UNITED STATES TARIFF COMMISSION

# CONDITIONS OF COMPETITION BETWEEN U.S.-PRODUCED AND FOREIGN-PRODUCED ASPARAGUS

Report to the Committee on Ways and Means of the U.S. House of Representatives on Investigation No. 332-71 Under Section 332 of the Tariff Act of 1930

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UNITED STATES TARIFF COMMISSION



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## Introduction

In recent years the United States has lost most of its export market for canned asparagus, the domestic industry's production costs have increased sharply, imports of asparagus into the United States have increased, and foreign asparagus production--especially in Taiwan and Mexico--has expanded. While U.S. asparagus imports have only recently risen, domestic asparagus growers and processors have expressed fears that such imports will increase substantially in the future.

On July 25, 1972, the Committee on Ways and Means of the House of Representatives adopted a resolution directing the Tariff Commission to investigate the conditions of competition between domestic and foreign asparagus. The resolution of the committee reads as follows:

> RESOLVED, That the United States Tariff Commission is hereby directed, pursuant to section 332(g) of the Tariff Act of 1930, as amended, to:
>
> (1) make an investigation of the conditions of competition in the United States between asparagus being produced in the United States and asparagus produced in foreign countries and imported under items 137.85, 138.00, and 141.81; and
>
> (2) report the results of such investigation to the Committee on Ways and Means at the earliest practicable date.
>
> The report of the Commission shall include factual information on domestic production, foreign production, imports, consumption, channels and methods of distribution, prices, including pricing practices, United States exports and other factors of competition.

Following receipt of the committee's request, the Tariff Commission instituted the investigation on August 4, 1972. Public notice of the institution of the investigation was issued on August 7, 1972, and notice of the public hearing in San Francisco, Calif., was issued on August 24, 1972. 1/ The hearing, at which all interested parties were afforded an opportunity to be present, to produce evidence, and to be heard, was held on October 31 and November 1, 1972.

The Commission obtained information during this investigation at the public hearing; 2/ from written briefs submitted by interested parties; through field visits and interviews by members of the Commission's staff with growers, processors, importers, and customs officials; from other Federal agencies; from State agencies; and from responses to questionnaires sent to domestic producers of processed asparagus.

Certain information given in this report has not previously been available, including the following:

Employment data for 1963 and 1972 for the U.S. asparagus industry as a whole, as well as for the growing, canning, and freezing segments of the industry;

Changes that have occurred since 1960 in the rates of pay received by workers in the growing, canning, and freezing segments of the industry;

Data on the age of asparagus plantings existing in 1972 in each of the five major producing areas in the United States; and

Annual data for recent years on U.S. imports of fresh and frozen asparagus.

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1/ Notices of the investigation and the public hearing were posted at the Commission's offices in Washington, D.C., and New York City, and were published in the Federal Register (37 F.R. 16139 and 37 F.R. 17520, respectively).

2/ A summary of the allegations made and of the remedies proposed at the hearing and in written briefs is contained in appendix C.

The report also presents for the first time a comprehensive definitive examination of the impact of imports on the domestic asparagus industry, as well as information relating to competition between the several producing areas within the United States.

## Summary

Asparagus is the edible spears of the asparagus plant, a long-lived perennial. Imported asparagus is produced from the same varieties of the plant as those grown in the United States, and it is generally similar in flavor, appearance, and packaging to the like domestically produced product. In the United States, fresh asparagus is available in substantial quantities during the period February-June and in very limited quantities during most other months. Because fresh asparagus is not available in substantial quantities during much of the year, a large part of the U.S. asparagus crop is canned or frozen for later sale. Asparagus is most frequently served as a separate vegetable, but it is also used in soups, as a garnish for food dishes, and as a salad vegetable.

### Recent developments in the domestic industry

The annual consumption of asparagus in the United States has been about the same in recent years as it was in the years immediately following World War II, but per capita consumption has declined substantially. In 1970-72, consumption averaged 256 million pounds, compared with 253 million pounds in 1945-49; per capita consumption in 1970-72 averaged about 1.5 pounds annually, whereas it had averaged 2.2 pounds in 1945-49.

In recent years, more than half of the asparagus consumed in the United States has been canned, about a third has been fresh, and the rest, frozen.

U.S. production of asparagus reached an all-time high in the early 1960's. At that time the domestic producers supplied virtually all of the U.S. market for both fresh and processed asparagus, and they exported a substantial volume of canned asparagus (principally canned white asparagus, which was shipped mostly to European markets). Thereafter, U.S. exports of canned asparagus declined precipitously; Taiwan now supplies most of the export markets formerly supplied almost exclusively by U.S. producers. With the decline in U.S. exports, U.S. farm output of asparagus and U.S. production of canned asparagus also declined; most of the decline occurred in the growing and processing of white asparagus. Meanwhile, U.S. imports of asparagus have increased in recent years.

In 1969, the latest year for which data are available, asparagus was produced in the United States on some 3,200 farms. In 1972, 38 canners and 19 freezers processed asparagus in the United States. The production, harvesting, and processing of asparagus requires a large amount of labor--far more than is needed for most other vegetables. In 1972, at the peak of the season, about 34,500 workers were engaged in growing, harvesting, and processing asparagus--representing a decline of about 6,500 from 1963, when employment in the asparagus industry was at a peak. About two-thirds of the workers were employed on farms, and the rest were employed in processing plants. During the 1960's, the ending of the so-called bracero labor program 1/ and an exodus of agricultural workers to urban jobs resulted in a scarcity of workers and higher wages. In 1972 the average piece rates paid harvesters were from 75 to 146 percent greater than in 1960, depending on the type of asparagus harvested. Mechanical asparagus-harvesting devices have not been widely adopted because they have not significantly reduced harvesting costs and because of the fragile nature of the spears. From 1960 to 1972, wages paid workers in asparagus processing plants increased 54 to 87 percent, depending on type of plant and location. These increases have significantly affected the cost relationship between processed asparagus and other processed vegetables, inasmuch as at least four times as much labor is required to process asparagus as to process an equal amount of most other vegetables.

Asparagus is not a basic everyday component of the typical American's diet. It has traditionally been sold at much higher prices than most other vegetables, and in recent years this gap has widened. Data of the U.S. Bureau of Labor Statistics indicate that during the period 1967-72 the prices of fresh and canned asparagus increased substantially more than did those of all fresh and canned fruits and vegetables.

U.S. imports and their effect on the domestic industry

Prior to 1969, annual imports of asparagus in all forms accounted for less than 2 percent of domestic consumption, but since then such imports have risen rapidly and in 1972 accounted for about 8 percent of

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1/ Act of Oct. 3, 1961, Public Law 87-345, sec. 6 (75 Stat. 761). The bracero labor program was the chief U.S. source of foreign supplemental farmworkers during the 1950's and early 1960's.

total asparagus consumption. In 1972, imports (virtually all from Mexico) supplied about 9 percent of U.S. consumption of fresh asparagus, compared with less than 1 percent in 1965; imports (from Mexico and Taiwan) supplied about 11 percent of U.S. consumption of frozen asparagus, compared with little or no imports in 1965; and imports (from Taiwan and Mexico) supplied about 7 percent of U.S. consumption of canned asparagus, compared with little or no imports in 1965.

In spite of the fact that annual imports of all three major forms of asparagus increased substantially in 1971 and again in 1972, the domestic output of each of these forms of asparagus was higher in 1972 than in 1971, and while total employment in the asparagus industry in 1972 was substantially below that of 1963, most, if not all, of this decline was the result of factors other than imports. Chief of these other factors has been the decline in the production of U.S. canned white asparagus because of the loss of the U.S. export market for asparagus during the mid 1960's. Despite increased imports, prices received by domestic asparagus growers and processors were significantly higher in 1971 and 1972 than in earlier years.

Imported fresh asparagus from Mexico is generally purchased by U.S. distributors at prices below those paid for domestic asparagus but is sold at wholesale by them at prices equal to those charged for the domestic product. Frozen asparagus (except soup stock) and canned asparagus from Mexico are also generally marketed in the United States at prices equal to those of the domestic product. The frozen and canned Mexican asparagus sold in the United States is either produced by affiliates of domestic producers or for U.S. producers; such products are marketed under these firms' nationally advertised brand names. The great bulk of the frozen asparagus imported from Taiwan has been marketed by one U.S. processor of frozen asparagus at prices comparable to that firm's prices for frozen domestic asparagus. Lesser quantities of frozen asparagus have been imported from Taiwan by other U.S. firms that do not produce frozen asparagus. Trade sources indicate that this asparagus is sold for 5 to 7 percent less than the like domestic product. Imports of canned asparagus from Taiwan, which constitute about two-thirds of U.S. canned asparagus imports, have been offered at prices generally 20 to 30 percent below those for the comparable domestic product.

Prospects for future U.S. imports

The United States and Taiwan are by far the world's most important producers of asparagus. Taiwan's asparagus industry, which began about 1963, has expanded rapidly. Since 1966, Taiwan's exports of asparagus (mostly canned white asparagus) have been greater than U.S. exports. In 1971, Taiwan's total asparagus production surpassed that of the United States for the first time. Taiwan can easily supply the world's requirements for canned white asparagus, but it is too early to tell whether it can supply a significant part of the world's requirements for canned green asparagus. Thus far, despite continuing research, Taiwan has not been able to produce canned green asparagus that satisfies the quality requirements of the U.S. market.

The production of asparagus in Mexico is small relative to that in the United States and Taiwan, but it has been growing rapidly in the last few years. Total Mexican asparagus production and per acre yields are expected to increase. Most of the increased production will be destined for export to the United States in either canned or fresh form. Mexican subsidiaries of U.S. companies account for the bulk of the Mexican production of canned and frozen asparagus.

## Description and Uses

Asparagus is the edible spears (shoots) of the asparagus plant, a perennial herb which is indigenous to Europe and Asia, where it has been cultivated for over 2,000 years. In the United States it has been cultivated since the earliest European settlements were established.

The asparagus spears grow from the asparagus plant's root crown, which is covered with a few inches of soil. The depth to which the crown is covered with soil depends on whether the asparagus is to be marketed as green or white asparagus. White asparagus, which in the United States is not usually sold in the fresh market, is produced by covering or ridging the root crown with considerably more soil than for producing green asparagus. Inasmuch as the growing asparagus spear turns green rapidly after emerging from the ground, white asparagus spears must be cut (considerably below the surface of the ground) as soon as the tips of the spears begin to emerge from the ground. In contrast, green asparagus spears are generally cut only after the spears have grown to the desired length (usually 7 to 10 inches) above ground. White asparagus whose tips have turned green is called green-tipped white asparagus.

The asparagus plant is a deep-rooted perennial which under ideal conditions may thrive indefinitely. Depending on the region of the country, however, most commercial asparagus plantings (beds) are replaced after being in production for 8 to 15 years. Because a large, vigorous crown (root system) must be developed before the asparagus plant can produce thick, sturdy spears, in most parts of the United States the first commercial crop from a new planting is not harvested until at least the second or the third growing season after planting. During the first harvest season, the planting is generally harvested for about 1 month, while in subsequent years it is generally harvested for more than 2 months. Once established, a planting can be harvested for a number of years. The actual number of years that a planting is harvested varies substantially from farm to farm and from region to region, depending on many factors--such as climate, custom, quality of the planting, and disease and insect problems.

Most of the asparagus produced in the United States is harvested during the period February-June. Fresh asparagus is perishable; it must be marketed within a few weeks after harvest, even when properly refrigerated. For that reason a large part of the U.S. asparagus crop is processed for later sale. In recent years, more than two-thirds of the asparagus grown in the United States has been processed by canning or freezing; the remainder has been sold through fresh-market outlets. Of the amount processed, about two-thirds has been canned, and the rest has been frozen. For most uses, processed asparagus is interchangeable with fresh asparagus.

Green asparagus is most frequently served as a cooked vegetable, either plain or with various sauces. It is also used in soups and as a garnish for other foods. White asparagus is also frequently served as a cooked vegetable but is probably more often used as a salad vegetable or as a garnish for food dishes. Hospitals are by far the most important institutional users of canned and frozen asparagus. Asparagus is included in many therapeutic diets because it is a bland vegetable containing only a few calories in comparison with most other vegetables. Fancy restaurants are the next most important institutional market.

Asparagus destined for fresh-market sale is generally graded by spear diameter, often tied in bunches, trimmed to a uniform spear length, and then packed for shipment, generally in a two-compartment, wooden crate containing twelve 2-1/2-pound bunches (30 pounds net weight). The bottom of the crate is usually lined with a moisture-holding material on which the butts of the asparagus spears rest. The use of this water-holding material, together with refrigeration, greatly extends the length of time the asparagus remains marketable. In recent years increased quantities of fresh-market asparagus have been sold packed loose (unbunched) in crates for later sale by the pound.

Asparagus destined to be processed is delivered to the processor in bulk containers. Before the asparagus is processed, it is thoroughly washed, graded for size and defects, trimmed to a uniform length to remove most of the fibrous butt-end portion, sometimes cut into 1-inch pieces, and then blanched. Asparagus that is to be canned is put in containers of metal or glass, covered with a light brine which may include other ingredients, such as butter, sealed airtight, and pressure-cooked. Before being frozen, asparagus that is to be processed in that manner is put into either the container in which it will be sold or into bulk bins from which it will later be repacked into smaller containers and sold.

Two main styles of canned and frozen asparagus are marketed--(1) "spears" and (2) "cuts and tips," which are spears cut into 1-inch lengths. Most domestic and foreign freezers market only one length of spear--a 5-inch length. In contrast, canners commonly market several lengths of spears, ranging from about 5 to 7 inches. Each individual canner, however, usually packs only one or occasionally two spear lengths. Other less frequently marketed styles include "tips," which are the upper portions of the spears, and "pieces," which are 1-inch pieces of tipless spears.

The canned asparagus for the retail market is typically sold in several sizes of metal or glass containers which hold from 4 to 16 ounces (net weight), and that for the institutional market, in two sizes of metal containers, one of which holds about 4 pounds of spears and the other, about 6 pounds 5 ounces of cuts and tips. Frozen asparagus destined for the retail market is generally packed in cartons of several sizes which hold from 8 to 16 ounces; frozen asparagus for the institutional market is usually packed in cartons holding 2-1/2 pounds.

Imported fresh, canned, and frozen asparagus is produced from the same varieties of asparagus that are grown in the United States; it is generally similar in flavor and appearance to the like domestically produced product and is similarly packaged. Canned asparagus imported from Mexico has included both white (including green-tipped) and green asparagus, but canned asparagus imported from Taiwan has consisted wholly of white asparagus. The imported canned asparagus has consisted mostly of whole spears rather than cuts and tips; it has been packed in both retail- and institutional-size containers. The imported frozen asparagus from Taiwan has consisted wholly of green asparagus; it has been packed both in bulk and in retail- and institutional-market cartons. Imported frozen asparagus from Mexico has also consisted wholly of green asparagus; it has been packed in both retail-market cartons and bulk containers. Some of the bulk entries have consisted of asparagus pieces and asparagus puree for use as an ingredient in soup.

## U.S. Tariff Treatment

Imported fresh, frozen, or canned asparagus is classified for tariff purposes under parts 8A and 8C of schedule 1 of the Tariff Schedules of the United States (TSUS). The rates of duty currently applicable to such imports are shown in the table below:

Asparagus, fresh, frozen, or canned: U.S. rates of duty, March 1973

| TSUS item | | Trade-agreement rate | Statutory rate |
|---|---|---|---|
| | Vegetables, fresh, chilled, or frozen (but not reduced in size nor otherwise prepared or preserved): | | |
| | Other: | | |
| 137.85 | Other [fresh (pt.), frozen (pt.)] 1/ | 25% ad val. | 50% ad val. |
| 138.00 | Vegetables, fresh, chilled, or frozen, and cut, sliced, or otherwise reduced in size (but not otherwise prepared or preserved)[fresh (pt.), frozen (pt.)] 2/ | 17.5% ad val. | 35% ad val. |
| | Vegetables (whether or not reduced in size), packed in salt, in brine, pickled, or otherwise prepared or preserved (except vegetables that have been dried, desiccated, or dehydrated): | | |
| | Other: | | |
| 141.81 | Other [than packed in salt, in brine, or pickled]: | | |
| | Other [than palm hearts] (frozen (pt.), canned (pt.)) 2/3/ | 17.5% ad val. | 35% ad val. |

1/ Effective Jan. 1, 1973, a statistical suffix (item 137.8520) was established for asparagus under the Tariff Schedules of the United States Annotated (TSUSA).

2/ The U.S. Treasury Department has ruled that imports of fresh, chilled, or frozen asparagus that has been cut into 5-inch or shorter lengths are classifiable under TSUS item 138.00 if the asparagus has not been otherwise prepared or preserved, and under item 141.81 if it has been otherwise prepared (e.g., frozen asparagus packed in butter sauce).

3/ Effective Jan. 1, 1969, a statistical suffix (item 141.8140) was established for asparagus under the TSUSA.

The rates shown above in the column headed "Trade-agreement rate" reflect concessions granted by the United States in the General Agreement on Tariffs and Trade (GATT); such rates are applicable to all products except Philippine articles, which receive preferential treatment, and products of most Communist-controlled countries, which are subject to the statutory rates shown.

Before August 31, 1963, the effective date of the TSUS, the fresh and frozen asparagus now dutiable under TSUS item 137.85 was provided for under paragraph 774 of the Tariff Act of 1930. The rate originally provided by that act, 50 percent ad valorem, was first modified in a trade agreement with Argentina which became effective November 15, 1941. As a result of that agreement, the rate was reduced to 25 percent ad valorem on imports entered during the period November 16 in any year to the following February 15, inclusive. Effective May 22, 1948, as a result of a trade-agreement concession granted at the initial GATT negotiations, the rate of duty on imports of asparagus entered at any other time of the year was made 25 percent ad valorem. Therefore, since that time, all imports of fresh and frozen asparagus that are now classified under item 137.85 have been dutiable at 25 percent ad valorem regardless of the season of importation.

Prior to August 31, 1963, the fresh and frozen asparagus now classified under TSUS item 138.00 (reduced in size but not otherwise prepared or preserved) and canned asparagus, which is now classified under TSUS item 141.81, were provided for under paragraph 775 of the Tariff Act of 1930. The original rate of 35 percent ad valorem provided by that act was reduced to 17.5 percent ad valorem, effective May 22, 1948, as the result of a trade agreement initially negotiated with China in the GATT. Effective December 11, 1950, the rate reverted to 35 percent ad valorem after China ceased to be a contracting party to the GATT. Later the United States again granted a concession in the GATT which reduced the rate, effective September 10, 1955, to 17.5 percent ad valorem, which is the current rate. 1/

## U.S. Producers

### Growers

The U.S. Census of Agriculture reported that in 1969 asparagus was harvested on 3,210 commercial farms, 2/ located principally in five regions. The regions are Central California, Southern California, South-Central Washington, Lake Michigan (southwest Michigan and northeast Illinois), and a region east and south of Wilmington, Del., in the States of New Jersey, Delaware, and Maryland (see fig. 1 on p. 16). Other less important but still significant asparagus-producing areas

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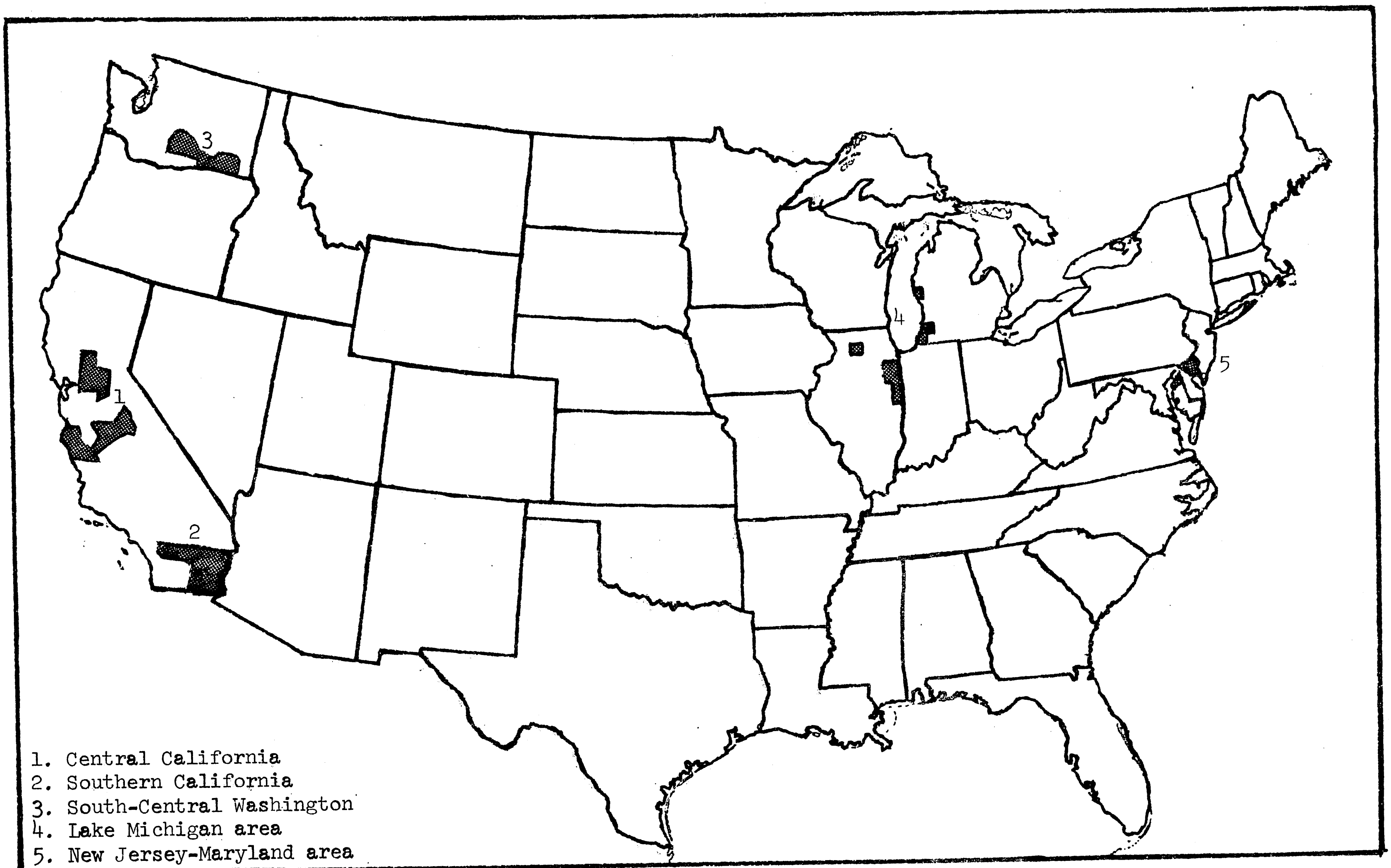
1/ The U.S. Food and Drug Administration (FDA) regularly inspects imports of asparagus to assure that all entries are free of adulteration and are properly labeled. Shipments failing to meet FDA standards are not permitted entry unless the defect is corrected. In recent years, detentions of asparagus for failing to meet the standards have been negligible. Under the provisions of the Plant Quarantine Act of 1912, as amended, fresh and frozen fruits, vegetables, and certain edible nuts entering the United States from all countries except Canada must be inspected for harmful insects and diseases. This act is administered by the Plant Protection and Quarantine Programs of the U.S. Department of Agriculture through inspectors at some 76 ports of entry. There is no evidence to indicate that these regulations have had any restrictive effect on the importation of fresh or frozen asparagus.

2/ Farms reporting sales of $2,500 or more (includes all farms falling within 1969 U.S. Census of Agriculture economic classes 1-5).

