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Briefing Report to the Chairman, Committee on Agriculture, House of Representatives

March 1991

U.S. - MEXICO TRADE

Extent to Which Mexican Horticultural Exports Complement U.S. Production

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United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

242276

March 20, 1991

The Honorable E (Kika) de la Garza
Chairman, Committee on Agriculture
House of Representatives

Dear Mr. Chairman:

In the course of our review of issues affecting U.S.-Mexican agr
trade, you expressed particular interest in exploring the comple
nature of horticultural trade between the United States and Me
Requested, this briefing report presents data on the harvest a
marketing seasons for the major horticultural commodities exp
Mexico that are also grown in the United States. We also a
which Mexican horticultural exports complement, supplement,
compete with U.S. domestic production. This information supplem
updates information we reported to your staff in our briefing
memo dated 27, 1990.

Results in Brief

While there is a clear pattern of complementary production
the major Mexican horticultural exports to the United Stat
significant overlap in harvest and marketing seasons for ot
ties. Cantaloupes, watermelons, table grapes, and asparagu
plementary production seasons. Squash and mango crops a
in both countries at about the same time, but compete only
extent. Other Mexican horticultural exports, such as tomatoes
bers, bell peppers, and strawberries, compete directly with U.S
products.

The existing seasonal tariff structure is instrumental in preser
complementary nature of horticultural trade between Mexico
United States. Because Mexico has certain advantages, such as
priced land and labor, eliminating tariffs could undermine exis
cultural trade patterns.

However, U.S. production of most of these horticultural c
increased during the 1980s, despite rising Mexican exports a
seasonal overlap. Demand in the United States has increased
logy has advanced. U.S. consumers benefited from increas
getable imports in terms of greater supplies, greater va
some markets, lower prices

Background

Mexico has long been the most important source of fresh horticultural commodity imports into the United States, amounting to about $800 million in 1989. Mexican growers had traditionally produced and shipped such commodities to the United States during the winter and spring. However, during the 1980s, Mexican growers added more cool-season vegetables to their product mix and began to export to the United States throughout the year.

Many of the horticultural commodities imported from Mexico are also grown in the United States. In order to protect domestic growers from perceived Mexican comparative advantage, such as cheaper land and labor, the United States has maintained tariffs on most horticultural imports. Some of these tariffs vary by season, with the highest rates imposed during periods of peak U.S. production.

Recent initiatives to promote a free trade area agreement between the United States and Mexico have raised concerns among U.S. growers about the possible loss of protection provided by tariffs. They are concerned that the elimination of tariffs would lead to a flood of low-cost Mexican horticultural imports, thus depressing prices, reducing U.S. market share, and threatening profits.

Complementary Production Varies Among Commodities

Among the commodities we analyzed, there was a clear pattern of complementary production between the United States and Mexico in cantaloupes, watermelons, table grapes, and asparagus. For these commodities, the peak Mexican harvest and marketing season did not overlap significantly with the most active periods of U.S. domestic production.

Two commodities we reviewed, squash and mango, have domestic harvest and marketing seasons that coincide with Mexican production. However, other factors soften direct competition. For squash, we found direct competition is limited because Mexico produces a variety that is not a perfect substitute for the domestic product. In the case of mango, we found that Florida's mango crop falls substantially below domestic demand, and Mexican exports appear to supplement rather than compete with domestic production.

The other horticultural commodities we studied have domestic harvest and marketing seasons that overlap with Mexican production to differing degrees. During various times of the year, these commodities are in direct competition with Mexican exports. The commodities include

tomatoes, cucumbers, bell peppers, onions, strawberries, broccoli, and cauliflower. Appendix I illustrates the harvest and marketing seasons for each commodity we studied.

Complementary Trade Depends on Seasonal Tariffs

The current system of imposing seasonal tariffs is a key factor in ensuring continuing complementary trade in fresh horticultural commodities between Mexico and the United States.

U.S. horticultural producers' associations generally oppose eliminating existing tariff rates. They argue that placing minimum wage requirements and imposing restrictive regulations on the use of agricultural chemicals in the United States limit their ability to compete with Mexican exports. They believe these regulations give Mexican exports an unfair advantage and can only be compensated for by tariffs.

Researchers agree that eliminating tariffs may tip the scales in favor of lower-priced Mexican exports despite certain competitive advantages enjoyed by U.S. growers.

During the past decade, export-oriented horticultural production has spread to new areas of Mexico, effectively extending active harvesting and marketing seasons. Without seasonal tariffs, further undermining of existing patterns of complementary production would occur, since Mexican growers would increasingly be able to export to the United States year-round.

U.S. Production Increases

During the 1980s, U.S. production of most horticultural commodities we studied expanded considerably, despite substantial increases in Mexican horticultural exports. Tomatoes, bell peppers, onions, mangoes, table grapes, asparagus, strawberries, broccoli, and cauliflower have all enjoyed considerable gains in domestic production in terms of dollar value. Some of these commodities experienced substantially greater gains in domestic production than did Mexican exports. For example, between 1985 and 1989, the total value of tomato production rose by 49 percent in California and by 97 percent in Florida, while Mexican exports grew by 32 percent during the same period. Similar patterns are evident for bell peppers and table grapes.

Increases in domestic horticultural production are due to expanding demand. However, U.S. growers also enjoy certain competitive advantages that compensate for Mexico's relatively cheaper labor and land

costs. According to a study by the U.S. Department of Agriculture's (USDA) Economic Research Service (ERS), U.S. producers have at times enjoyed lower total production and marketing costs than Mexico in such commodities as fresh tomatoes, bell peppers, and squash.

Specific competitive advantages U.S. growers enjoy include greater water availability, superior technology, more resources for research and development, lower transportation costs, and lower capital costs. The United States is relatively water abundant compared to Mexico. Cheaper water costs and better irrigation systems give U.S. growers an advantage in this area.

Innovative technology in the agricultural sector has helped keep the United States competitive despite relatively higher labor costs. The introduction of new strawberry varieties and the improved efficiency in harvesting have transformed the California strawberry industry into a "high tech" crop. California has been successful in producing strawberries because it enjoys several advantages, including a high degree of industry organization and technological innovation.

Mexican fresh horticultural exports are at a disadvantage to domestic produce in promptly reaching their final market destination. For growers of fresh fruits and vegetables this is very important due to the short shelf life of their products. According to ERS researchers, Mexico's relatively poorer road system and delays experienced with border processing lead to losses in fresh produce shipments and reduce shelf life and marketability for Mexican horticultural exports.

Compared to Mexico, the United States is a capital abundant country. Access to capital allows U.S. growers to take advantage of capital intensive methods of production such as efficient—albeit expensive—technology.

Mexican Exports Benefit U.S. Consumers

During the 1980s Mexican exports of fresh horticultural commodities helped meet growing demand by health-conscious U.S. consumers for year-round fresh produce. Mexican horticultural commodities supplement limited seasonal production in the United States and tend to enter the country when domestic supplies are low. USDA statistics indicate that almost 60 percent of the value of Mexican horticultural exports subject to seasonal tariffs enter the United States during the low tariff period when competition with domestic production is minimal. For example, 60 percent of Mexican cucumber exports in 1989 entered the U.S. market

between December and February, when U.S. production is limited to Florida. Similarly, more than 90 percent of Mexican cantaloupe exports enter the United States between December and May, while the bulk of domestic production occurs in the summer and fall months.

In addition to supplementing seasonal supplies during the off season, Mexican horticultural exports cushion the effect of shortages of supply resulting from weather-related production uncertainties. For example, the availability of alternative sources of supplies in Mexico and Florida has limited the impact of freezes, droughts, and heavy rains on the supply of bell peppers and cucumbers, which are highly temperature sensitive and delicate. When freezes have damaged Florida production, Mexican peppers have made up for the shortfall in supply. Similarly, loss of crops in Mexico creates an opportunity for Florida producers to sell their product at a higher price.

Scope and Methodology

We limited the scope of our report to major Mexican fresh horticultural exports to the United States. We relied on the common definition of horticultural commodities, which includes all fresh fruits, melons, and vegetables from Chapters VII and VIII of the Harmonized Tariff Schedule of the United States. Based on data provided by the USDA's Foreign Agricultural Service, Trade and Economic Division, we ranked these commodities by the dollar value of exports from Mexico in 1989.

The information presented in this report is based principally on data provided by the USDA, by U.S. and Mexican growers' associations, by academic institutions, and by state agriculture departments. We focused on the fresh horticultural commodities whose export value in 1989 exceeded $10 million. We did not include bananas and chili peppers in our analysis because there is no significant commercial production of these commodities in the United States. We also dropped "melons" from our study because this label does not refer to a specific commodity but is rather a tariff line item applied to several melon varieties, excluding cantaloupe and watermelon. We also excluded black-eyed peas because this commodity is not subject to seasonal changes in tariff rates and is comparatively unaffected by harvesting and marketing seasons.

We included broccoli and cauliflower in our study because they have been among the fastest-growing Mexican vegetable exports during the 1980s and have attracted considerable attention and controversy. Even though broccoli and cauliflower are relatively minor fresh horticultural

exports, they are the two major Mexican frozen vegetable exports to the United States.

The data used in preparing the commodities graphs on harvesting and marketing seasons was obtained primarily from the USDA. We also relied on reports issued by the U.S. International Trade Commission (ITC), the California Agricultural Statistical Review 1988, the Florida Agricultural Statistics Service, the Florida State Farmer's Market, and the Mexican Confederacion Nacional de Productores de Hortalizas (CNPH). We did not attempt to assess the accuracy of the data bases we relied on.

For the graphs, we selected states that are major producers of the specific commodities and that represent geographical diversity. In order to illustrate the information in a concise and clear manner, we chose to limit the number of states included in the graphs. Similarly, while we could have specifically indicated Mexico's principal export-producing states, to simplify the presentation we combined them under the heading of "Mexico."

Statistics on the levels of U.S. production during the 1980s were obtained from the USDA's National Agricultural Statistics Service, the ITC, the California Department of Food and Agriculture, the Texas Agricultural Statistics Service, and the Florida Agricultural Statistics Service. Statistics on the levels of Mexican exports were provided by the USDA's Foreign Agricultural Service and the Mexican CNPH. All statistics cited and our analysis are based on actual dollar figures unadjusted for inflation.

We obtained views on U.S.-Mexico agricultural trade from the Western Growers Association, the California Strawberry Advisory Board, the National Onion Association, the Grower-Shipper Vegetable Association, the California Tomato Growers Association, the Florida Fruit and Vegetable Association, and the Florida Tomato Committee.

We also interviewed researchers from the University of California at Davis and at San Diego; officials from the USDA's Economic Research Service, Foreign Agricultural Service, and Agricultural Marketing Service; the U.S. ITC; the California Department of Food and Agriculture; the Florida Department of Agriculture and Consumer Services; the Texas Agricultural Statistics Service; and the Mexican CNPH.

