korea expanded trade rapidly, doubling exports as well as imports. Consistent with the global importance of the U.S. economy, the United States represents a much larger proportion of Korean trade than Korea does of U.S. trade. In 2007 Korea represented, at most, 3% of U.S. trade as a buyer of U.S. goods and as a seller in the U.S. market. During that same year, the United States had about 9% of the Korean market and about 12% of total exports by Korea were destined for the United States.

Korea's trade has been dominated mostly by three countries: the United States, China, and Japan. (Korea trades with the European Union (EU) in a similar magnitude for both imports and exports as the United States but the EU is excluded from the list of individual countries.) Prior to 2000, Japan and the United States traded the position of top source of imports into Korea. However, since 2000, Japanese exports to Korea have surpassed U.S. exports and Japan has remained as the top source of Korean imports. With the emergence of China, the United States' relative position in Korea declined further. As shown in Table 1.c, since 2004 China has replaced the United States as the second source of Korean imports after Japan. China also is the largest market for Korean goods, having replaced the United States in 2003. Major Korean exports to the United States include cellular phones, cars, semiconductor circuits, televisions, flat panel screens, and construction vehicles (USITC).

1.3.2. Trade of Agricultural Products

Agricultural goods are important export commodities in the United States. Table 1.d provides values of agricultural trade for the United States and Korea for recent years. In 2007, agricultural trade occupied about 9% of U.S. merchandise exports and 4% of merchandise imports (for the total trade figures, see Table 1.b). The U.S. agricultural sector consistently produces

Table 1.d. Total Agricultural Trade for the United States and Korea: 2000–2007

	U.S. Ag Trade		Korean Ag Trade		Bilateral Ag Trade		
	Exports (A)	Imports (B)	Exports (C)	Imports (D)	U.S. Exports to Korea (E)	Share of U.S. Exports to Korea in Total U.S. Exports (E)/(A)	Share of U.S. Exports to Korea in Total Korean Imports (E)/(D)
	$Bil	$Bil	$Bil	$Bil	$Bil		
2000	51.3	39.0	1.3	6.8	2.5	5%	37%
2001	53.7	39.4	1.4	6.8	2.6	5%	38%
2002	53.1	41.9	1.5	7.7	2.7	5%	35%
2003	59.4	47.4	1.7	8.3	2.9	5%	35%
2004	61.4	54.0	1.9	9.2	2.5	4%	27%
2005	63.2	59.3	2.1	9.8	2.2	4%	23%
2006	70.9	65.3	2.2	10.9	2.9	4%	26%
2007	89.9	71.9	2.4	13.3	3.5	4%	26%

Note: Korean agricultural exports are few and we do not present the Korean export shares.

Source: U.S. data were obtained from the U.S. Department of Agriculture Foreign Agricultural Services' U.S. FATUS data (www.ers.usda.gov/Data/FATUS/#monthly); Korean data were obtained from Korea Agricultural Trade Information, www.kati.net.

a trade surplus and contributes to reducing the trade deficit (Table 1.d). Farm subsidies in the United States have some impact on exports, especially for cotton, but the quantitative impact overall is relatively small because more products (including fruits, tree nuts, livestock products, hay, and vegetables) have not benefited from significant farm subsidies and many of the subsidy programs have relatively little net effect on production.

Korea exports few agricultural goods and the Korean agricultural trade incurs a large trade deficit—an amount almost equal to the country's total trade surplus (in 2007, the agricultural trade deficit was $10.9 billion and the surplus from all merchandise trade was $13 billion).

U.S. agricultural exports to Korea exceeded $3 billion in the late 1990s, fell to $1.7 billion in 1998 during Korea's financial crisis, and then began to recover slowly in subsequent years (not shown in the table). U.S. agricultural exports to Korea began to decline again in 2004 after the discovery of a slaughter cow with bovine spongiform encephalopathy (BSE) in the United States in December 2003. That event caused a collapse in beef exports to Korea and, as a result, agricultural exports fell in 2004 and 2005 (Table 1.d). After 2005, which marked the lowest level of U.S. exports since the financial crisis in 1998, U.S. exports bounced back, reaching $3.5 billion in 2007.

The United States remains the largest agricultural exporter to Korea and is the chief supplier of many agricultural commodities traded in Korea. Korea is the destination of 4–5% of U.S. agricultural exports but those products constitute a significant share of Korean agricultural imports—23–38% during 2000–2007 (Table 1.d). The trend in the past few years, though, is a decline in the U.S. market share, mainly due to the emergence of new competitors in the Korean market such as China, Australia, and Chile.

Table 1.e lists shares of total U.S. agricultural exports to Korea for 2003 and 2007 by commodity. Distinct changes in export share during that period are the drop in meat exports and rise in coarse grain exports. With the collapse of meat exports in December 2003, meats' share of total U.S. exports to Korea plummeted from 33% to 11% in 2007 and the share of coarse grains rose from 1% to 24%. The category that includes fruits, nuts, and vegetables changed little, remaining at 11–12%.

Table 1.e. U.S. Agricultural Exports to Korea by Percent of Total U.S. Value: 2003 and 2007

	2003	2007
Coarse grains	1%	24%
Fruits, nuts, vegetables, and other related products	12%	11%
Hides and skins	15%	10%
Meats	33%	11%
Wheat	7%	9%
Soybeans	10%	5%
Cotton	5%	3%
Other bulk and intermediate products	11%	18%
Other consumer-ready products	4%	9%

Note: Column totals may not be 100% due to rounding.

Source: U.S. Department of Agriculture, Economic Research Service, "Briefing Rooms, South Korea: Trade," www.ers.usda.gov/Briefing/SouthKorea/trade.htm.

Part 2. California Agricultural Exports to Korea and California's Relative Position

In order to assess the increased export potential for California products due to the KORUS FTA, it is important to review the current status of California's agricultural exports to Korea and relative position as an exporter. We will first examine the status of California exports to Korea for major export commodities and then the historical trend of Korean imports of agricultural products with a focus on products important to California. We then analyze California's relative position as an exporter to Korea by considering the current competition from other export suppliers, especially Chile and China, and from domestic production in Korea.

2.1. Recent Agricultural Exports to Korea from California

Table 2.a on the following page presents University of California Agricultural Issues Center estimates of recent California agricultural exports to Korea.[4] After growing by more than $100 million or about 75% from 1999 to 2003, exports declined in 2004 and in 2005 rose only back to the level reached in 2001. In 2006, California agricultural exports to Korea rose back to the record of $312 million reached in 2003. Oranges continue to be the number one export product. In recent years, fresh oranges have replaced cotton and beef as the leading export from California to the Korean market. Beef exports collapsed in 2004 with the discovery of BSE in the United States. Along with declining cotton production in California, the Korean textile processing industry has been shrinking for several years as Korean wages have grown too high relative to those in China and other textile processing countries of Asia. Korean imports of cotton reached a high of about $100 million in 2001, fell to less than $40 million, and then collapsed to less than $10 million in 2006. Tree nuts, especially almonds and walnuts, are also major exports to Korea. Hay, hides and skins, processed tomato products, wine, grapefruit, and rice round out the top exports to Korea in value. Dairy products declined substantially starting in 2003 but remain a major export category. California is a major provider of U.S. exports for many of the commodities listed in Table 2.a.

Table 2.b arranges the California export data to indicate the importance of the Korean market to California agricultural export products. The ranks in Table 2.b are not evaluated by the magnitude of value but by the size of export share shipped to Korea within the given industry. In 2006, Korea was the top export market for California grapefruit with an export share of 14%. For some commodities, export markets are spread among many countries. With a 2–5% export share, Korea is the second most important market for California grape juice, hay, and hides and skins. For California walnuts, Korea ranked eighth in 2006 with a 10% export share. Korea slipped from the top export market for oranges in 2005 to number four in 2006. Before the collapse of exports in 2004, Korea was the number two export market for California beef, accounting for 34% of California beef exports in 2003. In the more recent years shown in Table 2.b, Korea holds double-digit shares of California exports of almonds, grapefruit, oranges, rice, and walnuts. For many of the export commodities listed in Table 2.b, Korea is a top-ten export market and accounts for a significant share of California's exports.

2.2. Scope of Korean Agricultural Imports by Product Category

To evaluate California's relative position and the export potential in the Korean market, we investigate the size and scope of Korean imports. Before we consider individual commodities, let us first review Korean imports of fruits, tree nuts, and vegetables at an aggregate level. There are many individual fruit and vegetable export products. Thus, aggregation of import items and the World Customs Organization's harmonized system (HS) codes provide a natural framework.

[4] No formal trade data are available at the state level.

The HS codes are recognized and used widely in international trade. An item can be classified with an HS code of up to ten digits with longer codes representing more refined classifications of aggregation. For example, the first two digits of HS code 0706 represent vegetables while the last two digits narrow the category to root-type edible vegetables (thus, the category expressed as 0706 consists of all items with HS codes beginning with 0706).

HS codes 0703 through 0709 cover fresh/chilled vegetables and codes 0710 through 0712 cover vegetables in nonfresh form, which includes frozen, provisionally preserved (not suited for immediate consumption), and dried products.

Table 2.c presents Korean imports of selected fruits at the aggregation level expressed by four-digit HS codes. Fruits are first differentiated into fresh and nonfresh. In the table, processed items such as fruit juices are excluded because there are so many individual processed items and the HS codes cannot be conveniently aggregated. Table 2.c indicates that Korean imports of fruit products are mainly in fresh form with imports of nonfresh fruit accounting for, at most, 10% of import value. The value of fresh

Table 2.a. Exports of California Agricultural Products to Korea for 1999–2006 in $1,000

Commodity	1999[1]	2000[1]	2001	2002	2003	2004	2005	2006
Oranges, fresh[2]	14,512	41,000	51,152	70,877	81,101	88,846	96,670	60,184
Almonds	11,326	11,000	13,903	17,409	21,382	25,781	34,608	31,875
Cotton	69,656	88,000	99,969	37,626	29,328	28,034	33,214	9,810
Walnuts		4,000	4,566	6,712	7,434	13,890	17,522	33,972
Hay	4,189	13,000	14,961	17,600	17,745	17,120	14,282	18,533
Hides and skins			17,167	16,390	18,721	15,113	13,878	14,963
Tomatoes (processed)	9,276	8,000	9,710	11,364	10,938	11,387	12,300	12,809
Wine	2,358	3,000	4,915	3,347	5,927	6,992	9,535	10,124
Grapefruit (incl. juice)			1,004	2,028	4,001	5,107	8,914	44,711
Rice			3,988	10,979	25,340	17,447	6,619	31,920
Grape juice	6,115	3,000	6,348	7,878	8,169	5,180	5,249	4,781
Dairy and products	12,096	28,000	16,816	17,938	11,419	4,200	6,279	5,933
Raisins	2,444		2,568	2,669	2,631	3,653	4,159	5,201
Table grapes			451	0	2,202	2,273	2,955	3,425
Lemons			2,443	3,398	2,542	2,749	2,950	5,251
Orange juice			3,295	3,779	2,976	2,955	2,392	2,586
Cherries			352	9	1,439	1,459	1,180	2,557
Pistachios			587	475	434	532	914	2,035
Kiwi fruit			57	0	1,438	1,924	859	3,266
Lettuce			51	45	420	649	777	1,088
Flowers			704	187	308	112	437	436
Beef and products[3]	37,795	51,000	21,022	39,781	52,956	114	243	39
Total CA Exports to Korea	178,000	262,000	279,406	273,839	311,628	258,166	278,174	311,938

[1] Data provided for commodities with exports of more than $2 million in 1999 and 2000.

[2] For 1999 and 2000, the category of fresh oranges includes orange juice.

[3] For 1999 and 2000, the category of beef and products includes hides and skins.

Source: University of California Agricultural Issues Center, annual California international agricultural export estimates, 2001–2006 (www.aic.ucdavis.edu/pub/exports.html).

fruit imports was close to $500 million in 2007 with bananas and citrus being the top two fresh fruit import categories. California does not produce bananas but citrus is an important export item for the state. Korea also imports significant amounts of table grapes and cherries. Imports of these two items have grown rapidly and California has been an important supplier.

Tree nut imports are presented in Table 2.d. The major items in tree nut imports are almonds and walnuts, which comprise almost 90% of Korea's tree nut import value. Besides almonds and walnuts, other tree nuts imported include pistachios, pine nuts, and gingko nuts. Among these minor nuts, we report only pistachios, for which California is a major exporter. Table 2.d also reports U.S. tree nut exports to Korea for the last five years. Over this period, California has been supplying about 90% of Korean imports. For almonds, the United States was the only supplier in 2007. Tree nuts are a very important export category for the United States and California in terms of value and market share.

Korea is not a major importer of vegetables. While it is a major importer of agricultural products, the country's vegetable consumption is mostly supplied from domestic sources. Of the total imports of agricultural products worth more than $10 billion in 2007, vegetables account for less than 5% ($466 million) (Korean Ministry of Agriculture, Forestry, and Fishery). Table 2.e presents selected vegetable imports aggregated at the four-digit HS code level. The table omits vegetable categories that show few imports or little relevance to California. Unlike fruits, nonfresh items dominate Korean vegetable imports, accounting for about 60%. The table also shows China's import share in the Korean market for the last three years. China dominates Korea's vegetable import market with shares exceeding 90% for all categories except lettuce (0705) and other vegetables (0709). Even in the lettuce market China's share has been steadily growing, accounting for about half of the market in 2007.

Table 2.b. Share of Total California Exports by Value That Are Shipped to Korea and Rank of Korea in Export Destinations for Major California Agricultural Products: 2003–2006

	2003		2004		2005		2006	
Commodity	Share	Rank	Share	Rank	Share	Rank	Share	Rank
Almonds	2%	7	2%	8	2%	7	10%	8
Beef	34%	2	–	–	–	–	0.01%	18
Cherries	2%	7	2%	6	3%	6	0.8%	5
Cotton	4%	8	4%	9	5%	9	3%	11
Grapefruit	8%	3	12%	3	18%	2	14%	1
Grape juice	27%	2	17%	2	13%	2	2%	2
Hay	17%	2	16%	2	13%	2	6%	2
Hides and skins	32%	1	27%	2	26%	2	5%	2
Kiwi fruit	16%	3	18%	4	10%	4	1%	3
Oranges	25%	1	27%	2	27%	1	19%	4
Raisins	2%	11	2%	11	2%	11	2%	6
Rice	12%	3	6%	4	2%	7	10%	2
Table grapes	1%	19	1%	18	1%	19	1%	23
Tomatoes, processed	5%	5	5%	5	5%	4	4%	4
Walnuts	3%	5	6%	4	6%	5	11%	4
Wine	1%	6	1%	6	1%	6	3%	6

Source: University of California Agricultural Issues Center, agricultural export database, www.aic.ucdavis.edu/pub/exports.html.