Figure 1.--U.S. Asparagus-Producing Regions




Shaded areas represent counties where 1,000 or more acres of asparagus were harvested in 1969.

Source of data: 1969 U.S. Census of Agriculture.

situated outside of the five major regions were in Massachusetts, Pennsylvania, Virginia, Ohio, Indiana, Iowa, and Arkansas.

The Central California region, which produces by far the largest amount of asparagus of all the regions in the United States, had about 140 farms on which asparagus was produced in 1969. The amount of land devoted to asparagus on these farms was generally large--averaging about 300 acres. However, there does not appear to be a close relationship between the number of acres devoted to asparagus production per farm and the farm's location in the United States. Table 1 lists the 22 counties in the United States in which asparagus was harvested from 1,000 acres or more in 1969. Large asparagus farms averaging 100 acres or more per farm are situated in some of the major producing counties in Washington, Illinois, and Maryland, as well as in California; however, producing farms in major producing counties in New Jersey and Michigan and in one county in Washington averaged only 8 to 40 acres of asparagus. In 1969 the number of farms on which asparagus was harvested in each of the major producing States was as follows: Michigan, 880; New Jersey, 532; Washington, 480; California, 200; Illinois, 117; and Maryland-Delaware, 60. In the 3 years 1970-72, asparagus was harvested from an average of 115,000 acres in the United States. The share of this acreage accounted for by the various States was as follows:

| State | Percent |
|---|---|
| California | 38 |
| Washington/Oregon | 18 |
| New Jersey | 13 |
| Michigan | 12 |
| Illinois | 8 |
| All other | 11 |
| Total | 100 |

Industry sources indicate that in Central California (where about half of the U.S. asparagus is produced) and in New Jersey the growers in recent years have generally harvested a planting of asparagus for about 10 years. In Washington and Michigan, the second and third most important asparagus-producing areas in the United States, growers usually expect to harvest a planting for substantially more years than in Central California--sometimes for more than 20 years. The bulk of the existing plantings in Southern California have been in the ground for only 5 years or less, but growers in that area anticipate harvesting those plantings for 8 to 10 years. The data obtained by the Commission concerning the ages of the plantings in the major producing areas in 1972 generally confirm the foregoing observations. New plantings in Central and Southern California in the years 1971 and 1972 were somewhat in excess of the amount needed to maintain total acreage in those areas at 1972 levels. In Michigan, new plantings in 1971 and 1972 were at a level substantially above that needed to maintain the 1972 acreage in that State, but new plantings in 1971 and 1972 in Washington and New Jersey were substantially below the levels needed to maintain the 1972 acreages in those States (table 2).

The reduced new plantings in 1971 and 1972 in Washington were probably smaller than necessary to maintain acreage because they followed a period of 6 years (1965-70) of heavy new plantings which had substantially increased the total plantings in that State. Acreage and production have dropped significantly in New Jersey in recent years--primarily as a result of serious plant disease problems that have eliminated or severely damaged many plantings, but also because of decreased supplies of labor, increased labor costs, and increased valuation of agricultural land for nonfarm uses.

Many asparagus growers derive a substantial part of their income from asparagus; they obtain much of the remainder from producing fruits and other vegetables for processing (e.g., tomatoes and peppers) and for fresh-market sale (e.g., melons) as well as from field crops such as corn, cotton, and alfalfa. Most growers sell their asparagus crop either directly or indirectly to independent fresh-market distributors or independent processors, but in California a number of growers belong to one of two grower-owned cooperative canneries. These cooperatives, which process and market most of the asparagus grown by their members, accounted for 5 percent of the asparagus canned in the United States in 1972.

Processors

In 1972, asparagus was processed by 38 canners and 19 freezers in the United States. At least two of the processors both canned and froze asparagus, but such dual operations are not common. In general, asparagus was one of a number of products processed by these concerns, and it was usually one of the less important ones. For one of the major asparagus freezers, however, it was the only product produced. 1/

For most processors, asparagus is the first commodity processed during the season. The processing of asparagus generally extends a

1/ The California Asparagus Exchange of the California Asparagus Growers' Association.

firm's processing season by 1 to 2 months inasmuch as asparagus is available for processing much earlier than most of the other commodities they process. Even so, most of these firms carry on processing operations during only 9 months or less of each year, and some operate only a few months of each year.

Canners.--The total number of firms canning asparagus declined from about 60 in the mid-1960's to 38 in 1972. Few of the canners that no longer process asparagus have ended all canning operations, but some through mergers have become affiliated with one of the 38 remaining canners. Industry sources indicate that the others have ended their asparagus-canning operations for various reasons, such as an inability to procure sufficient supplies of asparagus.

The three largest asparagus canners accounted for 45 percent of the canned asparagus produced in 1972, and the eight largest asparagus canners accounted for nearly 60 percent of the total. The three largest canners operated five plants in which asparagus was canned--two plants in California, two in Washington, and one in Delaware. With few exceptions, the other 35 firms each operated only one plant in which asparagus was canned. These plants were located mainly in California, Delaware, Illinois, Michigan, New Jersey, and Washington.

Freezers.--In 1972, 19 U.S. firms froze asparagus--only two fewer than during the mid-1960's. Since the mid-1960's, however, there have been some substantial changes in the structure and location of the asparagus-freezing industry. The number of firms freezing asparagus in the western United States declined from 12 to seven--largely for the same reasons that the number of asparagus canners has declined. In the midwestern United States, the number of freezers increased from four in the mid-1960's to eight in 1972--reflecting increased supplies of asparagus available in that area for freezing, the desire of freezers in the area to add asparagus to their product line in order to make better use of their plant capacities and to extend their processing season, and the transportation advantage that these midwestern freezers have over western freezers in supplying the major midwestern markets.

The five largest freezers of asparagus produced about 65 percent of the total output of frozen asparagus in 1972, and the nine largest produced more than 90 percent of the total. Of the nine major freezers, only one operated two plants in which asparagus was frozen. 1/ All others operated one plant each in which asparagus was frozen. Of the plants operated by the nine largest freezers, five are in California, three in Washington, and two in New Jersey.

Employment by producers

Some 34,500 workers were employed by U.S. asparagus growers and processors at the peak of the 1972 asparagus harvesting and processing season. In comparison, some 41,000 workers are estimated to have been so employed in 1963. In both years, more than 90 percent of these workers were employed in the four major U.S. asparagus-producing States--California, Washington, Michigan, and New Jersey. In 1972, two-thirds of these workers were employed in growing, harvesting, and packing

1/ That freezer announced in late 1972 that it would not freeze asparagus in its New Jersey plant in 1973.

the asparagus for market. The other third were engaged in canning and freezing the crop.

Employment by growers.--In 1972, at the peak of the U.S. asparagus harvest season, which varies by geographic producing area, about 23,000 workers were employed in growing, harvesting, and packing the asparagus crop for market. The bulk of these workers were engaged in harvesting the crop, but many were involved in hauling the harvested asparagus to the packing shed and in packing the asparagus for shipment to the fresh market and to processors. Some of the workers were engaged in operations to maintain the plantings. Actual peak employment in growing, harvesting, and packing the crop has declined since 1963, when it totaled about 28,000. Among the more important reasons evident for this decline have been a reduction in acreage, especially in California and New Jersey, and the use of mechanical harvesting equipment, especially in New Jersey and Michigan.

Workers who harvest asparagus by hand must be able to walk miles each day in a stooped position, often under extremely hot and dusty conditions. About half of the workers harvesting asparagus in the United States are local residents of the area in which they are working, and the remainder are migrants. Asparagus is often the first crop harvested in a growing area.

In 1964, the so-called bracero labor program was allowed to lapse. 1/ Under this program large numbers of Mexican citizens were

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1/ See footnote on page 5.

allowed to enter the United States for seasonal employment in producing and harvesting agricultural crops. Many of these migrant workers were used in harvesting asparagus, especially the white type, which is grown almost exclusively in California. The ending of the bracero program occurred at a time when many U.S. agricultural workers were leaving rural areas to take higher paying industrial jobs in urban areas. The ending of the bracero program and the substantial exodus of local agricultural workers resulted in a scarcity of agricultural workers and higher wages for those remaining.

Most U.S. asparagus-harvest workers and many asparagus-packing-shed workers are paid on a piece rate rather than on an hourly basis. The piece rates paid in the various U.S. producing areas have increased significantly in recent years and have been major factors in the overall increased cost of producing asparagus. For example, in the most important asparagus-producing area in the United States--Central California--the average piece rates paid in 1972 for cutting and sledding asparagus to the packing shed were from 75 to 146 percent greater than in 1960 (table 3). The most notable increases occurred in the rates paid for harvesting and sledding white cannery asparagus--the type of canned asparagus that had accounted for virtually all of U.S. canned asparagus exports in the early 1960's and the type of asparagus for which the Mexican braceros were used most extensively. The rate for workers harvesting white asparagus in the years 1964, 1965, and 1966 was 26, 51, and 89 percent greater, respectively, than in 1960, and in 1971 and 1972 the rate such workers received was 146 percent more than in 1960.

In addition to direct labor costs, growers have certain indirect labor costs, such as those involved in furnishing housing for migrant workers, providing sanitary facilities, and meeting Federal and State safety and health regulations. Such indirect costs are reported to have become substantial factors in the growers' total cost of producing asparagus in recent years.

The substantial increase in the cost of producing asparagus and other agricultural products that occurred during the 1960's was an impetus to fruit and vegetable growers to seek means of better utilizing the smaller amount of higher priced labor they were still able to obtain or of eliminating their need for some of this labor. Growers of some crops for processing, such as tomatoes, cucumbers, and tart cherries, were within a few years able to switch almost entirely from using hand harvest labor to the use of mechanical harvesting devices. The change enabled them to reduce costs and substantially reduced the number of workers they needed for their operations. While much time and money have been spent in attempting to develop mechanical asparagus-harvesting devices, such devices have thus far not been widely adopted, principally because they have not significantly reduced harvesting costs. While these devices have been tested in all major producing areas, they have been used extensively only in Michigan and New Jersey and then generally not because they were economically superior to hand harvesting but because harvest labor was in extremely short supply and much of the crop would have remained unharvested if not mechanically harvested. Because of the manner in which the asparagus plant grows and the fact that the crop is often harvested over a period of several months, Government and industry research workers do not foresee any major breakthrough in the design of mechanical asparagus-harvesting devices that would give them a substantial economic superiority over hand harvesters. It is expected, however, that more of the harvesting will gradually be done by machine because of the difficulty of obtaining harvest labor.

Employment by processors.--The processing of asparagus also requires a large amount of hand labor. This is especially true of asparagus processed as whole spears. As it comes from the grower, asparagus varies considerably in quality, length, and thickness and thus requires a considerable amount of sorting and grading before processing. While processors have attempted to mechanize these operations as much as possible, most processing still largely involves hand labor, inasmuch as the spears are extremely fragile and must be handled with great care to avoid excessive loss. Trade sources indicate that because of these factors at least four times as much labor is required to process a can of asparagus as a can of peas or tomatoes. In 1972, at the peak of the processing season, about 11,400 workers were engaged in asparagus canning and freezing operations--down about 1,600 from the number engaged in such operations in 1963. All of the decline was attributable to the loss of workers engaged in canning asparagus. The number of workers engaged in canning asparagus declined from more than 10,300 in 1963 to about 8,200 in 1972. The employment of workers engaged in freezing asparagus increased from about 2,650 in 1963 to more than

3,200 in 1972. As noted elsewhere in this report, output of frozen asparagus was about 15 percent higher in 1972 than in 1963.

Because more labor is needed to process asparagus than to process the same quantity of most other fruits and vegetables, an increase in labor costs has a far greater effect on the cost of processing a certain size container of canned or frozen asparagus than on that of processing the same size container of most other fruits or vegetables. In recent years, hourly wages paid to workers producing canned or frozen asparagus have increased substantially in the major U.S. asparagus-processing areas. Tables 4 and 5 present basic hourly wage data which are applicable to a substantial portion of the workers engaged in processing asparagus in the United States. The data indicate that the hourly wages paid these workers in 1972 were, depending on certain factors, 54 to 87 percent more than in 1960. In addition to the basic hourly wages paid these workers, they also received so-called fringe benefits, such as social security, pension, health and welfare benefits, and sick leave, holidays, and vacations. The cost of these fringe benefits is reported by industry sources to have ranged, depending on the firm and the area of the country, from about 15 to 30 percent of the basic hourly wage paid in 1972. The cost of the fringe benefits being provided in 1960 is reported to have ranged from less than 10 percent to about 20 percent of the basic hourly wage paid at that time.

# U.S. Consumption

## Trends

Annual U.S. consumption of asparagus generally increased from 1950 to 1965, but has since declined. The combined annual U.S. consumption of fresh, frozen, and canned asparagus increased from an average of 253 million pounds during 1945-49 to an average of 278 million pounds during 1960-64 (table 6). During the 5-year period 1965-69, the annual consumption of asparagus averaged 262 million pounds, representing a decline of 6 percent from the preceding 5 years. The average annual consumption of asparagus during 1965-69 was only 3 percent more than it had been in the 5 years immediately following the Second World War, but the average annual per capita consumption of asparagus during the same period declined from 2.2 to 1.6 pounds (table 7) because the U.S. population increased by more than a third. During 1970-72, annual consumption averaged 256 million pounds and annual per capita consumption averaged about 1.5 pounds.

During the past two decades, the shares of total asparagus consumption accounted for by fresh, frozen, and canned asparagus have changed During 1950-54, canned asparagus accounted for 47 percent of the combined consumption; fresh asparagus, for 43 percent; and frozen asparagus, for 10 percent. By the period 1965-69, the portion of the combined consumption accounted for by canned asparagus had increased to 56 percent, while that accounted for by fresh asparagus had declined to 32 percent, and that by frozen asparagus had increased to 12 percent.

Fresh asparagus.--After averaging 121 million pounds in the 5-year period immediately following World War II, the annual U.S. consumption of fresh asparagus declined to an average of 106 million pounds in 1950-54 (table 8). It then increased to an average of 116 million pounds during 1955-59. The annual consumption of fresh asparagus has been declining irregularly since that time and averaged 85 million pounds during the 1965-69 period--27 percent less than in 1955-59. The annual per capita consumption of fresh asparagus, which averaged about 1 pound in the 5 years following World War II, amounted to less than half that much in the late 1960's (table 7).

Frozen asparagus.--The average annual U.S. consumption of frozen asparagus increased from 19 million pounds in the 5-year period immediately following World War II to 34 million pounds in 1960-64--or by 77 percent (table 9). Since that time annual consumption has declined; it averaged only 31 million pounds during 1965-69 and about 29 million pounds in 1970-72. The annual per capita consumption of frozen asparagus, which had been very small prior to the Second World War, averaged 0.3 pound in 1945-49 and has remained at about that level (table 7).

Canned asparagus.--Annual U.S. consumption of canned asparagus increased from an average of 113 million pounds during 1945-49 to 146 million pounds during 1965-69 (table 10). Such consumption dropped to 138 million pounds in 1970-72. In recent years about 5 million pounds of the canned asparagus consumed in the United States is believed to have been of the white type. During 1970-72, imports supplied about half of the canned white asparagus consumed in the United States.

While for many years the U.S. annual consumption of canned asparagus slowly increased, the U.S. per capita consumption of such asparagus declined (table 7).

Factors affecting consumption

Among the more important factors that affect the domestic consumption of fresh, frozen, and canned asparagus are population, price, consumer income, availability of supplies, and extent of distribution. While the U.S. population has grown substantially during the last quarter century, the annual per capita consumption of asparagus, especially in the fresh form but also in the canned form, has declined. Asparagus is usually substantially higher priced than most other vegetables available to the consumer in the market place. The factor of high prices has probably been one of the major reasons for the decline in per capita consumption, even though annual per capita disposable income increased significantly during those years.

In recent years there has been a substantial decrease in the availability of fresh asparagus in all major producing areas and this has been especially true in New Jersey, where a number of factors have taken their toll, including a serious disease problem, labor shortages, increased labor costs, and increased valuation of asparagus lands for nonfarm uses. Because of reduced supplies, fresh asparagus is not being as widely distributed geographically as in the past. As a result, the per capita consumption of such asparagus has declined.

## U.S. Production and Inventories

### Fresh asparagus

Annual U.S. production of asparagus was at an all-time high during the early 1960's, when it averaged 369 million pounds. This culminated a trend which began in the early 1950's, when such production averaged only 312 million pounds (table 11). After the peak in the early 1960's, annual production declined sharply to an average of 313 million pounds during the 5-year period 1965-69 and declined further to an average of 281 million pounds during the three most recent years--1970-72.

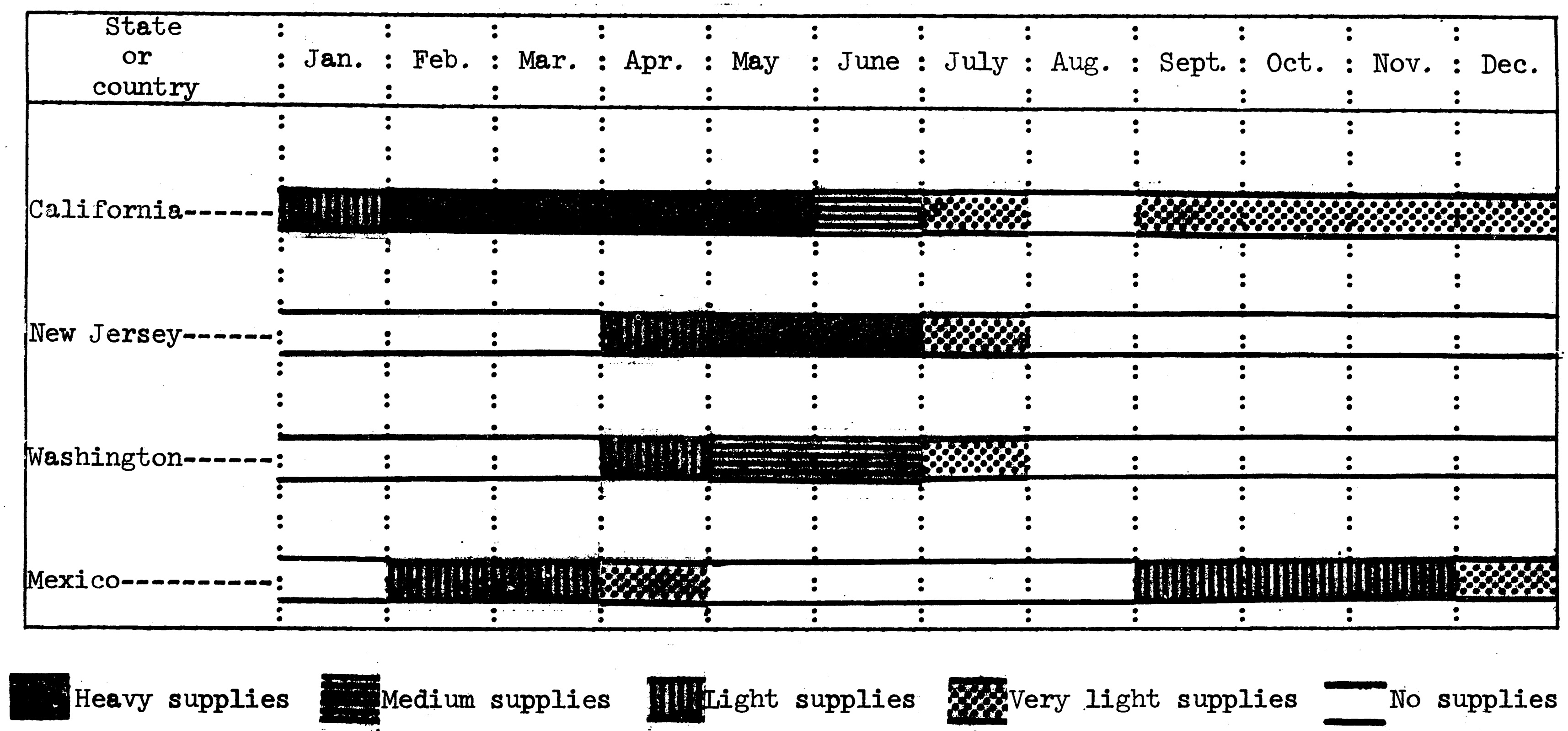
Most of the decrease in the U.S. production of asparagus has occurred in California (tables 12 and 13). During the early 1960's California's annual production of asparagus averaged 195 million pounds--accounting for 53 percent of the U.S. production. But during the late 1960's California's share of annual U.S. production declined to 47 percent and its share of annual production averaged only 147 million pounds. Average annual production also declined sharply in New Jersey during the 1960's--from 70 million pounds during 1960-64 to 54 million pounds during 1965-69. During the same two, 5-year periods, the production of asparagus in the other important producing areas of the United States either increased or remained largely unchanged. The largest increase in these other areas occurred in the State of Washington, where annual production averaged more than 5 million pounds more during the last half of the decade than during the first. In the 3 years, 1970-72, the shares of U.S. asparagus production accounted for by the various States were as follows:

| State | Percent |
| --- | --- |
| California | 51 |
| Washington/Oregon | 21 |
| New Jersey | 9 |
| Michigan | 7 |
| Illinois | 5 |
| All other | 7 |
| Total | 100 |

In recent years about two-thirds of the U.S. production of asparagus has been sold to processors and the remainder to fresh-market outlets (table 11). In most major producing areas much of the asparagus is harvested for the fresh market during the early part of the season. As the season advances the fresh market generally becomes over supplied relative to demand and prices decline substantially. At that time many growers begin to divert most, if not all, of the remainder of their crop to processors. The only major exception to this general pattern is the Southern California producing area where most of the crop is sold in the fresh market.

Fresh market use.--In California, the volume of asparagus harvested for fresh market becomes quite heavy in February, reaches a peak in March or April and declines sharply in May and June; however, much smaller quantities are harvested in California in nearly all other months (figure 2). In New Jersey and Washington, harvesting begins in April and continues into June and July. In the other States harvesting of asparagus for fresh market is almost entirely restricted to the months of May and June.

Figure 2.--Asparagus for fresh market: Availability of California, New Jersey, Washington, and Mexican supplies in the U.S. market, by volume and by months, 1971




Source: Prepared from data supplied by the California Federal-State Market News Service and the U.S. Department of Agriculture.

Note: Of the supplies of fresh market asparagus available in the United States in 1971, about 66 percent were produced in California, 11 percent in New Jersey, 10 percent in Washington, 6 percent in all other States, and 7 percent in Mexico.

Fresh-market asparagus must be utilized by the consumer within a few weeks after harvest even though properly refrigerated. For that reason supplies of fresh asparagus are available only during the harvest season and for a short period thereafter. Therefore fresh-market asparagus inventories never become very large and are never held for an extended length of time.

Both the share of and the amount of U.S. asparagus production sold for fresh-market use have declined since the end of the Second World War. In 1945-49, 38 percent of the U.S. asparagus production was sold for fresh use but in 1970-72 only 32 percent was sold for such use. The amount of asparagus sold annually for fresh use declined from an average of 123 million pounds in 1945-49 to only 90 million pounds in 1970-72. In all of the major producing States except California, the amount of asparagus sold annually in the fresh market has declined (tables 14-18). In California, annual sales in the fresh market averaged 66 million pounds in 1970-72--significantly more than the 54 million pound average of the late 1940's. California's share to the total U.S. output of asparagus sold in the fresh market increased from an average of 43 percent in the late 1940's to 77 percent in 1970-72.