As requested, we did not obtain agency comments on a draft of this report. However, all data supporting the graphs were reviewed by officials from USDA's Foreign Agricultural Service and Agricultural Marketing Service to ensure accuracy. We conducted our study between January and September 1990 in accordance with generally accepted government auditing standards.

As requested, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its issue date. At that time, we will send copies to interested congressional committees and executive branch agencies. Copies will also be made available to others on request.

Please contact me on (202) 275-4812 if you or your staff have any questions concerning this report. The major contributors to this report are listed in appendix II.

Sincerely yours,

Allan I. Mendelowitz

Allan I. Mendelowitz, Director
International Trade, Energy,
and Finance Issues

Contents

Abbreviations

CNPH	Confederacion Nacional de Productores de Hortalizas (Mexico)
ERS	Economic Research Service
ITC	U.S. International Trade Commission
USDA	U.S. Department of Agriculture

Mexican and U.S. Horticultural Harvesting and Marketing Seasons and U.S. Tariffs

Mexico exports a variety of horticultural commodities to the United States, with 1989 export value amounting to about $800 million (see table I.1). Many of these commodities are also grown in the United States. Whether Mexican exports compete with or complement U.S. domestic production depends on several factors, including the extent to which harvesting or marketing seasons coincide, the level of combined supply relative to U.S. demand, and the degree of U.S. tariff protection. These factors for 14 major commodities are discussed in this appendix.

Table I.1: Mexican Fresh Horticultural Exports to the United States

Dollars in millions

Rank	Commodity	1989 value
1	Tomatoes	$222.3
2	Cucumbers	84.6
3	Bell Peppers	62.2
4	Onions	57.8
5	Cantaloupes	52.6
6	Mangoes and guavas[a]	37.0
7	Squash	35.6
8	Grapes[b]	31.5
9	Chili peppers	24.8
10	Watermelon	21.1
11	Melon	19.0
12	Bananas	16.1
13	Asparagus	14.3
14	Strawberries	13.5
15	Black-eyed peas	12.7
23	Broccoli/cauliflower	4.7
Subtotal, ranked commodities		**$710.0**
Total		**$790.8**

[a]Mangoes account for 99 percent of total.

[b]Almost entirely table grape varieties.

Source: U.S. Department of Agriculture, Foreign Agricultural Service

Tomatoes

Tomatoes are by far the largest Mexican horticultural export to the United States in terms of value ($222.3 million in 1989). In fact, tomatoes are only third after coffee and live cattle among all Mexican agricultural exports to the United States. Mexico's tomato exports during winter months supplement low U.S. domestic production. Mexican tomato exports also provide a secure supply when freezes in the United States reduce domestic production.

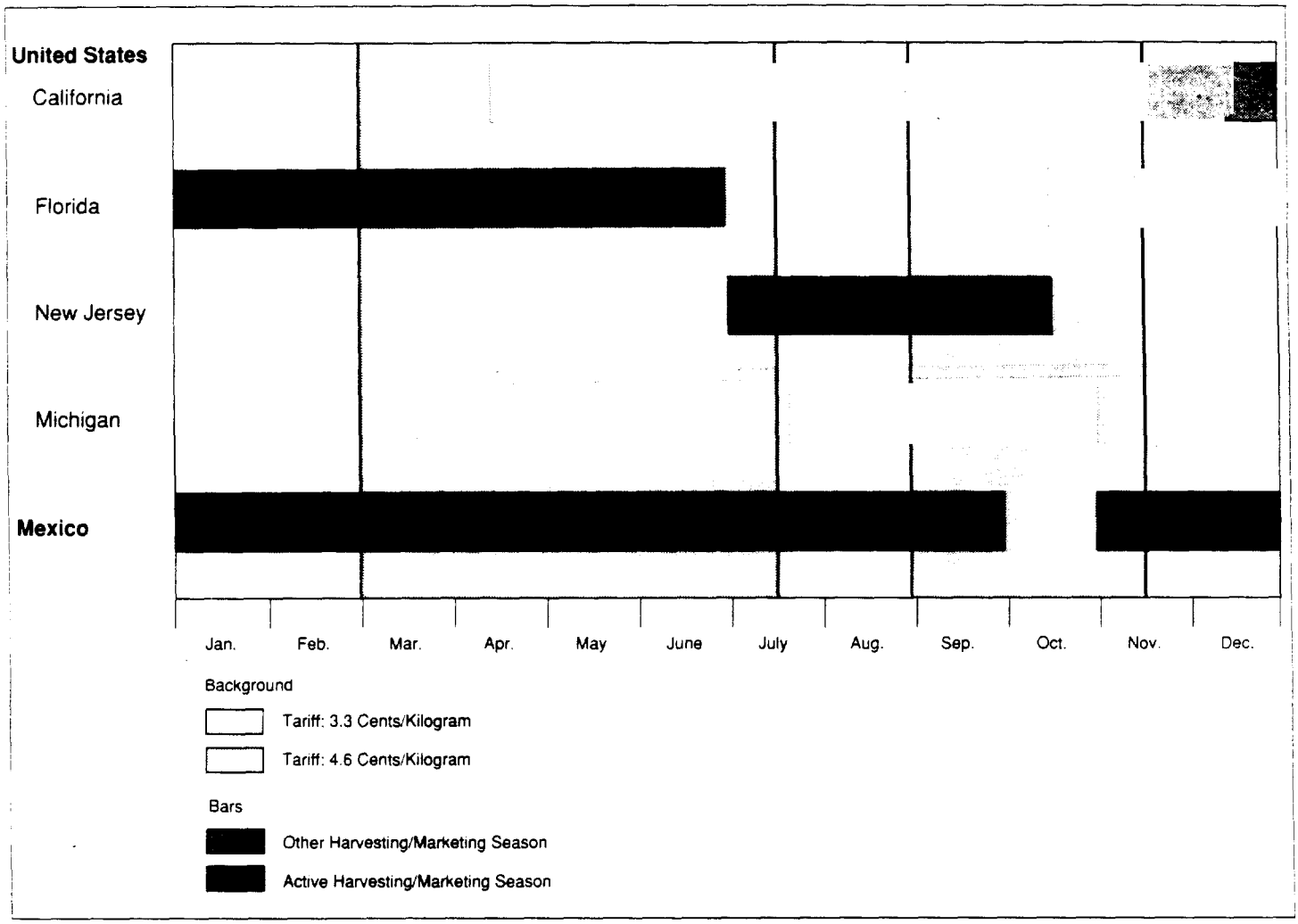
While Mexican tomato exports benefit U.S. consumers, they also represent increased competition for U.S. producers. Mexico's tomato production coincides with Florida's during the winter months and with California's summer and fall crop (see figs. I.1 and I.2). However, it is uncertain whether Mexican exports have displaced U.S. producers. According to a U.S. Department of Agriculture (USDA) Economic Research Service (ERS) report, domestic U.S. producers were able to maintain their share of the U.S. market for tomatoes, despite increased value of Mexican exports between 1980 and 1985.

Similarly, since 1985, increased Mexican competition has not meant decreased production value for U.S. growers. The value of Mexican tomato exports to the United States grew by 32 percent between 1985 and 1989. During the same period, California increased the total value of its tomato production by 49 percent, while the value of Florida production rose by 97 percent. In fact, in 1987 and 1988, Mexican tomato exports to the United States decreased, due to a collapse in the market price for tomatoes in the United States that meant prices fell below export costs for Mexican producers.

Nevertheless, representatives of U.S. tomato growers' associations argue that Mexican competition is unfair. They believe Mexican exports do not meet even the minimum size and quality requirements set by the tomato marketing order,[1] while their own production complies with maximum standards. An ERS report suggests that any reduction in tariffs on tomatoes could shift the cost competitive advantage in favor of Mexican producers.

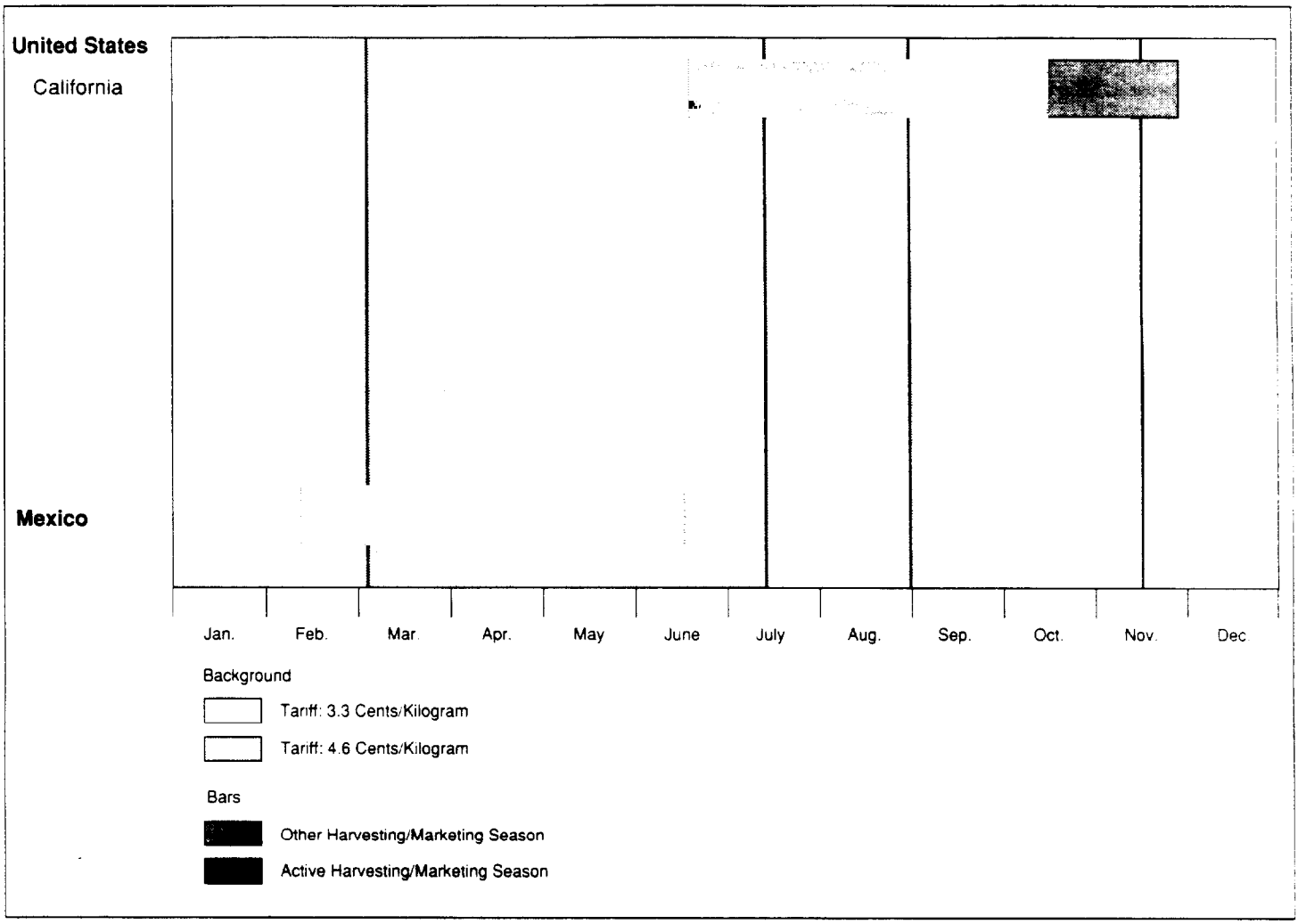
[1] A marketing order is a regulatory program administered by the Secretary of Agriculture. Under such a program, an industry attempts to regulate the handling and marketing of its crop by, among other things, preventing the marketing of low-quality product.