Table 2.c. Korean Fruit Imports by HS Code in $1,000 (aggregated in first four digits)

	Fresh Fruit					
	Bananas (0803)	**Citrus Fruit (0805)**	**Table Grapes[1] (0806100000)**	**All Melons (0807)**	**Cherries[2] (0809200000)**	**Other Fruits (0810)**
1998	37,800.0	33,021.9	2,180.0	15.4	213.9	5,207.1
1999	73,097.8	32,470.3	10,241.6	224.3	722.9	7,626.5
2000	75,250.4	69,468.2	12,661.8	188.6	1,265.3	8,834.0
2001	70,045.5	83,414.3	9,545.5	109.9	1,365.3	9,862.0
2002	78,211.3	94,878.8	10,443.5	34.3	1,689.3	17,633.2
2003	90,681.8	118,414.1	17,731.6	30.3	4,111.4	26,895.6
2004	86,665.4	143,099.6	16,920.6	207.1	6,053.3	54,052.5
2005	114,836.8	127,686.1	23,615.6	458.0	8,851.0	67,589.6
2006	144,694.7	131,856.1	32,600.3	832.8	12,156.4	76,651.8
2007	170,658.7	122,766.4	58,028.6	724.3	31,744.4	85,826.9

	Nonfresh Fruit		
	Frozen (0811)	**Provisionally Preserved (0812)**	**Dried (0813)**
1998	3,732	86	503
1999	7,700	88	2,034
2000	9,237	79	2,156
2001	9,664	84	4,642
2002	15,505	76	3,287
2003	18,174	309	6,360
2004	23,397	884	7,334
2005	22,660	501	8,344
2006	27,918	1,808	10,670
2007	35,845	129	12,659

[1] We present only fresh table grapes out of the 0806 category, which also includes dried grapes (raisins).

[2] The 0809 category includes all fresh stone fruits, including peaches, plums, nectarines, apricots, and cherries. However, imports of other stone fruit other than cherries are zero.

Note: The four-digit HS code (0805 for example) includes all items identified by an HS code that begins with those digits. Some HS categories are not present. HS code 0804 includes jujube and other tropical fruits. Imports in this category are less than $1 million annually. HS code 0808 includes apples and pears. Korea imports no fresh apples and only a small amount of pears ($86,000 in 2007).

Source: Korea Agricultural Trade Information, www.kati.net.

Table 2.d. Korean Imports of Tree Nuts

	All Tree Nuts (080200000)	Almonds (0802100000)	Walnuts (0802300000)	Pistachios (0802500000)
Total Imports in $1,000				
1998	16,213	12,619	889	971
1999	18,786	13,948	2,211	997
2000	20,061	13,012	4,136	1,351
2001	26,535	16,571	4,667	1,547
2002	27,117	16,881	5,868	1,614
2003	35,453	21,955	8,230	2,141
2004	47,092	25,861	15,497	1,491
2005	61,514	34,938	19,152	2,531
2006	87,198	38,531	38,999	2,419
2007	81,764	34,594	38,378	2,556
Imports from the U.S. in $1,000				
2003	32,099	17,249	7,434	323
2004	41,451	24,498	13,976	380
2005	54,179	33,752	17,522	601
2006	73,759	30,862	33,972	1,878
2007	72,280	34,745	35,234	1,851

Source: Korea Agricultural Trade Information, www.kati.net.

We now turn our attention to more disaggregated figures. Table 2.f presents the value of Korean imports for the three most recent years of individual commodities that are of potential importance to California. Among the products listed, the product with the highest value is beef with imports that exceed $1 billion. Product categories with more than $100 million in import value include fresh oranges, hides and skins, rice, wine, cotton, hay, cheese, and mixed milk powder. Categories that are greater than $10 million but less than $100 million include orange juice, lemons, table grapes, grape juice, cherries, processed tomatoes, olives, kiwis, garlic, almonds, walnuts, flowers, and many dairy products (skim milk powder, butter, whey, formulated butter, infant formula, and casein). Imports of many of these products more than doubled during these years. Most notably, imports of table grapes, cherries, kiwis, walnuts, prunes, lettuce, butter, and mixed milk powder increased more than three times.

2.3. California's Relative Position and Potential in Korean Markets

Even though the United States represents substantial market shares in many Korean markets, U.S. producers also face major competition from other exporters. In this section, we investigate the relative positions of the United States and other export suppliers in the Korean market. First, we investigate country-specific imports.

Table 2.e. Korean Vegetable Imports

	Fresh/Chilled					Prepared/Preserved		
	Onions, Shallots, Garlic, Leeks, and Other Similar Vegetables (0703)	Cabbage, Broccoli, Cauliflower, and Similar Brassicas (0704)	Lettuce and Chicory (0705)	Edible Roots: Carrots, Turnips, Celery, Salad Beets (0706)	Other Vegetables: Artichokes, Asparagus, Eggplant, Etc. (0709)	Frozen (0710)	Preserved (0711)	Dried (0712)
Korean Imports in $1,000								
1998	13,901	50	252	7,162	2,172	6,953	4,043	26,618
1999	10,677	641	340	11,564	4,020	12,981	8,045	35,003
2000	1,129	2,191	394	12,647	8,441	10,541	9,245	41,116
2001	9,775	99	363	14,928	7,279	17,473	6,203	34,314
2002	7,289	931	425	17,416	8,842	20,150	7,199	38,862
2003	23,008	2,827	1,073	29,729	12,267	42,912	9,796	45,438
2004	20,930	4,041	1,353	37,482	15,726	61,540	11,207	72,806
2005	13,711	5,342	1,374	42,862	18,317	59,951	8,777	53,311
2006	30,019	9,731	2,760	54,674	27,024	81,557	11,513	47,530
2007	17,956	12,969	4,849	54,169	28,385	106,591	11,765	58,575
Chinese Share of Korean Import Markets								
2005	98%	93%	20%	99%	62%	91%	93%	86%
2006	96%	97%	40%	99%	57%	95%	93%	93%
2007	95%	99%	47%	100%	46%	94%	94%	93%

Note: There are other vegetable categories that are not presented in the table. They include fresh potatoes (0701), fresh tomatoes (0702), and all forms of tuber types of vegetables (mostly sweet potatoes and cassava) (0714). Except for fresh tomatoes, these products are of no importance in California agriculture and Korea imports almost no fresh tomatoes.

Source: Korea Agricultural Trade Information, www.kati.net.

Table 2.f. Value of Korean Imports by Commodity Category and by Commodity in $1,000: 2005–2007

Commodities Important to California	2005	2006	2007
Oranges, fresh	120,377	123,064	108,013
Oranges, juice	42,058	44,973	71,287
Lemons	6,691	8,384	11,489
Table grapes	23,616	32,600	58,029
Grapes, juice	23,829	21,226	21,653
Cherries	13,154	15,777	36,221
Raisins	5,206	5,257	5,584
Kiwis	53,313	62,736	69,831
Grapefruit	3,970	4,431	8,839
Peaches, processed	6,365	7,787	9,023
Peaches, juice	1,817	1,357	1,326
Pears, fresh	111	72	86
Pears, processed	403	368	304
Prunes	595	2,200	2,178
Almonds	34,938	38,531	34,594
Walnuts	19,152	38,999	38,378
Pistachios	2,531	2,419	2,556
Lettuce	1,020	2,417	4,443
Garlic	21,244	32,341	31,772
Strawberries	5,128	7,540	9,838
Tomatoes, processed	29,800	31,803	36,190
Rice	51,369	118,481	136,542
Cotton	355,352	298,694	305,403
Hay	142,408	158,277	236,528
Flowers	49,767	59,170	67,905
Wine	83,877	103,758	167,286
Beef	735,143	878,977	1,037,052
Hides and skins	407,524	363,759	380,571
Dairy products, total	320,070	330,196	438,387
Skim milk powder	14,568	15,374	17,334
Whole milk powder	4,342	4,784	3,366
Butter	12,807	8,346	11,298
Whey	32,786	50,449	67,083
Cheese	143,572	146,262	178,992
Formulated butter	47,751	44,176	49,706
Mixed milk powder	72,656	67,602	103,782
Infant formula	23,027	20,808	19,768
Casein	44,641	45,947	58,236

Note: Fishery and forest products are excluded.

Source: Data for all except cotton and hides and skins are from Korea Agricultural Trade Information, www.kati.net. Data for cotton and hides and skins are from Korea Customs Service, www.customs.go.kr.

Table 2.g lists the United State's share of major Korean import products and the major competitors for each of these products. This table shows that the United States commands a major share of exports to Korea for a number of commodities, including oranges, lemons, grape juice, processed tomato products, raisins, grapefruit, lettuce, almonds, walnuts, pistachios, hides and skins, whey, cotton, hay, and flowers. The major competitors for orange juice include Brazil (orange juice is a minor product for the California orange industry and is shipped to Korea mainly from Florida). Chile is the major competitor for table grapes and wine (next to France). China is the major competitor for many fresh products, including strawberries, lettuce, garlic, red peppers, rice, flowers, and processed tomato products. Spain is the main competitor for grape juice and olives. New Zealand is a major competitor for kiwis, beef, and dairy products and Australia is the major competitor for beef, dairy products, and cotton. Finally, Iran is the major competitor for pistachios and Vietnam for walnuts. An FTA would allow California suppliers either to have a price advantage relative to other suppliers or to keep up with suppliers that have or may soon have FTAs with Korea.

Among the competitors we have listed, Chile is the first country with which Korea has established a bilateral trade agreement. The Korea-Chile FTA was signed in 2002 and came into force on April 1, 2004. Since the FTA was completed, Chile has had an advantage over other competitors and some exports from California compete with Chilean exports in Korean markets. Table 2.h uses Korean import data to examine the relative positions of the United States and Chile as import suppliers to Korea. Among the products of some importance to California, we consider only the markets in which Chile represents some positive market shares in Korea. The table includes data for 2003 as a representation of the pre-FTA period. This table shows that the United States commands a major share of exports to Korea for a number of commodities. Chile also is the main export supplier of table grapes to Korea (which are available in the off-season relative to both Korean and Californian grapes) and a significant supplier of kiwis and wine. Further, our data indicate that, after the FTA, Chilean imports grew substantially for kiwis, grape juice, lemons, processed tomatoes, wine, and whey.

Imports also compete with domestic production. Table 2.i shows import quantities relative to Korean production for each commodity. The blank cells in the table indicate that either data are not available or production is almost zero. For many items, such as olives, pineapples, and bananas, there is no domestic production. Despite having no domestic industry to protect from directly competitive imports, Korea continues to maintain high tariffs, often more than 30%. These tariffs apply to lemons, grape juice, cherries, processed tomato products, raisins, pineapple, bananas, kiwis, grapefruit, almonds, walnuts, pistachios, and wine. Import tariffs for other products are also high, about 45% in most cases. Given the sizable domestic production, import quantities remain very small relative to domestic supplies. This is the case for table grapes, strawberries, apples, lettuce, and rice. Only a few products, such as oranges, beef, some dairy products, and hay, have significant imports when large quantities of domestic production are also available. In those cases, imports are able to compete with domestic supplies despite sizable tariffs because costs of production in the domestic industry are high. Finally, fresh peaches and pears deserve attention. Table 2.i indicates that Korea has a sizable fresh peach and pear market but almost no imports enter the country. Note that the Korea-Chile FTA excludes fresh pears (as well as fresh apples) from preferential tariffs.

Table 2.g. Import Value Share of the United States and Its Major Competitors in Korea for Selected Years

	Import Value Share of U.S.			Share of Competing Countries	
	2002	2005	2007	2005	2007
Oranges, fresh	97%	96%	93%		
Oranges, juice	26%	25%	24%	Brazil 72%	Brazil 60%
Lemons	86%	75%	77%	Chile 9%, Italy 7%	Chile 5%, Italy 10%
Table grapes	17%	19%	18%	Chile 81%	Chile 82%
Grapes, juice	75%	43%	47%	Spain 36%	Spain 26%
Cherries	92%	80%	91%		
Strawberries	29%	31%	26%	China 50%, Italy 9%	China 57%, Italy 3%
Tomatoes, processed	47%	46%	41%	China 25%, Italy 12%	China 26%, Italy 15%
Raisins	94%	92%	94%		
Olives	3%	1%	1%	Spain 76%, Italy 14%	Spain 75%, Italy 18%
Apples	20%	0%	0%	China 50%, Chile 2%	China 50%, Chile 2%
Pineapples	2%	1%	0%	Philippines 86%	Philippines 98%
Kiwis	3%	5%	8%	New Zealand 80%, Chile 15%	New Zealand 77%, Chile 14%
Grapefruit	57%	59%	74%	Japan 26%	Japan 12%
Peaches, processed	0%	1%	0%	South Africa 32%, Greece 28%, China 22%	South Africa 20%, Greece 14%, China 44%
Peaches, juice	86%	80%	83%	China 16%	China 8%
Pears, fresh	0%	66%	83%	Canada 34%	
Pears, processed	5%	14%	1%	China 35%, Spain 23%, South Africa 22%	China 48%, Spain 18%, South Africa 12%
Prunes, dried	100%	100%	98%		
Lettuce	30%	73%	48%	China 22%	China 52%
Garlic	0%	0%	0%	China 100%	China 100%
Red peppers	1%	0%	0%	China 96%	China 95%
Almonds	98%	100%	100%		
Walnuts	95%	87%	91%	Vietnam 13%	Vietnam 9%
Pistachios	98%	68%	59%	Iran 32%	Iran 37%
Beef	69%	1%	9%	Australia 73%, New Zealand 24%	Australia 73%, New Zealand 16%
Hides and skins	88%	88%	89%		
Rice	39%	28%	31%	China 65%, Thailand 7%	China 61%, Thailand 8%
Wine	9%	12%	10%	France 37%, Chile 18%	France 45%, Chile 15%
Cotton	31%	48%	40%	Australia 24%	Australia 13%
Hay	78%	79%	82%		
Flowers	1%	2%	1%	China 25%, Taiwan 24%, Netherlands 18%	China 31%, Taiwan 30%, Netherlands 18%
Total dairy products	19%	18%	19%	New Zealand 22%, Australia 20%	New Zealand 4%, Australia 15%

Continued on following page

Table 2.g. Import Value Share of the United States and Its Major Competitors in Korea for Selected Years (cont.)

	Import Value Share of U.S.			Share of Competing Countries	
	2002	2005	2007	2005	2007
Skim milk powder	0%	0%	3%	Australia 61%, New Zealand 19%	Australia 61%, New Zealand 17%
Whole milk powder	0%	0%	0%	Australia 85%, New Zealand 6%	Australia 94%, Germany 5%
Butter	6%	1%	0%	Australia 60%, New Zealand 29%	Australia 45%, New Zealand 34%
Whey	39%	61%	46%	France 9%, Australia 9%	France 11%, Chile 7%
Cheese	17%	18%	18%	New Zealand 27%, Australia 22%	New Zealand 26%, Australia 18%
Formulated butter	0%	0%	0%	Belgium 32%, Australia 28%, New Zealand 17%, Netherlands 17%	Belgium 38%, Australia 26%, New Zealand 13%, Netherlands 16%
Mixed milk powder	2%	7%	3%	Netherlands 29%, Canada 18%, France 10%	Netherlands 42%, Canada 19%, France 11%
Infant formula	35%	11%	1%	New Zealand 67%	New Zealand 57%
Casein	1%	0%	0%	New Zealand 49%, France 17%	New Zealand 55%, France 15%

Source: Korea Agricultural Trade Information, www.kati.net.