Processing use.--Annual U.S. production of asparagus sold for processing increased following the Second World War and reached a peak of 272 million pounds in 1963. Since then it has declined and in 1970-72 averaged only 191 million pounds--slightly less than in the late 1940's. Most of the change occurred because production in California, traditionally the largest supplier of U.S. processing asparagus, declined sharply during the mid- and late-1960's (tables 12 and 13). In recent years, the production of asparagus sold for processing has also declined sharply in New Jersey, which for many years had been the second most important producing area. The decrease in such production in California and New Jersey, however, has been partially offset by substantially increased production in Washington/Oregon and in Michigan. Those areas were the second and third most important producing areas for asparagus for processing in 1972. Through two decades from 1945 to 1964, California supplied between 50 and 55 percent of the annual U.S. supply of asparagus for processing; however, California's share has declined since then and during the three most recent years, 1970-72, amounted to only 39 percent. New Jersey's share of the processing asparagus market declined from 19 percent in 1945-49 to 7 percent in 1970-72. On the other hand, the share of U.S. processing asparagus provided by Washington/Oregon increased from 9 percent in 1945-49 to 27 percent in 1970-72, and the share supplied by Michigan increased from 5 percent in 1945-49 to 10 percent in 1970-72.

Prior to World War II, most of the asparagus purchased by processors was destined to be canned. In 1972, however, about two-thirds of the asparagus purchased for processing was for canning--the remainder was for freezing,

Processed asparagus

Prozen asparagus.--Only moderate amounts of asparagus were preserved by freezing prior to and during World War II, but after the War, production began to increase and by 1955-59, averaged 31 million pounds annually (table 9). Since then, average annual production has remained at about that same level although production has fluctuated considerably from year to year.

Generally, January 1 inventories of frozen asparagus are low following a year or years when the output of frozen asparagus has been below normal, and the opposite is true when production has been above normal (table 9). Changes in consumption and imports also affect inventories. Inventories of frozen asparagus on January 1, 1969, reached 20 million pounds but by January 1, 1971, following 2 years of below average production, they had declined to 8 million pounds--the lowest level since 1949. In 1972 inventories totaled 11 million pounds following a year in which a normal amount of asparagus had been frozen but which was also the year in which the first substantial amounts of imports were entered. On January 1, 1973, inventories totaled a near-record high of 21 million pounds largely because domestic production and imports had been high during 1972 while consumption had declined.

Canned asparagus.--Annual U.S. production of canned asparagus increased from 119 million pounds following World War II to 201 million pounds during 1960-64, and then declined to 136 million pounds during 1970-72 (table 10). During the peak production period of 1960-64, white asparagus accounted for 34 percent of the canned asparagus produced; however, during recent years, white asparagus has accounted for only a very small share of production. Annual U.S. production of canned green asparagus continued to increase beyond the 1960-64 period, when it averaged 133 million pounds, to an average of 142 million pounds during 1965-69, but in the most recent years, 1970-72, such production averaged only 135 million pounds.

Inventories of canned asparagus, as measured by January 1 stocks, have tended to increase or decrease in relation to increases or decreases in production. Following the peak production of 216 million pounds of canned asparagus in 1963, inventories at the beginning of 1964 amounted to a peak of 94 million pounds (table 10). From that time, and as production began to decline, inventories also declined, but at a faster rate. Thus, from the mid-1960's to the early-1970's, a period when domestic production did not generally meet domestic consumption and export needs, inventory supplies were used to make up the difference. The January 1, 1972 inventory of 42 million pounds was the smallest amount of canned asparagus on hand on that date since 1955.

## U.S. Exports

Annual U.S. exports of fresh asparagus rose from an average of about 2 million pounds in 1945-49 to nearly 7 million pounds in the latter half of the 1960's (table 8). Such exports totaled 10 million pounds in 1972 and accounted for more than 10 percent of the domestic production of asparagus for fresh market sale. Normally, about 90 percent of the exports of fresh asparagus have gone to Canada. Trade sources indicate that in some years a substantial amount of the U.S. exports entering Canada has been utilized by Canadian processors to extend their processing season. U.S. exports of frozen asparagus are not separately reported but such exports are believed to be small.

The United States has been a major exporter of canned asparagus until recently. During the late 1930's, annual U.S. exports of canned asparagus ranged between 12 million and 16 million pounds--about 15 percent of domestic production. In those years, such exports are reported to have exceeded the combined exports of all other U.S. canned vegetables. During the Second World War, U.S. exports were sharply curtailed, but following the War, a substantial export business in canned asparagus was again developed. Annual U.S. exports of canned asparagus, which averaged only 6 million pounds in the years 1945-49, increased irregularly to an all-time high of 64 million pounds in 1962 (table 10). Annual exports remained at about that same level in 1963 and 1964, but declined steadily thereafter and amounted to only 4 million pounds in 1972. In that year, such exports accounted for only 3 percent of domestic production compared with about 30 percent in the peak export years of 1962-64. Nearly all of the exports have consisted of white asparagus. As shown in table 10, the production of canned white asparagus and exports of all canned asparagus have generally followed similar patterns.

In the late 1930's, the United Kingdom was the most important export market for U.S. canned asparagus; France, the Union of South Africa, and Switzerland were also important markets. In the first half of the 1960's, when annual U.S. asparagus exports were at their peak, West Germany was by far the most important market--regularly taking more than half of the U.S. canned asparagus exports (table 19). Switzerland, Belgium, Sweden, the United Kingdom, and Denmark also received sizable quantities of the U.S. product in those years. Thus far in the 1970's, Denmark, the United Kingdom, and Sweden have been the most important markets for the greatly reduced export shipments.

During the early-and mid-1960's, U.S. processors supplied most of the West German canned asparagus import market, but by the late-1960's, Taiwan had become the dominant supplier in that market. For example, in 1964, the last year of peak U.S. exports of canned asparagus, the United States supplied 76 percent of the canned asparagus imports entering the West German market and Taiwan supplied only 1 percent. But in 1971, Taiwan supplied 95 percent of such imports and the United States less than 1 percent.

U.S. Imports

Prior to 1966, imports of asparagus into the United States were small, amounting to less than 1 percent of annual U.S. consumption. Annual imports during 1966-68, although larger than in previous years, still supplied less than 2 percent of annual consumption. Beginning in 1969, however, imports began to increase rapidly, rising from 3.0 million pounds in 1968 to 5.4 million pounds in 1969, and to 20.7 million pounds in 1972. Imports during the latter year were equivalent to about 8 percent of U.S. consumption of asparagus.

Fresh asparagus has been imported into the United States regularly for over 15 years, while imports of canned and frozen asparagus are of more recent origin. Imports of all three categories of asparagus, but especially canned and frozen, have increased rapidly since 1969. 1/ Imports of canned asparagus exceeded imports of fresh asparagus for the first time in 1972, as shown in the following table summarizing the data shown in tables 8, 9, and 10 in appendix A:

Asparagus: U.S. imports for consumption, by type, 5-year average 1960-64, annual 1965-72

| Period | Fresh | Canned | Frozen | Total | Ratio of total imports to U.S. consumption |
|---|---|---|---|---|---|
| | Million pounds | Million pounds | Million pounds | Million pounds | Percent |
| 5-year average: | | | | | |
| 1960-64 | 1.2 | - | - | 1.2 | 0.4 |
| Annual: | | | | | |
| 1965 | .7 | - | - | .7 | .3 |
| 1966 | 2.4 | 0.6 | - | 3.0 | 1.2 |
| 1967 | 2.0 | 2.5 | - | 4.5 | 1.8 |
| 1968 | 2.1 | .9 | - | 3.0 | 1.1 |
| 1969 | 3.8 | 1.5 | 0.1 | 5.4 | 2.1 |
| 1970 | 5.0 | 2.5 | .5 | 8.0 | 2.9 |
| 1971 | 6.2 | 5.4 | 1.6 | 13.2 | 5.3 |
| 1972 | 8.2 | 9.4 | 3.1 | 20.7 | 8.5 |

## Fresh asparagus

Imports of fresh asparagus accounted for about 9 percent of U.S. consumption of such asparagus in 1972. It is believed that all imported

1/ Official statistics of the U.S. Department of Commerce group imports of frozen asparagus into a so-called "basket" category under which certain other vegetables are also reported. Imports of canned and fresh asparagus were treated similarly until January 1, 1969, and January 1, 1973, respectively. Data collected by the U.S. Department of Agriculture under the Plant Quarantine Act of 1912, as amended, provide the quantity, but not the value, of fresh and frozen asparagus imported into the United States from all countries other than Canada.

fresh asparagus is green and that it is consumed as such, that is, it is not processed in the United States into a canned or frozen form. Virtually all U.S. imports of fresh asparagus are from Mexico (table 20). The United States has imported fresh asparagus from Mexico regularly since 1957, but such imports did not exceed 1 million pounds until 1961. The average unit value of Mexican exports of fresh asparagus to the United States has remained relatively stable in recent years--around 10 cents per pound.

Table 21 shows that over four-fifths of the annual U.S. imports of fresh asparagus during 1969-72 entered the United States in February, March, and April. More than three-fourths of the fresh asparagus imported during the 1969-72 period entered at Calexico, California (table 22). This asparagus is produced in the Mexicali Valley in Mexico, and is harvested at approximately the same time of year as that produced in Southern California. The asparagus that enters the United States during the fall (August-November) is produced in the Bajio area of central Mexico; very little asparagus is harvested in the United States during these months.

Frozen asparagus

Imports of frozen asparagus, which only began in 1969, accounted for about 11 percent of U.S. consumption of such asparagus in 1972. About 57 percent of U.S. imports of frozen asparagus during 1969-72 were from Mexico. The great bulk of the remainder was from Taiwan, although sizable shipments from Australia were received in 1970 and 1971 (table 20). Imports of frozen asparagus from Mexico began in 1969, while those from Taiwan began in 1971. The average unit value of U.S. imports of frozen asparagus in 1972 is estimated at about 35 cents per pound. Table 22 shows that frozen asparagus enters the United States chiefly at 3 ports--Laredo, San Francisco, and New York. Importations of frozen asparagus are spread throughout the year (table 21).

All frozen asparagus imported from Mexico is produced by subsidiaries of major U.S. companies engaged in food processing. Frozen asparagus from Taiwan is imported under contractual arrangements between the Taiwanese processors and U.S. importers. Most of the frozen asparagus imported from Mexico is packaged in retail-size containers, while that from Taiwan may be packed either in bulk or in institutional-and retail-size packages; that imported in bulk is later repacked in the United States into retail and institutional-size containers. All of the frozen product imported is believed to be green asparagus; imports consist of spears, cuts and tips, and frozen soup stock.

### Canned asparagus

Imports of canned asparagus accounted for almost 7 percent of U.S. consumption of such asparagus in 1972. About 95 percent of U.S. imports of canned asparagus during 1969-72 were from two countries--Taiwan with 63 percent and Mexico with 32 percent (table 23). Imports of canned asparagus from Mexico did not begin until 1970, but since that time they have grown much faster than imports from Taiwan. Virtually all imports of canned asparagus to date from Taiwan have been white asparagus, while imports from Mexico have included both white and green asparagus. The imported canned asparagus has consisted mostly of whole spears rather than cuts and tips; it has been packed in both retail-and institutional-size containers.

Chiefly because of reductions in Taiwan's export prices, the average foreign unit value of U.S. imports of canned asparagus declined from 33 cents per pound in 1969 to 31 cents per pound in 1970 and to 29 cents per pound in 1971. 1/ The average unit value rose in 1972 to about 30 cents per pound, probably chiefly because of Taiwan's adoption of uniform export prices early in the year. Table 24 shows that, while imports from Taiwan are received regularly throughout the year, those from Mexico enter almost entirely during the months of April through August. Imports of canned asparagus from Taiwan enter through a large number of U.S. customs districts, but particularly New York, San Francisco, and Los Angeles (table 25). Imports from Mexico enter predominantly through San Diego, Laredo, and El Paso. A large portion of U.S. imports of canned asparagus from Mexico are produced by a Mexican subsidiary of a major U.S. producer of canned asparagus.

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1/ One reason that the average unit value of U.S. imports of canned asparagus from Mexico is not higher is that some of the materials (e.g., cans, lids) used in canning the asparagus in Mexico are supplied from the United States. The value of such materials when imported into the United States as part of the finished product is not reported as part of the finished article, but under TSUS item 800.00; such imports are not dutiable. TSUS item 800.00 provides for "Products of the United States when returned after having been exported, without having been advanced in value or improved in condition by any process of manufacture or other means while abroad."

Factors affecting imports

Among the principal factors that have apparently contributed to the increase in U.S. imports of asparagus in recent years are the following:

(1) The decline in U.S. production of asparagus in 1965 following the termination of the bracero program for imported labor in 1964. This appears to have affected chiefly the domestic output of white asparagus for canning, the production of which is highly labor intensive. Most of the U.S. production of canned white asparagus was exported but some was consumed in the United States. Imports of canned white asparagus have, to a certain extent, supplied a demand apparently no longer adequately supplied from domestic sources.

(2) The prices of domestically produced asparagus have increased substantially in recent years, both at the wholesale and retail levels. For example, the Bureau of Labor Statistics' (BLS) Wholesale Price Index for canned asparagus was 142.9 as of December 1972, as compared with 100 in the base year 1967. The BLS Consumer Price Index for fresh asparagus, using the same base year, averaged 141.8 in 1972. Asparagus prices have increased at rates substantially greater than those for most other fresh and processed vegetables (tables 26 and 27).

(3) Over half of the imports of processed asparagus from Mexico are produced by foreign affiliates of major U.S. food processing firms. Imports from such affiliates are facilitated by existing channels of distribution, ready financing, etc.

(4) Foreign suppliers have increased their marketing efforts. Overproduction in Taiwan in the late-1960's led to lower export prices and greater efforts to find new markets, including the United States, for processed asparagus. Likewise, excess freezing capacity in the strawberry growing area of Mexico led to a search for other crops suitable for freezing and exportation.

(5) Differences in growing seasons in Mexico and the United States may help stimulate the demand for imports of fresh asparagus during the off-season. Fresh asparagus imported from Mexico is primarily entered during February through April, but considerable quantities enter during the fall and winter months. Harvesting of asparagus in California for the fresh market generally does not begin in heavy volume until late February.

## Channels and Methods of Distribution 1/

### Fresh asparagus

Fresh asparagus is a perishable vegetable which must be sold within a few weeks after being harvested. When the freshly harvested asparagus is destined to be sold through fresh market outlets, it is generally brought from the field to an adjacent packing shed where it is sorted; sometimes washed and bunched; trimmed to a uniform length; and packed for shipping, usually in wooden containers called pyramid crates. The packed asparagus is then shipped either by the grower or by commercial shippers directly to chainstores or to the wholesale produce markets in a number of major U.S. cities; at times, brokers

1/ The channels and methods of distribution vary depending upon the region where the asparagus is produced and the form in which it is marketed.

are also used in marketing fresh-market asparagus. Commercial shippers may either purchase the asparagus from the grower or handle it on a consignment basis. Most of the larger shippers hydrocool (emerse in a cold water shower) the asparagus to keep it fresh during transit to distant markets, and many maintain cold storage facilities. In some areas, especially New Jersey, much of the fresh-market asparagus is sold by growers to wholesale buyers through daily regional auctions. Wholesale buyers--e.g., chainstores, regional distributors, and institutional jobbers--in turn, sell the fresh asparagus to home makers, retail stores, and institutions.

If the fresh asparagus is to be processed, it is generally harvested according to the processor's specifications (e.g., spear length and color) and then is usually delivered directly from the field to the processor's plant without any further sorting, trimming, etc. by the grower. Growers generally contract in advance of harvest time with processors to deliver their production of asparagus from a certain number of acres. In recent years, Eastern processors have reportedly not been able to contract for enough asparagus to fill their needs and have resorted to purchasing as much non-contract asparagus as they could obtain when the price made such open-market purchases feasible.

A few firms account for virtually all of the fresh asparagus imported into the United States. One of the firms is an important domestic fresh-market asparagus grower and marketer. The other importers are wholesale fruit and vegetable distributing firms, but they are not major marketers of domestically grown asparagus. However, the imported fresh asparagus is distributed through these firms' normal domestic marketing channels.

About three-fourths of the fresh asparagus imported in the last several years has been produced in an area near Mexicali, Mexico. These imports enter the United States at Calexico, Calif. and are distributed throughout the country. Such imports usually begin in January--about the same time that the harvest begins in Southern California--and reach a peak in March. Most of the fresh asparagus imports not entering through Calexico have entered at Hidalgo, Tex. These imports enter during the months of August through November when there is very little domestic production. This asparagus is produced in the Bajio area of central Mexico and is reported to be somewhat smaller in diameter than that produced domestically during the normal growing season.

Processed asparagus

Frozen and canned asparagus can be stored for many months. Inasmuch as asparagus is processed only during a short period each year, processors must pack and warehouse sufficient quantities of asparagus to fill orders between processing seasons. Processors maintain storage facilities at their plants and some of the larger ones also maintain storage facilities adjacent to their major marketing areas. Processed asparagus is shipped directly from these facilities as orders are received.

Based on the domestic marketing patterns of certain other fruits and vegetables, it is estimated that sales to chainstores (including retail group buyers) and to wholesalers probably each account for about 45 percent of the domestic processors' sales of asparagus. The remaining 10 percent is sold to various Federal, State, and local governments and to certain institutions. Some domestic processors maintain quite extensive sales forces while others sell most of their output through brokers. The National Commission on Food Marketing reported that in 1964 brokers handled slightly more than two-thirds of all sales made by fruit and vegetable canners and freezers. According to trade sources, the share of processed asparagus sales handled by brokers in that year was probably about the same and there is no evidence to indicate that the marketing of processed asparagus has changed much since that time. Trade sources also indicate that substantially more than half of the retail pack of processed asparagus is marketed under private labels and the remainder under nationally advertised brand labels.

Most of the imported frozen asparagus from both Mexico and Taiwan is imported and marketed by U.S. firms that are major processors and distributors of frozen foods--including asparagus--in the United States. These firms maintain extensive sales organizations and market the imported asparagus as part of their broad line of products. It is believed that most of the frozen asparagus imported from Mexico is marketed under nationally advertised brand labels, while that from Taiwan is marketed under private labels.

Virtually all of the canned asparagus imported from Mexico is marketed in the United States by two large domestic processors and distributors of canned products. Such imports are offered as a part of these firms' extensive line of domestic and imported canned products and are handled through the same distribution channels used for their domestic production. Canned asparagus is imported from Taiwan by a number of importers who generally warehouse the goods at the port of entry. From that point the importers sell to food chains, wholesale grocers, or institutional wholesalers. All of the canned asparagus imported from Mexico is thought to be marketed under nationally advertised brand labels, while that from Taiwan is generally marketed under the private label of the importer or distributor.

## Prices of Domestic and Imported Asparagus

Asparagus is one of the most expensive domestically produced vegetables, both in fresh and processed form. Asparagus prices have with few exceptions risen consistently at all levels--grower, wholesale, and retail--during the past decade. Domestically produced fresh and processed asparagus prices have increased at rates substantially greater than those for most other food products. In 1972, for example, the BLS Wholesale Price Index (1967=100) for canned asparagus averaged 135.7 as compared with 121.8 for all food, 119.6 for processed fruits and vegetables, and 110.7 for canned vegetables and juices (table 26). Likewise, the BLS Consumer Price Index (1967=100) for fresh asparagus averaged 141.8 in 1972, compared with 123.5 for all food, and 128.0 for all fresh fruits and vegetables (table 27).

As previously indicated, the production of asparagus remains a highly labor-intensive operation for both growers and processors. As with many other commodities, rising production costs--largely because of increased labor costs--are soon reflected in increased prices. The increase in asparagus prices has been particularly noticeable since 1964 following the termination of the bracero program for imported labor and the resultant increase in labor rates paid by domestic growers.

Prices received by growers

The price received by an asparagus grower for his crop depends upon a number of factors in addition to such obvious ones as production costs and the interaction of supply and demand for asparagus in any particular year. The per-pound price the grower receives also depends upon the market in which his product is sold (fresh market or processing), the color of the asparagus, the length and diameter of the spears, the time of year the asparagus is harvested, and the geographical area where the grower is located. In general, the following price structure prevails:

(1) Asparagus sold in the fresh market brings higher per-pound prices than that for processing. Many growers sell their asparagus on the fresh market during the early part of the season. Later, as production increases and prices decline, they divert most of the remainder of their crop to processors.

(2) The larger the diameter of the spears, the higher the per pound price they bring in the fresh market.

(3) In the processing market, asparagus for canning brings higher average prices per pound than that for freezing. Higher prices are obtained for white asparagus than for green inasmuch as the former is more labor intensive and production costs per pound are higher. Growers receive higher per-pound prices from processors for 7-inch spears than for 9-inch or longer spears (table 28). 1/

(4)Prices in any particular year vary from State to State, but no general geographical trends are readily apparent. Tables 14 through 18 show, by market, the average annual unit value of sales by growers in the principal asparagus producing States.

The following table, which shows the average annual unit value of sales by domestic asparagus growers during 1963-72, indicates that the prices received by growers have increased by about 85 percent since 1964:

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1/ Processors of green asparagus generally try to package spears 4-1/2 to 5 inches long. In order to do so they buy spears 7 inches or more in length having at least 4-1/2 to 5 inches of green asparagus. The butt end is then trimmed off and is largely lost as waste. Longer spears (e.g., 9 inches) have proportionately more weight in the butt end and thus entail more loss per pound. This is, in turn, reflected in the prices processors pay growers for asparagus.

Asparagus: Average annual unit value of sales by U.S. growers, by market, 1963-72

(In cents per pound)

| Year | Weighted average | Market: Fresh | Market: Canning | Market: Freezing |
|---|---|---|---|---|
| 1963 | 14.0 | 16.3 | 13.5 | 12.0 |
| 1964 | 12.7 | 14.8 | 12.3 | 10.3 |
| 1965 | 15.0 | 16.3 | 14.7 | 13.3 |
| 1966 | 17.4 | 20.1 | 16.9 | 15.6 |
| 1967 | 17.8 | 21.1 | 17.0 | 15.7 |
| 1968 | 18.8 | 21.9 | 17.9 | 16.8 |
| 1969 | 19.7 | 23.5 | 18.2 | 18.1 |
| 1970 | 19.9 | 22.3 | 19.0 | 17.7 |
| 1971 | 22.9 | 29.2 | 20.9 | 18.8 |
| 1972 | 23.5 | 26.7 | 22.8 | 20.5 |

Source: Official statistics of the U.S. Department of Agriculture.

## Prices received in the fresh market

The preceding table shows that in 1972 domestic growers received an average of 26.7 cents per pound for their sales of asparagus on the fresh market, a decline from the 29.2 cents per pound received in 1971 but higher than in any other previous year. Growers selling asparagus on the fresh market generally try to harvest and sell their crop as early as feasible because prices on the fresh market decline substantially as the season progresses. Prices on the fresh market also vary considerably depending upon the diameter of the spears; for example, "jumbo" spears may bring per pound prices up to 50 percent higher than those for "small" spears. Fresh market asparagus is usually sold by the pyramid crate (30 pounds net), although half crates (15 pounds net) are also commonly used.

The prices paid for fresh asparagus imported from Mexico are determined by contractual arrangements between the Mexican growers and U.S. importers. About three-fourths of the imported fresh asparagus is sold on a duty-paid, U.S. port-of-entry basis; the Mexican growers pay the freight, import duty, and other expenses incidental to importation into the United States. The structure of prices paid for these imports is similar to the domestic fresh-market price structure in that prices are highest at the start of the crop year and then decline as the season progresses. The remaining one-fourth of the fresh asparagus imported into the United States, principally in the fall of the year, is sold on an f.o.b. Mexican shipping point basis; the U.S. importers pay the freight, import duty, and other expenses incidental to importation. The contractual prices, which are substantially lower than the average prices received by domestic growers in the fresh market, have increased somewhat in the last few years, but not as rapidly as those received by U.S. growers in the fresh market.