Figure I.1: Fresh Tomatoes—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 7-2.

Figure I.2: Tomatoes for Processing—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service and Foreign Agricultural Service. Harmonized Tariff Schedule of the United States, II, 7-2.

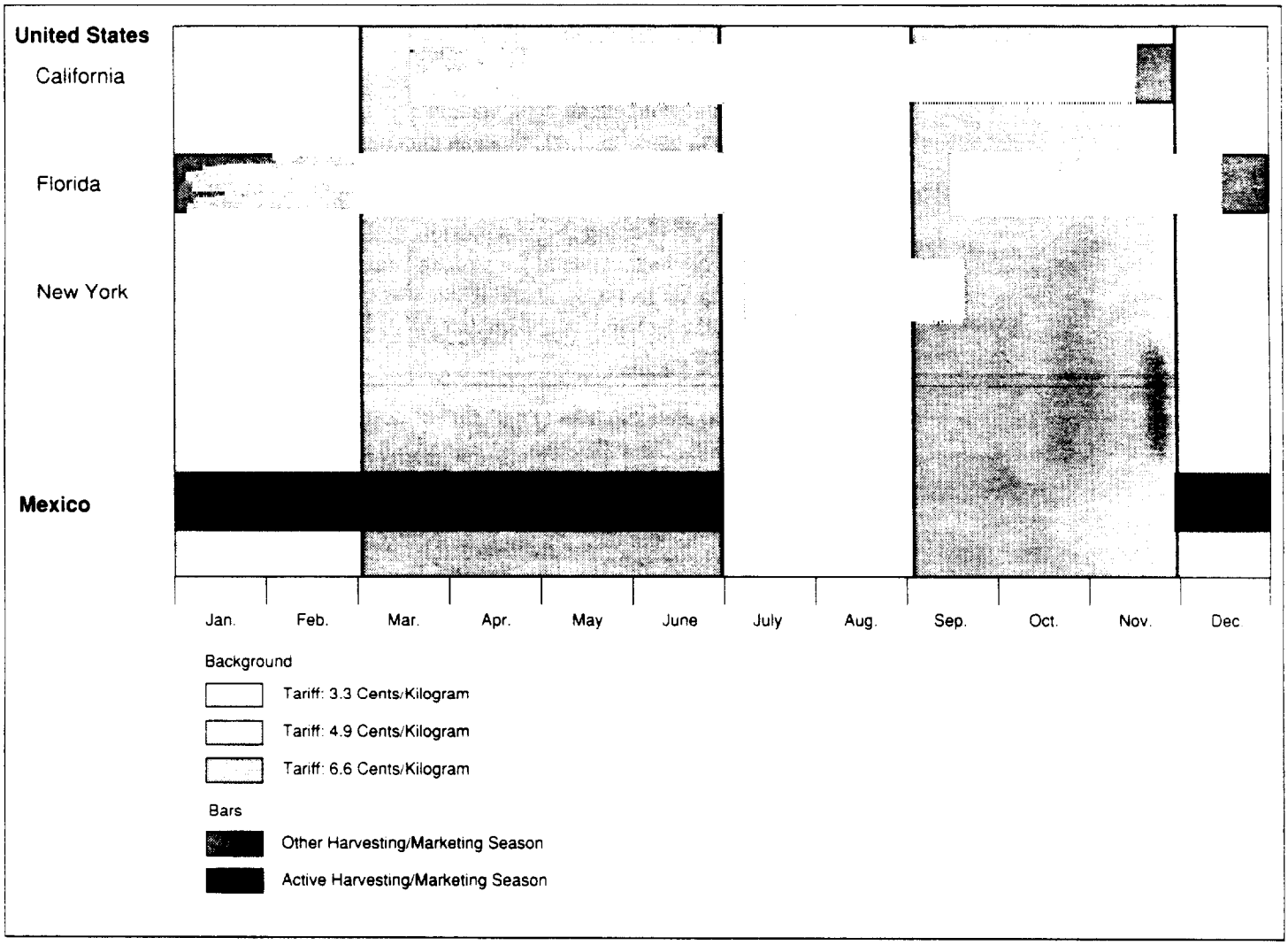
Cucumbers

Throughout the 1980s, cucumbers have ranked among the top four major Mexican horticultural exports to the United States, with values reaching nearly $85 million in 1989. Harvesting and marketing seasons for fresh cucumbers in Mexico generally complement California and New York production (see fig. I.3). Figure I.3 also illustrates that there is some overlap in the winter harvesting and marketing seasons between Florida and Mexico.

According to an ERS report, Florida traditionally has been the dominant supplier of winter fresh vegetables in the eastern U.S. markets, while Mexico dominates the western markets. Both producers compete in the Midwest. The ERS report also indicates that since Mexico can produce cucumbers more cheaply, Florida depends on existing tariffs to remain competitive.

Florida's and Mexico's distinct weather patterns also reduce the competition for the winter fresh vegetable market. In order to minimize the risk of damage from frost, peak cucumber production in Florida is completed by early December, while a second peak crop is harvested in the spring when temperatures are milder. Conversely, in Sinaloa, Mexico's principal cucumber-producing state, production is concentrated during the midwinter months when rainy weather conditions and problems associated with disease are less likely to occur. Consequently, from December to March, Mexico almost has the market to itself. In 1989, about 60 percent of Mexico's cucumber exports entered the United States between the beginning of December and the end of February. Thus, even though Florida and Sinaloa can produce cucumbers throughout the winter, production from each area usually enters the U.S. market during different periods.

Figure I.3: Cucumbers—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service and Agricultural Marketing Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 7-3.

Bell Peppers

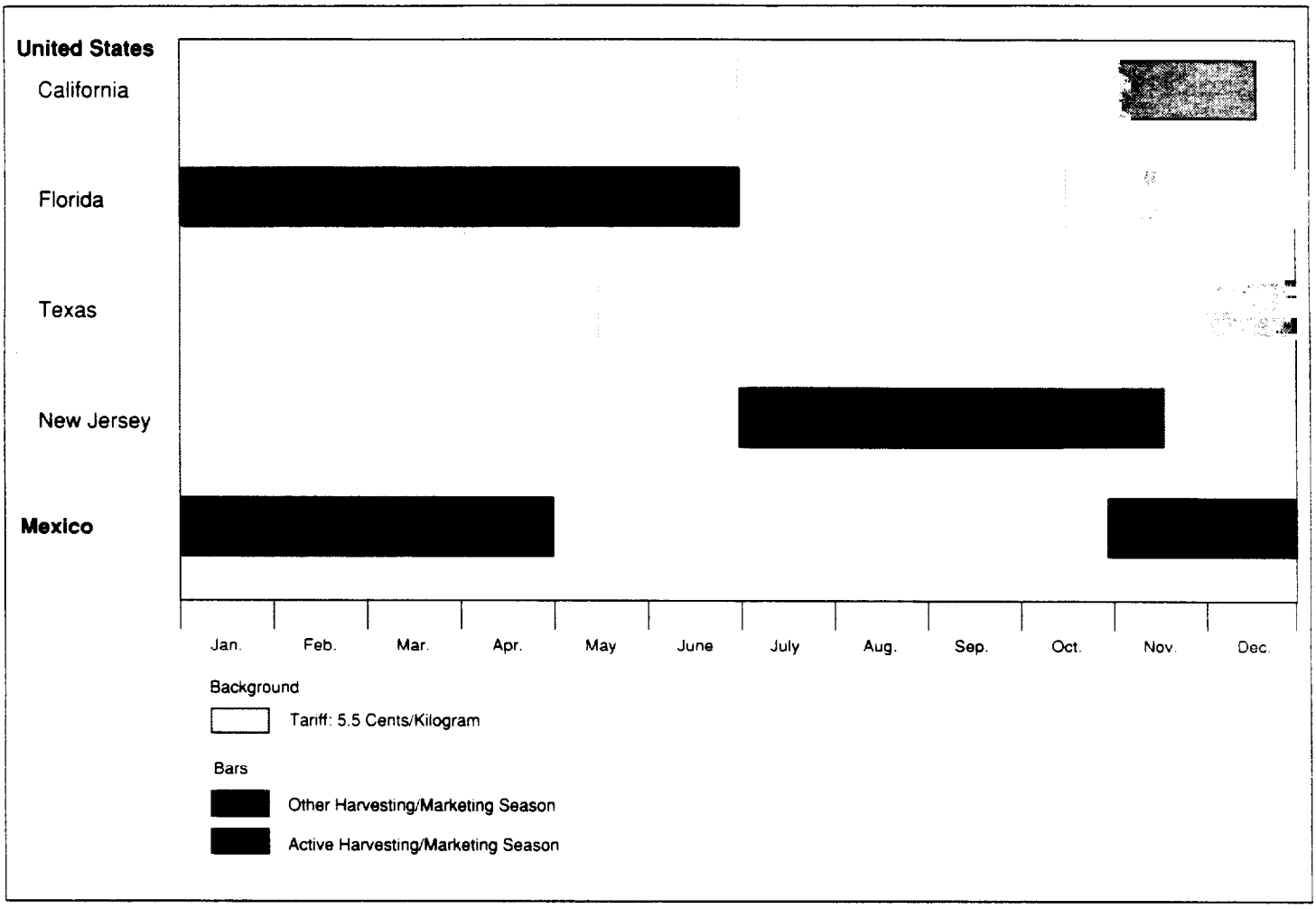
Bell peppers have been one of the three major Mexican horticultural exports to the United States during the 1980s. Mexican bell pepper exports to the United States in 1989 totaled $62 million, an apparent 18-percent increase from 1980. However, the value of such exports has fluctuated from a high of $86 million in 1985 to a low of $46 million in 1987. Mexican bell peppers, however, are produced more cheaply than

U.S. peppers. A 1985 USDA report suggests that the U.S. growers' ability to compete effectively in bell peppers depends on existing import tariffs.