Table 2.h. Total Korean Imports and Import Shares of the United States and Chile by Commodity before and after the Korea-Chile FTA in 2004

	2003			2005			2006			2007		
	Total in $1,000	U.S. Share	Chilean Share	Total in $1,000	U.S. Share	Chilean Share	Total in $1,000	U.S. Share	Chilean Share	Total in $1,000	U.S. Share	Chilean Share
Oranges, fresh	112,631	97%	0%	120,377	96%	0%	123,064	95%	1%	108,013	93%	2%
Lemons	5,096	86%	0%	6,691	75%	9%	8,384	75%	8%	11,489	77%	5%
Table grapes	17,732	23%	77%	23,616	19%	81%	32,600	15%	85%	58,029	18%	82%
Kiwis	22,528	12%	8%	53,313	5%	15%	62,736	8%	20%	69,831	8%	14%
Grape juice	17,628	60%	0%	23,829	43%	3%	21,226	42%	7%	21,653	47%	6%
Strawberries	3,565	38%	1%	5,128	31%	1%	7,540	32%	1%	9,838	26%	1%
Tomatoes, processed	24,772	52%	1%	29,800	46%	4%	31,803	46%	6%	36,190	41%	6%
Peaches, processed	6,542	0%	0%	6,365	1%	0%	7,787	1%	3%	9,023	0%	2%
Wine	67,150	11%	4%	83,877	12%	14%	103,758	12%	15%	167,286	10%	15%
Flowers	31,082	1%	2%	49,767	2%	1%	59,170	2%	1%	67,905	1%	1%
Dairy products, total	182,941	21%	0%	320,070	18%	0%	330,196	20%	0%	438,387	19%	1%
Whey	25,035	43%	0%	32,786	61%	0%	50,449	56%	1%	67,083	46%	7%

Note: We include only the commodities that are imported from Chile in some significant amount. For example, Chile does not export tree nuts or animal products (except for whey).
Source: All data are from Korea Agricultural Trade Information, www.kati.net.

Table 2.i. Korean Agricultural Imports and Domestic Production by Commodity in Metric Tons: 2005–2007

	2005		2006		2007	
	Imports	**Production**	**Imports**	**Production**	**Imports**	**Production**
Fruits and Vegetables						
Oranges, fresh	123,048	638,000	124,495	620,000	77,671	706,000
Oranges, juice	38,446		34,158		32,872	
Lemons	5,171		5,998		6,249	
Table grapes	13,353	381,436	17,291	330,000	27,802	307,000
Grapes, juice	16,625		14,643		14,172	
Cherries	2,845		2,782		5,745	
Strawberries	4,585		5,580		7,375	190,000
Tomatoes, processed	39,850		41,899		43,157	
Raisins	3,208		3,470		3,561	
Apples	6,624	368,000	6,571	408,000	7,743	436,000
Pineapple	65,678		69,628		86,570	
Bananas	253,974		280,245		308,252	
Kiwis	26,751		32,112		34,658	
Grapefruit	2,045		2,745		6,834	
Peaches, fresh	0	223,701	0	194,000	0	209,000
Peaches, processed	7,196		8,561		9,363	
Peaches, juice	894		591		590	
Pears, fresh	44	443,000	33	432,000	38	467,000
Pears, processed	437		415		353	
Plums, fresh	0	75,963	0	64,419	0	
Prunes, dried	171		542		610	
Lettuce	1,262	204,786	3,357		5,667	
Garlic	42,152	374,980	43,990	331,379	51,013	348,000
Red peppers	61,000	161,000	73,000	117,000	28,000	160,000
Onions	41,000	1,023,000	61,000	890,000	26,000	1,213,000
Tree Nuts						
Almonds	5,011		5,262		6,071	
Walnuts	4,483		8,113		6,935	
Pistachios	473		430		435	
Livestock Products						
Beef	196,363	152,400	236,338	158,200	244,602	171,600
Hides and skins	181,017		157,606		149,410	

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Table 2.i. Korean Agricultural Imports and Domestic Production by Commodity in Metric Tons: 2005–2007 (cont.)

	2005		2006		2007	
	Imports	**Production**	**Imports**	**Production**	**Imports**	**Production**
Dairy Products						
TOTAL	149,045		154,503		157,515	
Skim milk powder	6,147	23,677	6,711	18,318	4,928	
Whole milk powder	1,743	4,762	1,992	4,020	1,136	
Butter	5,047	4,013	3,206	3,891	4,096	
Whey	40,319		52,511		46,792	
Cheese	44,032	23,724	44,032	27,929	49,471	
Formulated butter	19,371		19,397		21,393	
Mixed milk powder	28,708		26,527		31,723	
Infant formula	3,179	15,204	2,684	12,766	2,372	
Casein	6,089		6,418		7,226	
Other						
Rice	133,486	5,000,000	255,042	4,768,000	264,739	4,680,000
Wine	21,046		23,715		33,389	
Cotton	278,288		216,268		226,409	
Hay	700,996	3,432,000	699,431		906,104	
Flowers	36,053	7,522 ha	39,617		40,695	

Sources: All import data except for cotton and hides and skins are from Korea Agricultural Trade Information, www.kati.net. Data for cotton and hides and skins are from Korea Customs Service, www.customs.go.kr. Production data are from a variety of sources. Hay production is from Korea Dairy Committee, www.dairy.or.kr. Production data for table grapes, strawberries, apples, garlic, and red peppers are from National Agricultural Products Quality Management Service, www.naqs.go.kr. Data for dairy production is from various issues of the *Dairy Year Book* published by the Korean Ministry of Agriculture, Forestry, and Fishery. All other production data are from Korea Rural Economic Institute, www.krei.re.kr.

Part 3. The KORUS FTA and Broad Agricultural Access Improvements

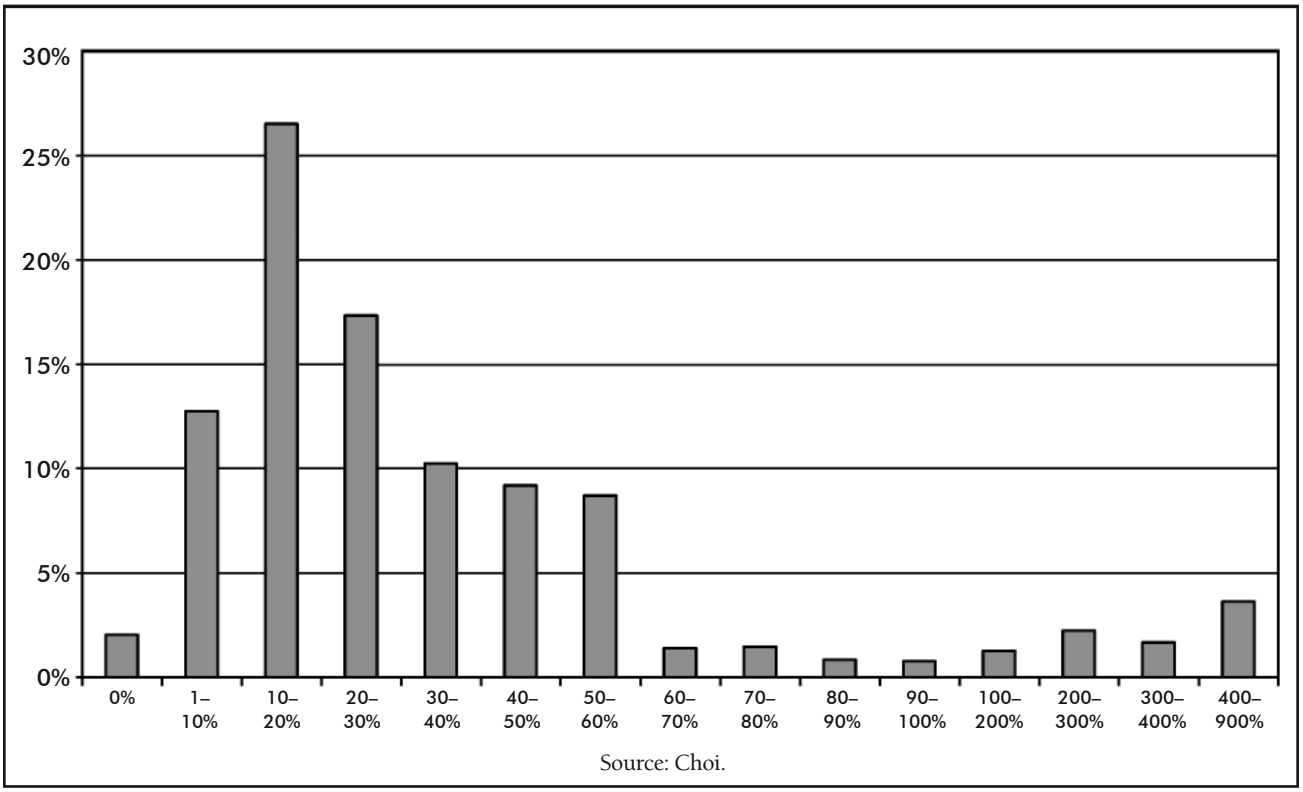
This section considers the pre-existing pattern of agricultural tariffs and then summarizes the changes in market access proposed in the KORUS FTA on a commodity-by-commodity basis. We cannot list the full set of access changes given the thousands of tariff lines that are affected.

3.1. Pre-existing Agricultural Access Barriers

Korea maintains high tariffs on agricultural goods. The average agricultural tariff in Korea is 62% (Choi), which is considerably higher than the average applied tariff of 11.2% on manufactured goods (this is still high compared to an average U.S. applied tariff of 7%). Of all Korea's agricultural tariffs, only about 2% are zero and only about 15% are less than 10% (Figure 2). At the other end of the spectrum, about 10% of the tariffs exceed 100% and about 4% exceed 400%. The bulk of the tariffs—more than 80% of all tariff lines—fall between 11% and 60% (Figure 2). For comparison, the average agricultural tariff applied by the United States is 12% with many tariff lines already set at zero. Even with low or zero U.S. tariffs for most agricultural products, imports from Korea have been negligible.

Some of the highest Korean tariffs are for specialty agricultural products that are important in Korean food. For example, the sesame tariff is 630%, the pepper tariff is 270%, and the garlic tariff is 360%. These products are important for preparation of Korean specialty foods and face potential import competition, especially from China. Tariffs for meat products, although still very high by international standards, are much lower. The tariff for beef is 40% and the tariff for chicken is 18% (Choi). In many cases, major import commodities from California face tariffs of more than

Figure 2. Percentage Share of Korean Agricultural Tariff Lines by Tariff Rate Bracket



Source: Choi.

30%. In a number of cases, such as beef, citrus, tree nuts, and others, significant exports are able to penetrate the Korean market despite high tariffs.

In addition to high tariffs, imports of products important for Korean agriculture are often restricted by imposition of quotas. Table 3.a shows tariff rate quota (TRQ) quantities (absolute quotas for rice) for selected commodities for each year since the beginning of implementation of the Uruguay Round WTO agreement in 1995. (For tariff rates for these commodities, see Table A-1 in the Appendix.) We will discuss the dairy quotas in more detail. Here we only note that orange imports far exceeded the access available at the within-quota tariff rate and, according to Korean data, all imports pay the duty of 50%. Expanding or removing these quotas and lowering the tariffs, especially on a bilateral basis, would create substantial opportunities for California exports to Korea. For example, a lower tariff for California garlic while China continues to face a 360% tariff would create a substantial advantage for California. We consider such cases in more detail in Part 4.

Lower tariffs and fewer other barriers would allow important export expansions for citrus products, tree nuts, dairy products, beef, grapes and grape products, stone fruits, strawberries, fresh and processed vegetables, flowers and ornamental horticulture, processed tomato products, olives, hides and skins, cotton, and hay.

3.2. Overview of the Market Access Schedule under the KORUS FTA

Korea already has, in practice, an almost open border for many field crops other than rice. But it has erected high trade barriers for many specialty crops, including vegetables, fruits, and animal products, that are important in California agriculture. (Detailed commodity-specific tariff rates are provided in Table A-1 in the Appendix.) The KORUS FTA would reduce tariffs rapidly and create access opportunities for many specialty products currently exported to Korea under relatively high tariffs. For other products, tariffs are reduced only gradually and TRQs are used to expand access quantitatively. For some politically sensitive commodities, the agreement establishes safeguards to protect Korean industries during the transition.

Table 3.b shows the major market access categories, each of which includes important California agricultural products and commodities. The table indicates that, with the exception of rice, there is substantial potential for new market access for many California agricultural products in the Korean market. Market access is improved through four broadly defined mechanisms: immediate opening, simple tariff phase-outs, safeguard quantities or duty phase-outs, and expansion of duty-free tariff rate quantities. For some sensitive products, Korea uses safeguard and TRQ approaches. While both of these approaches use quantity restrictions, they differ in the treatment of over-quota quantity (or the safeguard quantity). Furthermore, how the quantity restrictions change over time differs by product. In the next section, we provide more detailed information on this. In Table A-2 in the Appendix we provide the tariff schedules that are effective under the Korea-Chile FTA, which can be compared with the schedules under the KORUS FTA.

Table 3.a. Korean Quotas or Tariff Rate Quotas and Actual Imports by Tariff Tier: Dairy Products, Oranges, and Rice for 1995–2004

	Minimum Market Access (tons)			Actual Imports by Tariff Rate (tons)			
Year	Initial	Increase	Total	Lower Tariff	Higher Tariff	Other	Total
Skim Milk Powder							
2004	1,034	–	1,034	710	3,680	–	4,389
2003	988	–	988	888	3,664	8	4,560
2002	942	–	942	118	4,043	0	4,160
2001	896	–	896	1,515	3,734	12	5,260
2000	806	1,195	2,000	143	2,859	2	3,004
1999	805	–	805	805	2,037	0	2,842
1998	759	–	759	916	1,732	–	2,648
1997	713	–	713	603	1,327	0	1,930
1996	667	–	667	649	–	–	649
1995	621	–	621	621	–	–	621
Whole Milk Powder							
2004	573	–	573	99	1,412	–	1,512
2003	548	–	548	447	1,212	1	1,660
2002	522	–	522	–	1,074	–	1,074
2001	497	–	497	407	1,092	40	1,539
2000	471	–	471	180	512	–	692
1999	446	–	446	326	135	–	461
1998	420	–	420	75	119	–	194
1997	395	–	395	320	121	–	441
1996	369	–	369	16	–	–	16
1995	344	–	344	344	–	–	344
Evaporated Milk							
2004	130	–	130	–	190	–	190
2003	124	–	124	–	53	–	53
2002	118	–	118	–	11	0	11
2001	113	–	113	–	48	0	49
2000	107	–	107	19	17	1	37
1999	101	–	101	–	–	0	0
1998	95	–	95	–	–	–	–
1997	90	–	90	–	2	–	2
1996	84	–	84	50	–	–	50
1995	78	–	78	78	–	–	78

Continued on following page

Table 3.a. Korean Quotas or Tariff Rate Quotas and Actual Imports by Tariff Tier: Dairy Products, Oranges, and Rice for 1995–2004 (cont.)