As previously indicated, only a few firms--one of which is a major grower and marketer of domestically grown fresh asparagus--import fresh asparagus from Mexico; these firms distribute the Mexican asparagus through their normal domestic marketing channels. The firms (as well as other trade sources) reported to the Commission that, although they may be able to obtain asparagus from Mexico at prices lower than those received by U.S. growers in the fresh market, their imported fresh asparagus brings wholesale prices (e.g., from chainstores and in the wholesale produce markets) equal to the wholesale prices received for comparably-sized asparagus produced in the United States.

Prices received by canners

Prices of canned asparagus are normally quoted by the case, f.o.b. producer's plant or warehouse. The principal factors affecting the per-case price are the type of pack (number and size of cans or jars), style (spears or cuts and tips), color and diameter of the spears, and the geographical location of the canner. Trade sources have indicated that canners located in California tend to be the price leaders because California is the largest asparagus-producing State and the harvest begins earlier there than in the other principal producing States.

Table 29 shows average monthly wholesale prices quoted by domestic canners during 1968-72 for various size cases of canned asparagus, by color and style of asparagus, and geographical location of the canner. The general trend of prices during the period was for small increases during 1969 (averaging 2-3 percent), moderate increases in 1970 (3-5 percent), and large increases in 1971 (10-11 percent) and 1972 (7-8 percent). By far the most important size pack of canned asparagus is the number 300 can which holds about 15 ounces net. 1/ These are packed 24 to a case. The following table, which summarizes

1/ This size pack accounted for almost two-thirds of the U.S. pack of green asparagus and over half of the pack of white asparagus during the last few years.

the monthly data shown in table 29, shows the average annual prices quoted during 1968-72 for the number 300 size pack of canned asparagus:

Asparagus, canned, 24/300 pack: Average annual wholesale prices quoted by domestic canners, 1968-72

(Price per case)

| Type of asparagus and location of canner | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|
| Green: | | | | | |
| Spears: | | | | | |
| California----------- | $10.10 | $10.20 | $10.82 | $11.98 | $12.97 |
| East----------------- | 9.87 | 10.30 | 10.62 | 11.96 | 12.60 |
| Cuts and tips: | | | | | |
| Midwest-------------- | 6.19 | 6.19 | 6.10 | 6.75 | 7.55 |
| East----------------- | 6.23 | 6.62 | 6.71 | 7.23 | 7.50 |
| White spears with green tips: | | | | | |
| California----------- | 10.25 | 10.33 | 10.96 | 12.17 | 13.07 |

Source: Compiled from the data in table 29.

Canned asparagus imported into the United States can be classified into two general categories: nationally advertised brand labels and private brand labels. All imports of canned asparagus from Mexico are believed to fall into the former category, while those from Taiwan fall into the latter. Canned asparagus from Mexico is marketed in the United States by two large domestic canners and distributors of asparagus at prices comparable to those received for their domestically canned asparagus. All imported canned asparagus from Taiwan and most of that from Mexico is white; however, testimony at the hearing indicated that there is only one firm in the United States still producing canned white asparagus.

In early 1972, all exporters of canned asparagus in Taiwan adopted a system of uniform export prices. Appendix B shows the current price list for canned asparagus exported from that country; this price list was effective until March 20, 1973. Canned asparagus from Taiwan was being offered in the United States in late 1972 at prices generally 20 to 30 percent lower than prices for the comparable domestically produced item. For example, as of November 1972, the list price of a case of 24/300 cans of green tipped and white asparagus produced in the United States was $13.55, as compared with a representative importer's list price of $10.00 for the comparable item from Taiwan; both prices were on an f.o.b. west coast basis. The list price of the same item imported from Mexico was $12.75, also on an f.o.b. west coast basis.

Prices received by freezers

The trend in prices received by domestic freezers of asparagus during 1968-72 was similar to that for canned asparagus. Prices increased by over 30 percent during the period, with the largest increases occurring between 1970 and 1971. The following table, which summarizes the monthly data contained in table 30 in appendix A, shows the average annual prices for four types of packs of frozen asparagus. These four types together accounted for almost three-fourths of the frozen asparagus produced in 1971-72. The 10-ounce packages are principally sold as retail sizes (to chainstores), while the 2-1/2 pound packages are chiefly sold to insitutional users. All prices in the following table pertain to green asparagus:

Asparagus, frozen: Average annual wholesale prices received by domestic freezers, by type of pack, 1968-72

(In cents per pound)

| Type of pack | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|
| 10 ounce: | | | | | |
| Spears | 61.7 | 63.7 | 68.6 | 78.8 | 83.3 |
| Cuts and tips | 49.2 | 50.7 | 55.3 | 64.0 | 67.9 |
| 2-1/2 pound: | | | | | |
| Spears | 58.7 | 60.5 | 63.8 | 72.1 | 77.3 |
| Cuts and tips | 47.4 | 48.3 | 52.8 | 61.2 | 64.8 |

Source: Compiled from the data in table 30 of this report.

As may be noted in the preceding table, frozen asparagus spears sell at 10 to 15 cents per pound more than identical-size packages of cuts and tips. The average price per pound received for the retail-size packages was greater than that received for the institutional size, and the price difference between retail and institutional sizes widened for spears during the 1968-72 period. Institutional-size packages of frozen asparagus are generally priced by the pound, while retail sizes are priced by the case (of 24) or by the dozen. However, in order to facilitate price comparisons, both sizes are shown on a per-pound basis in the preceding table and in table 30 in appendix A.

As previously indicated, all U.S. imports of frozen asparagus from Mexico are produced by affiliates of two major U.S. food processing firms. Such imports consist of retail-size packages of frozen asparagus and frozen soup stock. The latter imports are for further processing in the United States, while the former are marketed under a nationally advertised brand label at prices believed to be comparable with those for the firm's domestically produced frozen asparagus.

The great bulk of the frozen asparagus imported from Taiwan has also been marketed by a major U.S. producer and distributor of frozen asparagus. The list prices obtained by the Commission from this firm do not differentiate between the domestic and imported product and are virtually identical with those in table 30 showing the average wholesale prices received by domestic freezers. Lesser quantities of frozen asparagus from Taiwan have been imported and distributed by other firms that do not also produce frozen asparagus in the United States. Most of this asparagus enters the United States at New York, N.Y. Trade sources in the New York City area indicated that imported frozen asparagus from Taiwan was being sold as of late 1972 at prices 4-5 cents per pound below those for the comparable domestic product. Typical ex-warehouse list prices in New York City for imported frozen asparagus from Taiwan ranged from 76.7 cents to 81.7 cents per pound for spears, while cuts and tips ranged from 64.4 cents to 68.9 cents per pound; all prices were for retail-size packages. The terms offered were those reported by trade sources to be common in the industry--2 percent discount for payment within 10 days.

## Foreign Production and Trade

During the past decade important structural changes have occurred in the world's production and foreign trade in asparagus. Among the world's asparagus producing countries, the United States had long been the leader. Even though the great bulk of the crop produced in the United States has always been for domestic consumption, this country was by far the world's leading exporter of canned asparagus as recently as 1964. Before 1965, Spain and Japan were the two major foreign producers and exporters of canned asparagus (tables 31 and 32). Since 1966, however, following the rapid growth of production and trade in canned asparagus by the Republic of China (Taiwan), U.S. export sales have been widely overshadowed by exports from that country.

Another country that has emerged only since the late-1960's as a potentially important producer of asparagus is Mexico. Similar to Taiwan, Mexico consumes little asparagus itself, but produces chiefly for export. Exports of asparagus from Mexico are still relatively small, but they are increasing rapidly. Other major asparagus producing countries include Spain, Japan, France, Australia, Canada, and West Germany, 1/ but the quantity produced by each of these countries, with the exception of Spain, does not appear to have increased significantly in recent years. About three-fourths of Spain's production of canned asparagus is for domestic consumption; the great bulk of the remainder is exported to other European countries.

Unlike the United States and Canada, which produce and consume principally green asparagus, consumers in most countries apparently prefer white asparagus. World trade in asparagus consists predominantly of canned white asparagus, the principal importers of which are Western

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1/ During the Commission's public hearing, reference was made to Iran as a developing producer of asparagus. It appears unlikely at this time, however, that asparagus production in that country will reach significant proportions within the foreseeable future. Only 350 acres of asparagus are currently under cultivation in Iran; total production is estimated at 1-1/4 million pounds. About one-third of the total production of asparagus is processed, one-third is exported to Europe, and one-third is consumed locally in fresh form.

European countries. By far the most important market for canned white asparagus is West Germany, which probably imports more than all other countries combined (table 33).

Taiwan

The commercial production of asparagus in Taiwan began about 1963. Stimulated by strong European demand for canned white asparagus and coinciding with a reduction in U.S. production of such asparagus beginning in 1964, the growth of asparagus production and exportation by Taiwan has been spectacular. Fresh production rose from 1 million pounds in 1963 to 286 million pounds in 1971. Likewise, exports of canned white asparagus increased from under 1 million pounds in 1963 to 181 million pounds in 1971. Taiwan has been the world's leading exporter of asparagus (mostly canned) since 1966, and its total production surpassed that of the United States for the first time in 1971.

Taiwan's planted acreage of asparagus is second only to that of the United States. The 286 million pounds of asparagus produced in 1971 were harvested from 44,000 acres (table 34). The average yield was about 6,500 pounds per acre, over twice that obtained in the United States. Asparagus acreage is scattered throughout the island, but is concentrated along sandy river and coastal land considered too poor to sustain rice production. In Taiwan's climate some asparagus is harvested each month of the year, but the volume is heaviest during the months of March-June. From 12 to 18 months elapse from planting to the first harvest. The longevity of the plantings is thought to average about 6 years.

Asparagus was produced in Taiwan in 1972 by some 47,600 small growers chiefly utilizing family labor; about 145,000 people were used in growing the crop. Asparagus is considered a minor crop by most growers due to the slow return on investment, the need for special soil characteristics, and the instability of prices in recent years. The average size of asparagus plantings was less than an acre. The harvested asparagus is taken to one of a network of asparagus collecting and grading stations operated by district, township, and village branches of the Taiwan Provincial Farmers' Association (TPFA). Membership in the TPFA, a cooperative, is mandatory in order for an asparagus grower to sell his output. Canners and freezers contract through local branches of the TPFA for their purchases of asparagus.

In 1972, about 90 percent of the crop was utilized for canning, 8 percent was frozen, and 2 percent was consumed fresh. Virtually all asparagus used for canning is white, while all that is used for freezing is green. About 95 percent of the canned asparagus and probably all of the frozen asparagus is produced for export. Prices paid by processors are determined by negotiation between the TPFA and the canners and freezers. A purchase price of about 10.2 cents per pound was established for white asparagus used for canning in 1972, compared with 9.0 cents per pound paid in 1971. The purchase price established in 1971 for green asparagus for freezing was 10.9 cents per pound. 1/ In a request to the government for a price increase in

1/ In comparison, table 28 shows that in 1972 growers in California received a price of 23.0 cents per pound for white asparagus sold to canners and prices of 18.0-23.0 cents per pound for green asparagus sold to canners and freezers.

1972, Taiwan's growers claimed that, with an average yield of 5,350 pounds per acre, 1/ the minimum cost of producing a pound of asparagus was 10.8 cents.

Because of a trend of overproduction, excess capacity, and declining export prices during the last few years, the Government of Taiwan has adopted various controls on the production and export of canned asparagus. The number of asparagus canners is strictly limited, all canners must belong to the Taiwan Asparagus Canners' Export corporation (TACEC), and all exports are under the control of the Board of Foreign Trade (BOFT) of the Ministry of Economic Affairs. 2/ In early 1972, the Government approved a uniform export price system for Taiwan's canned asparagus (appendix B). In addition to setting export prices through the TACEC, the BOFT established a maximum production goal of 4 million "standard cases"--equivalent to about 180 million pounds--of white asparagus for 1972. This production goal was then allocated back to the individual canneries by quotas based on past production and export records. The TACEC, with BOFT approval, also established export

1/ The average yield claimed by the growers is substantially lower than that shown for the last few years in table 34.

2/ As of October 1972, there were 103 asparagus canners, the largest three of which accounted for about 13 percent of Taiwan's production. About 60 percent of Taiwan's capacity for producing canned asparagus was being utilized. Some 20,000 people were employed in the canneries to process asparagus. They worked an average of 56 hours per week for 24 weeks. The average daily (8 hours) wage for girls employed in canneries was $2.00. The government has apparently succeeded in reducing the number of asparagus canners--reported as 164 in 1967 and 143 in early 1972--by encouraging mergers through the granting of additional export quotas for each such merger effected.

goals by country of destination; the goal for export to the United States in 1972 was 200,000 standard cases, or 9 million pounds. The TACEC also designates which firms may act as sales agents in the importing countries. In the United States, such designated sales agents must take a minimum of 15,000 standard cases (675,000 pounds) per year.

As previously noted, Taiwan's exports of canned white asparagus rose from less than 1 million pounds in 1964 to 181 million pounds in 1971. By far the principal market is West Germany, which took three-fourths of Taiwan's exports of canned asparagus during 1964-71 (table 35). Other principal markets include the Netherlands, Belgium, and Japan. Occasioned by an over-abundance of fresh asparagus and frequent price cutting by exporters, the average export price per standard case of canned asparagus dropped from $15.52 in 1966 to $6.50 in June 1971. Data are not yet available on the success of the adoption in 1972 of a uniform export price system in halting the decline in export prices. The prices established for 1972 represent increases of 30-40 percent over prices prevailing during the preceding year.

The production in Taiwan of green asparagus for freezing began on a commercial basis in 1971 and is being expanded. About 900 acres were utilized for producing 4.4 million pounds of green asparagus in 1971. Both acreage and production are estimated to have doubled in 1972. There are presently four concerns in Taiwan that freeze asparagus, three of which are engaged in freezing asparagus under contract for export to the United States. 1/ The three have formed a joint operating company, the United Frozen Green Asparagus Corporation of Taiwan, which sets export prices and handles other export matters. Testimony was given at the Commission's public hearing that about 1-1/4 million pounds of frozen asparagus were exported to the United States in 1972.

The asparagus industry of Taiwan has already demonstrated its ability to grow and compete in world markets by effectively displacing the United States, within a period of 4 years, in the production and export of canned white asparagus. Taiwan's climate and its supply of relatively low-cost labor give it a natural advantage over the United States in producing asparagus. Taiwan, which has already experienced overproduction problems, can easily supply the world's requirements of canned white asparagus. Taiwan has produced virtually no canned green asparagus in the past and only began producing frozen green asparagus in 1971. The major market for canned and frozen green asparagus is the United States, which presently supplies most of its own requirements. Although a Government survey of suitable areas reported that some 25,000 acres could be made available for the production of green asparagus in Taiwan, the quality of both the canned

1/ The number of asparagus freezers is conditionally limited by the Government. About 80 percent of Taiwan's asparagus freezing capacity was being utilized as of October 1972. About 750 people were employed in the asparagus freezing plants; they worked an average of 56 hours per week for 24 weeks.

and frozen product produced to date has been reported by U.S. trade sources to have been less than completely satisfactory. Much research, however, is being carried on in Taiwan to produce processed green asparagus that will be acceptable in the United States and other world markets. It is uncertain whether these efforts will be successful, but if they are, Taiwan could supply a significant part of the world's processed green asparagus needs.

The U.S. Foreign Agricultural Service assessed the prospects of future growth in Taiwan's asparagus industry as of October 1972 as follows: "[The] outlook for canned asparagus is for slow growth from [the] present level due to dependence on few markets, particularly West Germany. Frozen asparagus production [is] still considered in [the] trial or experimental stage. Supply of [the] raw product thus far [has been] limited and quality disappointing to industry. Profitability [is] said to be low. [It is] questionable at this time if there will be any major development of [the] frozen asparagus industry on Taiwan."

Mexico

The production of asparagus in Mexico, while small relative to that in the United States and Taiwan, has grown rapidly in the last few years. There are no official data available on asparagus acreage or production in Mexico, but the Tariff Commission estimates that about 25 million pounds were harvested in 1972. 1/ Utilization of this

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1/ Estimates of asparagus production and acreage in Mexico are based principally upon information received from the Foreign Agricultural Service of the U.S. Department of Agriculture.

production is estimated as follows: fresh--8.5 million pounds, canned--11.7 million pounds, frozen--1.3 million pounds, and other uses (e.g., in soup and waste from processing)--3.5 million pounds. Asparagus is grown in Mexico primarily for export, chiefly to the United States. Domestic consumption of asparagus in Mexico in 1972 is estimated at less than 3 million pounds. Most of the asparagus consumed in Mexico consists of canned white asparagus and asparagus soup; only small quantities of frozen and negligible amounts of fresh are consumed locally.

Asparagus is grown in Mexico principally in two areas--the Bajio region of central Mexico, and the Mexicali Valley immediately south of California. Only green asparagus is produced in the Mexicali Valley, while both white and green are produced in the Bajio. Most of the crop produced in the Mexicali Valley is marketed as fresh asparagus, but a significant portion is also canned. Virtually all of the crop produced in this area is for export, predominantly to the United States. In the Bajio, over half of the crop is utilized in producing canned white asparagus; the remainder is green asparagus for processing and consumption in fresh form. All of the fresh asparagus and most of the frozen and canned asparagus produced in the Bajio are for export. All asparagus produced in the Bajio for sale on the fresh market is harvested in the fall, while that produced in the Mexicali Valley is harvested chiefly during January-April. Practically all of the asparagus for processing in both regions is harvested during the spring.

The total area currently planted to asparagus in Mexico is estimated at 11,000 acres. Of this amount, some 9,000 acres were in production in 1972; these fields ranged principally between 3 and 5 years in age. Yields averaged about 2,800 pounds per acre for Mexico as a whole, but around 3,100 pounds per acre in the Bajio. Production methods in the Bajio are similar to those in most areas of the United States in that the first full harvest generally is obtained 3 years after planting the crowns; however, in the Mexicali Valley, as in Southern California the first full harvest is usually obtained 2 years after planting. Harvesting is maintained an average of 70 days per year. Most growers believe they will be able to maintain their asparagus fields in full production for 8 to 10 years.

There are approximately 85 asparagus growers in Mexico. Their plantings range in size from 7 to 740 acres, the average being about 130 acres. All acreage is owned by private land owners; there is no acreage owned by ejidatarios (farmers of communal land). There are voluntary grower associations that represent local asparagus growers in such matters as agrarian reform and taxes. These associations do not provide any direct assistance to asparagus growers, such as financing, technical assistance, or the supply of production inputs at reduced costs.

The bulk of Mexico's canning and freezing industry is concentrated in the Bajio area. All of the asparagus used for canning and freezing in the Bajio is grown under contractual arrangements. The processors generally finance the initial investment for establishing the asparagus beds (estimated at $500 per acre) and in some cases provide financing for production inputs such as fertilizer and insecticides. In addition to financing, the processors provide technical assistance and supervision for growers in establishing, maintaining, and harvesting the asparagus beds. The processors maintain their own seed beds and provide all of the crowns to the growers. In most cases a 10-year contract is signed whereby growers agree to provide the processors with all of their output at a negotiated price. The average contract prices paid by processors in 1972 were about 10.0 cents per pound for green asparagus and 10.9 cents per pound for white asparagus. 1/

Mexican subsidiaries of U.S.-based companies account for the bulk of the production of canned and frozen asparagus. The asparagus processing industry is dominated by a few firms. There are only three firms freezing asparagus in Mexico, and one accounts for about 90 percent of the production of frozen asparagus. There are some 10 firms canning asparagus in Mexico, but two account for well over 90 percent of the total annual production of canned asparagus 2/

There are no incentives provided by the Mexican Government directly or indirectly to growers for the production of asparagus. The only Government incentive provided to processors is a 10 percent

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1/ See footnote 1 on p. 60.

2/ Most workers in the processing plants receive $2.25 per day for 8 hours' work. Fringe benefits cost the companies an additional 30 percent. Field hands generally receive $1.80 per day, also for 8 hours' work. All workers in the processing plants are unionized; the field hands are not.

tax credit for the value of all processed åsparagus exported. Exporters of processed asparagus receive a certificate from the Mexican Department of Industry and Commerce that is valued at 10 percent of the value of the asparagus exported. These certificates can be used by the firm to pay any direct Mexican taxes, but they must be used within 3 years. This tax credit does not apply to fresh asparagus.

There are currently no Government, quasi-government, or industry restrictions or controls on the production of asparagus. The exportation of processed asparagus requires a permit from the Secretariat of Industry and Commerce, but these are given automatically and serve mainly as a source of statistical data for the government. The exportation of fresh asparagus requires a permit from the Secretariat of Agriculture, but these too are given automatically. There are no quotas on exports of fresh or processed asparagus.

In the past 5 years Mexico has undergone a significnat change in its foreign trade in asparagus, as exports have increased rapidly. Fresh green asparagus is exported to the United States and a few other countries (table 36); canned (mostly white) is exported to Latin America, Europe, and the United States; and frozen (all green) is exported mainly to the United States. Table 37 shows that prior to 1967, Mexico was a net importer of canned asparagus, but since that time exports have greatly expanded and now exceed imports. In 1971, Mexico imported only 9,000 pounds of canned asparagus while exporting 5.6 million pounds. The United States is by far the principal market for asparagus produced in Mexico. About 13.7 million pounds of fresh, frozen, and canned asparagus were exported to the United States in 1972. All exports of frozen and over half of the exports of canned asparagus to the United States were produced by Mexican subsidiaries of U.S. companies.

The outlook is for further expansion in asparagus acreage and production in Mexico. There should be some increase in yields from the acres already planted, as a good part of this acreage has not yet reached its full-production potential. Also, indications are that an additional amount--perhaps equivalent to 15 percent of the present 11,000 acres--will be planted in 1973. The bulk of the increase in acreage is expected to occur in the Bajio region.

Most of the immediate projected expansion in asparagus production is for canned and fresh asparagus. In the case of the Bajio area, most of the increased production of fresh asparagus will be for the off season (fall) market in the United States. Mexican exports of canned asparagus, both white and green, to the United States are also expected to expand. Shipments of canned white asparagus to Venezuela and other Latin American countries will also increase, but this is thought to be a more limited market. There are no immediate plans for a significant expansion in the production of frozen asparagus. However, the large excess freezing capacity in the Bajio, due to a decline in frozen strawberry production, does provide an incentive for further expansion in the production of frozen asparagus. High initial investment costs and the long period before any production is obtained appear to be the principal deterrents to the entry of more processors into the production of frozen asparagus.