Nevertheless, there is a degree of complementary production between bell pepper production in Mexico and the United States, with the exception of Florida (see fig. I.4). Florida production is most active approximately at the same time Mexico reaches its peak harvesting and marketing season. Competition with Mexico, however, has not prevented Florida from increasing its production and yield per acre. Between 1985 and 1989, Florida increased its production yield by 33 percent and its total value by 59 percent. During the same period, Mexican green bell pepper exports to the United States actually decreased by 27 percent in terms of value.

While Mexico and Florida are in direct competition for the winter bell pepper market, the existence of alternate supply sources has benefited U.S. consumers. Bell peppers are a highly temperature sensitive and delicate product, susceptible to freezes in Florida and vulnerable to unfavorable weather conditions such as droughts and heavy rains common in Mexico. Consequently, bell pepper production is quite unstable, and market prices tend to vary substantially from year to year. When freezes have damaged Florida production, Mexican peppers have been able to make up for some of the shortfall in supply. Similarly, loss of crops in Mexico creates an opportunity for Florida producers to sell their product at a higher profit.

Figure I.4: Bell Peppers—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service and Agricultural Marketing Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 7-4.

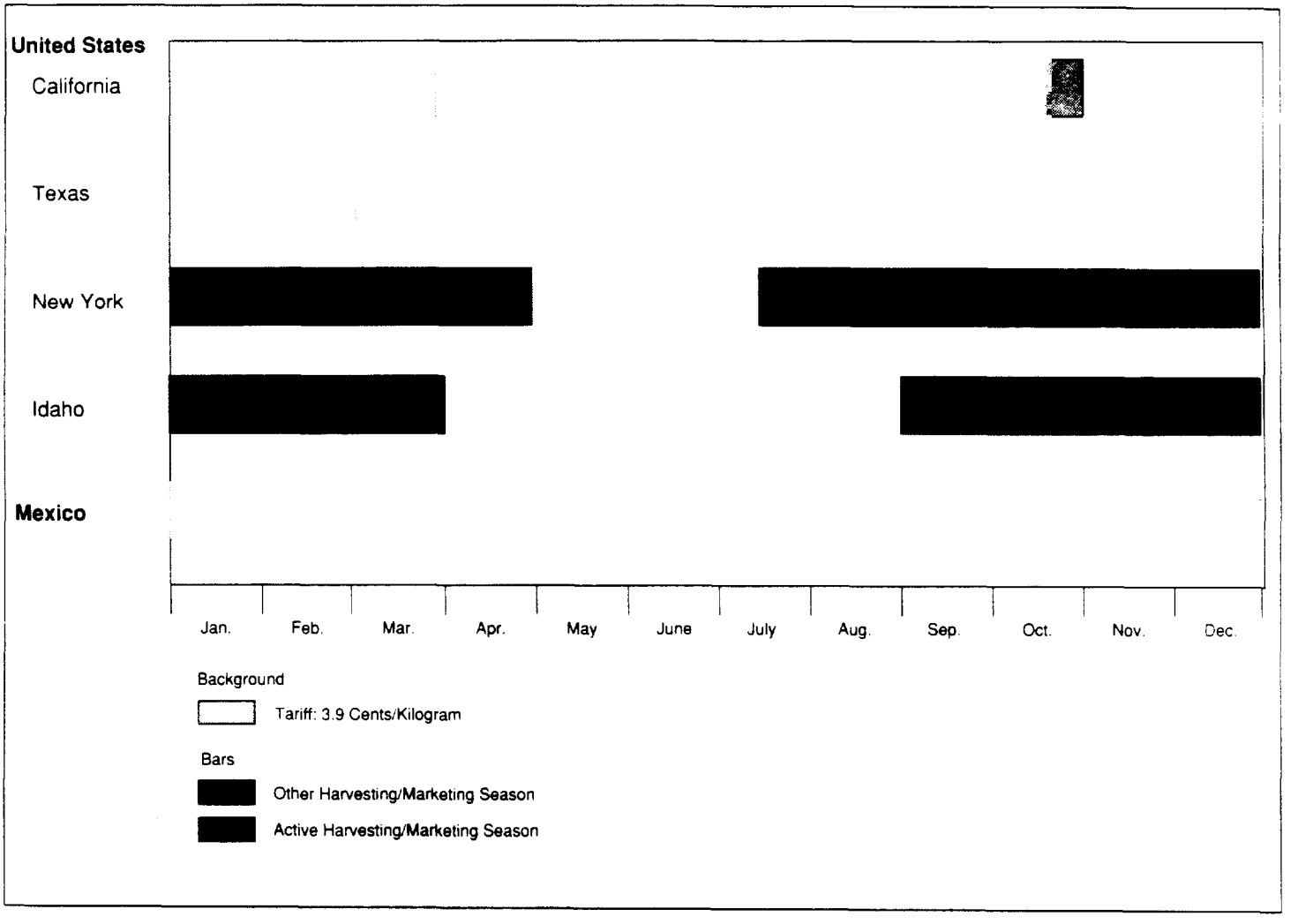
Onions

In 1989 onions were the fourth largest Mexican horticultural export to the United States. In 1989, Mexican onion exports were valued at about $58 million, more than twice the value in 1980. Both the United States and Mexico are able to harvest and market onions year-round (see fig. I.5). Unlike most other commodities included in this study, onions have a long storage capacity that allows year-round supply. In effect, onions have weak seasonal price patterns.

Despite year-round competition and rising Mexican onion exports, U.S. domestic producers have increased their total cash receipts for onions from $322 million in 1980 to $502 million in 1989. Not all domestic producers, however, have been stepping up production. The National Onion Association points out that South Texas onion acreage has been declining for years. Shippers in this area have set up coventures or other marketing arrangements with the Tampico, Mexico, area onion growers that allow them to take advantage of an early seasonal shipping entry into the United States. Some South Texas operators and shippers see the influx of Mexican onion exports as inevitable and have moved to join their efforts in coventures with Mexican producers. Their geographical proximity has enabled both countries' producers to create economic cooperation virtually unavailable to growers and shippers in other areas.

While U.S. growers have increased cash receipts during the 1980s, national onion representatives indicate that they depend on the existing U.S. import tariffs to remain competitive in the face of rising Mexican exports.

Figure I.5: Onions—Usual Harvesting and Marketing Periods



Note: Includes green, dry, storage, and nonstorage onion varieties.

Sources: U.S. Department of Agriculture, Statistical Reporting Service and Agricultural Marketing Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 7-2.

Cantaloupes and Watermelons

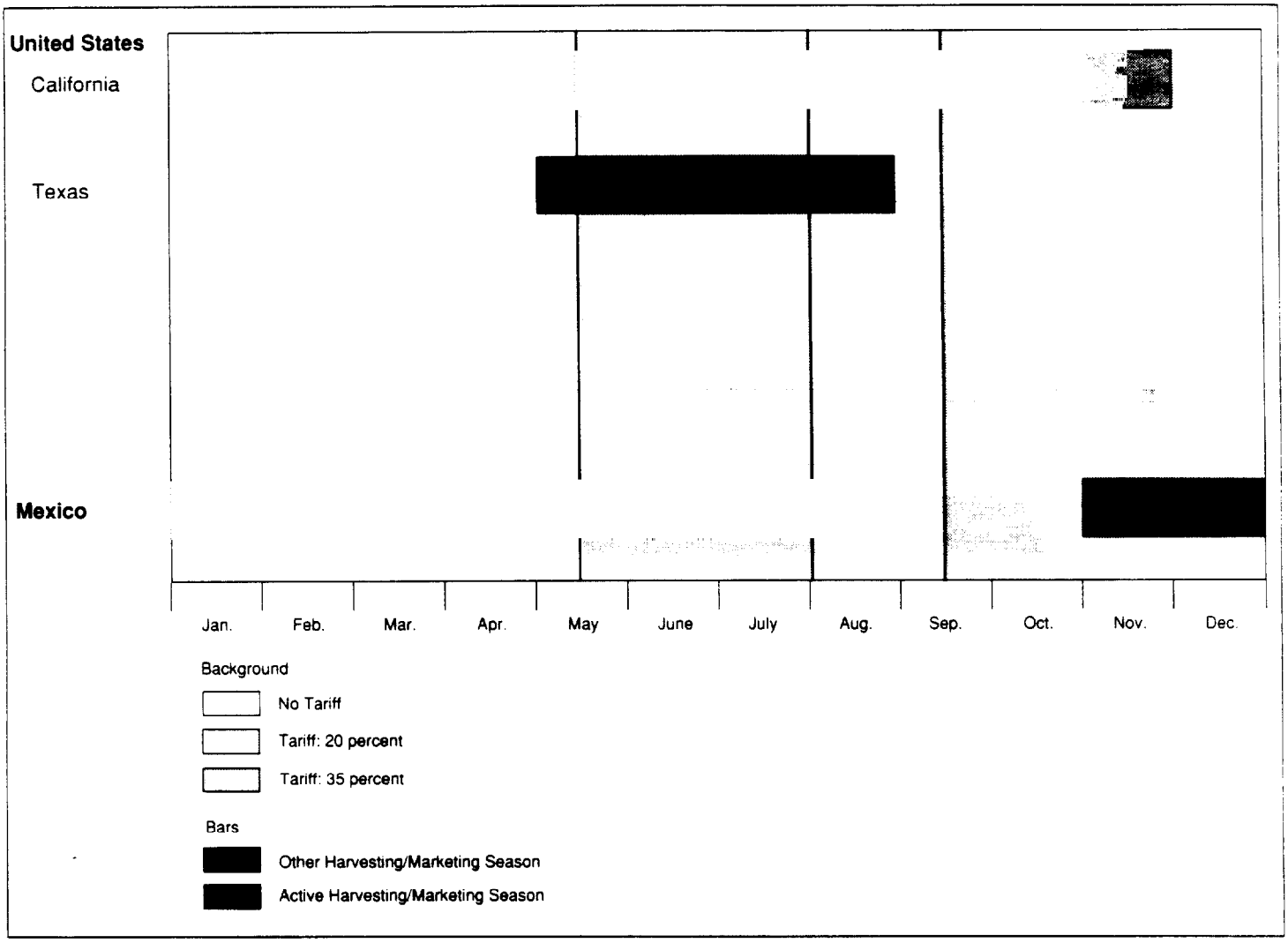
Mexican exports of fresh cantaloupes and watermelons to the United States are quite complementary with domestic U.S. production. Mexico is the most important foreign supplier of these commodities to the United States. Cantaloupes represent the fifth most important horticultural commodity exported from Mexico to the United States in terms of

dollar value (nearly $53 million in 1989). Watermelon ranks tenth, with a total dollar value of $21 million in 1989.