	Minimum Market Access (tons)			Actual Imports by Tariff Rate (tons)			
Year	Initial	Increase	Total	Lower Tariff	Higher Tariff	Other	Total
Whey							
2004	54,233	–	54,233	35,740	121	–	35,861
2003	50,763	–	50,763	39,202	320	61	39,582
2002	47,292	–	47,292	35,199	153	1	35,353
2001	43,822	–	43,822	38,457	142	6	38,604
2000	40,351	–	40,351	38,796	86	2	38,884
1999	36,881	–	36,881	30,544	40	35	30,619
1998	33,411	–	33,411	23,976	30	9	24,015
1997	29,941	–	29,941	21,256	11	1,713	22,981
1996	26,470	–	26,470	22,973	–	–	22,973
1995	23,000	–	23,000	22,250	–	–	22,250
Butter							
2004	420	–	420	420	1,272	193	1,885
2003	401	–	401	401	725	171	1,296
2002	382	–	382	382	486	178	1,046
2001	363	–	363	363	554	154	1,071
2000	345	–	345	345	431	156	931
1999	326	–	326	326	443	127	896
1998	307	–	307	307	131	61	499
1997	288	–	288	288	862	2	1,152
1996	269	–	269	268	–	–	268
1995	250	–	250	250	–	–	250
Lactose							
2004	9,400	10,600	20,000	14,509	25	138	14,672
2003	8,982	8,018	17,000	15,647	9	115	15,770
2002	8,565	8,436	17,000	15,395	10	211	15,615
2001	8,147	9,453	17,600	14,104	374	247	14,725
2000	7,729	8,471	16,200	14,755	68	285	15,108
1999	7,311	4,689	12,000	12,062	136	265	12,463
1998	6,893	5,107	12,000	10,641	100	–	10,740
1997	6,476	7,524	14,000	11,332	7	425	11,763
1996	6,058	7,942	14,000	11,194	–	–	11,194
1995	5,640	9,360	15,000	9,918	–	–	9,918

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Table 3.a. Korean Quotas or Tariff Rate Quotas and Actual Imports by Tariff Tier: Dairy Products, Oranges, and Rice for 1995–2004 (cont.)

	Minimum Market Access (tons)			Actual Imports by Tariff Rate (tons)			
Year	Initial	Increase	Total	Lower Tariff	Higher Tariff	Other	Total
Oranges							
2004	57,017	–	57,017	247	102,557	51,641	154,444
2003	50,682	–	50,682	50,497	94,151	233	144,881
2002	45,051	–	45,051	44,059	58,404	191	102,654
2001	40,045	–	40,045	31,993	58,807	179	90,980
2000	38,343	–	38,343	31,215	67,504	297	99,017
1999	33,674	–	33,674	22,269	6,811	1,773	30,853
1998	29,006	–	29,006	27,177	9,388	94	36,659
1997	24,337	–	24,337	24,681	13,671	2	38,354
1996	19,669	–	19,669	19,669	–	–	19,669
1995	15,000	–	15,000	14,986	–	–	14,986
Rice (nonglutinous)							
2004	205,228		205,228	199,004	–	39,065	238,070
2003	179,575	–	179,575	143,154	–	24,523	167,677
2002	153,921	–	153,921	151,139	–	21,869	173,008
2001	128,268	–	128,268	93,113	–	22,740	115,853
2000	102,614	–	102,614	172,044	–	16,487	188,532
1999	102,614	–	102,614	155,659	–	10,803	166,462
1998	89,787	–	89,787	43,969	–	22,882	66,850
1997	76,961	–	76,961	8,000	–	21,181	29,181
1996	64,134	–	64,134	64,134	–	–	64,134
1995	51,307	–	51,307	51,307	–	–	51,307

Note: Dash means not applicable.
Source: Korea Rural Economic Institute, www.krei.re.kr.

Table 3.b. Summary of Access Improvements for Important Agricultural Products by General Market Access Category

Market access schedule	Commodities
Excluded from the agreement	Rice
Immediate unrestricted opening	Fresh asparagus, cabbage, celery, fresh cucumbers, eggplant, fresh shallots, spinach (fresh and frozen), tomato paste, cherries, olives, raisins, frozen orange concentrate, grape juice, almonds, pistachios, coffee, wine, cattle hides and skins, live livestock, feed whey
Tariff phase-out	
Two years	Avocados, lemons, dried plums
Four years	Off-season table grapes
Five years	Chinese cabbage, carrots (fresh and frozen), cauliflower, broccoli, peas, beans (excluding selected varieties), dried mushrooms (excluding selected varieties), frozen potatoes, tomato juice, grapefruit, frozen strawberries, orange juice, various fruit juices
Six years	Walnuts (shelled), off-season fresh oranges
Seven years	Fresh tomatoes, ice cream, apricots
Nine years	Fresh strawberries
Ten years	Artichokes, brussels sprouts, preserved cucumbers, lettuce, fresh mushrooms (excluding selected varieties), peaches, pears (excluding Asian pears), dates, persimmons, tangerine juice
Twelve years	Chicken meat, frozen onions, watermelon, various berries
Fifteen years	Korean citrus, kiwi fruit, walnuts (in-shell), chestnuts, pine nuts, oak mushrooms (fresh and dried), beef offal
Seventeen years	In-season table grapes
Twenty years	Asian pears
Safeguard quantity and duty applied	Garlic, onions, peppers, beans (Urd, Adzudi, Mung), sweet potatoes, ginger, apples, beef, pork
Duty-free TRQ expands over time with or without over-quota tariff phase-out	In-season fresh oranges, skim milk powder, cheese, whole milk powder, condensed and evaporated milk, food whey, butter

Source: Office of the United States Trade Representative, "KORUS Agricultural Tariff Schedule for the Republic of Korea," www.ustr.gov/assets/Trade_Agreements/Bilateral/Republic_of_Korea_FTA/Draft_Text/asset_upload_file1_12756.pdf.

Part 4. Commodity-specific Analysis of Market Access Improvements

California is an important supplier of many agricultural products, including fruits, tree nuts, vegetables, rice, cotton, beef and beef related products, and dairy products. In previous parts of this report, we have provided an overview of changes in trade barriers that would be achieved under the KORUS FTA for California export commodities. However, some details were necessarily deferred given that import access, even for seemingly similar products, is often differentiated depending on the commodity classification used in trade. Our purpose here is to supplement the information previously provided by adding more detail on a product-by-product basis. We identify the products with their ten-digit HS codes and provide information on access improvements specified in the KORUS FTA, recent imports, and major exporters.

4.1. Citrus Fruit

Korea has been a major market for fresh oranges and other citrus fruit from California despite a current duty of 50%. Table 4.a provides detailed information on how various citrus imports will enter the country under the KORUS FTA. Off-season oranges (March 1 through August 31) will receive an immediate tariff cut to 30%, which will then decline to zero over six years. In-season imports (September 1 through February 28)

Table 4.a. Market Access Improvements for Citrus Fruit under the KORUS FTA

Citrus Product	Base Tariff	Market Opening Schedule
Oranges, fresh[1]	50%	Off season (March 1 through August 31): immediate tariff reduction to 30% and then phased out in six years. In season (September 1 through February 28): An immediate duty-free TRQ of 2,500 metric tons applies. From year two, the duty-free TRQ grows at a compounded 3% rate in perpetuity. Above the TRQ amount, a tariff of 50% applies.
Korean citrus and other mandarins[2]	144%	Fifteen years
Lemons and limes	30%	Two years
Grapefruit	30%	Five years
Orange juice, frozen concentrated	54%	Immediate
Grapefruit juice	30%	Ten years
Lemon juice	50%	Ten years[3]
Lime juice	50%	Five years

[1] The HSK (Harmonized Schedule of Korea) provision for this category is 0805100000 and excludes temple oranges, mandarins (including tangerines and Satsuma oranges), clementines, Wilkings, and similar citrus hybrids.

[2] The Korean citrus (0805201000) is similar to the Satsuma variety of oranges.

[3] This schedule applies to lemon juice with HS code 2009391000. Lemon juice with a brix level of less than twenty (HS code of 2009311000) has a five-year phase-out. However, Korea imports mostly (more than 90%) the former type.

Source: Office of the United States Trade Representative, "KORUS Agricultural Tariff Schedule for the Republic of Korea," www.ustr.gov/assets/Trade_Agreements/Bilateral/Republic_of_Korea_FTA/Draft_Text/asset_upload_file1_12756.pdf.

will be subject to tight TRQs. Beginning with a duty-free TRQ of 2,500 metric tons (MT) in the first year, the TRQ grows each year at a 3% compounded rate in perpetuity. An over-quota tariff of 50% applies to any imports in excess of the TRQ amount. The schedule for in-season imports specified under the KORUS FTA is indeed very restrictive given that the first-year TRQ of 2,500 MT is equivalent to only 0.4% of the citrus fruit produced in Korea in 2007.

The limited access improvement for in-season oranges is designed to protect a domestic industry that produces a citrus fruit that is similar to the mandarin orange and almost identical to a Satsuma variety (this kind is referred to as Korean citrus in the agreement). This Korean citrus fruit is easy to peel, often quite sweet, and nearly seedless. Korea produces more than 600,000 MT of this Korean citrus fruit on Jeju Island, which is located just off the southern tip of the peninsula. During the marketing season, imported oranges are clear substitutes for Korean citrus. In addition to limits on imports of fresh oranges, the Korean citrus industry is protected by the 144% tariff imposed on foreign supplies of close substitutes for Korean citrus and mandarins. Under the KORUS FTA, the tariff on Korean citrus is scheduled to phase out over fifteen years.

Currently, about 70% of fresh orange exports to Korea are shipped during the off-season (U.S. Department of Agriculture, Foreign Agricultural Service). Korea was the second largest market for California oranges in 2004 and 2005 before slipping to fourth in 2006. California shipped oranges to Korea valued at about $75 million per year from 2003 to 2006 with only very limited competition from South Africa, Australia, and Spain. Given the 50% base tariff, the KORUS FTA would provide considerable access improvement for California exporters. Table 4.b shows that fresh citrus and juice are the two major citrus product imports. For orange products, frozen orange juice imports are especially substantial, comprising almost 40% of all combined orange products. More than 60% of Korea's frozen orange juice imports come from Brazil. The United States follows Brazil with about 23% of market share. However, Korea's 54% WTO tariff on frozen orange juice concentrate will be eliminated immediately, and this will substantially enhance the competitiveness of U.S. frozen orange juice producers.

The 30% tariff on fresh lemons and limes will be eliminated in two years and the 50% tariff on juice will be eliminated in ten years for lemon juice and five years for lime juice. Korea is a major export market for California lemons. In 2006, Korea imported $8.4 million worth of fresh lemons and limes; of this, California lemons and limes accounted for $5.3 million. The KORUS FTA would contain fresh lemon exports from Chile, which have increased since the Chilean FTA with Korea reduced the tariff faced by Chile. Lemon and lime juice imports are about 25% of the lemon and lime product market and the United States is the second largest exporter, following Italy very closely (Table 4.c).

The current 30% tariff on fresh grapefruit will be eliminated in five years in equal annual installments. In 2007, Korean imports of fresh grapefruit

Table 4.b. Imports of Citrus Products by HS Code in $1,000

	2006	2007
Orange Products	**168,038**	**179,301**
Fresh (0805100000)	123,064	108,014
Frozen juice (2009110000)	43,443	68,838
Other (2009190000)	861	1,467
Orange juice, brix ≤ 20 (2009120000)	669	982
Lemon and Lime Products	**7,912**	**10,961**
Fresh (0805501000)	6,046	8,326
Lemon juice (2009391000)	1,728	2,495
Lime juice, brix ≤ 20 (2009312000)	17	12
Lemon juice, brix ≤ 20 (2009311000)	59	27
Lime juice (2009392000)	31	70
Citrus aurantifolia (0805502010)	31	30
Grapefruit Products	**4,431**	**8,839**
Fresh (0805400000)	2,715	6,396
Grapefruit juice (2009290000)	1,662	2,420
Grapefruit juice, brix ≤20 (2009210000)	54	24

Source: Korea Agricultural Trade Information, www.kati.net.

Table 4.c. Imports of Citrus Products by Major Import Source in $1,000

		2006	2007
Fresh oranges	U.S.	116,611	100,990
Frozen orange juice	Brazil	31,264	42,818
	U.S.	11,231	16,058
Fresh lemons	U.S.	5,393	7,755
	Chile	654	571
Lemon juice	Italy	804	1,035
	U.S.	751	999
	Israel	68	288
Fresh grapefruit	U.S.	2,715	6,396
Grapefruit juice	Japan	1,024	1,068
	Israel	350	1,101
	U.S.	49	157

Source: Korea Agricultural Trade Information, www.kati.net.

and grapefruit juice products combined approached $9 million (Table 4.b). The United States exports mostly fresh grapefruit and not much grapefruit juice (Table 4.c). Korea produces no grapefruit so lower prices will increase demand.

4.2 Noncitrus Fruit

The KORUS FTA promises the complete opening of fruit markets in Korea to U.S. exports with some markets opening immediately and others opening within specified time schedules. Table 4.d provides the detailed schedule of market openings for noncitrus fruit products. Immediate complete opening of the markets is allowed for cherries, olives, raisins, and grape juice concentrate. For most of the remaining products, the tariffs will be reduced to zero in two to fifteen years. The market opening schedules for apples, Asian pears, and table grapes are more restrictive. These are fruits consumed widely in Korea and Korean fruit farmers are particularly threatened by rapid opening of these markets. For these items, the KORUS FTA includes safeguard quantities/duties and seasonal restrictions in addition to the simple tariff phase-out. Note that apples and pears were excluded from the FTA that Korea recently concluded with Chile. However, there currently is no market access for apples and pears due to sanitary and phytosanitary issues.

The market opening for apples has been delayed with safeguard quantities and duties. The safeguard quantity, starting with 9,000 MT, increases to 20,429 MT by year 23. Given annual apple production of more than 400,000 MT in Korea, the safeguard quantity starts at less than 2.5% and ends at about 50% of domestic production. The tariff phases out in ten years. The safeguard duty decreases over the same period, ending after year ten for all apples but the Fuji variety. Fujis, which are favored by Koreans, have a long period of market opening with the safeguard duty lasting 23 years. As shown in Table 4.e, under the currently restrictive import policy, no fresh apples enter the country. Imports of apple juice are substantial—close to $10 million in 2007. Table 4.f shows that these apple juice imports are mostly supplied from China. The United States is a distant second and California is not a significant exporter of apple juice.

