UNITED STATES INTERNATIONAL TRADE COMMISSION

ASPARAGUS

Report to the President
on Investigation No. TA-201-4
Under Section 201 of the Trade Act of 1974

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UNITED STATES INTERNATIONAL TRADE COMMISSION

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REPORT TO THE PRESIDENT

United States International Trade Commission,
January 12, 1976.

To the President:

In accordance with section 201(d)(1) of the Trade Act of 1974 (88 Stat. 1978), the U.S. International Trade Commission herein reports the results of an investigation made under section 201(b)(1) of that act, relating to asparagus.

The investigation to which this report relates was undertaken to determine whether--

> asparagus, fresh, chilled or frozen or otherwise prepared or preserved, provided for in items 137.85, 138.00, 1/ and 141.81 of the Tariff Schedules of the United States,

is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

The investigation was instituted on July 22, 1975, upon receipt of a petition filed on July 10, 1975, by the California Asparagus Growers Association, Inc., Stockton, California, the Washington Asparagus Growers Association, Sunnyside, Washington, and certain unaffiliated asparagus growers.

1/ The asparagus covered by item 138.00 is currently covered by item 138.50 of the tariff schedules by virtue of Executive Order 11888. Accordingly, item 138.50 will be referred to hereinafter in lieu of item 138.00.

Public notice of the institution of the investigation and hearings to be held in connection therewith was published in the Federal Register of July 29, 1975 (40 F.R. 31836). Public notice of the places and times of the hearings was published in the Federal Register of October 2, 1975 (40 F.R. 45480). Hearings were held in San Francisco, California, on October 14, 1975, and in Washington, D.C., on October 21, 1975. All interested parties were afforded an opportunity to be present, to produce evidence, and to be heard. A transcript of the hearings and copies of briefs submitted by interested parties in connection with the investigation are attached.

The information for this report was obtained from fieldwork, from questionnaires sent to domestic growers, canners, and freezers, and importers, and from the Commission's files, other Government agencies, and evidence presented at the hearings and in briefs filed by interested parties.

Determinations, Findings, and Recommendations of the Commission

The Commission, being equally divided, 1/ makes no determination 2/ of whether asparagus, fresh, chilled, or frozen, or otherwise prepared or preserved, provided for in items 137.85, 138.50, and 141.81 of the Tariff Schedules of the United States, is being imported into the United States

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1/ Commissioners Moore, Bedell, and Ablondi voted in the affirmative, and Commissioners Leonard, Minchew, and Parker voted in the negative. In a situation of this kind, sec. 330(d) of the Tariff Act of 1930, as amended, requires that the findings of each group of Commissioners be transmitted to the President and provides that those of either group may be considered by the President as the findings of the Commission.

2/ Commissioner Parker is of the view that the Commission has made a conditional affirmative and a conditional negative vote and by operation of law the President can accept either.

in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Determinations

On the basis of the Commission investigation, Commissioners Moore, Bedell, and Ablondi determine--

> That asparagus, fresh, chilled, or frozen, or otherwise prepared or preserved, provided for in items 137.85, 138.50, and 141.81 of the Tariff Schedules of the United States, is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic growers of asparagus;

Commissioners Leonard, Minchew, and Parker determine--

> That asparagus, fresh, chilled, or frozen, or otherwise prepared or preserved, provided for in items 137.85, 138.50, and 141.81 of the Tariff Schedules of the United States, is not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive, with the imported article.

Findings and recommendations

Commissioners Moore, Bedell, and Ablondi find that--

(1) The following quantitative limitations on the aggregate amount of asparagus, fresh or chilled, but not frozen, imported into the United States from all foreign countries and entered for consumption under items 137.85 and 138.50 of the Tariff Schedules of the United States, are necessary to remedy such injury--

(a) for an initial 3-year period, a quantitative limitation of not over 700,000 pounds entered per month during the period February 1 to April 30;

(b) during the fourth year, a quantitative limitation of not over 875,000 pounds entered per month during the period February 1 to April 30;

(c) during the fifth year, a quantitative limitation of not over 1,050,000 pounds entered per month during the period February 1 through April 30.

It is not intended that there be any quantitative limitation on asparagus entered during the other 9 months of the year.