As shown in figure I.6, during most of the year Mexico's cantaloupe crop complements U.S. production. About 93 percent of Mexican cantaloupe exports currently enter the United States between December and May. Recognizing the complementary nature of Mexican cantaloupe exports, in 1985 Congress amended the Tariff Schedule of the United States to suspend duties on Mexican cantaloupes between January 1 and May 15. In August 1990 the Customs and Trade Act of 1990 (P.L. 101-382, sec. 461 (a)(2)) extended this provision to December 31, 1992.

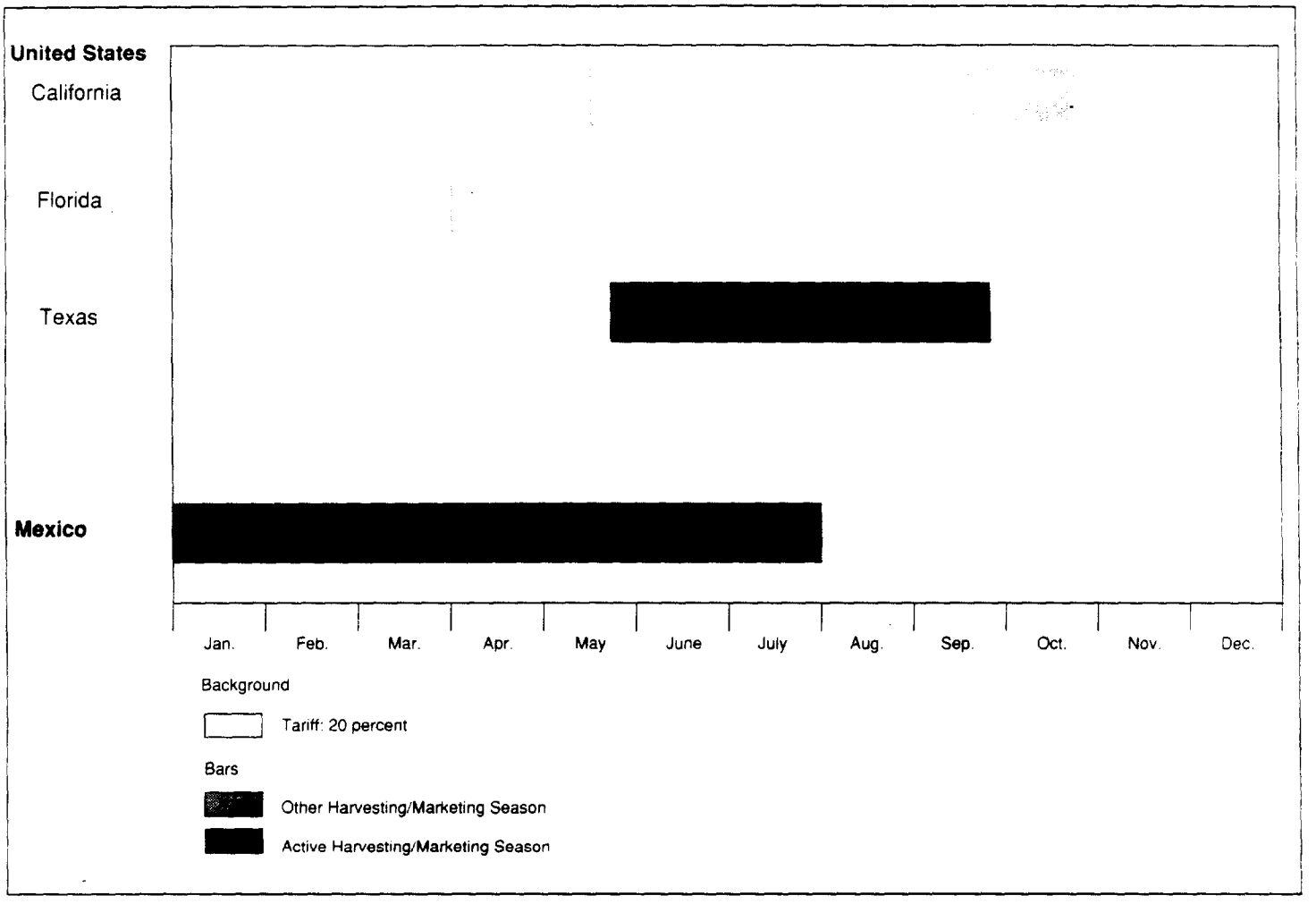
Watermelon harvesting and marketing seasons in the two countries are also complementary. As figure I.7 illustrates, U.S. production takes place primarily in the summer months, while Mexico produces and exports during the winter and spring. About 90 percent of Mexican watermelon exports enter the United States between December and May, prior to the most active U.S. marketing season.

Figure I.6: Cantaloupes—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service and Foreign Agricultural Service. Harmonized Tariff Schedule of the United States, II, 8-5.

Figure I.7: Watermelon—Usual Harvesting and Marketing Periods



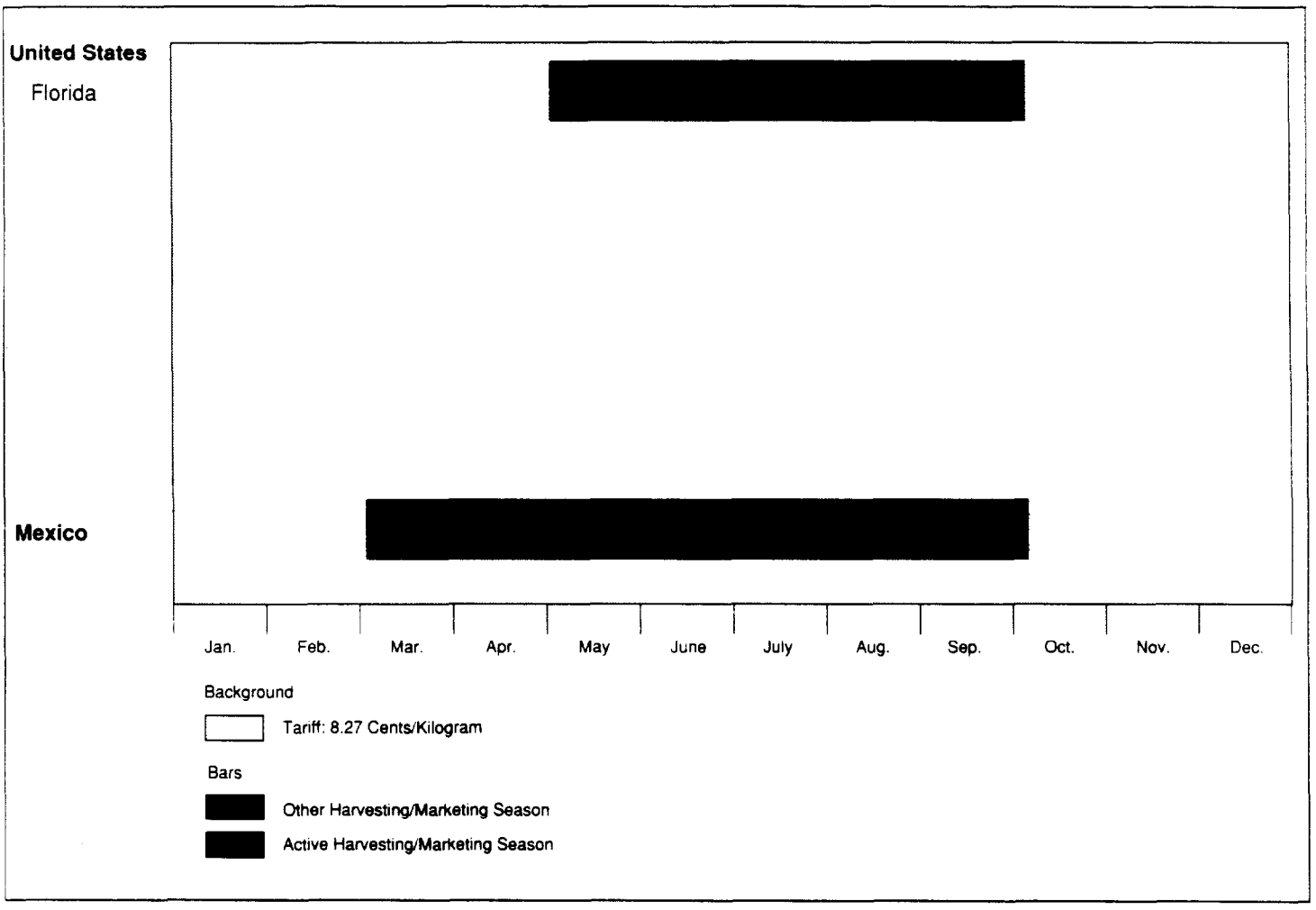
Sources: U.S. Department of Agriculture, Statistical Reporting Service and Agricultural Marketing Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 8-5.

Mangoes

In 1989, Mexican mango exports to the United States totaled $37 million (including guavas). During the 1980s, mangoes were one of the principal horticultural commodities and were the major Mexican orchard crop exported to the United States in terms of average dollar value. According to Confederacion Nacional de Productores de Hortalizas (Mexico) (CNPH) data, U.S. demand for mangoes during the past decade nearly tripled. Demand is particularly high in western states, in areas with large Hispanic and Asian communities such as California. Mango

production is restricted to tropical or subtropical regions. In the continental United States, only Florida enjoys climatic conditions suited for mango production on a commercial scale. As figure I.8 indicates, harvesting and marketing seasons for mangoes in Florida and Mexico occur at approximately the same time. However, Mexican mango exports supplement rather than displace Florida production, because U.S. domestic demand far exceeds Florida's crop. While production in Florida has increased, especially since 1982, Florida supplies only about 19 percent of apparent domestic consumption. The remaining demand for mangoes must be met through imports. As the largest foreign supplier of mangoes to the United States, Mexico accounts for approximately 82 percent of imports.

Figure I.8: Mangoes—Usual Harvesting and Marketing Periods



Sources: Florida State Farmers Market; Confederacion Nacional de Productores de Hortalizas. Harmonized Tariff Schedule of the United States, II, 8-3.