Table grapes do not face quantity restrictions but seasonal import restrictions apply (Table 4.d). The Korean tariff on U.S. table grapes is now 45% and, under the KORUS FTA, it will fall to 24% immediately and then be phased out. For off-season imports (October 16 through April 30), the tariff will be eliminated in four years; for in-season imports (May 1 through October 15), the tariff phases out in seventeen years. Currently, about 70% of U.S. table grape exports to Korea are shipped during the off-season period. Chile currently accounts for 85% of Korea's grape imports, in part because Chile's exports are counter-seasonal to Korean production (Table 4.f). The Korean market for table grapes is substantial at close to $60 million in 2007. The import markets are dominated by only two countries, Chile and the United States (mostly from California). The immediate tariff reduction from 45% to 24% will provide access improvement for U.S. producers.

The market for grape juice is also large, exceeding $25 million in 2007 (Table 4.e). The Korean import tariff of 45% on grape juice will be eliminated immediately. As shown in Table 4.f, U.S. suppliers in 2007 shipped grape juice valued at $10 million to Korea, which is the United States' third largest market for this product. Spain is the number two exporter of grape

Table 4.d. Market Access Improvements under the KORUS FTA: Selected Noncitrus Fruit

Noncitrus Product	Base Tariff	Market Opening Schedule
Apples, fresh	45%	An initial safeguard trigger level of 9,000 MT is established. This level remains unchanged until the end of year four. In year five, it increases to 12,000 MT and grows at a 3% compounded rate each year until it reaches 20,429 MT in year twenty-three. The safeguard quantity includes all varieties of apples. The tariff goes to zero in ten equal reductions. The safeguard duty has a schedule of 45% for years one through five, 33.8% for years six through ten, 27% for years eleven through fifteen, and 22.5% for years sixteen through twenty-three. Beginning with year eleven, the safeguard duty applies only to Fuji apples.
Apple juice	45%	Seven years
Apricots	45%	Seven years
Avocados	30%	Two years
Dates	30%	Ten years
Cherries, fresh	24%	Immediate
Cherries, canned	45%	Immediate
Grapes, table	45%	The tariff is immediately reduced to 24% and then phases out in four years for off-season imports (October 16 through April 30) and seventeen years for in-season imports (May 1 through October 15).
Kiwi fruit	45%	Fifteen years
Olives	20%	Fifteen years
Peaches	45%	Ten years
Pears, fresh	45%	The tariff for all pears except Asian pears goes to zero in ten equal reductions. Asian pears have a twenty-year phase-out.
Peaches, prepared and preserved[1]	50%	Ten years
Plums, dried	18%	Two years
Raisins	21%	Immediate
Raspberries, blackberries, mulberries, loganberries	45%	Twelve years
Strawberries, fresh	45%	Nine years
Strawberries, frozen	30%	Five years
Grape juice	45%	Immediate
Peach juice, strawberry juice	50%	Ten years

[1] This category includes the items under HS code 2008701000.

Source: Office of the United States Trade Representative, "KORUS Agricultural Tariff Schedule for the Republic of Korea," www.ustr.gov/assets/Trade_Agreements/Bilateral/Republic_of_Korea_FTA/Draft_Text/asset_upload_file1_12756.pdf.

Table 4.e. Korean Imports of Noncitrus Fruit Products in $1,000

	2006	2007
Total Grape Products	**59,438**	**85,695**
Table grapes (0806100000)	32,600	58,029
Grape juice (2009690000)	28,049	25,448
Raisins (0806200000)	5,257	5,584
Grapes, prepared or preserved (2008991000)	355	430
Grape juice, brix ≤ 20 (2009610000)	236	324
Total Cherry Products	**15,777**	**36,221**
Fresh cherries (0809200000)	12,156	31,744
Cherries, prepared or cooked (2008600000)	3,604	4,476
Cherries, temporarily preserved (0812100000)	17	0
Total Peach/Nectarine Products	**9,145**	**10,349**
Prepared and preserved (2008701000)[1]	7,617	8,538
Peach juice (2009801010)	1,357	1,326
Prepared (2008709000)	171	485
Total Apple Products	**8,535**	**10,606**
Apple juice (2009790000)	6,834	8,508
Apple juice, brix ≤ 20 (2009710000)	513	1,467
Prepared or preserved (2008992000)	870	567
Dried apples (0813300000)	319	64
Total Strawberry Products	**7,540**	**9,838**
Prepared or cooked (2008800000)	1,550	1,966
Frozen strawberries (0811100000)	4,951	7,035
Strawberry juice (2009801020)	1,040	837
Total Kiwi Products	**62,736**	**69,831**
Fresh kiwis (0810500000)	62,736	69,831

[1] Preserved in airtight containers with sugar added.

Source: Korea Agricultural Trade Information, www.kati.net.

Table 4.f. Korean Imports of Selected Noncitrus Fruit Products by Major Import Source in $1,000

	2006	2007
Table Grapes		
Chile	27,835	47,431
U.S.	4,765	10,509
Raisins		
U.S.	4,926	5,239
Turkey	225	219
Grape Juice		
U.S.	8,861	10,059
Spain	6,276	5,574
Argentina	2,375	1,834
Chile	1,516	1,384
Fresh Cherries		
U.S.	11,041	29,908
Frozen Strawberries		
China	4,043	5,565
U.S.	813	813
Mexico	0	500
Peaches/Nectarines, Preserved		
China	2,736	3,766
Greece	1,618	1,229
South Africa	1,994	1,772
U.S.	67	0.1
Apple Juice		
China	4,034	4,688
U.S.	1,220	985
New Zealand	562	1,455
Fresh Kiwis		
New Zealand	45,710	54,108
Chile	12,255	9,946
U.S.	4,749	5,742

Source: Korea Agricultural Trade Information, www.kati.net.

juice to Korea and Chile and Argentina have rapidly increased their presence in the market (Table 4.f does not show this time trend). The 21% raisin tariff will be eliminated immediately, allowing a substantial reduction in the domestic price in Korea. Raisin imports have exceeded $5 million a year (Table 4.e) and more than 95% of these imports are shipped from California. Korea produces no raisins and there are only very limited imports from Turkey. Elimination of the tariffs for grape juice and raisins means that the Korean prices of these products will decline substantially and the markets for these products will expand.

Table grapes present one of the largest potentials for U.S. expansion in the Korean market. Korean grapes are available seasonally but the California season is longer. Elimination of the 45% tariff would allow the California grape industry to replace some Korean product and supply grapes during months when Korean grapes are unavailable or extremely costly and the Chilean product is not yet in the market. Under the Korean FTA with Chile, the tariff rate for table grapes is set at 28.9% in 2007 and scheduled to go to zero in 2014.

The 45% tariff for all pears except Asian pears will phase out over ten years, but Asian pears are subject to the twenty-year tariff phase-out. Fresh pears are not allowed to enter the country and the market for processed pears (45% tariff) is presently very small. Most California stone fruits other than cherries are not in the Korean market in a significant way. As shown in Table 4.e, imports of peach products (including nectarines) are all in nonfresh form. Among these, the largest imports are identified with HS code 2008701000, which is fruit preserved in airtight containers with sugar added (mostly canned). As shown in Table 4.d, the base tariff of 50% for this product will phase out in ten years. Table 4.f indicates that the largest exporter of this product to Korea is China, followed by South Africa and Greece. Gradual elimination of the 50% tariff for canned peaches from the United States will allow a modest price advantage for California products. The prune market (18% tariff), which is also small, will be completely open in two years.

Under the KORUS FTA, the 24% tariff on fresh cherries will be eliminated immediately. Fresh cherry exports to Korea rank as the United States' second largest fresh fruit export. These fresh cherry exports to Korea reached about $30 million in 2007 and were supplied mostly by California. Korea produces almost no cherries and elimination of the 24% tariff is expected to expand the fresh cherry market even further. The immediate elimination of the 45% tariff on preserved (or canned) cherries will also expand the market for canned cherries substantially.

Strawberries are another favored fruit in Korea. The 45% tariff on fresh strawberries will be eliminated in nine years. Currently, no fresh strawberries enter the country (Table 4.e) and more than 70% of Korea's imported strawberries are frozen. Strawberries are probably the largest greenhouse crop in value (no data are available for greenhouse crops) in Korea. Under the KORUS FTA, the 30% tariff on frozen strawberries will be reduced to zero over five years. Korea imported more than $7 million worth of frozen strawberries in 2007 and about 80% of those imports originated from China with the rest supplied by the United States and Mexico. Preserved strawberries also add to strawberry imports (close to $2 million in 2007). The 45% tariff on preserved strawberries will be eliminated over fifteen years.

Kiwis are relatively new to Korean consumers. Though kiwis were introduced in Korea only about a decade ago, the import market in Korea has grown rapidly, reaching $70 million in 2007 (Table 4.e). Kiwi imports consist of fresh kiwis only and the 45% tariff currently imposed will be eliminated over fifteen years under the KORUS FTA. Kiwi exports to Korea are dominated by New Zealand, which has 78% of the import market in Korea. The rest of the market is distributed between Chile (14%) and the United States (8%).

Currently, Korean markets for avocado and olive exports are small at less than $3 million in combined value. Under the KORUS FTA, Korea's 30% tariff on avocados will be phased out over two years and the 20% tariff on olives will be eliminated over five years. Even though the current markets are small, with no Korean production and no major competitors for the United States, these markets have growth potential under free trade.

4.3. Wine

We consider wine separately because it is a large import product in value among all food and beverage items in Korea and is one of the most important agricultural products that California produces. Table 4.g provides data on Korean wine imports for the most recent decade. Korean wine imports have grown more than twentyfold over the last ten years and evolved into a major market with wine imports reaching more than $150 million in 2007. In Korea, traditional wines are made from sources other than grapes and consumption of wine made from grapes is mostly due to Western influences. Until very recently, there was no commercial grape wine industry in Korea.

Under the KORUS FTA, the 30% tariff on wine will be eliminated immediately. France has been the largest wine exporter in the Korean market. Chile has come in second in recent years. But note that Chilean wine exports jumped after the FTA with Korea was completed. Elimination of the tariff on U.S. wine would allow the California industry to compete effectively with other import suppliers and match the zero tariff now enjoyed by Chile. In 2007, the United States exported $17 million worth of wine to Korea, almost all from California. The unit export prices implied in Table 4.g indicate that California exports mainly relatively inexpensive wines to Korea as Spain is the only exporter of the six that has a lower unit price.

Table 4.g. Korean Wine Imports

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total Korean Imports of Wine (2204)										
Tons	2,559	5,766	8,053	8,862	11,510	13,980	15,898	18,984	22,195	31,810
$1,000	6,491	15,122	19,802	23,109	29,417	45,783	57,979	67,655	88,607	150,364
Imported from France										
Tons	962	2,597	3,405	3,450	4,378	4,511	4,513	4,217	4,660	7,091
$1,000	3,108	8,380	10,230	10,924	16,325	22,684	26,350	24,967	32,705	59,141
Imported from Chile										
Tons	20	104	193	156	322	848	2,281	3,247	3,843	6,104
$1,000	89	360	483	652	1,205	2,990	8,008	11,884	15,376	25,496
Imported from Italy										
Tons	292	576	712	668	768	1,061	1,053	1,371	1,861	3,257
$1,000	759	1,337	1,457	1,599	2,257	4,187	4,708	6,747	8,989	19,608
Imported from United States										
Tons	375	930	1,280	1,320	1,525	3,001	3,466	3,589	4,192	4,834
$1,000	907	2,256	3,394	5,672	4,358	7,192	8,136	9,471	12,482	16,756
Imported from Australia										
Tons	150	396	513	361	556	990	1,279	1,301	1,595	2,430
$1,000	277	901	1,199	897	1,430	3,234	4,037	5,133	6,654	11,166
Imported from Spain										
Tons	201	353	814	1,530	2,918	2,273	2,081	3,012	3,653	5,325
$1,000	284	379	815	1,050	1,781	2,111	2,325	2,928	4,506	7,520

Source: Korea Agricultural Trade Information, www.kati.net.

The historical import data indicate that the trend of an expanding Korean wine market is likely to continue, and California's share of that growth would be much enhanced by a tariff advantage relative to European and Australian wines. Further, improving the access of California wine to an up-scaled premium wine market in Korea would also increase the total value of California exports.

4.4 Tree Nuts

Table 4.h documents access improvements for three major tree nut exports under the KORUS FTA. These three nuts constitute a major share of Korean tree nut imports and are the major tree nuts produced in California. Since Korea does not import tree nut products other than shelled and in-shell nuts, we do not provide a product-specific import table for tree nuts. We also do not provide imports by source because California is the major exporter of these nuts and those import figures are provided in the preceding tables.

Both shelled and in-shell almonds are currently subject to an applied tariff of 8%. In 2006 and 2007, Korea established a TRQ for almonds of 5,300 MT. The in-quota rate was lowered to 5% while the out-of-quota rate remained at 8%. While the applied rate for almonds has been 8% for a number of years, Korea's WTO-bound duties are 21% for shelled almonds and 45% for in-shell almonds. The FTA will prevent arbitrary imposition of the higher tariffs should Korea decide to protect domestic nut industries (such as walnuts). With elimination of the tariff on almonds under the KORUS FTA, all export expansion would be new demand because Korea produces no almonds and no other supplier is in the market.

U.S. pistachios are currently subject to applied tariffs of 30%. However, Korea's WTO-bound duty is 45%. As with almonds, without the FTA Korea could impose the higher tariff should it decide to protect domestic nut industries. Exports are currently small but a price cut could create new demand as incomes in Korea rise and the diet continues to diversify. In addition, imports from Iran now account for about half of the market.

Shelled walnuts face a tariff (both bound and applied) of 30% and in-shell walnuts face a tariff of 45%. Until 2006, phytosanitary restrictions kept in-shell walnuts out of Korea. Since lifting of those restrictions, imports have grown. Under the KORUS FTA, the tariff for shelled walnuts will be eliminated in six years and the tariff for in-shell walnuts will be eliminated in fifteen years. Walnut exports to Korea are already substantial and lower tariffs will allow the market to grow while insuring California products an advantage relative to imports from Vietnam and potential imports from China.

The California tree nut industry successfully exports globally and Korea has begun to increase imports despite tariffs as high as 45%. California has a strong presence in the Korean market for tree nuts. Tariff elimination would allow the industries to build on recent momentum. Tree nuts fit well with the Korean diet and there is no domestic industry to offer competition. Current imports are ready to expand rapidly with tariff elimination, generating lower prices for Korean customers.