# Appendix A

## Statistical Tables

Table 1.--Asparagus, fresh: Number of U.S. producing farms, average acreage per farm, and acreage harvested, by ranking counties, 1969

| County and State | Farms | Average acreage per farm | Acreage harvested |
|---|---|---|---|
| | Number | Acres | Acres |
| Ranking counties: 1/ | | | |
| San Joaquin, Calif | 95 | 326 | 30,949 |
| Gloucester, N.J | 228 | 39 | 8,988 |
| Yakima, Wash | 371 | 23 | 8,396 |
| Salem, N.J | 146 | 39 | 7,102 |
| Kent, Md | 7 | 582 | 4,074 |
| Van Buren, Mich | 294 | 12 | 3,615 |
| Imperial, Calif | 7 | 484 | 3,387 |
| Columbia, Wash | 7 | 481 | 3,364 |
| Monterey, Calif | 14 | 230 | 3,217 |
| Oceana, Mich | 147 | 19 | 2,791 |
| Vermilion, Ill | 14 | 196 | 2,750 |
| Cumberland, N.J | 84 | 29 | 2,432 |
| Benton, Wash | 54 | 40 | 2,158 |
| Ogle, Ill | 5 | 399 | 1,996 |
| Walla Walla, Wash | 17 | 117 | 1,990 |
| Contra Costa, Calif | 4 | 432 | 1,730 |
| Yolo, Calif | 7 | 224 | 1,569 |
| Berrien, Mich | 199 | 8 | 1,548 |
| Fresno, Calif | 5 | 296 | 1,479 |
| Riverside, Calif | 26 | 57 | 1,472 |
| Solano, Calif | 4 | 355 | 1,420 |
| Iroquois, Ill | 12 | 84 | 1,014 |
| | | | |
| Summary of counties shown above: | | | |
| California | 162 | 279 | 45,223 |
| New Jersey | 458 | 40 | 18,522 |
| Washington | 449 | 35 | 15,908 |
| Michigan | 640 | 12 | 7,954 |
| Illinois | 31 | 186 | 5,760 |
| Maryland | 7 | 582 | 4,074 |
| Total or average | 1,747 | 56 | 97,441 |
| | | | |
| All other counties in the United States | 1,463 | 13 | 18,951 |
| U.S. total or average | 3,210 | 36 | 116,392 |

1/ Counties reporting 1,000 or more acres harvested.

Source: Compiled from the 1969 U.S. Census of Agriculture.

Table 2.--Asparagus: U.S acreage in 1972 in major producing areas, by year planted

| Area and year planted | Acres | Percent | Area and year planted | Acres | Percent |
|---|---|---|---|---|---|
| Central California 1/ | | | Michigan--Continued | | |
| 1961 or earlier | 6,101 | 15 | 1967 | | |
| 1962 | 1,415 | 3 | 1968 | 4,056 | 22 |
| 1963 | 2,943 | 7 | 1969 | | |
| 1964 | 3,318 | 8 | 1970 | 1,629 | 9 |
| 1965 | 3,945 | 9 | 1971 | 1,213 | 6 |
| 1966 | 2,663 | 6 | 1972 | 1,992 | 11 |
| 1967 | 3,235 | 8 | Total | 18,493 | 100 |
| 1968 | 2,573 | 6 | | | |
| 1969 | 3,602 | 9 | New Jersey | | |
| 1970 | 4,177 | 10 | 1961 or earlier | 3,351 | 26 |
| 1971 | 4,268 | 10 | 1962 | | |
| 1972 | 3,723 | 9 | 1963 | | |
| Total | 41,963 | 100 | 1964 | 5,512 | 42 |
| | | | 1965 | | |
| Washington | | | 1966 | | |
| 1961 or earlier | | | 1967 | | |
| 1962 | | | 1968 | 2,499 | 19 |
| 1963 | 2/ 8,746 | 38 | 1969 | | |
| 1964 | | | 1970 | 851 | 6 |
| 1965 | | | 1971 | 378 | 3 |
| 1966 | 7,139 | 31 | 1972 | 469 | 4 |
| 1967 | | | Total | 13,058 | 100 |
| 1968 | | | | | |
| 1969 | 5,815 | 25 | Southern California 4/ | | |
| 1970 | | | 1961 or earlier | 653 | 11 |
| 1971 | 1,500 | 6 | 1962 | 93 | 1 |
| 1972 | | | 1963 | 100 | 1 |
| Total | 23,200 | 100 | 1964 | 5 | 5/ |
| | | | 1965 | 212 | 3 |
| Michigan | | | 1966 | 308 | 5 |
| 1961 or earlier | | | 1967 | 926 | 15 |
| 1962 | | | 1968 | 537 | 9 |
| 1963 | 3/ 9,603 | 52 | 1969 | 1,389 | 23 |
| 1964 | | | 1970 | 479 | 8 |
| 1965 | | | 1971 | 538 | 9 |
| 1966 | | | 1972 | 898 | 15 |
| | | | Total | 6,138 | 100 |

1/ Includes the Delta and the South San Joaquin growing areas.
2/ Of the acreage shown, 56 percent was planted in the years 1960-64; 37 percent in the years 1955-59; and the remaining 7 percent in years prior to 1955.
3/ Of the acreage shown, 56 percent was planted in the years 1957-66 and the remaining 44 percent in years prior to 1957.
4/ Data for this area are for Imperial and Orange Counties only. A significant acreage of asparagus (1,560 acres in 1972) is also grown in Riverside County, but data on the age of this acreage are not available.
5/ Less than 1/10 of 1 percent.

Source: Central California data compiled from statistics of the California Asparagus Growers Association; Washington, New Jersey, and Michigan data compiled from official statistics of the Federal-State Crop Reporting Services in those States; and Southern California data compiled from statistics obtained from the Agricultural Commissioners of Imperial and Orange Counties, Calif.

Table 3.--Recommended piece rates for cutting and sledding asparagus to the packing shed in the Central California producing area, 1960 and changes through 1972 1/

| Year | Fresh market asparagus, rate per 30-pound crate | | Green asparagus: For freezing, rate per 100 pounds | | Green asparagus: For canning, rate per 100 pounds | | White asparagus for canning, rate per 100 pounds | |
|---|---|---|---|---|---|---|---|---|
| | Amount | Percent of 1960 rate | Amount | Percent of 1960 rate | Amount | Percent of 1960 rate | Amount | Percent of 1960 rate |
| 1960--- | $1.00 | 100 | $3.00 | 100 | $3.75 | 100 | $3.25 | 100 |
| 1961--- | 1.05 | 105 | 3.20 | 107 | 4.10 | 109 | 3.70 | 114 |
| 1964--- | 2/ | 2/ | 2/ | 2/ | 2/ | 2/ | 4.10 | 126 |
| 1965--- | 1.15 | 115 | 3.50 | 117 | 4.50 | 120 | 4.90 | 151 |
| 1966--- | 1.20 | 120 | 3.85 | 128 | 4.95 | 132 | 6.15 | 189 |
| 1971--- | 1.70 | 170 | 5.50 | 183 | 6.75 | 180 | 8.00 | 246 |
| 1972--- | 1.75 | 175 | 5.65 | 188 | 7.00 | 187 | 2/ | 2/ |

1/ Rates shown are based on plantings yielding 2,500 to 4,000 pounds of asparagus per acre.

2/ Same as shown for preceding year.

Source: California Asparagus Growers Association.

Table 4.--Basic hourly wages received by workers employed in the production of canned asparagus in Central California and New Jersey, 1960-72

| Year | Central California 1/ | | New Jersey 2/ | |
|---|---|---|---|---|
| | Amount | Percent of 1960 rate | Amount | Percent of 1960 rate |
| 1960 | $1.94 | 100 | $1.52 | 100 |
| 1961 | 2.03 | 105 | 1.59 | 1[illegible]5 |
| 1962 | 2.08 | 107 | 1.65 | 109 |
| 1963 | 2.13 | 110 | 1.70 | 112 |
| 1964 | 2.21 | 114 | 1.75 | 115 |
| 1965 | 2.28 | 118 | 1.80 | 118 |
| 1966 | 2.35 | 121 | 1.85 | 122 |
| 1967 | 2.45 | 126 | 1.97 | 130 |
| 1968 | 2.55 | 131 | 2.11 | 139 |
| 1969 | 2.66 | 137 | 2.24 | 147 |
| 1970 | 2.93 | 151 | 2.39 | 157 |
| 1971 | 3.15 | 162 | 2.54 | 167 |
| 1972 | 3.37 | 174 | 2.69 | 177 |

1/ Most, if not all, plants in which canned asparagus is produced in Central California are unionized and pay the same hourly wages. The data shown are for bracket V workers. These workers comprise the largest group employed in canning asparagus in these Central California plants.

2/ Data shown are for preparation-line workers employed by the largest asparagus-canning plant in New Jersey, which is unionized.

Source: Compiled from data supplied by domestic asparagus canners.

Note.--Data shown for Central California are probably not directly comparable with data for New Jersey because while the work required for the wages shown is similar, it is probably not identical (see footnotes 1 and 2).

Table 5.--Basic hourly wages received by workers employed in the production of frozen asparagus in Central California and New Jersey, 1960-72

| Year | Central California | | | | New Jersey 3/ | |
|---|---|---|---|---|---|---|
| | Unionized workers 1/ | | Nonunionized workers 2/ | | | |
| | Amount | Percent of 1960 rate | Amount | Percent of 1960 rate | Amount | Percent of 1960 rate |
| 1960--- | $1.77 | 100 | $1.50 | 100 | $1.51 | 100 |
| 1961--- | 1.85 | 105 | 1.55 | 103 | 1.58 | 105 |
| 1962--- | 1.89 | 107 | 1.60 | 107 | 1.64 | 109 |
| 1963--- | 1.93 | 109 | 1.65 | 110 | 1.69 | 112 |
| 1964--- | 1.98 | 112 | 1.70 | 113 | 1.74 | 115 |
| 1965--- | 2.04 | 115 | 1.75 | 117 | 1.79 | 119 |
| 1966--- | 2.10 | 119 | 1.80 | 120 | 1.84 | 122 |
| 1967--- | 2.16 | 122 | 1.85 | 123 | 1.98 | 131 |
| 1968--- | 2.27 | 128 | 1.90 | 127 | 2.12 | 140 |
| 1969--- | 2.38 | 134 | 1.97½ | 132 | 2.27 | 150 |
| 1970--- | 2.49 | 141 | 2.05 | 137 | 2.42 | 160 |
| 1971--- | 2.70 | 153 | 2.18 | 145 | 2.57 | 170 |
| 1972--- | 2.87 | 162 | 2.31 | 154 | 2.82 | 187 |

1/ Most plants in which frozen asparagus is produced in Central California are unionized. These plants all pay the same hourly wages. The data shown are for bracket VI workers, who probably account for more than 3/4 of the workers producing frozen asparagus in the unionized plants.

2/ Data shown are for processing-line workers in the largest U.S. asparagus-freezing plant. These workers constitute the bulk of the employees engaged in freezing asparagus in that plant.

3/ Data shown are for processing-line workers in the largest asparagus-freezing plant in New Jersey. These workers constitute the bulk of the employees engaged in freezing asparagus in that plant, which is unionized.

Source: Compiled from data supplied by domestic asparagus freezers.

Note.--The two sets of data shown for Central California are probably not directly comparable with each other or with the data for New Jersey because while the work required for the wages shown is similar, it is probably not identical (see footnotes 1, 2, and 3).

Table 6.--Asparagus: U.S. apparent consumption of fresh, frozen, and canned asparagus, 5-year averages 1945-69, annual 1965-72

(In millions of pounds)

| Period | Fresh | Frozen | Canned | Combined consumption 1/ |
|---|---|---|---|---|
| 5-year average: | | | | |
| 1945-49 | 121.1 | 19.2 | 113.0 | 253.3 |
| 1950-54 | 106.1 | 24.7 | 114.7 | 245.5 |
| 1955-59 | 116.0 | 30.2 | 128.2 | 274.4 |
| 1960-64 | 104.2 | 33.9 | 139.5 | 277.6 |
| 1965-69 | 84.7 | 31.2 | 146.1 | 262.0 |
| Annual: | | | | |
| 1965 | 96.6 | 30.2 | 148.5 | 275.3 |
| 1966 | 79.9 | 30.8 | 147.2 | 257.9 |
| 1967 | 78.4 | 32.7 | 140.0 | 251.1 |
| 1968 | 87.0 | 33.0 | 146.5 | 266.5 |
| 1969 | 81.9 | 29.8 | 148.3 | 260.0 |
| 1970 | 92.6 | 31.3 | 149.4 | 273.3 |
| 1971 | 82.3 | 28.5 | 139.3 | 250.1 |
| 1972 | 90.3 | 27.3 | 126.5 | 244.1 |

1/ The frozen and canned components of the combined consumption data shown contain different amounts of raw product per pound; therefore, the fresh-weight equivalent of each combined consumption total shown would vary as the relative proportions of its 3 components vary.

Source: Compiled from tables 8, 9, and 10 of this report.

Table 7.--Asparagus: U.S. per capita consumption of fresh, frozen, and canned asparagus, 5-year averages 1945-69, annual 1965-72

(In pounds, fresh weight equivalent)

| Period | Fresh | Frozen | Canned | Combined total |
| --- | --- | --- | --- | --- |
| 5-year average: | | | | |
| 1945-49 | 1.02 | 0.26 | 0.87 | 2.15 |
| 1950-54 | .80 | .29 | .94 | 2.03 |
| 1955-59 | .74 | .32 | .96 | 2.02 |
| 1960-64 | .60 | .33 | .89 | 1.82 |
| 1965-69 | .46 | .30 | .85 | 1.61 |
| Annual: | | | | |
| 1965 | .60 | .28 | .90 | 1.78 |
| 1966 | .40 | .30 | .83 | 1.53 |
| 1967 | .40 | .32 | .80 | 1.52 |
| 1968 | .50 | .30 | .87 | 1.67 |
| 1969 | .40 | .28 | .83 | 1.51 |
| 1970 | .50 | .28 | .86 | 1.64 |
| 1971 | .50 | .24 | .75 | 1.49 |
| 1972 1/ | .50 | .26 | .71 | 1.47 |

1/ Preliminary.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 8.--Asparagus, fresh: U.S. production for fresh market, imports, exports, and apparent consumption, 5-year averages 1945-69, annual 1965-72

| Period | Production for fresh market | Imports | Exports 1/ | Apparent consumption | Ratio of imports to consumption |
|---|---|---|---|---|---|
| | Million pounds | Million pounds | Million pounds | Million pounds | Percent |
| 5-year average: | | | | | |
| 1945-49-------- | 122.9 | 2/ | 1.8 | 121.1 | 3/ |
| 1950-54-------- | 110.3 | 2/ | 4.2 | 106.1 | 3/ |
| 1955-59-------- | 120.8 | 2/ | 4.8 | 116.0 | 3/ |
| 1960-64-------- | 108.2 | 1.2 | 5.2 | 104.2 | 1.2 |
| 1965-69-------- | 89.1 | 2.2 | 6.6 | 84.7 | 2.6 |
| Annual: | | | | | |
| 1965----------- | 102.7 | .7 | 6.8 | 96.6 | .7 |
| 1966----------- | 84.2 | 2.4 | 6.7 | 79.9 | 3.0 |
| 1967----------- | 82.2 | 2.0 | 5.8 | 78.4 | 2.6 |
| 1968----------- | 91.8 | 2.1 | 6.9 | 87.0 | 2.4 |
| 1969----------- | 85.0 | 3.8 | 6.9 | 81.9 | 4.6 |
| 1970----------- | 94.4 | 5.0 | 6.8 | 92.6 | 5.4 |
| 1971----------- | 83.3 | 6.2 | 7.2 | 82.3 | 7.5 |
| 1972----------- | 92.2 | 8.2 | 10.1 | 90.3 | 9.1 |

1/ Data shown for years prior to 1967 are Canadian imports of fresh asparagus from the United States; such imports are believed to approximate U.S. exports during those years.
2/ Less than 50,000 pounds.
3/ Less than 0.05 percent.

Source: Production data compiled from official statistics of the U.S. Department of Agriculture; imports estimated by the Tariff Commission from data supplied by the U.S. Department of Agriculture; exports compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 9.--Asparagus, frozen: U.S. carry-in stocks, production, imports, and apparent consumption, 5-year averages 1945-69, annual 1965-72

| Period | Carry-in stocks 1/ | Production | Imports | Apparent consumption | Ratio of imports to consumption |
|---|---|---|---|---|---|
| | Million pounds | Million pounds | Million pounds | Million pounds | Percent |
| 5-year average: | | | | | |
| 1945-49 | 6.4 | 19.3 | - | 19.2 | 2/ |
| 1950-54 | 7.1 | 26.0 | - | 24.7 | 2/ |
| 1955-59 | 13.6 | 30.9 | - | 30.2 | 2/ |
| 1960-64 | 17.2 | 33.3 | - | 33.9 | 2/ |
| 1965-69 | 14.2 | 31.0 | - | 31.2 | 2/ |
| Annual: | | | | | |
| 1965 | 14.2 | 30.9 | - | 30.2 | 2/ |
| 1966 | 14.9 | 34.5 | - | 30.8 | 2/ |
| 1967 | 18.6 | 32.5 | - | 32.7 | 2/ |
| 1968 | 18.4 | 34.4 | - | 33.0 | 2/ |
| 1969 | 19.8 | 23.0 | 0.1 | 29.8 | 0.3 |
| 1970 | 13.1 | 25.9 | .5 | 31.3 | 1.6 |
| 1971 | 8.2 | 30.0 | 1.6 | 28.5 | 5.5 |
| 1972 | 3/ 10.9 | 34.6 | 3.1 | 27.3 | 11.4 |

1/ Carry-in stocks at the beginning (Jan. 1) of each period or year.
2/ Not available.
3/ Carry-in stocks totaled 21.3 million pounds on Jan. 1, 1973.

Source: Carry-in stocks compiled from official statistics of the U.S. Department of Agriculture; production compiled from statistics of the American Frozen Food Institute; imports estimated by the Tariff Commission from data supplied by the U.S. Department of Agriculture and the U.S. Department of Commerce.

Note.--Exports of frozen asparagus are not separately reported, but such exports are believed to be small.

Table 10.--Asparagus, canned: U.S. carry-in stocks, production, imports for consumption, exports of domestic merchandise, and apparent consumption, 5-year averages 1945-69, annual 1960-72

| Period | Carry-in stocks 1/ | Production | | | Imports | Exports | Apparent consumption | Ratio of imports to consumption |
|---|---|---|---|---|---|---|---|---|
| | | White | Green | Total | | | | |
| | Million pounds | Million pounds | Million pounds | Million pounds | Million pounds | Million pounds | Million pounds | Percent |
| 5-year average: | | | | | | | | |
| 1945-49 | 2/ | 2/ | 2/ | 119.0 | 3/ | 6.1 | 4/ 113.0 | 2/ |
| 1950-54 | 21.1 | 2/ | 2/ | 129.3 | 3/ | 12.2 | 114.7 | 2/ |
| 1955-59 | 33.0 | 53.7 | 114.6 | 168.4 | 3/ | 34.9 | 128.2 | 2/ |
| 1960-64 | 59.6 | 67.8 | 132.8 | 200.6 | 3/ | 56.7 | 139.5 | 2/ |
| 1965-69 | 81.4 | 23.9 | 142.1 | 165.8 | 1.1 | 24.3 | 146.1 | 0.7 |
| Annual: | | | | | | | | |
| 1960 | 59.6 | 51.6 | 134.7 | 186.3 | 3/ | 51.2 | 131.6 | 2/ |
| 1961 | 63.1 | 67.6 | 127.7 | 195.3 | 3/ | 44.3 | 143.1 | 2/ |
| 1962 | 71.0 | 74.3 | 137.3 | 211.6 | 3/ | 64.1 | 148.0 | 2/ |
| 1963 | 70.5 | 80.3 | 136.2 | 216.5 | 3/ | 62.2 | 130.4 | 2/ |
| 1964 | 94.4 | 65.1 | 126.9 | 192.0 | 3/ | 61.7 | 143.3 | 2/ |
| 1965 | 81.4 | 30.6 | 137.8 | 168.4 | 3/ | 46.4 | 148.5 | 2/ |
| 1966 | 54.9 | 44.0 | 140.5 | 184.5 | .6 | 29.0 | 147.2 | .4 |
| 1967 | 63.8 | 12.0 | 143.1 | 155.1 | 2.5 | 18.9 | 140.0 | 1.8 |
| 1968 | 62.5 | 18.6 | 143.2 | 161.8 | .9 | 15.7 | 146.5 | .6 |
| 1969 | 4/ 63.0 | 14.4 | 144.9 | 159.3 | 1.5 | 11.5 | 148.3 | 1.0 |
| 1970 | 4/ 64.0 | 6.3 | 133.3 | 139.6 | 2.5 | 7.5 | 149.4 | 1.7 |
| 1971 | 49.2 | 2/ | 131.3 | 5/ 131.3 | 5.4 | 4.5 | 139.3 | 3.9 |
| 1972 | 6/ 42.1 | 2/ | 136.8 | 5/ 136.8 | 9.4 | 3.8 | 126.5 | 7.4 |

1/ Carry-in stocks at the beginning (Jan. 1) of each period or year.
2/ Not available.
3/ Imports of canned asparagus were not separately reported prior to 1969. Data shown for 1966-68 are U.S. exports from Taiwan, Japan, and Spain to the United States; such exports are believed to approximate U.S. imports during those years. Imports prior to 1966 were negligible or nil.
4/ Estimated by the Tariff Commission on the basis of partial reports.
5/ Reported as green asparagus only beginning in 1971; production of white asparagus is believed to have been small in 1971 and 1972.
6/ Includes only green asparagus; stocks of green asparagus totaled 58.0 million pounds on Jan. 1, 1973. Jan. 1 stocks of white asparagus are believed to have been small in 1972 and 1973.

Source: Carry-in stocks and production compiled from data supplied by the National Canners Association except as noted; imports and exports compiled from official statistics of the U.S. Department of Commerce.