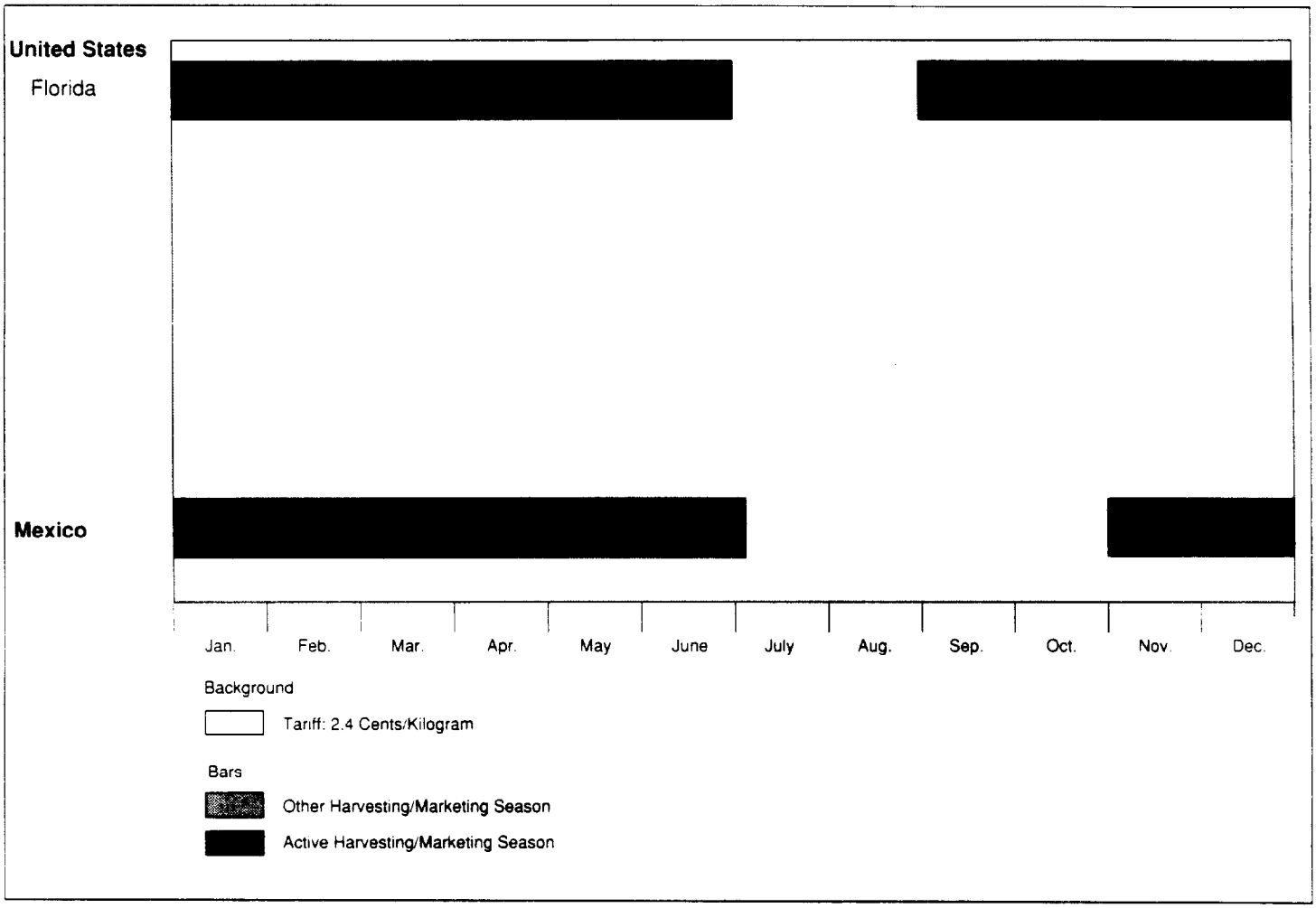
Squash

Although squash production in the United States overlaps with the active Mexican growing season (see figure I.9), the main varieties grown in the two countries are different and are therefore not in direct competition. Squash production in Florida is predominantly of the yellow variety, while Sinaloa (the largest squash-producing state in Mexico) primarily grows green zucchini squash. The degree of substitutability of these two varieties varies depending on consumer markets.

Mexican squash exports tend to supplement low U.S. production. While squash is one of the major Mexican vegetable exports to the United States, U.S. production of squash is quite limited. Florida dominates national production despite the fact that squash only accounts for a small percentage of the total vegetable crop value in that state. Florida's squash production as a percentage of the state's total vegetable crops fell from 3 percent in 1988 to 2.3 percent in 1989. In the 1987-88 season, Florida planted 14,700 acres and California planted 8,000. Texas planted 4,417 acres in 1987.

Since California and Texas produce small commercial quantities of squash, the focus has been on competition between Florida and Mexico. Despite rising Mexican squash exports to the United States, Florida squash production has continued to increase. Total dollar value of Florida production grew from $21.9 million in 1980 to $36 million in 1989. During the same period, Mexican squash exports grew from $13.8 million to $35.6 million. According to an ERS report, Florida's competitive cost advantage depends on the existing tariff rate.

Figure I.9: Squash—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Agricultural Marketing Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II 7-5.

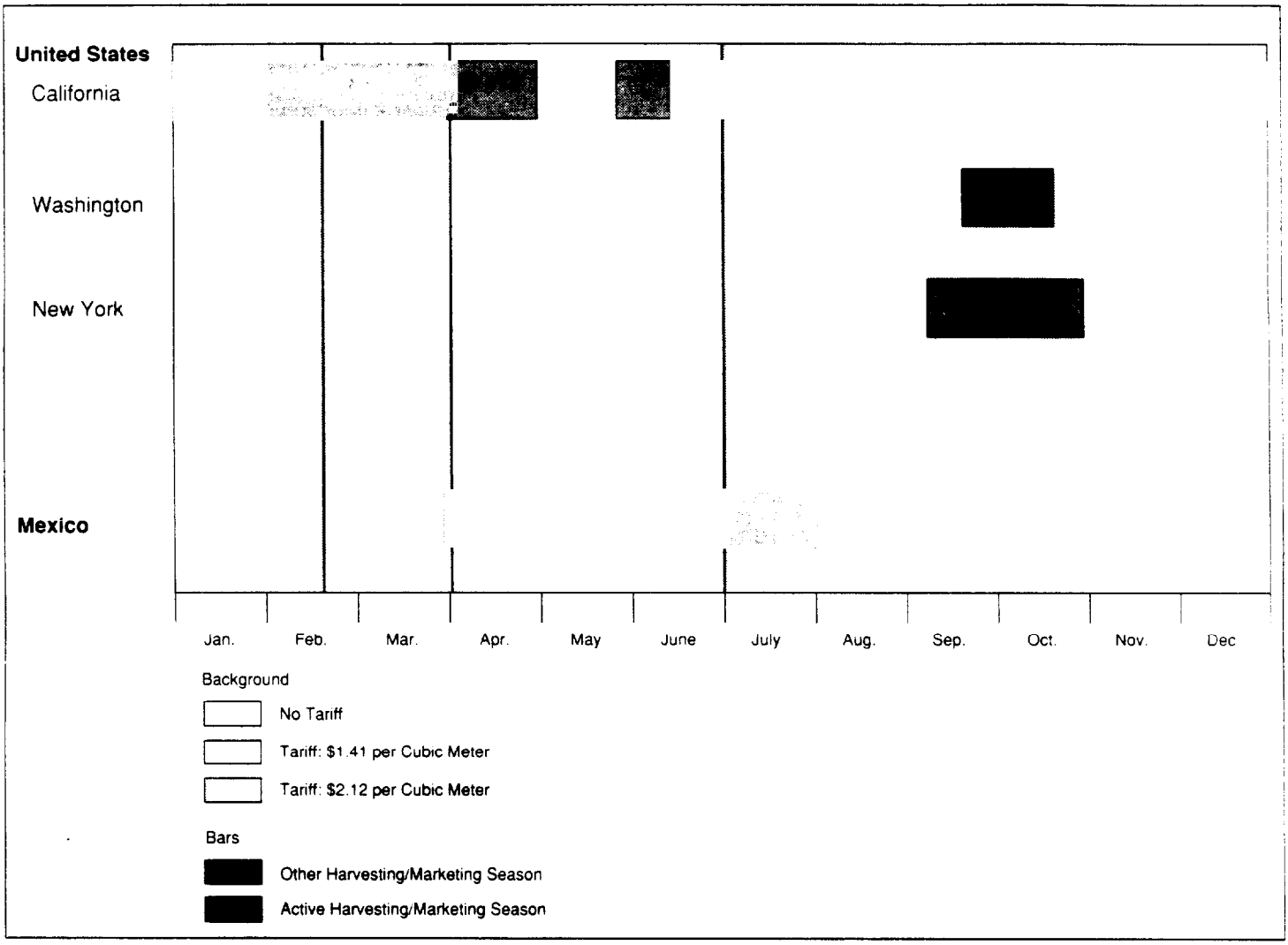
Fresh Table Grapes

As figure I.10 indicates, Mexico's exports of fresh table grapes to the United States overlap with U.S. marketing seasons only in June and July and enjoy duty-free access to the U.S. market throughout most of the commodity's active season. California, by far the largest grape-producing state in the country, competes with Mexican exports primarily in June, since U.S. production is protected by an import tariff in July. The second and third largest producing states, New York and Washington, are free from Mexican competition throughout their harvesting seasons. Fresh table grapes are the only variety presented in figure 1.10, since

Mexican exports are almost exclusively of the table grape variety. In terms of dollar value, the bulk of U.S. grape production is of the wine and raisin varieties. In 1989, for example, table grapes in California only accounted for 17 percent of the state's total grape production.

While the value of both U.S. and Mexican table grapes marketed in the United States has risen since 1986, Mexican exports declined in 1989. Mexico's table grape exports to the United States represented only 11 percent of California's fresh table grape production in 1989. Overall, Mexico increased its table grape exports to the United States from $23.4 million in 1983 to $31.5 million in 1989. During the same period, California increased table grape production from $176.7 million to $282.8 million. New York's production may not have kept pace with inflation, increasing in value from $36.5 million in 1983 to $38.6 million in 1989. Washington state, however, doubled the dollar value of its grape production in the same period, producing $34.3 million in 1983 and $69.2 million in 1989.

Figure I.10: Table Grapes—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 8-4.