4.5. Vegetables

Table 4.i presents the detailed schedule for tariff elimination or phase-out for vegetables. The KORUS FTA allows Korean tariffs on vegetables to be either eliminated immediately or phased out over time for all but a few sensitive products for which safeguard restrictions are applied. Many fresh vegetables (including asparagus, cabbage, celery, cucumbers, and spinach) and tomato paste will be free of duties immediately. Products such as carrots, cauliflower, and broccoli have a five-year phase-out. Fresh tomatoes have a

Table 4.h. Market Access Improvements under the KORUS FTA: Tree Nuts

Product	Base Tariff	Market Opening Schedule
Almonds, in-shell (0802110000) and shelled (0802120000)	8%	Immediate
Pistachios (0802500000)	30%	Immediate
Walnuts, shelled (0802320000)	30%	Six years
Walnuts, in-shell (0802310000)	45%	Fifteen years

Table 4.i. Market Access Improvements under the KORUS FTA: Selected Vegetable Products

Product[1]	Base Tariff	Phase-out
Tariff Phase-out		
Asparagus, eggplant, shallots, cucumbers, celery, pumpkins, green onions or chives, cabbage, spinach (fresh and frozen)	27%	Immediate
Artichokes	27%	Ten years
Chinese cabbage	27%	Five years
Cauliflower and broccoli	27%	Five years
Lettuce	45%	Ten years
Brussels sprouts	27%	Ten years
Carrots, fresh	30%	Five years
Carrots, frozen	27%	Five years
Carrots, preserved	30%	Ten years
Carrots, dried	30%	Ten years
Cucumbers, provisionally preserved	30%	Ten years
Cucumbers, preserved in vinegar or pickled	30%	Five years
Tomatoes	45%	Seven years
Tomatoes, prepared or preserved[2]	8%	Immediate
Garlic, frozen	27%	Fifteen years
Garlic, preserved in vinegar	30%	Ten years
Peppers, frozen	27%	Fifteen years
Onions, frozen	27%	Twelve years
Kidney beans, dried	27%	Ten years
Red beans, dried	420.8%	Fifteen years

Product	Base Tariff	Safeguard Restrictions
Safeguard		
Garlic, fresh peeled, fresh unpeeled, and dried	360%	An initial safeguard trigger level of 1,148 MT is established and the level grows to 2,297 MT in year fifteen and then remains unchanged for years sixteen through eighteen. A safeguard duty of 360% remains until year fifteen and then declines to 270% over years sixteen through eighteen. In year nineteen, safeguard restrictions no longer apply.
Onions, fresh and dried	135%	An initial safeguard trigger level of 2,904 MT is established, grows to 5,808 MT in year fifteen, and remains unchanged for years sixteen through eighteen. The initial safeguard duty of 135% remains until year fifteen, declines to 101% in year sixteen, and then remains unchanged through year eighteen. In year nineteen, safeguard restrictions no longer apply.
Peppers, fresh and dried (including all dried—whole, cut, or crushed)	270%	An initial safeguard trigger level of 827 MT is established and increases by 59 MT each year, reaching 1,655 MT in year fifteen. This level remains unchanged for years sixteen through eighteen. The initial safeguard duty of 270% remains unchanged until year fifteen, declines to 203% in year sixteen, and remains unchanged until the end of year eighteen. In year nineteen, safeguard rules no longer apply.

[1] Unless mentioned, all of these products are for fresh use.

[2] Preserved tomatoes consist mostly of tomato paste.

Source: Office of the United States Trade Representative, "KORUS Agricultural Tariff Schedule for the Republic of Korea," www.ustr.gov/assets/Trade_Agreements/Bilateral/Republic_of_Korea_FTA/Draft_Text/asset_upload_file1_12756.pdf.

seven-year phase-out while products that include artichokes, brussels sprouts, and fresh lettuce have a ten-year phase-out. We hereafter highlight only selected vegetables that are significant in import value or promise potential for exports from California.

Even with the 45% tariff, Korea's imports of lettuce have grown rapidly to more than $4 million in 2007 from $1 million in 2005 (Table 2.f).The $4.4 million in imports in 2007 are, however, a small share of Korea's 2007 lettuce sales, which exceeded $200 million. Nevertheless, the fact that California lettuce competes mostly with off-season, high-cost greenhouse lettuce in Korea and that California producers were able to penetrate the Korean market over the relatively high tariff suggest the potential for additional exports. China also ships lettuce to Korea, but elimination of the duty for U.S. lettuce will reduce China's price in the Korean market.

The domestic industry also incurs high costs for other fresh leafy vegetables (such as spinach) that are favored by Korean consumers so there is potential for a large export expansion. Producers of other fresh vegetables that are not part of the traditional Korean diet, such as asparagus and artichokes, could also take advantage of the health-conscious and more globalized Korean consumers as prices fall.

For a few sensitive products (namely garlic, onions, and peppers), the agreement allows for gradual access through eighteen-year phase-out periods with imposition of safeguard restrictions. Garlic, onions, and red peppers are important ingredients in the Korean diet and important domestic crops. Their economic importance in agriculture is substantial. Red peppers, for example, rank ninth in terms of economic value among all individual crops in Korea. The market opening process for these crops is very restrictive. The initial safeguard quantities for these products, which are currently tiny, double only after fifteen years and the safeguard duties remain strongly prohibitive. Even though free access eventually will be allowed (after eighteen years), the agreement calls for tightly controlling access for these products.

Base tariffs for some products differ significantly according to how the product is prepared. For example, while fresh and dried garlic have base tariffs of 360%, frozen garlic has a tariff of only 27%. Red peppers are another example: a 270% tariff for fresh and dried products and 27% for frozen. The consequences of these differences are indicated by patterns in importation of these products. The most recent import data, shown in Table 4.j, indicate that about two-thirds of garlic imports were frozen garlic and more than 70% of red pepper imports were frozen. Table 4.j shows that there are other vegetables for which nonfresh use is the major form of imports. Tomato imports are mainly puree, bean imports are exclusively dry products, and cucumber imports are all preserved products.[5]

As indicated in Table 4.k, vegetable trading for all but a few products is dominated by China. Exceptions are fresh pumpkins, for which more than 90% of the export share is held by New Zealand; pickled cucumbers, for which the United States is almost the sole supplier; and fresh lettuce, for which the United States holds about 50% of market share.

4.6. Beef and Related Products

Under the KORUS FTA, beef imports from the United States are subject to a 40% base tariff that phases out in equal reductions each year over fifteen years. However, imports exceeding the safeguard quantity are subject to an over-quota tariff (Table 4.l). The safeguard quantities, accompanied by gradually declining safeguard duties, are scheduled to increase over fifteen years from the initial 270,000 MT. At the end of year fifteen, safeguard restrictions no longer apply. However, as detailed in Table 4.l, reductions in the safeguard duties over time occur more slowly than the ones for general tariff reductions, indicating that the safeguard restrictions are aimed at providing more control over the access of foreign products, which allows the domestic beef industry to adjust to the open market.

By value, beef products are the number one agricultural commodity imported into Korea. In 2007, beef imports in Korea exceeded $1 billion. Korea was an important market for U.S. beef after opening its market

[5] "Provisionally preserved" means that the product is preserved by sulfur dioxide gas or in brine, sulfur water, or another preservative solution and is unsuitable in that state for immediate consumption. Thus, it is different from preservation in vinegar.

Table 4.j. Korean Imports of Vegetable Products by HS Code in $1,000

	2006	2007
Red Pepper Products	**60,035**	**84,732**
Frozen (0710807000)	43,119	63,303
Dried whole (0904201000)	15,369	19,799
Dried, cut or crushed (0904202000)	1,540	1,627
Other pimenta family (0709609000)	7	3
Tomato Products	**31,803**	**36,191**
Paste (2002901000)	20,447	22,271
Whole or in pieces, prepared or preserved except by vinegar (2002100000)	3,809	5,217
Sauce (2103202000)	4,376	4,688
Other, prepared or preserved (other than by vinegar or acetic acid) 2002909000	1,941	2,321
Ketchup (2103201000)	961	1,492
Juice (2009500000)	270	201
Prepared in vinegar (2001909020)	0	1
Fresh (0702000000)	0	0.1
Carrot Products	**36,643**	**37,467**
Fresh (0706101000)	33,546	33,831
Dried (0712902040)	2,226	2,729
Frozen (0710804000)	869	906
Temporarily preserved (0711904000)	2	1
Garlic Products	**32,341**	**31,772**
Frozen (0710802000)	17,084	19,226
Preserved in vinegar (2001909060)	3,732	4,834
Fresh unpeeled (0703209000)	9,954	5,951
Fresh peeled (0703201000)	319	877
Dried (0712901000)	1,253	852
Provisionally preserved (0711901000)	0	33

	2006	2007
Pumpkin Products	**10,722**	**14,590**
Fresh (0709903000)	10,109	13,710
Dried (0712902050)	613	881
Red Beans	**13,791**	**21,122**
Dried (0713329000)	8,724	12,966
Shelled and prepared (2005512000)	1,254	2,637
Not shelled and prepared (2005592000)	3,814	5,518
Cucumber Products	**9,034**	**8,980**
Pickled (2001100000)	4,733	4,684
Provisionally preserved (0711400000)	4,302	4,293
Fresh (0707000000)	0	3
Cauliflower and Broccoli	**8,631**	**10,782**
Fresh (0704100000)	8,631	10,782
Kidney Beans	**5,094**	**5,939**
Dried (0713339000)	5,084	5,930
Dried for seeds (0713331000)	10	9
Green Onions or Chinese Chives, Etc.	**4,415**	**1,515**
Fresh (0703909000)	4,415	1,515
Onion Products	**15,756**	**12,874**
Fresh (0703101000)	14,162	9,081
Dried (0712200000)	1,092	2,843
Frozen (0710801000)	366	759
Prepared or preserved (2001909070)	136	192

Source: Korea Agricultural Trade Information, www.kati.net.

in 2001 (Table 4.m). The United States had the largest share of the import market when Korea banned U.S. beef imports in December 2003 following detection of the first BSE case in the United States. Since then, Australia and New Zealand have replaced the United States, together supplying more than 90% of Korean imports. Table 4.m also provides the unit value of imported beef. The data indicate that the U.S. unit value has exceeded that of other countries (except in 2006), suggesting that U.S. producers supply higher quality beef.

The United States resumed supplying beef to Korea in 2007. However, recapturing the market depends on how effectively the United States competes with Australia and New Zealand. Australia traditionally produces grass-fed beef but expanded its production of grain-fed beef for export to Korea. The initial safeguard quantity is sizable, amounting to about 60% of domestic consumption. The within-quota tariff is scheduled to fall 2.7% each year, which will provide a price advantage to U.S. producers over those in Australia and New Zealand.

Korea also imports a substantial amount of offal and cattle hides and skins. Korea imported almost $9 million worth of bovine offal and $381 million worth of hides and skins in 2007. The base tariff of 27% on beef offal is scheduled to phase out in fifteen years and the base tariff of 1% on hides and skins will be eliminated immediately.

Table 4.k. Korean Imports of Vegetable Products by Major Source in $1,000

	2006	2007
Fresh Pumpkins (0709903000)		
TOTAL	10,109	13,710
New Zealand	8,124	12,797
Tonga	1,856	663
Onions, Fresh/Chilled (0703101000)		
TOTAL	14,161	9,081
China	12,961	8,332
U.S.	1,179	582
Vietnam	20	135
Cauliflower and Broccoli, Fresh (0704100000)		
TOTAL	8,631	10,782
China	8,356	10,695
U.S.	273	73
Pickled Cucumbers (2001100000)		
TOTAL	4,733	4,684
U.S.	4,192	4,219
China	68	33
Cucumbers, Provisionally Preserved (0711400000)		
TOTAL	4,302	4,293
China	3,561	3,643
Tomato Paste (2002901000)		
TOTAL	20,446	22,271
U.S.	7,948	7,085
China	7,895	9,378
Chile	1,895	2,245
Italy	1,202	2,102

Source: Korea Agricultural Trade Information, www.kati.net.

Table 4.l. Market Access Improvements under the KORUS FTA: Selected Beef Products

Product	Base Tariff	Market Opening Schedule
Beef, muscle cuts	40%	Fifteen-year straight-line tariff phase-out. An initial safeguard trigger level of 270,000 MT is established and this level grows at a compound 2% rate yearly until year fifteen. The safeguard duty is 40% for years one through five, 30% for years six through ten, 24% for years eleven through fifteen, and zero thereafter. In year sixteen no safeguard rules apply.
Beef, offal	27%	Tariffs phase out in fifteen years. There are no safeguards.
Cattle hides and skins	1%	Immediate complete opening.

4.7. Dairy Products

Under the KORUS FTA, dairy product import-access barriers are reduced gradually as tariffs are reduced and TRQ quantities increase gradually (Table 4.n). For skim milk powder, whole milk powder, and evaporated milk (condensed milk), a combined duty-free quota of 5,000 MT is established and this amount grows at a 3% annual compounded rate in perpetuity. As shown in Table 4.o, the United States does not export milk powder to Korea. The major exporter of milk powder is Australia. However, the

Table 4.m. Korean Imports of Beef by Major Source

	Total	United States	Canada	Australia	New Zealand	Mexico	Uruguay	Other
Quantity in 1,000 Kilograms								
1999	197,627	96,832	10,496	80,462	9,128	0	0	710
2000	263,781	146,343	20,877	78,045	12,479	0	5,520	516
2001	208,017	118,265	9,962	65,684	11,678	0	1,713	715
2002	358,032	227,642	16,441	93,877	19,804	0	0	269
2003	363,952	248,654	8,066	78,018	28,962	0	0	253
2004	175,949	27,790	348	99,071	47,736	852	0	153
2005	196,363	760	33	139,808	51,831	3,585	0	346
2006	236,338	8	0	180,386	49,038	6,791	70	45
2007	244,602	14,112	0	179,942	44,891	5,366	255	37
Value in $1,000								
1999	505,421	307,466	32,204	145,284	18,825	0	0	1,642
2000	795,016	533,501	67,224	153,832	29,691	0	9,735	1,033
2001	555,392	361,689	25,554	139,429	24,512	0	3,102	1,106
2002	946,808	655,876	37,358	209,707	43,348	0	0	517
2003	1,177,005	886,778	20,627	197,438	71,718	0	0	444
2004	600,384	103,233	362	355,378	138,691	2,207	0	512
2005	735,143	3,996	92	539,803	178,653	11,790	0	810
2006	878,977	30	0	693,673	163,458	21,477	241	98
2007	1,037,052	94,025	0	761,560	161,908	19,001	444	114
Unit Value in Dollars per Kilogram								
1999	2.56	3.18	3.07	1.81	2.06	–[1]	–	2.31
2000	3.01	3.65	3.22	1.97	2.38	–	1.76	2.00
2001	2.67	3.06	2.57	2.12	2.10	–	1.81	1.55
2002	2.64	2.88	2.27	2.23	2.19	–	–	1.92
2003	3.23	3.57	2.56	2.53	2.48	2.75	–	1.76
2004	3.41	3.71	1.04	3.59	2.91	2.59	–	3.35
2005	3.74	5.25	2.79	3.86	3.45	3.29	–	2.34
2006	3.72	3.81		3.85	3.33	3.16	3.44	2.17
2007	4.24	6.66		4.23	3.61	3.54	1.74	3.12

[1] These values are not defined.

Note: The category of beef products includes all products (boned, boneless, chilled, frozen, and packaged) except for intestines and hides and skins.

Source: Korea Agricultural Trade Information, www.kati.net.

duty-free quota provided under the KORUS FTA will provide substantial new access given that recent exports of these products to Korea have been near zero. The current tariffs of 176% for skim and whole milk powder and 89% for evaporated milk remain as over-quota tariffs. While significant relative to Korea's current market, the quota of 5,000 MT is small relative to recent global exports of milk powder from the United States, which reached more than 270,000 MT in 2007.