Table 11.--Asparagus, fresh: U.S. acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-69, annual 1965-72

| Period | Acreage harvested | Production | | Utilization | | Average return to growers | |
|---|---|---|---|---|---|---|---|
| | | Value | Quantity | Fresh market | Processing | Fresh market | Processing |
| | 1,000 acres | 1,000 dollars | Million pounds | Million pounds | Million pounds | Cents per pound | Cents per pound |
| 5-year average: | | | | | | | |
| 1945-49 | 121.0 | 32,135 | 320.3 | 122.8 | 197.5 | 12.4 | 9.0 |
| 1950-54 | 134.6 | 36,805 | 312.1 | 110.3 | 201.8 | 13.4 | 10.9 |
| 1955-59 | 155.8 | 41,462 | 357.5 | 120.8 | 236.6 | 13.7 | 10.5 |
| 1960-64 | 148.1 | 47,937 | 369.1 | 108.2 | 260.9 | 15.1 | 12.1 |
| 1965-69 | 124.4 | 55,331 | 313.3 | 88.1 | 225.1 | 20.6 | 16.7 |
| Annual: | | | | | | | |
| 1965 1/ | 131.2 | 49,072 | 328.0 | 104.0 | 224.0 | 16.3 | 14.4 |
| 1966 1/ | 128.1 | 57,888 | 331.9 | 84.7 | 247.2 | 20.1 | 16.6 |
| 1967 | 125.9 | 54,336 | 304.8 | 85.0 | 219.8 | 21.0 | 16.6 |
| 1968 | 121.4 | 60,108 | 320.2 | 89.2 | 231.0 | 21.8 | 17.6 |
| 1969 | 115.4 | 55,249 | 281.5 | 77.8 | 203.7 | 23.6 | 18.1 |
| 1970 | 112.3 | 54,836 | 275.5 | 94.4 | 181.1 | 22.3 | 18.7 |
| 1971 | 114.2 | 64,015 | 279.1 | 83.3 | 195.8 | 29.2 | 20.3 |
| 1972 | 119.1 | 67,921 | 289.1 | 92.2 | 196.9 | 26.7 | 22.0 |

1/ Production figures exclude approximately 10 million pounds produced but not marketed.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 12.--Asparagus, fresh: U.S. production, by principal States and by use, 5-year averages 1945-69

(In millions of pounds)

| Average for 5-year period-- | California | Washington and Oregon 1/ | New Jersey | Michigan | Illinois | Other States | Total | United States |
|---|---|---|---|---|---|---|---|---|
| | Production 2/ | | | | | | | |
| 1945-49 | 161.5 | 37.2 | 66.9 | 12.6 | 20.4 | 21.7 | 121.6 | 320.3 |
| 1950-54 | 158.4 | 33.9 | 70.1 | 14.3 | 15.8 | 19.6 | 119.8 | 312.1 |
| 1955-59 | 186.8 | 39.8 | 74.8 | 15.8 | 15.8 | 24.2 | 130.6 | 357.2 |
| 1960-64 | 195.3 | 47.2 | 70.1 | 16.4 | 16.8 | 23.2 | 126.5 | 369.0 |
| 1965-69 | 146.8 | 52.6 | 54.1 | 18.7 | 16.3 | 24.7 | 113.8 | 313.3 |
| | Fresh market use | | | | | | | |
| 1945-49 | 53.5 | 19.8 | 28.8 | 2.4 | 3.4 | 15.0 | 49.6 | 122.9 |
| 1950-54 | 54.5 | 11.1 | 28.7 | 2.1 | 2.7 | 11.2 | 44.7 | 110.3 |
| 1955-59 | 62.4 | 12.0 | 32.9 | 2.1 | 3.1 | 8.3 | 46.4 | 120.8 |
| 1960-64 | 60.2 | 10.0 | 27.7 | 1.4 | 2.8 | 6.1 | 38.0 | 108.2 |
| 1965-69 | 55.2 | 8.7 | 17.2 | 1.5 | 1.1 | 4.5 | 24.2 | 88.1 |
| | Processing use | | | | | | | |
| 1945-49 | 108.0 | 17.4 | 38.1 | 10.2 | 17.0 | 6.7 | 72.0 | 197.4 |
| 1950-54 | 103.9 | 22.9 | 41.4 | 12.2 | 13.0 | 8.4 | 75.0 | 201.8 |
| 1955-59 | 124.4 | 27.7 | 41.9 | 13.7 | 12.7 | 15.9 | 84.2 | 236.3 |
| 1960-64 | 135.0 | 37.2 | 42.4 | 15.0 | 14.0 | 17.2 | 88.6 | 260.8 |
| 1965-69 | 91.7 | 43.9 | 36.9 | 17.3 | 15.2 | 20.2 | 89.6 | 225.1 |

1/ More than 90 percent of the crop is produced in Washington.
2/ Excludes, for some years (1965, 1966, and 1969), quantities produced but not marketed.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 13.--Asparagus, fresh: U.S. production, by principal States and by use, 1960-72

(In millions of pounds)

| Year | California | Washington and Oregon 1/ | New Jersey | Michigan | Illinois | Other States 2/ | Total | United States |
|---|---|---|---|---|---|---|---|---|
| | Production 3/ | | | | | | | |
| 1960 | 191.1 | 44.9 | 79.8 | 18.7 | 17.1 | 24.6 | 140.2 | 376.2 |
| 1961 | 198.0 | 47.1 | 68.5 | 16.2 | 16.2 | 23.2 | 124.1 | 369.2 |
| 1962 | 199.8 | 51.2 | 65.8 | 16.2 | 16.3 | 22.8 | 121.1 | 372.1 |
| 1963 | 204.3 | 45.2 | 71.2 | 14.3 | 17.3 | 23.3 | 126.1 | 375.6 |
| 1964 | 183.1 | 47.9 | 65.3 | 16.5 | 17.2 | 22.3 | 121.3 | 352.3 |
| 1965 | 153.7 | 52.6 | 60.0 | 19.0 | 18.4 | 24.3 | 121.7 | 328.0 |
| 1966 | 160.9 | 52.6 | 60.0 | 17.1 | 16.0 | 25.3 | 118.4 | 331.9 |
| 1967 | 140.6 | 48.3 | 55.0 | 19.6 | 16.8 | 24.5 | 115.9 | 304.8 |
| 1968 | 149.4 | 56.1 | 55.3 | 17.6 | 15.8 | 26.0 | 114.7 | 320.2 |
| 1969 | 129.6 | 53.5 | 40.3 | 20.4 | 14.4 | 23.3 | 98.4 | 281.5 |
| 1970 | 133.0 | 53.8 | 32.6 | 19.8 | 16.3 | 20.0 | 88.7 | 275.5 |
| 1971 | 137.6 | 65.9 | 23.8 | 18.9 | 12.4 | 20.5 | 75.6 | 279.1 |
| 1972 | 155.4 | 61.3 | 17.9 | 21.8 | 14.1 | 18.6 | 72.4 | 289.1 |
| | Fresh market use | | | | | | | |
| 1960 | 63.1 | 10.9 | 35.8 | 1.7 | 3.9 | 7.6 | 49.0 | 123.0 |
| 1961 | 60.4 | 11.8 | 26.9 | 1.1 | 3.2 | 6.4 | 37.6 | 109.8 |
| 1962 | 57.8 | 11.6 | 25.1 | 1.4 | 2.9 | 5.5 | 34.9 | 104.3 |
| 1963 | 61.4 | 7.3 | 26.4 | 1.2 | 2.0 | 5.4 | 35.0 | 103.7 |
| 1964 | 58.5 | 8.5 | 24.3 | 1.4 | 1.9 | 5.4 | 33.0 | 100.0 |
| 1965 | 63.7 | 10.1 | 22.1 | 1.4 | 1.3 | 5.4 | 30.2 | 104.0 |
| 1966 | 46.1 | 11.5 | 19.9 | 1.4 | 1.2 | 4.6 | 27.1 | 84.7 |
| 1967 | 52.6 | 6.5 | 19.1 | 1.6 | 1.0 | 4.2 | 25.9 | 85.0 |
| 1968 | 59.8 | 8.6 | 14.8 | 1.5 | .8 | 3.7 | 20.8 | 89.2 |
| 1969 | 53.6 | 7.0 | 10.2 | 1.4 | 1.1 | 4.5 | 17.2 | 77.8 |
| 1970 | 67.9 | 8.1 | 12.6 | 1.6 | 1.0 | 3.2 | 18.4 | 94.4 |
| 1971 | 59.5 | 8.6 | 10.2 | 1.1 | .9 | 3.0 | 15.2 | 83.3 |
| 1972 | 70.4 | 7.1 | 9.2 | 1.5 | 1.0 | 3.0 | 14.7 | 92.2 |

See footnotes at end of table.

Table 13.--Asparagus, fresh: U.S. production, by principal States and by use, 1960-72--Continued

(In millions of pounds)

| Year | California | Washington and Oregon 1/ | New Jersey | Michigan | Illinois | Other States 2/ | Total | United States |
|---|---|---|---|---|---|---|---|---|
| | Processing use | | | | | | | |
| 1960 | 128.0 | 34.0 | 44.0 | 17.0 | 13.2 | 17.0 | 91.2 | 253.2 |
| 1961 | 137.6 | 35.3 | 41.6 | 15.1 | 13.0 | 16.8 | 86.5 | 259.4 |
| 1962 | 142.0 | 39.6 | 40.7 | 14.8 | 13.4 | 17.3 | 86.2 | 267.8 |
| 1963 | 142.9 | 37.9 | 44.8 | 13.1 | 15.3 | 17.9 | 91.1 | 271.9 |
| 1964 | 124.6 | 39.4 | 41.0 | 15.1 | 15.3 | 16.9 | 88.3 | 252.3 |
| 1965 | 90.0 | 42.5 | 37.9 | 17.6 | 17.1 | 18.9 | 91.5 | 224.0 |
| 1966 | 114.8 | 41.1 | 40.1 | 15.7 | 14.8 | 20.7 | 91.3 | 247.2 |
| 1967 | 88.0 | 41.8 | 35.9 | 18.0 | 15.8 | 20.3 | 90.0 | 219.8 |
| 1968 | 89.6 | 47.5 | 40.5 | 16.1 | 15.0 | 22.3 | 93.9 | 231.0 |
| 1969 | 76.0 | 46.5 | 30.1 | 19.0 | 13.3 | 18.8 | 81.2 | 203.7 |
| 1970 | 65.1 | 45.7 | 20.0 | 18.2 | 15.3 | 16.8 | 70.3 | 181.1 |
| 1971 | 78.1 | 57.3 | 13.6 | 17.8 | 11.5 | 17.5 | 60.4 | 195.8 |
| 1972 | 85.0 | 54.2 | 8.7 | 20.3 | 13.1 | 15.6 | 57.7 | 196.9 |

1/ More than 90 percent of the crop is produced in Washington.

2/ For fresh market includes Massachusetts, Pennsylvania, Ohio, and Iowa, and for processing includes Maryland, Delaware, Virginia, Indiana, Minnesota, Iowa, Missouri, and Arkansas.

3/ Excludes, for some years (1965, 1966, and 1969), quantities produced but not marketed.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 14.--Asparagus, fresh: California acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-69, annual 1965-72

| Period | Acreage harvested | Production | | Utilization | | Average return to growers | |
|---|---|---|---|---|---|---|---|
| | | Value | Quantity | Fresh market | Processing | Fresh market | Processing |
| | 1,000 acres | 1,000 dollars | Million pounds | Million pounds | Million pounds | Cents per pound | Cents per pound |
| 5-year average: | | | | | | | |
| 1945-49 | 65.1 | 15,791 | 161.5 | 53.5 | 108.0 | 12.4 | 8.5 |
| 1950-54 | 70.7 | 18,002 | 158.4 | 54.5 | 103.9 | 13.2 | 10.4 |
| 1955-59 | 76.6 | 21,682 | 186.8 | 62.4 | 124.4 | 14.5 | 10.1 |
| 1960-64 | 67.5 | 25,656 | 195.3 | 60.2 | 135.0 | 15.6 | 12.1 |
| 1965-69 | 49.7 | 27,024 | 146.8 | 55.2 | 91.7 | 20.8 | 17.1 |
| Annual: | | | | | | | |
| 1965 1/ | 54.9 | 24,037 | 153.7 | 63.7 | 90.0 | 16.4 | 15.1 |
| 1966 1/ | 51.9 | 29,896 | 160.9 | 46.1 | 114.8 | 20.4 | 17.9 |
| 1967 | 50.2 | 26,146 | 140.6 | 52.6 | 88.0 | 21.6 | 16.8 |
| 1968 | 46.7 | 28,627 | 149.4 | 59.8 | 89.6 | 21.5 | 17.6 |
| 1969 | 44.7 | 26,414 | 129.6 | 53.6 | 76.0 | 23.9 | 17.9 |
| 1970 | 42.9 | 26,775 | 133.0 | 67.9 | 65.1 | 21.6 | 18.6 |
| 1971 | 43.0 | 33,452 | 137.6 | 59.5 | 78.1 | 30.1 | 19.9 |
| 1972 | 45.7 | 36,620 | 155.4 | 70.4 | 85.0 | 26.3 | 21.3 |

1/ Production figures exclude approximately 10 million pounds produced but not marketed.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 15.--Asparagus, fresh: Washington acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-69, annual 1965-72

| Period | Acreage harvested | Production | | Utilization | | Average return to growers | |
|---|---|---|---|---|---|---|---|
| | | Value | Quantity | Fresh market | Processing | Fresh market | Processing |
| | 1,000 acres | 1,000 dollars | Million pounds | Million pounds | Million pounds | Cents per pound | Cents per pound |
| 5-year average: | | | | | | | |
| 1945-49 | 9.5 | 3,079 | 36.0 | 18.8 | 17.2 | 8.8 | 8.3 |
| 1950-54 | 10.7 | 3,318 | 32.8 | 10.6 | 22.2 | 10.1 | 10.1 |
| 1955-59 | 13.9 | 3,859 | 38.4 | 11.6 | 26.8 | 10.2 | 10.0 |
| 1960-64 | 15.3 | 5,417 | 43.6 | 9.1 | 34.5 | 13.2 | 12.2 |
| 1965-69 | 16.6 | 8,018 | 49.3 | 8.6 | 40.7 | 20.0 | 15.5 |
| Annual: | | | | | | | |
| 1965 | 15.2 | 6,722 | 48.6 | 9.6 | 39.0 | 16.8 | 13.1 |
| 1966 | 16.5 | 7,847 | 49.5 | 11.5 | 38.0 | 19.0 | 14.9 |
| 1967 | 16.7 | 7,271 | 45.1 | 6.5 | 38.6 | 20.1 | 15.5 |
| 1968 | 17.1 | 9,170 | 53.0 | 8.6 | 44.4 | 21.7 | 16.5 |
| 1969 | 17.4 | 9,079 | 50.5 | 7.0 | 43.5 | 22.5 | 17.3 |
| 1970 | 17.7 | 9,634 | 51.3 | 8.1 | 43.2 | 24.0 | 17.8 |
| 1971 | 19.0 | 13,160 | 62.7 | 8.6 | 54.1 | 26.9 | 20.1 |
| 1972 | 21.7 | 12,803 | 58.6 | 7.1 | 51.5 | 28.0 | 21.0 |

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 16.--Asparagus, fresh: New Jersey acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-69, annual 1965-72

| Period | Acreage harvested | Production | | Utilization | | Average return to growers | |
|---|---|---|---|---|---|---|---|
| | | Value | Quantity | Fresh market | Processing | Fresh market | Processing |
| | 1,000 acres | 1,000 dollars | Million pounds | Million pounds | Million pounds | Cents per pound | Cents per pound |
| 5-year average: | | | | | | | |
| 1945-49 | 22.4 | 7,311 | 66.9 | 28.8 | 38.1 | 13.0 | 9.4 |
| 1950-54 | 27.4 | 8,854 | 70.1 | 28.7 | 41.4 | 13.2 | 12.3 |
| 1955-59 | 32.2 | 8,770 | 74.8 | 32.9 | 41.9 | 12.4 | 11.2 |
| 1960-64 | 29.2 | 8,750 | 70.1 | 27.7 | 42.6 | 14.1 | 11.9 |
| 1965-69 | 22.3 | 9,574 | 54.1 | 17.2 | 36.9 | 19.9 | 17.0 |
| Annual: | | | | | | | |
| 1965 | 25.0 | 8,833 | 60.0 | 22.1 | 37.9 | 15.1 | 14.5 |
| 1966 | 24.0 | 10,537 | 60.0 | 19.9 | 40.1 | 19.7 | 16.5 |
| 1967 | 22.9 | 10,047 | 55.0 | 19.1 | 35.9 | 19.8 | 17.5 |
| 1968 | 22.1 | 10,711 | 55.3 | 14.8 | 40.5 | 22.7 | 18.2 |
| 1969 1/ | 17.5 | 7,742 | 40.3 | 10.2 | 30.1 | 22.2 | 18.2 |
| 1970 | 16.3 | 7,230 | 32.6 | 12.6 | 20.0 | 22.7 | 21.9 |
| 1971 | 14.9 | 5,770 | 23.8 | 10.2 | 13.6 | 26.5 | 22.6 |
| 1972 | 13.8 | 4,572 | 17.9 | 9.2 | 8.7 | 27.8 | 23.2 |

1/ Production figures exclude 4.4 million pounds produced but not marketed.

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 17.--Asparagus, fresh: Michigan acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-69, annual 1965-72

| Period | Acreage harvested | Production | | Utilization | | Average return to growers | |
|---|---|---|---|---|---|---|---|
| | | Value | Quantity | Fresh market | Processing | Fresh market | Processing |
| | 1,000 acres | 1,000 dollars | Million pounds | Million pounds | Million pounds | Cents per pound | Cents per pound |
| 5-year average: | | | | | | | |
| 1945-49 | 4.1 | 1,145 | 12.6 | 2.4 | 10.2 | 13.7 | 8.0 |
| 1950-54 | 7.5 | 1,883 | 14.3 | 2.1 | 12.2 | 15.4 | 12.8 |
| 1955-59 | 9.7 | 2,020 | 15.8 | 2.1 | 13.7 | 15.8 | 12.5 |
| 1960-64 | 11.0 | 2,326 | 16.4 | 1.4 | 15.0 | 15.7 | 14.0 |
| 1965-69 | 11.6 | 3,511 | 18.7 | 1.5 | 17.3 | 20.2 | 18.6 |
| Annual: | | | | | | | |
| 1965 | 11.2 | 3,107 | 19.0 | 1.4 | 17.6 | 18.3 | 16.2 |
| 1966 | 11.4 | 2,852 | 17.1 | 1.4 | 15.7 | 21.5 | 16.3 |
| 1967 | 11.5 | 3,689 | 19.6 | 1.6 | 18.0 | 20.2 | 18.7 |
| 1968 | 11.7 | 3,625 | 17.6 | 1.5 | 16.1 | 20.5 | 20.6 |
| 1969 | 12.0 | 4,284 | 20.4 | 1.4 | 19.0 | 21.0 | 21.0 |
| 1970 | 12.4 | 4,164 | 19.8 | 1.6 | 18.2 | 24.8 | 20.7 |
| 1971 | 13.5 | 4,570 | 18.9 | 1.1 | 17.8 | 27.1 | 24.0 |
| 1972 | 14.5 | 5,892 | 21.8 | 1.5 | 20.3 | 28.7 | 26.9 |

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 18.--Asparagus, fresh: Illinois acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-69, annual 1965-72

| Period | Acreage harvested | Production | | Utilization | | Average return to growers | |
|---|---|---|---|---|---|---|---|
| | | Value | Quantity | Fresh market | Processing | Fresh market | Processing |
| | 1,000 acres | 1,000 dollars | Million pounds | Million pounds | Million pounds | Cents per pound | Cents per pound |
| 5-year average: | | | | | | | |
| 1945-49 | 7.9 | 1,868 | 20.4 | 3.4 | 17.0 | 13.3 | 8.3 |
| 1950-54 | 8.2 | 1,778 | 15.8 | 2.7 | 13.0 | 16.6 | 10.2 |
| 1955-59 | 9.5 | 1,775 | 15.8 | 3.1 | 12.7 | 13.8 | 10.6 |
| 1960-64 | 10.4 | 1,929 | 16.8 | 2.8 | 14.0 | 16.6 | 10.4 |
| 1965-69 | 9.6 | 2,311 | 16.3 | 1.1 | 15.2 | 22.4 | 13.8 |
| Annual: | | | | | | | |
| 1965 | 10.2 | 2,149 | 18.4 | 1.3 | 17.1 | 18.6 | 11.2 |
| 1966 | 10.0 | 2,076 | 16.0 | 1.2 | 14.8 | 20.1 | 12.4 |
| 1967 | 9.9 | 2,302 | 16.8 | 1.0 | 15.8 | 21.6 | 13.2 |
| 1968 | 8.8 | 2,497 | 15.8 | .8 | 15.0 | 25.3 | 15.3 |
| 1969 | 9.0 | 2,531 | 14.4 | 1.1 | 13.3 | 26.4 | 16.9 |
| 1970 | 9.6 | 2,622 | 16.3 | 1.0 | 15.3 | 28.9 | 15.2 |
| 1971 | 9.5 | 2,100 | 12.4 | .9 | 11.5 | 28.9 | 16.0 |
| 1972 | 9.4 | 3,241 | 14.1 | 1.0 | 13.1 | 31.3 | 22.4 |

Source: Compiled from official statistics of the U.S. Department of Agriculture.

Table 19.--Asparagus, canned: U.S. exports, by principal markets, 5-year averages 1960-69, annual 1968-72

| Market | Average 1960-64 | Average 1965-69 | 1968 | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|---|---|---|
| | Quantity (1,000 pounds) | | | | | | |
| Denmark | 1,178 | 1,358 | 1,480 | 1,333 | 1,374 | 1,230 | 891 |
| United Kingdom | 2,221 | 1,390 | 938 | 639 | 756 | 900 | 1,087 |
| Sweden | 3,104 | 2,273 | 1,704 | 1,855 | 1,294 | 538 | 299 |
| Norway | 1,002 | 756 | 506 | 467 | 204 | 175 | 75 |
| West Germany | 31,772 | 10,076 | 5,235 | 2,138 | 635 | 285 | 211 |
| Belgium | 3,083 | 1,742 | 1,247 | 1,394 | 913 | 154 | 168 |
| Switzerland | 4,879 | 1,749 | 1,118 | 989 | 280 | 82 | 30 |
| France | 256 | 560 | 251 | 140 | 112 | 13 | 17 |
| All other | 9,222 | 4,396 | 3,204 | 2,520 | 1,918 | 1,107 | 1,044 |
| Total | 56,727 | 24,300 | 15,683 | 11,475 | 7,486 | 4,484 | 3,822 |
| | Value (1,000 dollars) | | | | | | |
| Denmark | 195 | 353 | 355 | 376 | 309 | 319 | 237 |
| United Kingdom | 745 | 561 | 395 | 240 | 348 | 420 | 277 |
| Sweden | 800 | 742 | 587 | 626 | 445 | 174 | 121 |
| Norway | 256 | 276 | 193 | 175 | 70 | 63 | 38 |
| West Germany | 6,075 | 2,017 | 786 | 293 | 117 | 28 | 25 |
| Belgium | 733 | 491 | 366 | 285 | 232 | 64 | 27 |
| Switzerland | 1,556 | 757 | 561 | 427 | 118 | 39 | 16 |
| France | 80 | 202 | 86 | 55 | 42 | 6 | 8 |
| All other | 2,535 | 1,606 | 1,144 | 962 | 740 | 494 | 498 |
| Total | 12,975 | 7,005 | 4,473 | 3,439 | 2,421 | 1,607 | 1,247 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 20.--Asparagus, fresh and frozen: U.S. imports, by principal sources, 1961-72

(In thousands of pounds)

| Year | Mexico | Taiwan | Japan | Australia | Chile | Other | Total |
|---|---|---|---|---|---|---|---|
| | Fresh asparagus | | | | | | |
| 1961 | 1,137 | - | - | - | - | - | 1,137 |
| 1962 | 1,537 | - | - | - | - | - | 1,537 |
| 1963 | 1,862 | - | 15 | - | - | - | 1,877 |
| 1964 | 1,330 | - | 79 | - | 1/ | - | 1,409 |
| 1965 | 699 | 11 | 39 | - | - | 1/ | 749 |
| 1966 | 2,346 | - | 59 | - | - | 1 | 2,406 |
| 1967 | 1,982 | 1/ | - | - | - | 1 | 1,983 |
| 1968 | 2,106 | - | - | - | - | 1/ | 2,106 |
| 1969 | 3,756 | - | 1/ | - | - | 1/ | 3,756 |
| 1970 | 5,002 | - | - | - | 6 | - | 5,008 |
| 1971 | 6,179 | - | - | - | - | - | 6,179 |
| 1972 | 8,217 | 5 | - | - | - | 1 | 8,223 |
| | Frozen asparagus 2/ | | | | | | |
| 1969 | 126 | 1/ | - | - | - | - | 126 |
| 1970 | 382 | - | - | 97 | - | - | 479 |
| 1971 | 873 | 527 | 1/ | 211 | - | - | 1,611 |
| 1972 | 1,654 | 1,433 | 1 | - | - | - | 3,088 |

1/ Less than 500 pounds.
2/ No imports of frozen asparagus were reported prior to 1969.

Source: Imports of fresh asparagus estimated by the U.S. Tariff Commission on a calendar-year basis from fiscal year (July 1-June 30) data supplied by the U.S. Department of Agriculture. Imports of frozen asparagus estimated from data supplied by the U.S. Department of Agriculture and the U.S. Department of Commerce.

Table 21.--Asparagus, fresh and frozen: U.S. imports, by months, 1969-72

(In thousands of pounds)

| Month | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|
| | Fresh asparagus | | | |
| January | 209 | 184 | 127 | 215 |
| February | 795 | 872 | 1,954 | 1,399 |
| March | 1,488 | 2,432 | 2,799 | 4,552 |
| April | 761 | 1,099 | 505 | 627 |
| May | 140 | 98 | - | 73 |
| June | 1/ | - | - | - |
| July | - | - | - | - |
| August | - | - | 1/ | 163 |
| September | - | 18 | 211 | 549 |
| October | 240 | 255 | 391 | 531 |
| November | 115 | 45 | 164 | 114 |
| December | 8 | 5 | 28 | - |
| Total | 3,756 | 5,008 | 6,179 | 8,223 |
| | Frozen asparagus | | | |
| January | - | 36 | 301 | 220 |
| February | - | - | - | 383 |
| March | - | - | 58 | 42 |
| April | 27 | 134 | 253 | 424 |
| May | 99 | 98 | 190 | 430 |
| June | - | 39 | 64 | 224 |
| July | - | - | 14 | 25 |
| August | - | 42 | 96 | 787 |
| September | - | - | 212 | 382 |
| October | - | 33 | 159 | 69 |
| November | - | 97 | 145 | 43 |
| December | - | - | 119 | 59 |
| Total | 126 | 479 | 1,611 | 3,088 |

1/ Less than 500 pounds.