(2) In connection with the quantitative limitations found to be necessary under (1) above, it is recommended that in order to provide an equitable distribution of the imports among supplying countries during the respective quota periods, the entire quota should be limited to imports from Mexico, the only country supplying imports in significant commercial quantities.

Commissioners Leonard and Parker--

Find that no increase in any duty nor any import restriction on the imported articles which are the subject of this investigation is necessary and do not recommend the provision of adjustment assistance.

Commissioner Minchew--

Noting that the Commission has not found with respect to any article, as a result of its investigation, the serious injury, or the threat thereof, described in section 201(b), finds, pursuant to 201(d), that no Commission recommendation of remedy is necessary.

Views of Chairman Will Leonard,
Vice Chairman Daniel Minchew, and Commissioner Joseph Parker

On July 10, 1975, the United States International Trade Commission (Commission) received a petition filed by the California Asparagus Growers Association, Inc., Stockton, California, the Washington Asparagus Growers Association, Sunnyside, Washington, and certain unaffiliated California asparagus growers requesting an investigation under section 201(b)(1) of the Trade Act of 1974 (Trade Act) with respect to imports of asparagus, fresh, chilled or frozen, or otherwise prepared or preserved. The Commission, on July 22, 1975, instituted such an investigation in order to determine whether asparagus, fresh, chilled or frozen, or otherwise prepared or preserved, is being imported into the United States in such increased quantities as to be a substantial cause of serious injury or threat thereof to the domestic industry producing an article like or directly competitive with such imported asparagus.

The petition and investigation referred to above are the fourth to be received and instituted by the Commission under the criteria, changed by the Trade Act, which must be met by an industry in order to be eligible for import relief. For a domestic industry to be eligible for import relief (which as used in this statement includes import restraints as well as adjustment assistance), the Trade Act essentially requires that three identifiable criteria be met:

(1) imports of the article concerned must be entering in increased quantities;

(2) the domestic industry producing articles like or directly competitive with the imported article must be experiencing serious injury, or the threat thereof;

(3) the increased imports referred to in 1 above must be a substantial cause of the injury, or threat thereof, referred to in 2 above.

Determination

As a result of evidence obtained by the Commission during the course of this investigation (Investigation No. TA-201-4), we determine that the criteria as set forth in section 201(b)(1) of the Trade Act for an industry to be eligible for relief from imports have not been met. Specifically, we find that the second criterion under section 201(b)(1), as set forth above, has not been met, i.e., that the domestic industry producing articles like or directly competitive with the imported article is not being seriously injured or threatened with serious injury.

Since the criteria of section 201(b)(1) are cumulative, the failure to satisfy any one of the criteria necessitates the making of a negative determination, no matter what the facts show with respect to the other criteria. Because our negative determination is based on a finding that the "serious injury, or threat thereof" criterion is not met, the following discussion is principally limited to that criterion alone.

Domestic industry

In considering whether the criterion of serious injury, or the threat thereof, has been satisfied, it is necessary to determine what is "the domestic industry" which may be suffering the requisite injury. Although the Trade Act sets forth certain guidelines to be used by the Commission in determining what "the domestic industry" is, it does not specifically define the term. The Trade Act in effect permits the Commission (and hence each individual Commissioner) the discretion to evaluate the relevant facts gathered during the course of the investigation and to define the domestic industry on the basis of these facts, having taken into account the guidelines mentioned above.

While the scope of the investigation in terms of imported articles is defined in practice at the outset of the investigation and set forth in the notice of investigation published in the Federal Register (although subject to amendment during the course of the investigation), what the Commission determines to be the domestic industry involved may not be finalized until the close of the investigation. The Commission is routinely presented with a "universe" of domestic producers of articles like or directly competitive with the imported articles, and from this universe the Commission must determine what the relevant domestic industry is after considering the economic factors in the investigation and the statutory guidelines. Indeed, there is precedent, under both section 301(b)(1) of the Trade Expansion Act of 1962 and its successor section, section 201(b)(1) of the Trade Act, the section under which this investigation was conducted, 1/ for even separating out several distinct industries from the universe of producers in Commission investigations.

There is no question that entities engaged in agricultural activities come within the term "domestic industry" as used in section 201(b)(1). 2/ In the present investigation economic factors support a

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1/ For the views of Commissioner Leonard regarding the Commission's (or a Commissioner's) discretionary authority to separate out distinct industries under section 301(b)(1) of the Trade Expansion Act of 1962 and section 201(b)(1) of the Trade Act, see Bolts, Nuts and Screws of Iron or Steel: Report to the President on Investigation No. TA-201-2 . . ., USITC Publication 747, November 1975, pp. 4-8.