Cheese has a duty-free TRQ set at 7,000 MT that expands annually at a 3% compounded rate. The tariff is phased out in equal installments over ten years for cheddar cheese and fifteen years for other cheeses. In the case of cheese, the duty-free TRQ represents about 10% of Korean consumption (in 2006) and is slightly less than total U.S. exports of cheese to Korea in 2007. The United States is already the number two exporter of cheese in the Korean market, following New Zealand. Thus, in addition to duty-free exports, even more new access will be created by reductions of the current 36% tariff. The Korean cheese market has been growing rapidly and duty-free access and low tariffs will expand exports to Korea substantially.

The United States is the number one lactose exporter to the Korean market (Table 4.o) and competes with the Netherlands and Germany. Under the KORUS FTA, the base tariff of 49.5% on lactose is scheduled to go to zero in five years. The lower tariff will expand the U.S. share in the Korean lactose market.

The Korean market for casein imports is also sizable, amounting to more than $58 million. The United

Table 4.n. Market Access Improvements under the KORUS FTA: Selected Dairy Products

Product	Base Tariff	Market Opening Schedule
Skim milk powder, whole milk powder, and condensed (or evaporated) milk (both sweetened and unsweetened)	176% for skim and whole milk powder; 89% for condensed milk	An initial duty-free TRQ of 5,000 MT for the aggregate quantity grows at a compounded rate of 3% in perpetuity. Over-quota tariffs remain at base rates.
Cheese, fresh, grated, and powdered	36%	An initial duty-free TRQ of 7,000 MT grows annually at a compounded rate of 3% to 10,280 MT in year fourteen. In year fifteen, no quantity restrictions apply. The over-quota tariff is phased out in fifteen years in equal installments (except for cheddar cheese, which has a ten-year phase-out).
Lactose	49.5%	Five years
Casein and casein-derived products	20%	Seven years
Whey	49.5%[1]	Feed whey: Immediate duty-free access. Food whey: An initial duty-free TRQ of 3,000 MT grows annually at a compounded rate of 3% to 3,800 MT in year nine. The over-quota tariff is reduced from 49.5% to 20% immediately and phased out over ten years.
Butter	89%[2]	An initial duty-free TRQ of 200 MT grows annually at a compounded rate of 3% to 253 MT in year nine. Over-quota tariffs phase out in ten years in equal installments. In year ten, unlimited duty-free access applies.

[1] Currently, when exports fall within the TRQ amount set by the WTO, a 20% tariff applies.

[2] When exports fall within the TRQ (420 MT) set by the WTO, a 40% tariff applies.

Source: Office of the United States Trade Representative, "KORUS Agricultural Tariff Schedule for the Republic of Korea," www.ustr.gov/assets/Trade_Agreements/Bilateral/Republic_of_Korea_FTA/Draft_Text/asset_upload_file1_12756.pdf.

Table 4.o. Korean Imports of Dairy Products

	2006		2007	
	1,000 MT	$1,000	1,000 MT	$1,000
Skim Milk Powder (040210....)				
TOTAL	6,711	15,374	4,928	17,334
Australia	4,426	9,930	3,127	10,492
New Zealand	1,377	3,168	934	3,022
Whole Milk Powder (04022.....)				
TOTAL	1,992	4,784	1,136	3,366
Australia	1,523	3,670	1,075	3,165
Cheese (0406.....)				
TOTAL	44,032	146,262	49,471	178,992
New Zealand	11,344	34,217	15,254	47,314
United States	6,859	24,899	7,852	32,267
Australia	7,554	24,580	9,073	31,863
Uruguay	5,922	16,517	5,323	16,229
Argentina	5,461	15,136	5,164	14,246
Germany	1,390	5,635	1,816	8,514
France	720	5,973	876	8,464
Netherlands	1,360	4,831	1,657	6,022
Italy	361	3,426	390	4,667
Denmark	545	3,111	554	3,408
Brazil	2,259	6,336	972	3,021
Lactose (170210....)				
TOTAL	14,296	12,156	13,857	31,008
United States	8,854	6,906	8,479	15,699
Netherlands	1,875	2,043	1,821	5,873
Germany	543	799	1,174	3,521
Casein (3501.....)				
TOTAL	6,418	45,947	7,226	58,236
New Zealand	3,220	23,776	4,087	32,207
France	994	6,905	1,110	8,784
Germany	780	5,327	780	6,644
Australia	168	1,334	288	2,269
India	–	–	222	2,238
Poland	266	1,658	268	2,332

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Table 4.o. Korean Imports of Dairy Products (cont.)

	2006		2007	
	1,000 MT	$1,000	1,000 MT	$1,000
Whey (including modified whey) (0404.....)				
TOTAL	71,730	98,483	70,420	143,954
Netherlands	10,731	23,916	14,363	47,374
United States	35,224	30,602	23,653	32,243
Canada	8,169	15,990	9,447	21,389
France	3,090	4,145	5,329	8,504
New Zealand	296	2,183	1,131	5,224
Chile	453	532	4,308	4,908
Australia	5,229	7,656	1,289	3,619
Germany	1,708	3,157	1,304	3,514
Finland	2,454	3,375	2,071	3,493
Poland	126	145	1,224	2,105
Ukraine	92	91	1,657	2,063
Turkey	887	754	1,570	1,939
Belgium	552	1,067	391	1,505
Argentina	549	730	908	1,241
Butter (0405.....)				
TOTAL	3,206	8,346	4,096	11,298
Australia	1,315	3,263	2,105	5,137
New Zealand	1,281	3,542	1,301	3,856

Source: Korea Agricultural Trade Information, www.kati.net.

States does not have a presence in the Korean casein market, which is dominated by New Zealand. The 20% base tariff is scheduled to phase out in seven years under the KORUS FTA.

Korea has a sizable whey market. In 2007, total imports of whey powder were $144 million in value. Major exporters are the Netherlands, the United States, and Canada, which have a combined market share of close to 80%. Under the KORUS FTA, feed whey receives immediate duty-free access and the initial quota for food whey is set at 3,000 MT. That quota will grow annually at a compounded 3% rate until year nine. The over-quota tariff will be reduced immediately from 49.5% to 20% and will phase out over ten years. The initial quota set for U.S. exports far exceeds current export levels. However, immediate tariff elimination for feed whey and reduction of the food whey tariff to 20% will expand access. This will give California suppliers preferential access relative to competitors from the Netherlands and Canada. Korea's current imports of butter are not substantial due to the high tariff and there are very few imports from the United States. The KORUS FTA establishes a TRQ for butter with duty-free access for 200 MT and that amount grows at a compounded rate of 3% per year until unlimited duty-free access is allowed in year ten.

Dairy products are the number one agricultural product in California when measured by total revenue and the California industry has expanded substantially. California dairy exports have also expanded rapidly in recent years. Dairy exports from California to Korea were about $6 million in 2006, but U.S. exports of dairy products to Korea tripled from 2004 to 2007, reaching more than $70 million. The potential for dairy exports is important to consider in some detail for two additional reasons. First, the dairy product market in Korea is large in value and Korea is already an established market for major exporters of dairy products. Second, although Korea clearly has a cost disadvantage in dairy production, the domestic industry is sustained by trade barriers and government price subsidies (Lee, Sumner, and Ahn). This suggests that any changes in government dairy policy may offer an additional market potential for exporters, especially for processed products that do not entail high shipping costs.

4.8. Rice

California is a major competitive producer of japonica, the type of rice favored by Korean consumers, and rice was a major focus of the agricultural negotiations. In recent years under WTO agreements, Korea has emerged as a significant market for California rice. In the WTO agreements, Korea was able to maintain strict quota import controls that limited imports to 4% of domestic consumption by 2005. Korea then agreed to a second round of gradual quota expansions that will result in access for all WTO members to export about 8% of domestic consumption to Korea by 2015 (Lee and Sumner). This additional market access fulfilled Korea's obligations under the WTO agreement of 1994 and was unrelated to the KORUS FTA. California has been able to export a portion of this quota access.

The California rice industry pressed hard during the FTA negotiations to achieve additional U.S.-specific market access for rice. Even if complete free trade could not be achieved, the opportunity to expand access to Korea would allow a steady and secure market in which consumers are accustomed to paying premium prices for rice and California rice has the potential to compete well in terms of quality.

Throughout the FTA negotiations, Korea maintained that it would allow absolutely no additional rice access as part of the KORUS FTA. Indeed, the Korean government refused to allow its negotiators to even consider or discuss any market opening for rice. Korea pointed to the United State's unwillingness to allow additional market access for sugar in its free trade agreement with Australia as a precedent. At the end of the day (literally after midnight on the day of the deadline), the United States finally signed an agreement that did indeed exclude any additional market access for rice. This was a major disappointment for the California rice industry, which had been a major supporter of the negotiations.

Part 5. Closing Remarks

This report has shown that there is a substantial potential to expand exports to Korea for many California agricultural commodities. Lower trade barriers will allow California agriculture to compete in a large, growing, and lucrative market. Commodity prices are high in Korea and consumers are willing to pay premiums for high-quality products of the type produced in California. Thus, with free trade, California agriculture should be in an excellent position to compete on both price and quality.

We focus here mainly on import access and new market opportunities. At the same time, we recognize that expanded access to the Korean market for the United States should be considered in the context of the broader world market for agricultural products. Trade diversion will limit how much total U.S. exports rise once access is granted in Korea. Therefore, growth in exports to Korea does not necessarily translate to the same amount of growth in total exports. It is beyond the scope of our analysis to develop detailed price implications for California agricultural products.

Agriculture was a major item on the negotiating agenda. Because of concerns from Korea's agricultural lobby, Korea excluded from the agreement any liberalization for rice, limited access improvements for citrus fruit, and delayed market opening for several products of interest to California agriculture. Nonetheless, the resulting agreement will substantially improve access for a broad range of California agricultural commodities.

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Appendix

Table A-1. Detailed Uruguay-Round Tariff Schedule: Most Favored Nation Tariff Rates

Commodity	HS code	Starting Tariff	2004 Tariff	Tariff for Within-quota Quantity
Fruits and Vegetables				
Oranges, fresh	0805.10.0000	99	50	50
Oranges, juice	2009.11.0000	60	54	–
	2009.12.0000	60	54	–
	2009.19.0000	60	54	–
Lemons	0805.50.1000	50	30	–
	2009.31.1000	71	54	–
	2009.39.1000	71	54	–
	3301.13.0000	20	13	–
Table grapes	0806.10.0000	50	45	–
Grapes, juice	2009.61.0000	50	45	–
	2009.69.0000	50	45	–
Cherries	0809.20.0000	40	24	–
	0812.10.0000	59.2	45	–
	2008.60.0000	59.2	45	–
Strawberries	0810100000	50	45	–
	0811100000	80	72	–
	0812901000	50	32.8	–
	2008800000	50	45	–
Tomatoes, processed	2002.10.0000	50	45	–
	2002.90.1000	35	31.5	–
	2002.90.9000	50	45	–
	2009.50.0000	71	54	–
	2103.20.1000	60	54	–
	2103.20.2000	60	54	–
Raisins	0806.20.0000	50	21	–
Olives	0711.20.0000	30	27	–
	1509.10.0000	30	27	–
	1509.90.0000	30	27	–
	1510.00.0000	30	27	–
	2005.70.0000	35	22.9	–
Apples	0808100000	50	45	–
	0813300000	50	45	–
	2009710000	50	45	–
	2009790000	50	45	–
	2008992000	59.2	45	–

Continued on following page

Table A-1. Detailed Uruguay-Round Tariff Schedule: Most Favored Nation Tariff Rates (cont.)

Commodity	HS code	Starting Tariff	2004 Tariff	Tariff for Within-quota Quantity
Pineapples	0804300000	50	45	–
	2009400000	–	–	–
	2009410000	71	54	–
	2009490000	71	54	–
	2006002000	59.2	45	–
	2008200000	50	45	–
Bananas	0803000000	100	90	–
Kiwis	0810.50.0000	50	45	–
Grapefruit	0805.40.0000	50	30	–
	2009.21.0000	60	30	–
	2009.29.0000	60	30	–
Lettuce	0705.11.0000	50	45	–
	0705.19.0000	50	45	–
Garlic	0703201000	400	360	50
	0703209000	400	360	50
	0710802000	35.5	27	–
	0711901000	400	360	50
	0712901000	400	360	50
	2001909060	40	36	–
Red peppers	0709601000	300	270	50
	0709609000	300	270	50
	0904201000	30	19.7	–
	0904202000	30	19.7	–
Tree Nuts				
Almonds	0802.11.0000	50	45	–
	0802.12.0000	50	21	–
Walnuts	0802.31.0000	50	45	–
	0802.32.0000	50	30	–
Pistachios	0802.50.0000	59.2	45	–
Livestock Products				
Beef	0201.10.0000	44.5	40	–
	0201.20.0000	44.5	40	–
	0201.30.0000	44.5	40	–
	0202.10.0000	44.5	40	–
	0202.20.0000	44.5	40	–
	0202.30.0000	44.5	40	–
	0206.10.0000	20	18	–
	0206.21.0000	23.7	18	–
	0206.22.0000	23.7	18	–

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Table A-1. Detailed Uruguay-Round Tariff Schedule: Most Favored Nation Tariff Rates (cont.)

Commodity	HS code	Starting Tariff	2004 Tariff	Tariff for Within-quota Quantity
Beef (cont.)	0206.29.1000	20	18	–
	0206.29.2000	20	18	–
	0206.29.9000	20	18	–
	0210.20.1000	30	27	–
	0210.20.9000	30	27	–
	0210.99.1010	29.6	22.5	–
	1602.50.1000	80	72	–
	1602.50.9000	80	72	–
Hides and skins	4101.20.1000	20	5	–
	4101.50.1011	10	5	–
	4101.50.1012	10	5	–
	4101.50.1013	10	5	–
	4101.50.1014	10	5	–
	4101.50.1019	10	5	–
	4101.50.1021	10	5	–
	4101.50.1022	10	5	–
	4101.50.1023	10	5	–
	4101.50.1024	10	5	–
	4101.50.1029	10	5	–
	4101.50.1090	10	5	–
	4101.90.1011	20	5	–
	4101.90.1019	10	5	–
	4101.90.1091	20	5	–
	4101.90.1099	10	5	–
Dairy Products				
Skim milk powder	0402.10.1010	220	176	20
	0402.10.1090	220	176	20
	0402.10.9000	220	176	20
Whole milk powder	0402.21.1000	220	176	40
	0402.21.9000	220	176	40
	0402.29.0000	220	176	40
Butter	0405.10.0000	99	89	40
	0405.20.0000	60	54	–
	0405.90.0000	99	89	40
Whey	0404.10.1010	99	49.5	20
	0404.10.1090	99	49.5	20
	0404.10.2110	99	49.5	20
	0404.10.2120	99	49.5	20
	0404.10.2130	99	49.5	20
	0404.10.2190	99	49.5	20
	0404.10.2900	99	49.5	20
	0404.90.0000	47.4	36	–

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Table A-1. Detailed Uruguay-Round Tariff Schedule: Most Favored Nation Tariff Rates (cont.)