Source: Compiled by the Tariff Commission from data supplied by the U.S. Department of Agriculture and the U.S. Department of Commerce.

Table 22.--Asparagus, fresh and frozen: U.S. imports, by ports of entry, 1969-72

(In thousands of pounds)

| Port of entry | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|
| | Fresh asparagus | | | |
| Calexico, Calif | 3,111 | 3,820 | 4,801 | 6,199 |
| Nogales, Ariz | 290 | 942 | 606 | 667 |
| Hidalgo, Tex | 355 | 232 | 772 | 1,351 |
| Other | 1/ | 14 | 1/ | 6 |
| Total | 3,756 | 5,008 | 6,179 | 8,223 |
| | Frozen asparagus | | | |
| Laredo, Tex | 126 | 382 | 818 | 1,360 |
| Brownsville, Tex | - | - | 54 | 294 |
| New York, N.Y | - | - | 218 | 345 |
| Boston, Mass | - | - | 103 | - |
| San Francisco, Calif | - | 97 | 359 | 1,065 |
| Los Angeles, Calif | - | - | 53 | 24 |
| Other | 1/ | - | 6 | - |
| Total | 126 | 479 | 1,611 | 3,088 |

1/ Less than 500 pounds.

Source: Compiled by the Tariff Commission from data supplied by the U.S. Department of Agriculture and the U.S. Department of Commerce.

Table 23.--Asparagus, canned: U.S. imports for consumption, by principal sources, 1969-72

| Source | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|
| | Quantity (1,000 pounds) | | | |
| Taiwan | 1,257 | 2,217 | 3,321 | 5,204 |
| Mexico | - | 156 | 1,923 | 3,830 |
| Japan | 120 | 81 | 61 | 32 |
| Spain | 44 | 23 | 26 | 106 |
| France | 40 | 22 | 21 | 42 |
| West Germany | 16 | 16 | 16 | 16 |
| Belgium | 3 | 3 | 7 | 23 |
| Other | 2 | 1 | 1/ | 2/ 110 |
| Total | 1,483 | 2,520 | 5,375 | 9,363 |
| | Value (1,000 dollars) | | | |
| Taiwan | 396 | 676 | 874 | 1,517 |
| Mexico | - | 39 | 610 | 1,135 |
| Japan | 45 | 39 | 22 | 20 |
| Spain | 10 | 7 | 13 | 31 |
| France | 27 | 15 | 15 | 33 |
| West Germany | 13 | 14 | 18 | 20 |
| Belgium | 3 | 3 | 7 | 9 |
| Other | 1 | 1 | 1 | 2/ 29 |
| Total | 496 | 794 | 1,560 | 2,794 |
| | Average unit value (cents per pound) | | | |
| Taiwan | 31.5 | 30.5 | 26.3 | 29.1 |
| Mexico | - | 24.8 | 31.7 | 29.6 |
| Japan | 37.8 | 48.1 | 35.5 | 62.9 |
| Spain | 22.7 | 30.4 | 50.0 | 29.1 |
| France | 66.4 | 68.0 | 72.0 | 79.8 |
| West Germany | 84.6 | 86.5 | 115.0 | 124.4 |
| Belgium | 95.8 | 98.3 | 106.7 | 40.3 |
| Other | 41.9 | 108.9 | 66.8 | 2/ 26.4 |
| Average | 33.4 | 31.5 | 29.0 | 29.8 |

1/ Less than 500 pounds.
2/ Includes 82 thousand pounds, valued at 19 thousand dollars (23.0 cents per pound), from the Korean Republic.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 24.--Asparagus, canned: U.S. imports for consumption, aggregate and from Taiwan and Mexico, by months, 1969-72

(In thousands of pounds)

| Source and month | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|
| Aggregate: | | | | |
| January | 26 | 95 | 395 | 481 |
| February | 66 | 45 | 98 | 333 |
| March | 15 | 46 | 245 | 346 |
| April | 25 | 54 | 793 | 2,041 |
| May | 10 | 70 | 774 | 1,617 |
| June | 96 | 248 | 565 | 914 |
| July | 129 | 217 | 240 | 650 |
| August | 294 | 348 | 695 | 667 |
| September | 365 | 350 | 318 | 877 |
| October | 149 | 285 | 330 | 587 |
| November | 165 | 299 | 292 | 440 |
| December | 143 | 463 | 630 | 410 |
| Total | 1,483 | 2,520 | 5,375 | 9,363 |
| From Taiwan: | | | | |
| January | 26 | 74 | 344 | 466 |
| February | 59 | 36 | 89 | 230 |
| March | 14 | 40 | 238 | 331 |
| April | 14 | 51 | 152 | 408 |
| May | - | 17 | 246 | 386 |
| June | 79 | 158 | 270 | 307 |
| July | 111 | 216 | 133 | 235 |
| August | 238 | 337 | 362 | 656 |
| September | 323 | 341 | 290 | 803 |
| October | 116 | 234 | 296 | 579 |
| November | 149 | 264 | 289 | 397 |
| December | 128 | 449 | 612 | 406 |
| Total | 1,257 | 2,217 | 3,321 | 5,204 |
| From Mexico: | | | | |
| January | - | - | 39 | - |
| February | - | - | - | - |
| March | - | - | - | - |
| April | - | - | 641 | 1,604 |
| May | - | 40 | 523 | 1,231 |
| June | - | 75 | 288 | 588 |
| July | - | - | 102 | 407 |
| August | - | - | 298 | - |
| September | - | - | - | - |
| October | - | 41 | 32 | - |
| November | - | - | - | - |
| December | - | - | - | - |
| Total | - | 156 | 1,923 | 3,830 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 25.--Asparagus, canned: U.S. imports for consumption from Taiwan and from Mexico, by principal customs districts, 1969-72

(In thousands of pounds)

| Source and customs district | 1969 | 1970 | 1971 | 1972 |
|---|---|---|---|---|
| Aggregate: | | | | |
| New York, N.Y | 564 | 888 | 1,541 | 1,566 |
| San Diego, Calif | 2 | 75 | 625 | 1,672 |
| Laredo, Tex | - | 81 | 781 | 1,309 |
| San Francisco, Calif | 373 | 462 | 422 | 854 |
| Los Angeles, Calif | 227 | 470 | 383 | 853 |
| El Paso, Tex | - | - | 460 | 768 |
| Miami, Fl | 46 | 131 | 261 | 485 |
| San Juan, P.R | 6 | 17 | 176 | 270 |
| Honolulu, Hawaii | 46 | 78 | 88 | 269 |
| Baltimore, Md | 18 | 43 | 101 | 298 |
| Other | 201 | 275 | 537 | 1,019 |
| Total | 1,483 | 2,520 | 5,375 | 9,363 |
| From Taiwan: | | | | |
| New York, N.Y | 413 | 798 | 1,461 | 1,379 |
| San Francisco, Calif | 361 | 448 | 410 | 829 |
| Los Angeles, Calif | 224 | 460 | 383 | 851 |
| Miami, Fl | 45 | 125 | 260 | 485 |
| San Juan, P.R | 5 | 12 | 101 | 176 |
| Honolulu, Hawaii | 43 | 77 | 82 | 248 |
| Baltimore, Md | 18 | 43 | 101 | 298 |
| Other | 148 | 254 | 523 | 938 |
| Total | 1,257 | 2,217 | 3,321 | 5,204 |
| From Mexico: | | | | |
| San Diego, Calif | - | 75 | 613 | 1,669 |
| Laredo, Tex | - | 81 | 781 | 1,309 |
| El Paso, Tex | - | - | 460 | 768 |
| San Juan, P.R | - | - | 69 | 84 |
| Total | - | 156 | 1,923 | 3,830 |

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 26.--Indexes of U.S. wholesale prices for canned asparagus and other selected items, 1960-72

(1967=100)

| Year | All food | All processed fruits and vegetables | Canned vegetables and juices | Canned asparagus 1/ |
|---|---|---|---|---|
| 1960 | 92.1 | 92.8 | 82.0 | 82.4 |
| 1961 | 92.1 | 94.9 | 85.6 | 83.7 |
| 1962 | 92.6 | 91.4 | 83.3 | 84.3 |
| 1963 | 92.4 | 96.9 | 80.3 | 85.7 |
| 1964 | 92.8 | 97.8 | 80.5 | 83.6 |
| 1965 | 96.2 | 95.2 | 86.2 | 85.7 |
| 1966 | 101.9 | 97.8 | 92.2 | 91.4 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 103.4 | 106.5 | 101.3 | 105.8 |
| 1969 | 109.7 | 107.9 | 100.5 | 106.7 |
| 1970 | 113.5 | 110.4 | 105.0 | 110.8 |
| 1971 | 115.5 | 114.3 | 107.8 | 124.4 |
| 1972 | 121.8 | 119.6 | 110.7 | 135.7 |

1/ The specification for canned asparagus is "Asparagus, all green, cut spears, mixed sizes, fancy, No. 300 can; canner to wholesaler or chain store, f.o.b. cannery."

Source: Compiled from official statistics of the U.S. Bureau of Labor Statistics.

Table 27.--Indexes of U.S. consumer prices for fresh asparagus and other selected items, 1960-72

(1967=100)

| Year | All food | All fruits and vegetables | All processed fruits and vegetables | All fresh fruits and vegetables | Fresh asparagus 1/ |
|---|---|---|---|---|---|
| 1960 | 88.0 | 88.3 | 92.9 | 84.6 | 2/ |
| 1961 | 89.1 | 88.7 | 96.7 | 83.3 | 2/ |
| 1962 | 89.9 | 89.4 | 94.0 | 85.5 | 2/ |
| 1963 | 91.2 | 94.5 | 99.2 | 90.6 | 2/ |
| 1964 | 92.4 | 98.1 | 101.5 | 95.9 | 74.9 |
| 1965 | 94.4 | 98.0 | 98.3 | 97.9 | 89.1 |
| 1966 | 99.1 | 100.1 | 100.6 | 99.7 | 103.7 |
| 1967 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1968 | 103.6 | 107.9 | 105.6 | 109.4 | 109.3 |
| 1969 | 108.9 | 109.3 | 106.5 | 111.1 | 121.7 |
| 1970 | 114.9 | 113.4 | 109.2 | 116.3 | 122.9 |
| 1971 | 118.4 | 119.1 | 116.2 | 121.0 | 131.0 |
| 1972 | 123.5 | 125.0 | 120.5 | 128.0 | 141.8 |

1/ Priced only in season (March-July).
2/ Not available.

Source: Compiled from official statistics of the U.S. Bureau of Labor Statistics.

Table 28.--Asparagus: Prices received by California growers from processors, by type of asparagus, 1965-72

(In cents per pound)

| Year | White asparagus | Green asparagus | |
|---|---|---|---|
| | | 7-inch cut, 4 1/2 inches green | 9-inch cut |
| 1965 | 16.5 | 14.5 | 11.5 |
| 1966 | 20.5 | 16.0 | 13.0 |
| 1967 | 18.5 | 17.0 | 13.5 |
| 1968 | 18.0 | 17.8 | 14.0 |
| 1969 | 18.0 | 17.0 | 14.5 |
| 1970 | 20.5 | 19.0 | 14.8 |
| 1971 | 23.0 | 21.5 | 16.5 |
| 1972 | 23.0 | 23.0 | 18.0 |

Source: The California Asparagus Growers' Association.

Table 29.--Asparagus, canned: Average wholesale price quotations by U.S. canners, by type of pack and location of canner, by months, 1968-72 1/

(Price per case)

| Type of pack, area, and year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Green tipped and white spears: | | | | | | | | | | | | |
| California: | | | | | | | | | | | | |
| 24/300-Mammoth/Large: | | | | | | | | | | | | |
| 1968 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 | $10.25 |
| 1969 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.50 | 10.50 | 10.50 | 10.50 |
| 1970 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.90 | 10.90 | 11.30 | 11.30 | 11.55 | 11.55 | 11.55 |
| 1971 | 11.55 | 11.55 | 11.55 | 11.80 | 12.15 | 12.50 | 12.50 | 12.50 | 12.50 | 12.50 | 12.50 | 12.50 |
| 1972 | 12.50 | 12.50 | 12.50 | 12.50 | - | - | 13.25 | 13.25 | 13.55 | 13.55 | 13.55 | 13.55 |
| 48/Picnic-Mammoth/Large: | | | | | | | | | | | | |
| 1969 | - | - | - | - | - | - | - | - | 17.40 | 17.40 | 17.40 | 17.40 |
| 1970 | 17.40 | 17.40 | 17.40 | 17.40 | 17.40 | 18.00 | 18.00 | 18.50 | 18.80 | 18.80 | 18.80 | 18.80 |
| 1971 2/ | 18.80 | 18.80 | 18.80 | 19.10 | 19.60 | 20.10 | 20.10 | 20.10 | 21.00 | 21.00 | 21.00 | 21.00 |
| 1972 | 21.00 | 21.00 | 21.00 | 21.00 | - | - | 21.40 | 21.40 | 21.60 | 21.60 | 21.60 | 21.60 |
| 24/2T -Mammoth/Large: | | | | | | | | | | | | |
| 1969 | - | - | - | - | - | - | - | - | 13.75 | 13.75 | 13.75 | 13.75 |
| 1970 | 13.75 | 13.75 | 13.75 | 13.75 | 13.75 | 14.05 | 14.05 | 14.55 | 14.55 | 14.85 | 14.85 | 14.85 |
| 1971 | 14.85 | 14.85 | 14.85 | 15.15 | 15.90 | 16.40 | 16.40 | 16.40 | 16.40 | 16.40 | 16.40 | 16.40 |
| 1972 | 16.40 | 16.40 | 16.40 | 16.40 | - | - | 17.35 | 17.35 | 17.40 | 17.40 | 17.40 | 17.40 |
| 6/5 Squat-Mammoth/Large: | | | | | | | | | | | | |
| 1969 | - | - | - | - | - | - | - | - | 12.75 | 12.75 | 13.00 | 13.00 |
| 1970 | 13.00 | 13.00 | 13.00 | 13.00 | 13.00 | 13.20 | 13.20 | 13.70 | 14.00 | 14.00 | 14.00 | 14.00 |
| 1971 | 14.00 | 14.00 | 14.00 | 14.30 | 14.80 | 15.30 | 15.30 | 15.30 | 15.30 | 15.30 | 15.30 | 15.30 |
| 1972 | 15.30 | 15.30 | 15.30 | 15.30 | - | - | 16.00 | 16.00 | 16.30 | 16.30 | 16.30 | 16.30 |
| All green spears: | | | | | | | | | | | | |
| California: | | | | | | | | | | | | |
| 24/300-Mammoth/Large: | | | | | | | | | | | | |
| 1968 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 |
| 1969 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.10 | 10.40 | 10.40 | 10.40 | 10.40 |
| 1970 | 10.40 | 10.40 | 10.40 | 10.40 | 10.70 | 11.10 | 11.10 | 11.10 | 11.35 | 11.35 | 11.35 | 11.35 |
| 1971 | 11.35 | 11.35 | 11.35 | 11.60 | 11.95 | 12.30 | 12.30 | 12.30 | 12.30 | 12.30 | 12.30 | 12.30 |
| 1972 | 12.30 | 12.30 | 12.65 | 12.65 | 13.25 | 13.25 | 13.25 | 13.25 | 13.25 | 13.25 | 13.15 | 13.15 |

See footnotes at end of table.

Table 29.--Asparagus, canned: Average wholesale price quotations by U.S. canners, by type of pack and location of canner, by months, 1968-72 1/--Continued

(Price per case)

| Type of pack, area, and year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All green spears--Continued | | | | | | | | | | | | |
| California--Continued | | | | | | | | | | | | |
| 6/5 Squat - Mammoth/Large: | | | | | | | | | | | | |
| 1969 | - | - | - | - | - | - | - | - | $12.60 | $12.60 | $12.60 | $12.60 |
| 1970 | $12.60 | $12.60 | $12.60 | $12.60 | $12.90 | $13.40 | $13.40 | $13.40 | 13.70 | 13.70 | 13.70 | 13.70 |
| 1971 | 13.70 | 13.70 | 13.70 | 14.00 | 14.50 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 | 15.00 |
| 1972 | 15.00 | 15.00 | 15.50 | 15.50 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 | 16.00 |
| 48/Picnic - Mammoth/Large: | | | | | | | | | | | | |
| 1969 | - | - | - | - | - | - | - | - | 17.40 | 17.40 | 17.40 | 17.40 |
| 1970 | 17.40 | 17.40 | 17.40 | 17.40 | 17.80 | 18.30 | 18.30 | 18.30 | 18.60 | 18.60 | 18.60 | 18.60 |
| 1971 2/ | 18.60 | 18.60 | 18.60 | 18.90 | 19.40 | 19.90 | 19.90 | 19.90 | 19.90 | 19.90 | 19.90 | 19.90 |
| 1972 | 19.90 | 19.90 | 20.40 | 20.40 | 21.40 | 21.40 | 21.40 | 21.40 | 21.40 | 21.40 | 21.40 | 21.40 |
| 24/2T - Mammoth/Large: | | | | | | | | | | | | |
| 1969 | - | - | - | - | - | - | - | - | 13.55 | 13.55 | 13.55 | 13.55 |
| 1970 | 13.55 | 13.55 | 13.55 | 13.55 | 13.85 | 14.35 | 14.35 | 14.35 | 14.75 | 14.75 | 14.75 | 14.75 |
| 1971 | 14.75 | 14.75 | 14.75 | 15.05 | 15.95 | 16.45 | 16.45 | 16.45 | 16.45 | 16.45 | 16.45 | 16.45 |
| 1972 | 16.45 | 16.45 | 16.95 | 16.95 | 17.35 | 17.35 | 17.35 | 17.35 | 17.35 | 17.35 | 17.35 | 17.35 |
| East: | | | | | | | | | | | | |
| 24/300 Large: | | | | | | | | | | | | |
| 1968 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 9.80 | 10.20 | 10.20 |
| 1969 | 10.20 | 10.20 | 10.20 | 10.20 | 10.20 | 10.20 | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 |
| 1970 | 10.40 | 10.40 | 10.40 | 10.70 | 10.70 | 10.70 | 10.70 | 10.70 | 10.70 | 10.70 | 10.70 | 10.70 |
| 1971 | 10.70 | 10.70 | 10.70 | 10.70 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 |
| 1972 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 | 12.60 |
| All green cuts and tips: | | | | | | | | | | | | |
| East: | | | | | | | | | | | | |
| 6/10: | | | | | | | | | | | | |
| 1968 | 9.90 | 9.90 | 9.90 | 9.90 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 |
| 1969 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.50 | 10.75 | 10.75 | 10.75 | 10.75 | 10.75 | 10.75 |
| 1970 | 10.75 | 10.75 | 10.75 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 | 10.25 |
| 1971 | 10.25 | 10.25 | 10.25 | 10.25 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 |
| 1972 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 | 11.00 |

See footnotes at end of table.

Table 29.--Asparagus, canned: Average wholesale price quotations by U.S. processors, by type of pack and location of canner, by months, 1968-72 1/--Continued

(Price per case)

| Type of pack, area, and year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All green cuts and tips--Con. | | | | | | | | | | | | |
| East Continued | | | | | | | | | | | | |
| 24/300: | | | | | | | | | | | | |
| 1968 | $6.10 | $6.10 | $6.10 | $6.10 | $6.10 | $6.10 | $6.10 | $6.10 | $6.50 | $6.50 | $6.50 | $6.50 |
| 1969 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 | 6.75 |
| 1970 | 6.75 | 6.75 | 6.75 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 | 6.70 |
| 1971 | 6.70 | 6.70 | 6.70 | 6.70 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 |
| 1972 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 | 7.50 |
| Midwest: | | | | | | | | | | | | |
| 24/300: | | | | | | | | | | | | |
| 1968 | 6.00 | 6.25 | 6.25 | 6.25 | 6.25 | 6.00 | 6.00 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 |
| 1969 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.25 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| 1970 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 | 6.10 |
| 1971 | 6.10 | 6.10 | 6.10 | 6.10 | 7.00 | 7.00 | 7.10 | 7.10 | 7.10 | 7.10 | 7.10 | 7.10 |
| 1972 | 7.10 | 7.10 | 7.10 | 7.10 | 7.10 | 7.10 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| 48/8z: | | | | | | | | | | | | |
| 1968 | 8.20 | 8.20 | 8.20 | 8.20 | 8.20 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 | 8.50 |
| 1969 3/ | 8.50 | 8.50 | 8.65 | 8.65 | 8.65 | 8.65 | 8.65 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 |
| 1970 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 | 8.80 |
| 1971 | 8.80 | 8.80 | 8.80 | 8.80 | 10.50 | 10.50 | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 |
| 1972 | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 | 10.40 | 11.10 | 11.10 | 11.10 | 11.10 | 11.10 | 11.10 |
| 6/10: | | | | | | | | | | | | |
| 1968 | 9.85 | 9.85 | 9.85 | 9.85 | 9.10 | 9.35 | 9.50 | 9.50 | 9.50 | 9.50 | 9.50 | 9.50 |
| 1969 | 9.50 | 9.50 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| 1970 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| 1971 | 10.00 | 10.00 | 10.00 | 10.00 | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 |
| 1972 | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 | 11.50 | 13.00 | 13.00 | 13.00 | 13.00 | 13.00 | 13.00 |

1/ Prices are f.o.b. factory.
2/ Changed to 24/Picnic case in June, but priced in this table on the basis of 48 cans per case.
3/ Changed to 24/8z case in August.

Source: Compiled from price series published regularly in Food Production Management (formerly Canning Trade).