Fresh Asparagus

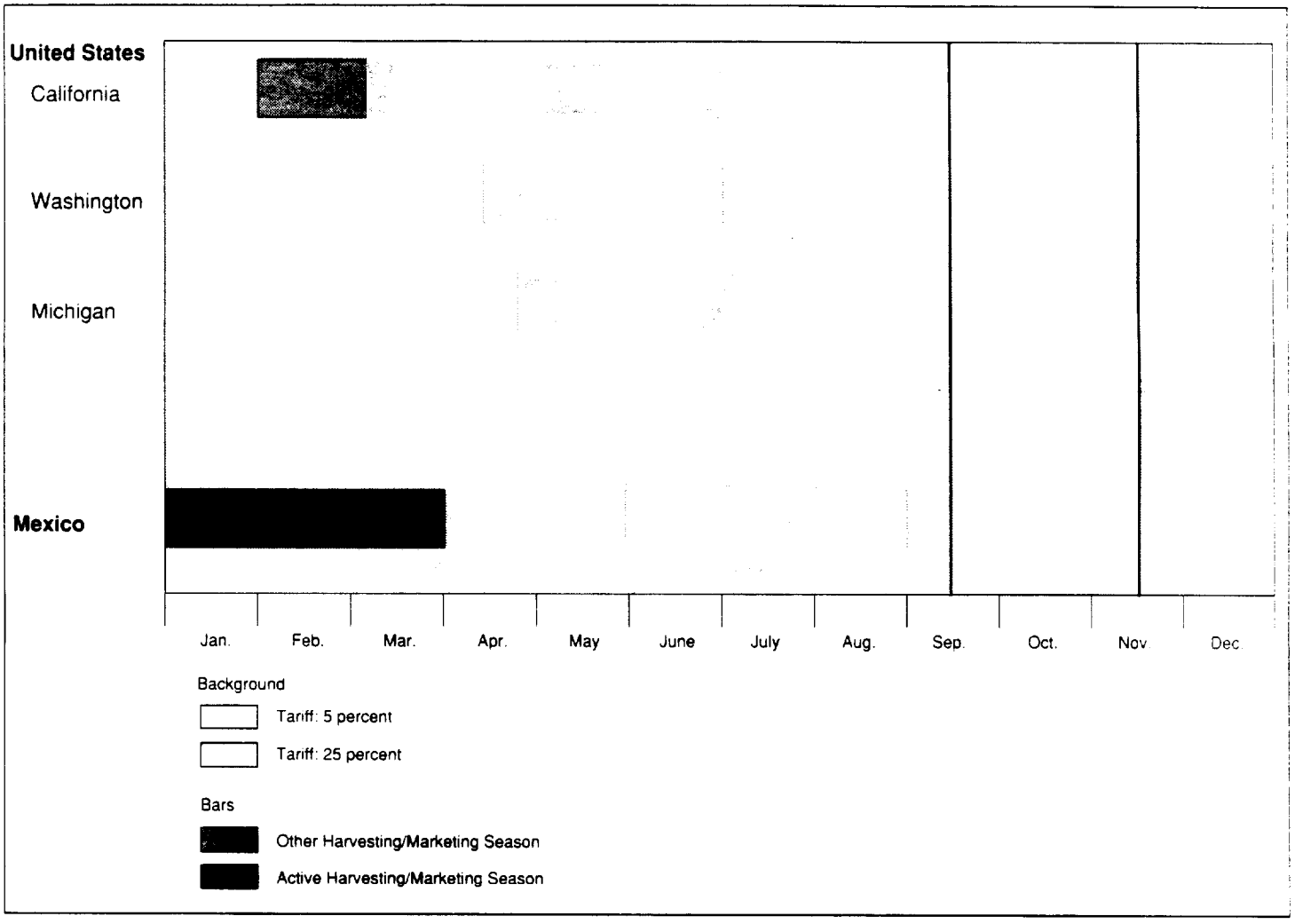
Distinct seasonal production in Mexico and the United States allows Mexican growers to export fresh asparagus prior to peak U.S. production and take advantage of higher prices available at that time. Figure I.11 illustrates the usual harvesting and marketing periods for three major asparagus-producing states and Mexico. Mexico produces two annual asparagus crops, a major one from January through March and a smaller one from June through August. U.S. growers market the bulk of

their production (90 percent) in the spring. Despite apparent complementary production, California growers argue that Mexican exports during February and March overlap and directly compete with their fresh asparagus production.

During the 1980s, increasing domestic demand has allowed total U.S. production to expand amid rising imports. According to a 1987 report by the U.S. International Trade Commission (ITC), the ratio of U.S. domestic supply to U.S. consumption of fresh asparagus decreased between 1983 and 1987. However, total U.S. production has increased from $116.5 million in 1984 to $149.6 million in 1989. Total Mexican exports of asparagus to the United States during the same period increased from $7 million to $14.8 million. Thus, U.S. asparagus still enjoys the dominant share of the domestic market.

Mexico also exports frozen asparagus to the United States. However, frozen asparagus represents only a small fraction of total Mexican asparagus exports. Moreover, Mexican frozen asparagus exports have experienced an erratic sales pattern during the 1980s, declining significantly after reaching a peak in 1987. Complementary production is not a factor in the frozen asparagus industry since the frozen product can be marketed for much longer periods of time and is not as constrained by harvest seasons.

Figure I.11: Fresh Asparagus—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service; Confederacon Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 7-4.

Strawberries

Mexico is the most important foreign supplier of strawberries to the United States, providing approximately 80 percent of total U.S. imports during the 1980s. During the early 1980s, the bulk of Mexican strawberry exports to the United States was in frozen form. However, since 1984, Mexico has substantially increased fresh strawberry exports, primarily in response to increased U.S. consumer demand. Mexican fresh strawberry exports to the United States increased from $3.4 million in

1980 to $13.5 million in 1989, while frozen strawberry exports declined from $24.9 million to $12.5 million during the same period.

Figure I.12 shows usual harvesting and marketing periods for strawberries in Mexico and three of the major producing areas in the United States. As the graph indicates, there is considerable overlap in harvesting and marketing seasons between Mexico and the two major U.S. producers, California and Florida. California strawberry producers comment that the lower quality Mexican exports add volume to and depress prices of the commodity in U.S. markets. Since strawberry production is among the most labor intensive of all agricultural industries, and Mexican labor costs are much lower than in the United States, Mexico poses a threat to U.S. producers. However, adverse production factors in Mexico have limited the competitiveness of Mexican exports. Conversely, domestic production has benefited from excellent industry organization and technological innovation.

Both California and Florida have been increasing their total cash receipts and strawberry production. California, for example, sharply increased total acreage between 1984 and 1989 and total value by 11 percent. Florida has maintained its acreage, but its increasing yields have pushed its crop's total value up by 50 percent in the same period, from $61 million to $92 million.

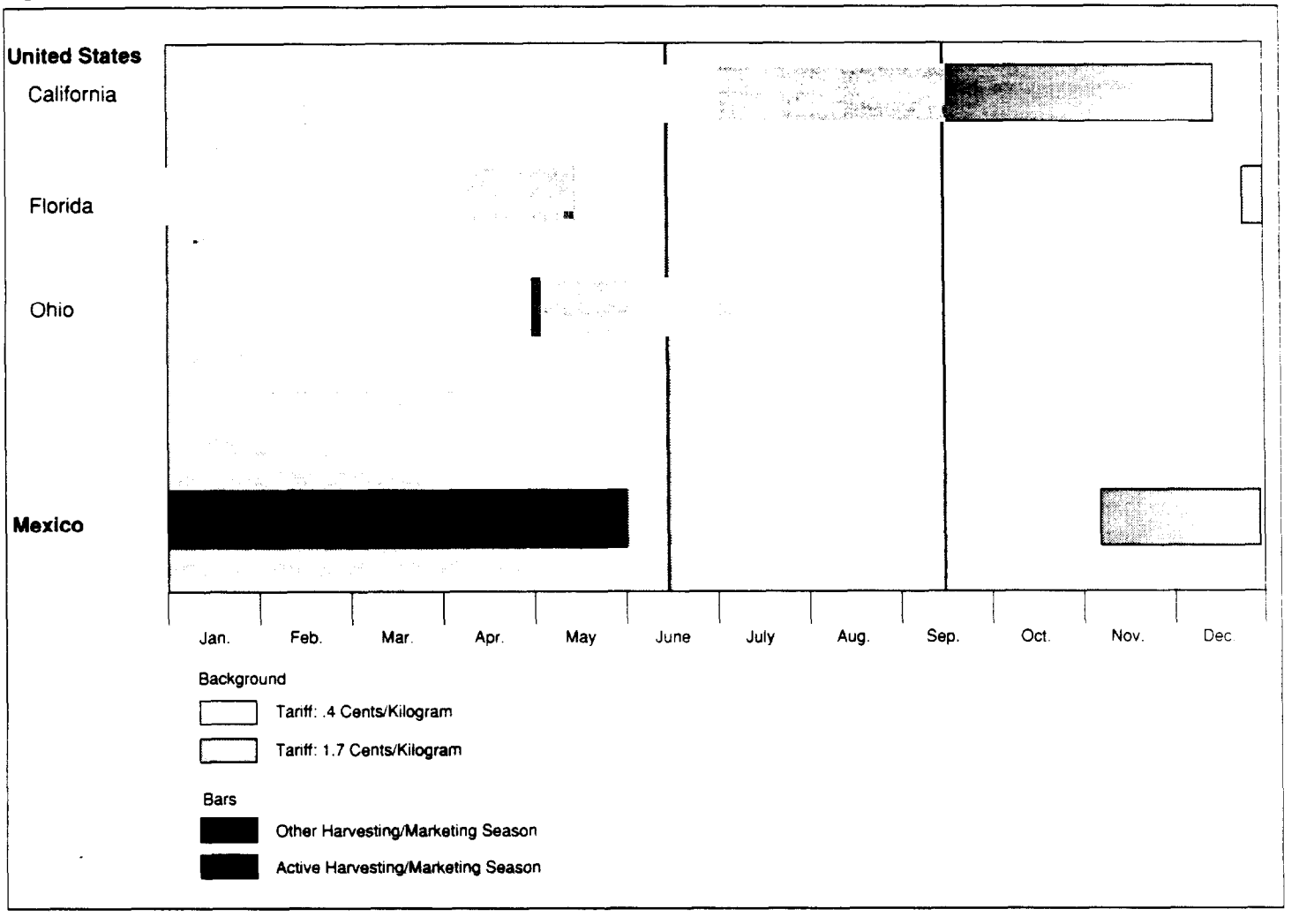
California dominates U.S. production of both fresh and frozen strawberries. California supplies about 75 percent of the U.S. market for fresh strawberries and about 70 percent of the market for frozen strawberries. Research by agricultural economists at the University of California at Davis suggest California's success is attributable to several advantages it has over Mexico and other producing regions, despite the state's comparatively high labor costs. These advantages include climatic and soil conditions that allow for production virtually year-round, a high degree of industry organization, and incentives for research and development that maintain California at the forefront of technological innovations worldwide.

In contrast, according to University of California at Davis researchers, Mexico suffers from several serious shortcomings that limit Mexican strawberry production. Mexico's production season, unlike California's, is limited to 8 months due to heavy summer rains. Moreover, these 8 months can often be cut in half by frequent winter frosts. In addition, Mexico's soil composition is heavy clay. Strawberries grown in heavy clay soil are more susceptible to disease. Finally, according to the

researchers, the Mexican strawberry industry is characterized by lack of organization, poor financing, and inadequate research.

Nevertheless, representatives of California strawberry growers argue that Mexico is able to remain competitive not only because of relatively cheap land and labor costs, but also because of its success in adapting U.S. technology. California strawberry growers point out that Mexican growers are copying hard-earned, costly technology at their expense. California strawberry officials indicate that Mexico does not recognize strawberry plant patent rights of the varieties developed by the University of California, funded by California growers.

Figure I.12: Strawberries—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service; Florida Agricultural Statistics Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 8-6.