2/ U.S. Senate, Report of the Committee on Finance, Trade Reform Act of 1974, S. Rept. No. 93-1298, 93d Cong., 2d sess. (1974), p. 122.

conclusion that there are three separate and distinct domestic industries--growers, canners, and freezers--producing articles like or directly competitive with the imported article. Each grower of asparagus engages in productive activities of the same sort which are distinct from those engaged in by canners or freezers and which result in the production of a different product, fresh asparagus. Further, growers generally produce for both the fresh market and for sale to canners and freezers although in a given year a particular grower may produce for only the fresh market or only for sale to canners and freezers.

Canners and freezers are separate and distinct industries. Producers in each of these industries make an end product obviously distinct from that produced by growers and from each other. Also, fresh asparagus is available only during limited time periods during the year. On the other hand, canned asparagus is available throughout the year, as is frozen. Canned and frozen asparagus are produced in separate establishments and those who engage in canning do not engage in freezing, and *vice versa*. Canned and frozen asparagus require different methods of processing and employ different technological factors of production. It is not possible to shift production readily from the canned product to the frozen product. Thus, canned asparagus production and frozen asparagus production are distinct industries, just as is fresh asparagus production.

Having identified three distinct domestic industries among producers of articles like or directly competitive with the imported articles under consideration in this investigation, it is now necessary to identify within such producer groups those economic entities or portions thereof which should be considered in determining whether each "domestic industry" is being seriously injured. In doing this, the domestic industry is more precisely defined.

Section 201(b)(3)(B) of the Trade Act gives some guidance in regard to this. This section states:

> (3) For purposes of paragraph (1), in determining the domestic industry producing an article like or directly competitive with an imported article, the Commission--
>
> (B) may, in the case of a domestic producer which produces more than one article, treat as part of such domestic industry only that portion or subdivision of the producer which produces the like or directly competitive article . . .

In explanation of this section, the Committee on Ways and Means of the House of Representatives states in its report on the bill which originally contained the quoted statutory language and which was to become the Trade Act:

> The term "industry" includes entities engaged in agricultural activities . . .
> With respect to multiproduct plants or subdivisions in which productive resources are devoted to producing several individual product lines, of which only one is the subject of the Tariff Commission [now U.S. International Trade Commission] investigation, the Commission would be concerned with the question of serious injury with respect to the operating unit as a whole

> which produces the product concerned, not merely the specific product line in question. For example, if a plant or subdivision produces product lines A, B, C, and D, of which only product line A is the subject of the investigation, the Commission would investigate the viability of the operating unit as a whole producing the four products, and whether internal adjustment through the shifting of its productive resources to the production of product lines B, C, or D have been or could be achieved. The Commission would not be expected to find import injury to that establishment (as part of the basis for finding serious injury to the entire industry) if serious injury or the threat thereof did not exist with respect to its operations as a whole. The extent to which the products of a multiproduct establishment can be separately considered is necessarily affected by the accounting procedures that prevail in a given case and the practicability of distinguishing or separating the operations of each product line. 1/

As is evident from the portion of the report set forth above, it is intended to authorize the Commission to consider the operations of an "establishment" in making its determination of injury to the domestic industry. Thus, where a single establishment produces several products, including an asparagus product, it is intended that the Commission would consider the operations of the whole establishment in making its determination of serious injury.

The House version of what was to become section 201(b)(3)(B) of the Trade Act was not changed by the Senate in its consideration of the House bill. In explanation of this section, however, the

1/ U.S. House of Representatives, Report of the Committee on Ways and Means, Trade Reform Act of 1973, H. Rept. No. 93-571, 93d Cong., 2d sess. (1973), pp. 45-46.