Commodity	HS code	Starting Tariff	2004 Tariff	Tariff for Within-quota Quantity
Cheese	0406.10.1000	40	36	–
	0406.10.2000	47.4	36	–
	0406.20.0000	40	36	–
	0406.30.0000	40	36	–
	0406.40.0000	40	36	–
	0406.90.0000	40	36	–
Formulated butter	2106.90.9020	60	54	–
Mixed milk powder	0404.90.0000	47.4	36	–
	1901.90.2000	40	36	–
Infant formula	1901.10.1010	40	36	–
	1901.10.1090	71	54	–
Casein	3501.10.0000	25	22.5	–
	3501.90.1000	25	22.5	–
	3501.90.2000	25	22.5	–
Other				
Rice	1006.10.0000	-	-	5
	1006.20.1000	-	-	5
	1006.20.2000	-	-	5
	1006.30.1000	-	-	5
	1006.30.2000	-	-	5
	1006.40.0000	-	-	5
	1102.30.0000	-	-	5
	1103.19.3000	-	-	5
	1103.20.2000	-	-	5
	1104.19.1000	-	-	5
	1104.30.1000	23.7	18	–
Wine	2204.10.0000	118.4	30	–
	2204.21.1000	100	30	–
	2204.21.2000	100	30	–
	2204.21.9000	100	30	–
	2204.29.1000	100	30	–
	2204.29.2000	100	30	–
	2204.29.9000	100	30	–
	2204.30.0000	100	30	–
	2205.10.0000	100	30	–
	2205.90.0000	100	30	–
	2208.20.1000	100	30	–
	2208.20.9000	100	30	

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Table A-1. Detailed Uruguay-Round Tariff Schedule: Most Favored Nation Tariff Rates (cont.)

Commodity	HS code	Starting Tariff	2004 Tariff	Tariff for Within-quota Quantity
Cotton	5201.00.1000	10	2	–
Hay	1209.21.0000	0	0	–
	1214.10.0000	20	10	–
	1214.90.1000	111.7	100.5	5
	1214.90.9010	20	18	–
	1214.90.9090	111.7	100.5	5
Flowers	0601.10.....	30	27	–
	0601.20.....	30	27	–
	0602.10.1000	20	13.1	–
	0602.10.9000	20	13.1	–
	0602.20.1000	20	18	8
	0602.20.2000	20	18	8
	0602.20.3000	20	18	8
	0602.20.4000	20	13.1	–
	0602.20.5000	20	13.1	–
	0602.20.6000	20	18	8
	0602.20.7010	20	13.1	–
	0602.20.7020	20	13.1	–
	0602.20.7030	20	13.1	–
	0602.20.9000	20	13.1	–
	0602.30.0000	20	13.1	–
	0602.40.0000	30	27	–
	0602.90.1010	30	27	–
	0602.90.1020	20	18	–
	0602.90.1030	20	18	–
	0602.90.1040	20	18	–
	0602.90.1050	20	18	–
	0602.90.1060	20	18	–
	0602.90.1090	30	27	–
	0602.90.20..	20	13.1	–
	0602.90.9010	20	13.1	–
	0602.90.9020	20	13.1	–
	0602.90.9030	20	18	8
	0602.90.9040	20	18	–
	0602.90.9090	20	13.1	–
	0603.10.....	40	36	–
	0603.90.0000	40	36	–
	0604.10.0000	20	13.1	–
	0604.91.....	20	13.1	–

Source: Korea Rural Economic Institute.

Table A-2. Preferential Tariff Rates for Chile under the FTA

			Tariff Rates: Reduction Schedule by Year and Number of Years to Phase Out																
Commodity	HS Code	Basic Tariff	In 2004	In 2005	In 2006	In 2007	In 2008	In 2009	In 2010	In 2011	In 2012	In 2013	In 2014	In 2015	In 2016	In 2017	In 2018	In 2019	In 2020	No. Years
Fruits and Vegetables																				
Oranges, juice	2009.11.0000	55	49.6	44.7	39.7	34.7	29.8	24.8	19.9	14.9	9.9	5.0	0	0	0	0	0	0	0	10
Lemons	0805.50.1000	32	29.1	26.2	23.3	20.4	17.4	14.6	11.6	8.7	5.8	2.9	0	0	0	0	0	0	0	10
	2009.31.1000	50	45.5	40.9	36.4	31.8	27.3	22.8	18.2	13.7	9.1	4.6	0	0	0	0	0	0	0	10
	2009.39.1000	50	45.5	40.9	36.4	31.8	27.3	22.8	18.2	13.7	9.1	4.6	0	0	0	0	0	0	0	10
	3301.13.0000	5	4.2	3.3	2.5	1.7	0.8	0	0	0	0	0	0	0	0	0	0	0	0	5
Table grapes	0806.10.0000	46	41.4	37.2	33.1	28.9	24.8	20.7	16.6	12.4	8.3	4.1	0	0	0	0	0	0	0	10 (Nov–Apr)
Grapes, juice	2009.61.0000	46	39.8	34.1	28.4	22.8	17.1	11.4	5.7	0	0	0	0	0	0	0	0	0	0	7
	2009.69.0000	46	39.8	34.1	28.4	22.8	17.1	11.4	5.7	0	0	0	0	0	0	0	0	0	0	7
Cherries	0809.20.0000	26	23.3	20.9	18.6	16.3	14.0	11.6	9.3	7.0	4.7	2.3	0	0	0	0	0	0	0	10
	0812.10.0000	30	27.3	24.5	21.8	19.1	16.4	13.7	10.9	8.2	5.5	2.7	0	0	0	0	0	0	0	10
Strawberries	0811.10.0000	30	27.3	24.5	21.8	19.1	16.4	13.7	10.9	8.2	5.5	2.7	0	0	0	0	0	0	0	10
	2009.80.1020	50	43.8	37.5	31.3	25.0	18.8	12.5	6.3	0	0	0	0	0	0	0	0	0	0	7
	2008.80.0000	46	45.5	45.5	45.5	45.5	45.5	45.5	45.5	41.0	36.4	31.9	27.3	22.8	18.2	13.7	9.1	4.6	0	16
Tomatoes, processed	2002.10.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	2002.90.1000	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2002.90.9000	8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	0	0	10
	2009.50.0000	30	27.3	24.5	21.8	19.1	16.4	13.7	10.9	8.2	5.5	2.7	0	0	0	0	0	0	0	10
	2103.20.1000	8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	0	0	10
	2103.20.2000																			10
Raisins	0806.20.0000	22	20.4	18.3	16.3	14.2	12.2	10.2	8.2	6.1	4.1	2.0	0	0	0	0	0	0	0	10
Olives	0711.20.0000	27	22.7	18.2	13.7	9.1	4.6	0	0	0	0	0	0	0	0	0	0	0	0	5
	1509.10.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	1509.90.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	1510.00.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	2005.70.0000	20	16.7	13.3	10.0	6.7	3.3	0	0	0	0	0	0	0	0	0	0	0	0	5
Apples	0813.30.0000	46	41.4	37.2	33.1	28.9	24.8	20.7	16.6	12.4	8.3	4.1	0	0	0	0	0	0	0	10
	2009.71.0000	46	41.4	37.2	33.1	28.9	24.8	20.7	16.6	12.4	8.3	4.1	0	0	0	0	0	0	0	10
	2009.79.0000	46	41.4	37.2	33.1	28.9	24.8	20.7	16.6	12.4	8.3	4.1	0	0	0	0	0	0	0	10
	2008.99.2000	46	42.2	38.0	33.7	29.5	25.3	21.1	16.9	12.7	8.4	4.2	0	0	0	0	0	0	0	10
Pineapples, bananas, and kiwis	0810.50.0000	46	41.4	37.2	33.1	28.9	24.8	20.7	16.6	12.4	8.3	4.1	0	0	0	0	0	0	0	10

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Table A-2. Preferential Tariff Rates for Chile under the FTA (cont.)

			Tariff Rates: Reduction Schedule by Year and Number of Years to Phase Out																	
Commodity	HS Code	Basic Tariff	In 2004	In 2005	In 2006	In 2007	In 2008	In 2009	In 2010	In 2011	In 2012	In 2013	In 2014	In 2015	In 2016	In 2017	In 2018	In 2019	In 2020	No. Years
Grapefruit	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Lettuce	0705.19.0000	46	37.9	30.3	22.8	15.2	7.6	0	0	0	0	0	0	0	0	0	0	0	0	5
Garlic	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Red peppers	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nuts																				
Almonds	0802.11.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0802.12.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
Walnuts	0802.31.0000	46	39.8	34.1	28.4	22.8	17.1	11.4	5.7	0	0	0	0	0	0	0	0	0	0	7
	0802.32.0000	32	28.0	24.0	20.0	16.0	12.0	8.0	4.0	0	0	0	0	0	0	0	0	0	0	7
Pistachios	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Meats																				
Beef	0206.10.0000	18	16.5	14.9	13.2	11.6	9.9	8.3	6.6	5.0	3.3	1.7	0	0	0	0	0	0	0	10
	0206.21.0000	19	15.5	12.4	9.3	6.2	3.1	0	0	0	0	0	0	0	0	0	0	0	0	5
	0206.22.0000	19	16.9	15.2	13.5	11.8	10.1	8.5	6.8	5.1	3.4	1.7	0	0	0	0	0	0	0	10
	0206.29.1000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0206.29.2000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0206.29.9000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0210.99.1010	23	21.1	19.0	16.9	14.8	12.6	10.6	8.4	6.3	4.2	2.1	0	0	0	0	0	0	0	10
Hides and skins	4101.20.1000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1011	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1012	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1013	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1014	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1019	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1021	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1022	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1023	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1024	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1029	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.50.1090	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.90.1011	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.90.1019	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.90.1091	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4101.90.1099	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Table A-2. Preferential Tariff Rates for Chile under the FTA (cont.)

			Tariff Rates: Reduction Schedule by Year and Number of Years to Phase Out																	
Commodity	HS Code	Basic Tariff	In 2004	In 2005	In 2006	In 2007	In 2008	In 2009	In 2010	In 2011	In 2012	In 2013	In 2014	In 2015	In 2016	In 2017	In 2018	In 2019	In 2020	No. Years
Dairy Products																				
Skim milk powder	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Whole milk powder	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Butter	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Whey	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Cheese	0406.90.0000	36	33.1	29.8	26.5	23.2	19.8	16.6	13.2	9.9	6.6	3.3	0	0	0	0	0	0	0	10
Formulated butter	2106.90.9020	8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	0	0	10
Mixed milk powder	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Infant formula	1901.10.1010	36	36.4	36.4	36.4	36.4	36.4	36.4	36.4	32.8	29.1	25.5	21.8	18.2	14.6	10.9	7.3	3.6	0	16
	1901.10.1090	40	36.4	32.7	29.1	25.4	21.8	18.2	14.6	10.9	7.3	3.6	0	0	0	0	0	0	0	10
Casein	3501.10.0000	20	18.2	16.4	14.5	12.7	10.9	9.1	7.3	5.5	3.6	1.8	0	0	0	0	0	0	0	10
	3501.90.1000	20	18.2	16.4	14.5	12.7	10.9	9.1	7.3	5.5	3.6	1.8	0	0	0	0	0	0	0	10
	3501.90.2000	20	18.2	16.4	14.5	12.7	10.9	9.1	7.3	5.5	3.6	1.8	0	0	0	0	0	0	0	10
Other																				
Rice	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Wine	2204.10.0000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.21.1000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.21.2000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.21.9000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.29.1000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.29.2000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.29.9000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2204.30.0000	30	27.3	24.5	21.8	19.1	16.4	13.7	10.9	8.2	5.5	2.7	0	0	0	0	0	0	0	10
	2205.10.0000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2208.20.1000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
	2208.20.9000	15	12.5	10.0	7.5	5.0	2.5	0	0	0	0	0	0	0	0	0	0	0	0	5
Cotton	5201.00.1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5201.00.9020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5201.00.9030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hay	1209.21.0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1214.10.0000	1	0.8	0.7	0.5	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	5
	1214.90.9010	1	0.8	0.7	0.5	0.3	0.2	0	0	0	0	0	0	0	0	0	0	0	0	5

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Table A-2. Preferential Tariff Rates for Chile under the FTA (cont.)

			Tariff Rates: Reduction Schedule by Year and Number of Years to Phase Out																	
Commodity	HS Code	Basic Tariff	In 2004	In 2005	In 2006	In 2007	In 2008	In 2009	In 2010	In 2011	In 2012	In 2013	In 2014	In 2015	In 2016	In 2017	In 2018	In 2019	In 2020	No. Years
Flowers	0601.10.1000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.2000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.3000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.4000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.5000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.6000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.7000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.8000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.10.9000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.1000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.2000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.3000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.4000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.5000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.6000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.7000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.8000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.9010	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0601.20.9090	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.10.1000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.10.9000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.1000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.2000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.3000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.4000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.5000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.6000	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.7010	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.7020	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.7030	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.20.9000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.30.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.40.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.1010	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.1020	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.1030	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.1040	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.1050	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.1060	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5

Continued on following page

Table A-2. Preferential Tariff Rates for Chile under the FTA (cont.)

			Tariff Rates: Reduction Schedule by Year and Number of Years to Phase Out																
Commodity	HS Code	Basic Tariff	In 2004	In 2005	In 2006	In 2007	In 2008	In 2009	In 2010	In 2011	In 2012	In 2013	In 2014	In 2015	In 2016	In 2017	In 2018	In 2019	In 2020	No. Years
Flowers (cont.)	0602.90.1090	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2011	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2019	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2020	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2030	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2040	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2050	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2061	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2069	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2071	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2079	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2081	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2089	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2091	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.2099	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.9010	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.9020	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.9030	18	15.2	12.1	9.1	6.1	3.0	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.9040	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0602.90.9090	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0603.10.1000	25	22.7	20.5	18.2	15.9	13.6	11.4	9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
	0603.10.2000	25	22.7	20.5	18.2	15.9	13.6	11.4	9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
	0603.10.3000	25	20.8	16.7	12.5	8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
	0603.10.4000	25	20.8	16.7	12.5	8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
	0603.10.5000	25	22.7	20.5	18.2	15.9	13.6	11.4	9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
	0603.10.6000	25	22.7	20.5	18.2	15.9	13.6	11.4	9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
	0603.10.7000	25	20.8	16.7	12.5	8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
	0603.10.8000	25	20.8	16.7	12.5	8.3	4.2	0	0	0	0	0	0	0	0	0	0	0	0	5
	0603.10.9000	25	22.7	20.5	18.2	15.9	13.6	11.4	9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
	0603.90.0000	25	22.7	20.5	18.2	15.9	13.6	11.4	9.1	6.8	4.6	2.3	0	0	0	0	0	0	0	10
	0604.10.0000	8	7.3	6.5	5.8	5.1	4.4	3.6	2.9	2.2	1.5	0.7	0	0	0	0	0	0	0	10
	0604.91.1010	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0604.91.1090	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0604.91.9000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5
	0604.99.0000	8	6.7	5.3	4.0	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	5

Source: Korea Rural Economic Institute.

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