Table 30.--Asparagus, frozen: Average wholesale prices received by U.S. freezers, by type of pack and by months, 1968-72 1/

(In cents per pound)

| Type of pack and year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Retail size; 24/10 oz.: | | | | | | | | | | | | |
| Spears: | | | | | | | | | | | | |
| 1968 | 60.0 | 61.3 | 61.7 | 62.0 | 62.0 | 62.0 | 61.7 | 62.0 | 62.0 | 62.0 | 62.0 | 61.7 |
| 1969 | 61.7 | 61.7 | 63.3 | 63.3 | 63.3 | 63.3 | 63.3 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 |
| 1970 | 65.0 | 68.3 | 68.3 | 68.3 | 68.3 | 68.3 | 68.3 | 68.3 | 70.0 | 70.0 | 70.0 | 70.0 |
| 1971 | 70.0 | 70.0 | 70.0 | 78.7 | 78.7 | 78.7 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 |
| 1972 2/ | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 83.3 | 3/85.8 | 3/85.8 | 3/85.8 | 3/85.8 | 83.3 |
| Cuts and tips: | | | | | | | | | | | | |
| 1968 | 48.0 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 | 49.3 |
| 1969 | 49.3 | 49.3 | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 | 51.0 |
| 1970 | 51.7 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 56.7 | 56.7 | 56.7 | 56.7 |
| 1971 | 56.7 | 56.7 | 56.7 | 63.3 | 63.3 | 63.3 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 |
| 1972 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 68.0 | 67.0 |
| Institutional size; 12/2.5 lbs.: | | | | | | | | | | | | |
| Spears: | | | | | | | | | | | | |
| 1968 | 57.5 | 58.0 | 58.0 | 58.5 | 58.5 | 58.5 | 58.5 | 58.5 | 60.0 | 59.0 | 60.0 | 59.5 |
| 1969 | 59.5 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 60.0 | 61.0 | 61.5 | 61.5 | 61.5 | 61.5 |
| 1970 | 61.5 | 63.5 | 63.0 | 63.0 | 63.0 | 63.0 | 63.5 | 63.5 | 64.5 | 64.5 | 64.5 | 64.5 |
| 1971 | 64.5 | 64.5 | 64.5 | 72.0 | 72.0 | 72.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 |
| 1972 2/ | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 76.0 | 3/78.5 | 3/78.5 | 3/78.5 | 3/78.5 | 81.0 |
| Cuts and tips: | | | | | | | | | | | | |
| 1968 | 46.0 | 46.0 | 46.0 | 47.5 | 47.5 | 47.5 | 47.5 | 47.5 | 48.5 | 47.5 | 48.5 | 48.5 |
| 1969 | 48.5 | 48.5 | 48.5 | 47.5 | 47.5 | 47.5 | 48.0 | 50.0 | 50.0 | 50.0 | 50.0 | 50.0 |
| 1970 | 50.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.0 | 52.5 | 52.5 | 53.5 | 53.5 | 54.0 | 54.0 |
| 1971 | 54.0 | 54.0 | 54.0 | 61.0 | 61.0 | 61.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 |
| 1972 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 65.0 | 64.0 | 63.0 |

1/ Prices are on an f.o.b. west coast basis; they are private brand prices. The prices are not necessarily list prices but are what the source found prevailing at the time. Any promotional or early shipping allowance would be included, as well as any other kind of trading down from list prices.
2/ Prices are for medium size spears.
3/ Midpoint of a 5-cent range.

Source: Compiled from data supplied to the U.S. Tariff Commission by the American Institute of Food Distribution, Inc.

Table 31.--Asparagus, canned: Production in various countries, 1961-70

(In millions of pounds)

| Country | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 |
|---|---|---|---|---|---|---|---|---|---|---|
| United States | 195.3 | 211.6 | 216.5 | 192.0 | 168.4 | 184.5 | 155.1 | 161.8 | 159.3 | 139.6 |
| Taiwan | - | - | 1/ | 2.7 | 45.0 | 72.9 | 73.7 | 110.3 | 153.2 | 223.9 |
| Spain | 11.4 | 17.0 | 18.0 | 22.5 | 26.7 | 31.6 | 36.2 | 40.3 | 44.2 | 47.8 |
| Japan | 8.8 | 10.5 | 11.5 | 14.0 | 16.0 | 19.4 | 20.4 | 2/ | 2/ | 2/ |
| France | 8.1 | 10.8 | 10.1 | 7.1 | 7.4 | 9.7 | 11.1 | 10.0 | 9.1 | 2/ |
| Australia 3/ | 8.8 | 9.8 | 12.5 | 9.1 | 10.0 | 9.5 | 11.8 | 8.9 | 9.0 | 2/ |
| Canada | 5.8 | 5.6 | 5.4 | 6.5 | 8.3 | 7.5 | 7.6 | 9.8 | 9.3 | 9.2 |
| West Germany | 10.4 | 7.9 | 7.7 | 8.8 | 9.5 | 8.4 | 3.7 | 2/ | 2/ | 2/ |
| Mexico 4/ | 1/ | 1/ | 1/ | 1/ | 1/ | 1/ | .2 | .8 | 1.2 | 3.4 |

1/ Less than 500,000 pounds.
2/ Not available.
3/ Year beginning July 1 of the year shown.
4/ Data shown represent exports only.

Source: U.S. Department of Agriculture, Foreign Agricultural Service, Fresh and Processed Vegetables, Production and Trade Statistics, December 1968 and September 1971. The data in these publications have been converted into pounds, updated wherever possible, and slightly revised for the United States, Taiwan, and France. Data for Mexico are from Direccion General de Estadistica, Secretariat of Industry and Commerce; Anuario Estadistico del Comercio Exterior de los Estados Unidos Mexicanos, various issues.

Table 32.--Asparagus, canned: Exports by various countries, 1962-71

(In millions of pounds)

| Country | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|---|---|---|
| United States | 64.1 | 62.2 | 61.7 | 46.4 | 29.0 | 18.9 | 15.7 | 11.5 | 7.5 | 4.5 |
| Taiwan | - | 1/ | 1.5 | 36.0 | 41.2 | 78.5 | 96.1 | 150.9 | 167.6 | 180.8 |
| Spain | 7.0 | 3.5 | 7.3 | 10.6 | 6.2 | 3.8 | 12.1 | 9.2 | 10.0 | 12.0 |
| Japan | 3.8 | 3.7 | 3.2 | 3.9 | 1.3 | 4.2 | 5.6 | 2.1 | 1.5 | 1.6 |
| Netherlands | 2.4 | 2.5 | 2.5 | 2.2 | 1.8 | 1.2 | 1.2 | 1.7 | 1.6 | 1.8 |
| France | 2.1 | 1.5 | 1.3 | 1.3 | .8 | .7 | .8 | .8 | .6 | .5 |
| Australia 2/ | 2.0 | 2.5 | 1.0 | 1.0 | 1.2 | .9 | 1.1 | 1.0 | .8 | 3/ |
| Belgium-Luxembourg | .8 | .5 | .6 | .8 | .6 | .5 | .3 | .1 | .2 | .2 |
| Canada | 3/ | 3/ | 3/ | 3/ | 3/ | 3/ | 1.4 | 1.5 | 1.4 | 1.4 |
| Mexico | 1/ | 1/ | 1/ | - | 1/ | .2 | .8 | 1.2 | 3.4 | 5.6 |

1/ Less than 500,000 pounds.
2/ Year beginning July 1 of the year shown. Data shown may include some exports of frozen asparagus.
3/ Not available.

Source: With the exception of data for Taiwan, compiled from official export statistics of the above countries. Data for Taiwan from the Taiwan Asparagus Canners' Export Corp.

Table 33.--Asparagus, canned: Imports by various countries, 1965-71

(In millions of pounds)

| Country | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|
| United States | 1/ | 2/ 0.6 | 2/ 2.5 | 2/ 0.9 | 1.5 | 2.5 | 5.4 |
| West Germany | 62.1 | 51.8 | 78.7 | 88.4 | 107.4 | 130.1 | 144.7 |
| Switzerland | 7.0 | 10.1 | 6.9 | 7.5 | 10.3 | 13.1 | 12.0 |
| Sweden | 4.6 | 4.8 | 4.6 | 4.2 | 5.2 | 5.8 | 4.3 |
| Japan | 3.5 | .2 | .6 | 1/ | 6.8 | 4.8 | 6.7 |
| United Kingdom | 3.4 | 4.1 | 4.3 | 4.8 | 3.8 | 3.3 | 4.4 |
| Belgium-Luxembourg | 3.0 | 3.6 | 3.8 | 4.7 | 7.1 | 7.9 | 11.5 |
| France | 2.4 | 3.3 | 2.7 | 3.6 | 3.5 | 5.3 | 7.5 |
| Norway | 1.5 | 1.5 | 1.5 | 1.6 | 1.6 | 1.8 | 2.3 |
| Netherlands | 1.3 | 1.9 | 2.5 | 1.9 | 3.8 | 6.3 | 8.7 |
| Canada | .5 | .5 | .5 | .6 | .6 | .7 | .7 |

1/ Less than 500,000 pounds.
2/ Estimated.

Source: Compiled from official import statistics of the above countries, except as noted.

Table 34.--Asparagus: Taiwan's acreage, total production, yield per acre, and production and exports of canned asparagus, 1963-71 1/

| Year | Harvested area | Total production | Yield per acre | Canned asparagus 2/ Production | Canned asparagus 2/ Exports |
|---|---|---|---|---|---|
| | Acres | Million pounds | Pounds | Million pounds | Million pounds |
| 1963----- | 259 | 1.0 | 3,754 | 3/ | 3/ |
| 1964----- | 988 | 4.3 | 4,351 | 2.7 | 1.5 |
| 1965----- | 9,513 | 52.6 | 5,532 | 45.0 | 36.0 |
| 1966----- | 15,938 | 92.4 | 5,799 | 72.9 | 41.2 |
| 1967----- | 21,152 | 90.6 | 4,282 | 73.7 | 78.5 |
| 1968----- | 18,162 | 115.1 | 6,336 | 110.3 | 96.1 |
| 1969----- | 22,313 | 176.8 | 7,584 | 153.2 | 150.9 |
| 1970----- | 28,693 | 247.5 | 8,627 | 223.9 | 167.6 |
| 1971----- | 44,001 | 285.5 | 6,488 | 4/ 174.6 | 180.8 |

1/ Data on green asparagus is not available for years prior to 1971, but the output of such asparagus is reported to have been negligible in earlier years. Data shown for 1971 include the production of 4.4 million pounds of green asparagus produced from 900 acres.

2/ Reported in "standard cases," which were converted to pounds at the rate of 45 pounds per case.

3/ Less than 500,000 pounds.

4/ Preliminary.

Source: The Research Institute of Agricultural Economics, National Taiwan University, Long-Term Projections of Supply, Demand and Trade for Selected Agricultural Products in Taiwan, October 1970; and U.S. Department of Agriculture, Foreign Agricultural Service, various reports.

Table 35.--Asparagus, canned: Taiwan's exports, by principal markets, 1964-71

(In millions of pounds)

| Market | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|---|
| United States | 1/ | 1/ | .5 | 2.5 | 0.7 | 1.3 | 3.5 | 5.2 |
| West Germany | 1.4 | 29.1 | 27.8 | 53.4 | 81.0 | 116.0 | 126.3 | 132.6 |
| Netherlands | 1/ | 1.9 | 7.1 | 12.0 | 6.4 | 11.0 | 16.2 | 16.8 |
| Belgium | 1/ | .4 | 2.4 | 3.1 | 3.3 | 7.4 | 7.6 | 9.5 |
| Thailand | 1/ | .1 | .5 | .4 | .5 | 1.0 | .2 | 1/ |
| Switzerland | - | 1/ | .2 | .2 | 1/ | .2 | 2/ | 2/ |
| Japan | - | 4.2 | .3 | .4 | .1 | 7.7 | 4.3 | 6.8 |
| United Kingdom | 1/ | 1/ | .7 | .8 | 1.1 | .7 | 2/ | 2/ |
| Other | .1 | .3 | 1.7 | 5.7 | 3.0 | 5.6 | 9.5 | 9.9 |
| Total | 1.5 | 36.0 | 41.2 | 78.5 | 96.1 | 150.9 | 167.6 | 180.8 |

1/ Less than 500,000 pounds.
2/ Not available.

Source: Taiwan Asparagus Canner's Export Corp., and U.S. Department of Agriculture, Foreign Agricultural Service, Fresh and Processed Vegetables, September 1971.

Note.--Exports were reported in "standard cases," which were converted to pounds at the rate of 45 pounds per case.

Table 36.--Asparagus, fresh: Mexican exports, by principal markets, 1965-71

| Market | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|
| | Quantity (1,000 pounds) | | | | | | |
| United States | 1,900 | 2,070 | 2,105 | 2,577 | 4,621 | 5,805 | 7,010 |
| United Kingdom | - | - | - | 2 | 7 | 77 | 140 |
| Switzerland | - | 1/ | - | - | 2 | 31 | 1 |
| Other | - | - | - | 3 | - | 2 | 79 |
| Total | 1,900 | 2,070 | 2,105 | 2,582 | 4,630 | 5,915 | 7,230 |
| | Value (1,000 dollars) | | | | | | |
| United States | 183 | 231 | 204 | 250 | 328 | 569 | 758 |
| United Kingdom | - | - | - | 2/ | 3 | 20 | 56 |
| Switzerland | - | 2/ | - | - | 2/ | 10 | 2/ |
| Other | - | - | - | 1 | - | 2/ | 33 |
| Total | 183 | 231 | 204 | 251 | 331 | 599 | 847 |
| | Average unit value (cents per pound) | | | | | | |
| United States | 9.6 | 11.1 | 9.7 | 9.7 | 7.1 | 9.8 | 10.8 |
| United Kingdom | - | - | - | 3/ | 42.3 | 25.7 | 39.8 |
| Switzerland | - | 3/ | - | - | 3/ | 31.1 | 30.2 |
| Other | - | - | - | 3/ | - | 3/ | 41.0 |
| Average | 9.6 | 11.1 | 9.7 | 9.7 | 7.1 | 10.1 | 11.7 |

1/ Less than 500 pounds.
2/ Less than $500.
3/ Not computed.

Source: Direccion General de Estadistica, Secretariat of Industry and Commerce, Anuario Estadistico del Comercio Exterior de los Estados Unidos Mexicanos.

Table 37.--Asparagus, canned: Mexican imports and exports, by principal sources and markets, 1965-71

(In thousands of pounds)

| Item | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|
| Imports from-- | | | | | | | |
| United States | 165 | 64 | 11 | 11 | 11 | 401 | 9 |
| Spain | 4 | 2 | 4 | 15 | 7 | 10 | 1/ |
| All other | 7 | 2 | 1/ | 1/ | 11 | 2 | 1/ |
| Total | 176 | 68 | 15 | 26 | 29 | 413 | 9 |
| Exports to-- | | | | | | | |
| United States | - | 2 | 1/ | - | 22 | 105 | 2,037 |
| Venezuela | - | - | 236 | 467 | 677 | 672 | 852 |
| Switzerland | - | - | - | - | 276 | 1,415 | 1,863 |
| West Germany | - | - | - | 64 | 4 | 335 | 1/ |
| Sweden | - | - | - | - | - | 271 | 90 |
| All other | - | 1/ | 1/ | 298 | 223 | 603 | 791 |
| Total | - | 2 | 236 | 829 | 1,202 | 3,401 | 5,633 |
| Net trade balance | -176 | -66 | 221 | 803 | 1,173 | 2,987 | 5,624 |

1/ Less than 500 pounds.

Source: Direccion General de Estadistica, Secretariat of Industry and Commerce; Anuario Estadistico del Comercio Exterior de los Estados Unidos Mexicanos, various issues.

# Appendix B

## Taiwan Asparagus Canners' Export Corporation's

## Price List of Canned Asparagus

台灣聯合蘆筍罐頭廠出口股份有限公司

TAIWAN ASPARAGUS CANNERS' EXPORT CORPORATION

P. O. Box No. 22478
Taipei, Taiwan

116 Hwaining Street, 5th Fl.,
Taipei, Taiwan
The Republic of China

Cable: "ASPARAGUS" TAIPEI
Telex: TP466 ASPARAGUS

March 21, 1972

# 罐（瓶）裝蘆筍價格表

# PRICE LIST OF CANNED (GLASS PACKED) ASPARAGUS

單位：箱/美金 Unit: Carton/US$

| Can Types & Net Wt. | | Price FOB Taiwan Port | |
|---|---|---|---|
| | | All White | Green tipped & White |
| New No.1 (6x2870G) | Tips & Cut | 8.50 | 8.30 |
| No.1B(6x1815G)U.S.No.5 | Spears | 7.00 | 7.00 |
| No.2 (24x800G) | Spears | 14.00 | 13.80 |
| | Tips & Cut | 10.00 | 9.80 |
| No.3 (24x540G) | Spears | 9.60 | 9.50 |
| No.4 (24x425G) | Spears | 7.00 | 6.90 |
| | Tips & Cut | 5.50 | 5.40 |
| No.Tall 205 (24x420G) | Spears | 7.10 | 7.00 |
| Glass Jar (12x410G) | Spears | 4.20 | 4.00 |
| | Tips & Cut | 4.20 | 4.00 |
| No.7 (24x280G) | Tips | 6.00 | 5.90 |
| | Tips & Cut | 4.20 | 4.10 |
| No.250G (24x250G) | Spears | 4.80 | 4.70 |
| No.A3 (12x800G) | Spears | 6.10 | 6.00 |
| No.7M (48x234G) | Tips & Cut | 6.50 | 6.40 |
| No.Tall 200 (24x290G) | Spears | 5.10 | 5.00 |
| No.A7 (24x340G) | Spears | 6.20 | 6.10 |

備註：(REMARKS):

1. 包裝一律以紙箱為準。
The Packings are all in export standard fibre cartons.

2. 本價格表有效時間自中華民國六十一年三月廿一日起至六十二年三月廿日止。
This price list is Valid as from March 21, 1972 to March 20, 1973.

3. 本價格表按FOB價含2%佣金。
FOB Prices include 2% Commission.

4. 付款：見票卽付款之信用狀，應註明可以轉讓及分割者。
Payment: At sight draft under irrevocable letter of credit, assignable and divisibel.

5. 特製品筍罐，得依照本公司訂價加5%。
Any special pack with quality other than Chinese National Standard is subject to 5% surcharge.

# APPENDIX C

ALLEGATIONS MADE AND REMEDIES PROPOSED AT THE TARIFF COMMISSION HEARING AND IN WRITTEN BRIEFS SUBMITTED TO THE COMMISSION.

At the Tariff Commission hearing, which was held on October 31 and November 1, 1972, and in briefs filed with the Commission, domestic and foreign interests presented many views and a number of recommendations concerning the asparagus situation. In this section the most salient of these views and recommendations are presented.

## Excerpts From Statements Made in Behalf of Domestic Interests

### Views

Members of the U.S. Congress:

> I expect the evidence presented to you during the course of this investigation will show that asparagus imports have reached alarming proportions in a relatively short time and the outlook for the future will have the net effect of exporting jobs to competing foreign countries. Imports have increased to such an extent that they have injured our domestic industry and that injury will certainly increase in the immediate future. (Statement given by Honorable John J. McFall).

---

> The American asparagus growers have had to contend with decreasing domestic as well as foreign markets due to increased competition from nations such as Taiwan and Mexico. . . . With the inroads competitors have made in the foreign markets exacting a great toll on the asparagus growers in terms of production, has come the importation by the U.S. of a great deal of asparagus. . . . U.S. costs of producing and marketing canned asparagus have increased sharply in recent years, reflecting the substantially increased labor costs. As we are well aware, labor costs in many countries that compete with the United States are greatly below those in the U.S.--hence a major factor in those countries' ability to compete on the domestic and foreign markets with the U.S. (Statement submitted by the Honorable Jerome R. Waldie).

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> We are concerned over the problems facing the domestic asparagus growers for two reasons. First, from the data available it appears that the domestic industry is in serious

financial trouble. Exports have fallen off in the past few years--presumably from greater production by other countries--and, of course, increased imports into the U.S. . . . The second point I wish to make is one of commodity wholesomeness. (Statement delivered on behalf of Senator John V. Tunney by the Senator's northern California field representative, Mr. Clarence C. Kent.

California Asparagus Growers Association:

The significance of the loss of the [U.S.] white asparagus export market is in the fact that it shows what will happen to U.S. producers when faced with competition from countries with so-called "cheap labor."

Domestic markets consist of substantial green asparagus markets and significant but relatively small white asparagus markets. Today even these domestic markets are jeopardized by imports primarily from Taiwan and Mexico and if these markets are lost, U.S. asparagus producers are finished.

The typical grower's cost of producing a pound of asparagus domestically is about 18.0 - 22.0 cents per pound, when the comparable production cost per pound in Taiwan is about 10.8 cents per pound and in Mexico is about 8.6 - 11.0 cents per pound and probably lower.

Additionally, U.S. growers and processors are subject to numerous health and sanitation measures which require considerable cost and many of which are precautionary in nature. It is quite apparent that foreign producers are not subject to these same standards and inspection of the product itself is vastly inadequate in this regard. Product inspection will never reveal the existence of compliance with those health measures which are purely precautionary.

U.S. producers have for many years put forth tremendous efforts to become more competitive through mechanization, plant development, and other research and development efforts. Over sixteen different mechanical harvesting systems were developed and tested and hundreds of thousands of dollars expended in other research and development. Based on the results to date, no breakthrough is now apparent or expected in the reasonably foreseeable future.

Foreign imports of fresh asparagus off season replace domestic processed product and take the tops off the fresh market for domestic producers.

Recommendations

Members of the U.S. Congress:

I believe the testimony of witnesses and other evidence presented to you in this investigation will show the need to increase the tariff rate to at least the former rate existing before its reduction and quite probably, even more, that quotas or some more drastic action is necessary. Increasing the ad valorem duty alone will not place United States growers, processors and laborers in a competitive position with foreign producers. For such equality, an increase of 150 percent or more would be necessary, due to the higher cost of labor and processing costs in the United States. (Statement given by Honorable John J. McFall).

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I would greatly hope, in view of the serious problems being faced by the asparagus growers throughout the nation, that the Tariff Commission will reconsider its tariff rates for imported asparagus. I believe that the evidence that the growers themselves will present will be sufficient to show the real threat this industry faces in being forced out of business by foreign competition. (Statement submitted by the Honorable Jerome R. Waldie).

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We are specifically interested in a thorough evaluation of the economic effect of the imported asparagus and the public health consequences of inadequate sampling for quality and wholesomeness of the imported produce. (Statement delivered on behalf of Senator John V. Tunney by the Senator's northern California field representative, Mr. Clarence C. Kent).

California Asparagus Growers Association:

The domestic asparagus industry is viable and significant as both a generator of economy and as a domestic employer. It can and should be protected.

Survival of the U.S. asparagus industry requires more than just a compensating tariff.

The seriousness of the present state of the U.S. asparagus industry requires an immediate and total ban on all imports of asparagus into the United States until such time that the domestic asparagus industry is fully developed and employment of our workers is maximized.

Others:

The domestic industry asks for the immediate imposition of a compensatory tariff. (Washington Asparagus Growers Association).

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Hopefully, we have shown that the California asparagus industry is unable to compete on the same footing as foreign producers who use cheap labor and processors who are not required to adhere to the same sanitation or worker safety laws as the United States. The Agricultural Council would encourage the U.S. Congress to search out and to apply the proper restraint in order to protect this domestic industry from unfair competition. (Agricultural Council of California).

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With this in mind, we beseech you to raise import duties on fresh and processed asparagus so as to place the U.S. producers on an equal footing with our foreign counterparts, and to impose import quotas immediately. (Mr. John Zuckerman, Zuckerman Farms Co., Stockton, Calif.).

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In order to stem this tide of imported asparagus and protect our domestic producers, I believe that higher duties are justified. (Mr. James Manassero, The Irvine Co., Irvine, Calif.).

## Excerpts From Statements Made in Behalf of Foreign Interests

### Views

Taiwan Asparagus Canners Export Corporation:

In consequence of the cost increase [in recent years], the California and other producers lost the export market for white asparagus and concurrently suffered a serious decline in demand in the domestic market. These consequences alone explain the total reduction in asparagus production. Imports were not a factor in causing the decline.

The domestic industry's expressed fears of impending green asparagus imports from Taiwan are unfounded. Taiwan conditions do not permit growing of green asparagus which meets U.S. standards.

Imports of Taiwan white asparagus were induced by non-availability of domestic production, particularly to the institutional trade.

Other:

From what I have heard, fresh green asparagus is cropped [in the United States] from February to June. So I insist that [fresh asparagus imported from] August the 1st to November the 15th, does not compete with any U.S. grower. Consequently, it should not be looked upon as a competitive item. (Mr. Jose Martinez Sotomayor, asparagus grower, Irapuato, Guanajuato, Mexico).

Recommendations

[There is no need for import controls] The control functions of the Taiwan Asparagus Canners Export Corporation will tend to promote orderly marketing of Taiwan exports and minimize any possible damage to the domestic industry. (Taiwan Asparagus Canners Export Corporation).