Senate Committee on Finance states in its report on the bill:

> The term "industry" includes entities engaged in agricultural activities. . . . In the case of a domestic producer which produces more than one article, the Commission could choose to treat as part of such domestic industry only that portion or subdivision of the producer which produces the like or directly competitive article. The Committee feels that this is the preferred way to define an industry in a multiproduct or conglomerate situation. Otherwise, the relative affluence of a large multiproduct or multinational corporation may indicate an industry is healthy even though the smaller producers may be seriously injured by imports. 1/

While this report states the Commission could treat as part of the domestic industry "that portion . . . of the producer which produces the like or directly competitive article", the report also suggests that the purpose of the Committee in stating this was to permit the Commission to look to a portion of "a large multiproduct or multinational corporation" in determining whether or not the "domestic industry" is being seriously injured or threatened with serious injury, so as to prevent injury to small producers in an industry from being masked by the health of large multiproduct producers. Therefore, nothing in the Senate report indicates that the Commission should not normally look to the operations of an entire establishment producing an article in making its determination of injury.

In short, the statute clearly indicates that the Congress intended the Commission to have discretion in determining the scope of the

1/ U.S. Senate, Report of the Committee on Finance, Trade Reform Act of 1974, S. Rept. No. 93-1298, 93d Cong., 2d sess. (1974), p. 122.

economic units making up the parts which comprise the domestic industry. The language in the reports of the Committees amplifies upon this and indicates that the Commission should look to the operations of establishments in determining the question of injury, unless situations arise wherein a different approach is appropriate. In this investigation we have considered the operations of establishments. This reading of the meaning of the statute appears consistent with the basic thrust of the statute being considered, i.e., to aid in the adjustment of domestic industries to import competition. 1/ Industries which on their own adjust to import competition successfully are not in need of import relief.

In arriving at the above conclusion, it should be noted that the key to the above interpretation of the language of the statute and the Committee reports is what could be termed "successful" adjustment. Almost any productive establishment in an industry producing multiple products will adjust in some fashion to import competition. If such adjustment is to a significantly less efficient use of resources, at significant losses in levels of profits and in the return to labor, serious injury could quite possibly be present.

1/ See U.S. House of Representatives, supra note 1, p. 6, at p. 44, wherein the following appears:

These changes [amendments made by the Trade Act] are consistent with the fundamental purpose of import relief under this title, namely to give additional time to permit a seriously injured domestic industry to adjust and to become competitive again under relief measures and, at the same time, to create incentives for the industry to adjust, if possible, to competitive conditions in the absence of long-term import restrictions.

See also U.S. Senate, supra note 2, p. 3, at p. 119, wherein the following appears:

The "escape clause" [the provisions under consideration] is aimed at providing temporary relief for an industry suffering from serious injury, or the threat thereof, so that the industry will have sufficient time to adjust to the freer international competition.

Serious injury 1/

Having determined that there are three distinct industries involved in this investigation and that the proper course is to consider the operations of establishments when looking at individual producers within each industry, it is now necessary to examine each industry with respect to whether serious injury exists in such industry.

Growers.--Individual asparagus growers for the most part raise other crops on the farms on which asparagus is grown. Most asparagus growers do not keep separate accounts or records on their asparagus operations. Thus, it is difficult, if not impossible, to consider, in determining whether the domestic asparagus growing industry is seriously injured, anything but the condition of entire establishments.

The Commission's investigation did not produce evidence of serious injury to the growers of asparagus. To the contrary, in Michigan, asparagus acreage harvested increased from about 12,400 acres in 1970 to about 17,800 acres in 1975 and this rise in asparagus plantings is expected to continue. In the State of Washington, asparagus acreage harvested increased from about 17,400 acres in 1969 to 18,400 acres in 1975, having reached an all-time high of 23,400 acres in 1974. Asparagus acreage in the Imperial Valley of California has increased from 2,500 acres in 1970 to 4,600 acres in 1974.

1/ For the views of Commissioner Leonard regarding the meaning of the term "serious injury" as it is employed in section 201(b)(1) of the Trade Act of 1974, see Bolts, Nuts and Screws of Iron or Steel: Report to the President on Investigation No. TA-201-2 . . ., USITC Publication 747, November 1975, pp. 9-12.

In those areas where the amount of asparagus acreage decreased, this land has been shifted to other productive uses, both agricultural and nonagricultural, without any evident significant losses on the return to land holders or on the return to labor. In New Jersey, asparagus producing land has been shifted to the production of other crops, as well as to nonagricultural uses. In those areas of California where asparagus acreage is decreasing, production has shifted to corn, grain, and other crops. An industry news source described the change over from asparagus production as a--

> rush to use all available acres for the production of feed grain, wheat and the multitude of other crops whose capital outlay is smaller and labor exposure infinitely less. 1/

Although the Commission attempted to obtain information from asparagus growers with respect to profitability and employment, only 18 percent of those growers contacted responded with usable information of this nature. This response was inadequate to permit the drawing of valid conclusions directly from this response concerning the existence of serious injury with respect to either of these criteria. The Commission was able to determine, however, that the prices received by growers for their products have steadily increased.