Broccoli and Cauliflower

Broccoli and cauliflower constitute the principal Mexican frozen vegetable exports to the United States, but they are minor fresh commodity exports. Although frozen horticultural commodities are not affected by seasonal variations, we have included broccoli and cauliflower in our study because the increase in Mexican exports of these vegetables has attracted considerable attention in recent years. In 1989 Mexican frozen

broccoli and cauliflower exports to the United States were valued at $82 million, while fresh exports were $4.7 million.

Broccoli and cauliflower production during the 1980s benefited from a shift in U.S. consumer tastes toward more health-conscious diets. According to an ITC report, domestic consumption of broccoli and cauliflower increased at an average annual rate of 12 percent from 1983 to 1987. Rising demand for these commodities has spurred both U.S. production and the expansion of Mexican exports. U.S. production of fresh broccoli increased by 43 percent between 1983 and 1989, and U.S. fresh cauliflower production rose by 72 percent over the same period. Even though the growth in Mexican exports of these two commodities to the United States was large, Mexican exports in 1989 were less than 2 percent of the value of U.S. domestic production.

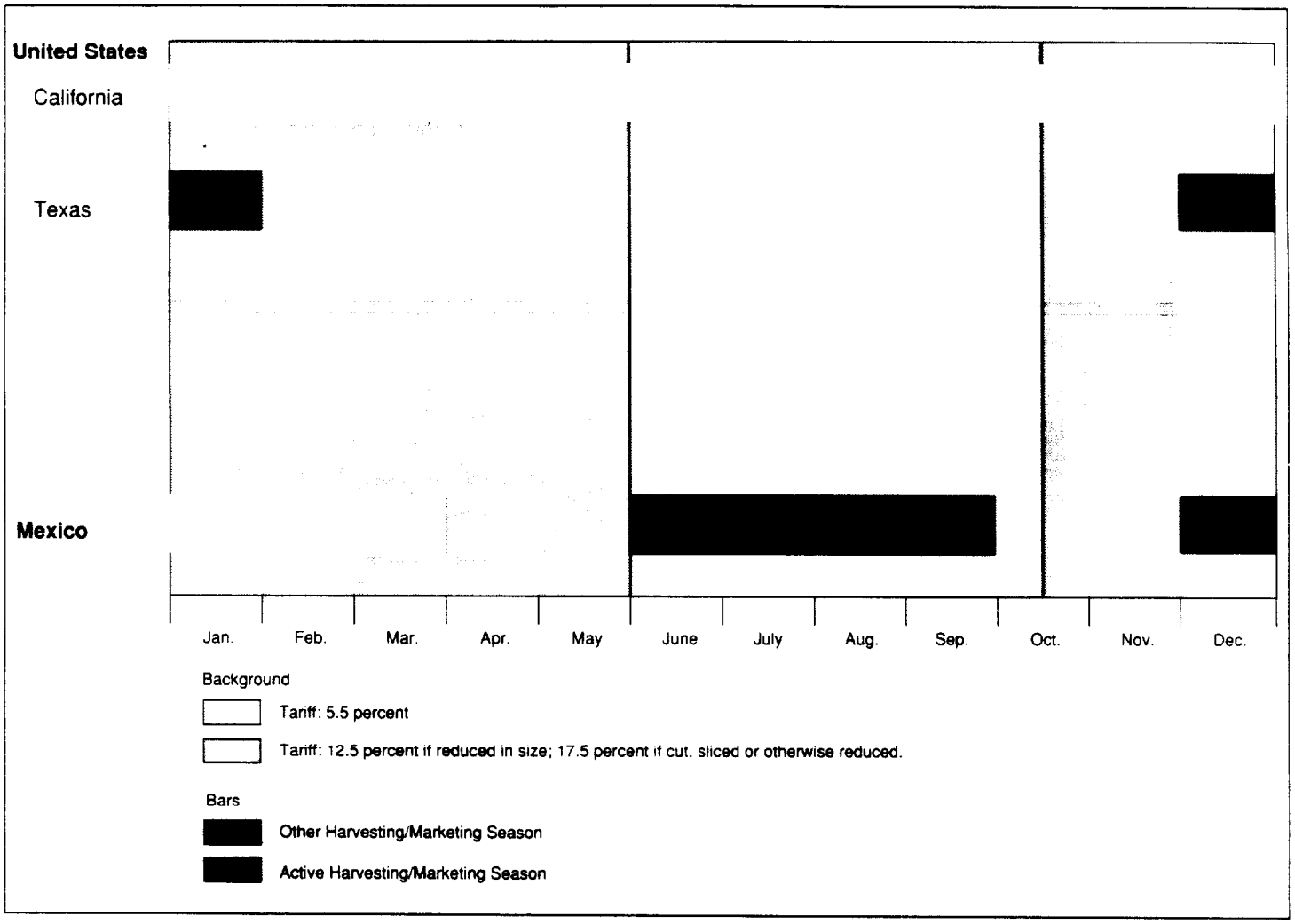
Figures I.13 and I.14 illustrate the harvesting and marketing seasons for fresh broccoli and cauliflower, respectively. The figures suggest that Mexico produces both commodities throughout the winter and broccoli during the summer. Imports from Mexico are in direct competition with U.S. domestic production. About 76 percent of Mexican fresh broccoli shipments and 78 percent of fresh cauliflower shipments enter the United States from December through March. Even though U.S. winter tariff rates on these two commodities are twice as high as in the summer and early fall months (June 5 through October 15), Mexican growers choose to send the bulk of their fresh exports during the winter in order to take advantage of higher prices and to maximize profits.

However, most Mexican broccoli and cauliflower production is marketed in frozen form. Mexico's lower labor cost advantage is enhanced in frozen vegetable production because of labor intensive operations required in processing. It is in the frozen market that inroads by Mexican exports during the 1980s have been most remarkable. Data presented in the ITC report suggest the Mexican share of the U.S. market for frozen broccoli increased from 8.7 percent in 1983 to 32.7 percent by 1987, and from 14.5 percent in 1983 to 41.3 percent in 1987 for frozen cauliflower. Moreover, the rising trend in Mexican frozen broccoli and cauliflower exports continues. From 1987 to 1989, Mexican frozen broccoli and cauliflower exports increased by 61 and 22 percent, respectively.

Between 1983 and 1987, increased Mexican exports to the United States caused significant displacement in the U.S. frozen vegetable industry. Increased competition from Mexican frozen vegetable exports has led a

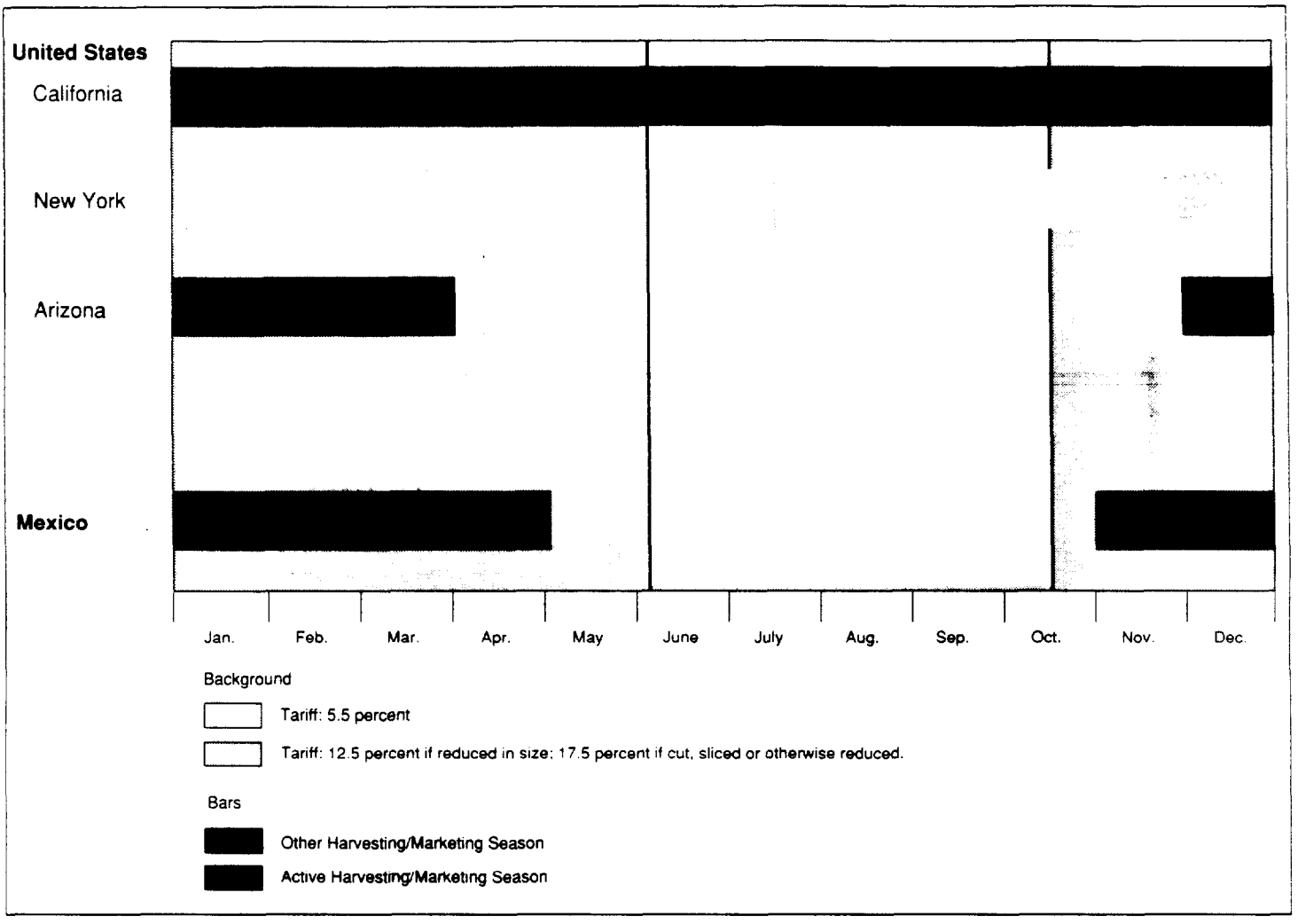
few U.S. growers and processors to establish operations in Mexico or to contract Mexican growers for supplies.

Figure I.13: Fresh Broccoli—Usual Harvesting and Marketing Periods



Sources: California Agriculture Statistical Review 1988; Confederacion Nacional de Productores de Hortalizas; U.S. Department of Agriculture, Agricultural Marketing Service; Harmonized Tariff Schedule of the United States, II, 7-2.

Figure I.14: Fresh Cauliflower—Usual Harvesting and Marketing Periods



Sources: U.S. Department of Agriculture, Statistical Reporting Service and Agricultural Marketing Service; Confederacion Nacional de Productores de Hortalizas; Harmonized Tariff Schedule of the United States, II, 7-2.

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