Thus, the information available to the Commission indicates that in certain areas of the country there is a positive indication that asparagus

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1/ Quoted from Northwest Asparagus Industry Newsletter of May 22, 1975. *See* San Francisco hearing transcript in this investigation, p. 296.

production is growing and there is no evidence of serious injury. Further, in areas where acreage of asparagus production is falling, there is evidence that growers have successfully shifted to the production of other crops or found other productive uses for their resources, and have suffered no serious injury in doing so.

Canners.--In considering the question of serious injury to canners of asparagus, the focus is upon the condition of the entire operation of individual canning establishements. Such establishments always can many other varieties of vegetables in addition to asparagus.

The evidence obtained during the Commission's investigation reveals that the domestic industry which cans asparagus is not suffering serious injury. The evidence obtained from the proprietary asparagus canning establishments reporting to the Commission (representing approximately 61 percent of the total quantity of asparagus packed by domestic canners during the year 1974) indicates an increase in total net sales for these establishments from approximately $300 million in 1970 to approximately $575 million in 1974. Total net operating profits for these establishments climbed from $26.3 million in 1970 to $54.7 million in 1974. As a share of net sales, net operating profits increased irregularly from an average of 8.8 percent in 1970 to 9.5 percent in 1974. In addition, the evidence produced by the Commission's investigation demonstrates that grower-owned cooperatives which can asparagus have also experienced increases in sales and total net operating profits over the period 1970 through 1974. The proprietary canners and grower-owned cooperatives who responded to Commission questionnaires also showed an increase in the man-hours worked by production and related workers in their canning operations from approximately 7 million manhours in 1970 to 10 million manhours in 1974. Further, the prices received by canners for their product have increased steadily over the last five years. In summary, the canners of asparagus have apparently successfully shifted to production of other products as any loss of activity in the canning of asparagus occurred.

Freezers.--In determining the question of serious injury with respect to freezers, again the focus is on the condition of the entire operations of individual freezer establishments, each of which freezes a variety of vegetables. The evidence produced by the Commission's investigation demonstrates that the establishments which freeze asparagus are not suffering serious injury. These establishments reporting to the Commission (representing about 80 percent of the total quantity of asparagus packed by domestic freezers during the year 1974) recorded an increase in sales from approximately $160 million in 1970 to approximately $269 million in 1974. Total net operating profits vacillated slightly during this period; and, as a share of net sales, net operating profits ranged between 13.1 percent and 8.5 percent. Total employment in establishments which engaged in the freezing of asparagus increased from 1.7 million manhours in 1970 to 1.9 million manhours in 1974. Like the canners and growers, freezers have also received increased prices for their products over the last five years. In summary, the freezers of asparagus also have apparently successfully shifted to production of other products as any loss of activity in the freezing of asparagus occurred.

Threat of serious injury

In order to make a negative determination with regard to serious injury, the Trade Act requires, in addition to a finding of no serious injury, a finding that the domestic industry is not threatened with serious injury.

Current import trends lead to the conclusion that none of the three domestic industries is being threatened with serious injury. Total imports have fallen from 21.8 million pounds in 1973 to 19.1 million pounds in 1974. Total imports for the period of January-October, 1975 decreased to 16.8 million pounds from 18.0 million pounds for the same period of 1974. In addition, evidence received during the Commission's investigation indicates that exports to the United States from the two major foreign suppliers are not likely to increase in the near future. In Mexico, the production of fresh asparagus is leveling off and some acreage is being shifted to other crops. In Taiwan, the bulk of whose production goes to markets other than the United States, the Board of Foreign Trade, which controls all exports, has reduced the maximum production goal for canned white asparagus. Since the evidence obtained by the Commission during its investigation relates that Taiwan's exports to the United States of canned asparagus declined between 1973 and 1974, this cutback in maximum production goals is indicative of a lack of threat of serious injury to the three domestic industries concerned in this investigation. In addition, asparagus acreage harvested in Taiwan remained fairly constant since 1971.

Conclusion

As indicated previously, we have determined that none of the three industries found in this investigation is being seriously injured or threatened therewith.

Chairman Leonard and Vice-Chairman Minchew additionally note: We have not reached the above conclusion in an easy fashion. We struggled with this investigation as we have with few other cases we have been called upon to decide. However, what we read to be the meaning and intent of the law being administered, especially as explained in the Committee reports referred to above, has led us to the conclusion reached.

Nevertheless, we have not determined that each time a domestic industry adjusts to import competition in some fashion that it is not eligible for relief under the statute being considered here. As stated above, such adjustment must be successful. In the present investigation, we have been particularly troubled by the lack of data on growers of asparagus. Due to the fragmented nature of such industry and the consolidated recordkeeping of the growers, such data are difficult, if not impossible, to gather. If sufficient data should be developed and/or presented to the Commission which would show that the apparently successful adjustment of growers, canners, and freezers is other than that, we would not hesitate to reinstitute further proceedings to evaluate the matter. 1/

See footnote on the following page.

1/ Vice Chairman Minchew would like to emphasize that the lack of certain types of data has precluded the possibility of his making an affirmative determination. It is especially important that financial data be available. However, of the questionnaires mailed by the Commission soliciting information, only 18 percent of the responses have usable financial data. From such a small return it is impossible to understand fully the present condition of the industry. For example, are growers making money on asparagus, or have they shifted to other production; and if so, has that shift been profitable? This type of data may simply be impossible to obtain, but if there is a reasonable indication that additional information of this type might be forthcoming in usable form, I would be willing to waive the 1-year period between the submission of this report to the President and the filing of a new petition, insofar as that portion of the domestic industry represented by the growers of asparagus is concerned.

Additional views of Vice Chairman Daniel Minchew with regard to recommendations of remedy

I have concluded that the Commission should make no recommendation of remedy (recommendation) to the President in an evenly divided determination. I feel that, in the absence of an affirmative determination, such a recommendation by the Commission would be inappropriate. Section 330(d) of the Tariff Act of 1930, as amended, provides:

> (d) Effect of Divided Vote in Certain Cases.--
>
> (1) Whenever, in any case calling for findings of the Commission in connection with any authority conferred upon the President by law to make changes in import restrictions, a majority of the commissioners voting are unable to agree upon findings or recommendations, the findings (and recommendations, if any) unanimously agreed upon by one-half of the number of commissioners voting may be considered by the President as the findings and recommendations of the Commission: Provided, that if the commissioners voting are divided into two equal groups, each of which is unanimously agreed upon findings (and recommendations, if any), the findings (and recommendation, if any) of either group may be considered by the President as the findings (and recommendations, if any) of the Commission. In any case of a divided vote to be referred to in this paragraph the Commission shall transmit to the President the findings (and recommendations, if any) of each group within the Commission with respect to the matter in question.

The clear language of section 330(d) of the Tariff Act of 1930, as amended, shows that the President may accept the view of the Commissioners voting affirmatively, or he may choose to treat the views of the Commissioners voting in the negative as controlling.

As I do not believe there has been an affirmative determination in the present case, I conclude that section 201(d) of the Trade Act of 1974 does not allow the Commission to make a recommendation to the President.

Section 201(d)(1) provides:

> The Commission shall report to the President its findings under subsection (b), and the basis therefor and shall include in each report any dissenting or separate views. If the Commission finds with respect to any article, as a result of its investigation, the serious injury or threat thereof described in subsection (b), it shall--(A) find the amount of the increase in, or imposition of, any duty or import restriction on such article which is necessary to prevent or remedy such injury, or (B) if it determines that adjustment assistance under chapters 2, 3, and 4 can effectively remedy such injury, recommend the provision of such assistance, and shall include such findings or recommendation in its report to the President. (Emphasis supplied.)

For these reasons I do not believe the Commission should make a recommendation to the President. However, since Presidential action can have the effect of converting this evenly divided determination into an affirmative determination, the recommendation of individual Commissioners would be appropriate.

During the course of the present investigation and subsequent discussion of findings and recommendations, it became apparent that some controversy exists as to which Commissioners should participate in the development of a Commission recommendation in affirmative findings. The controversy was largely avoided in the present case because there was no affirmative finding by the Commission. However, in order to obtain guidance, not provided by the statute, as to what Commissioners should do in instances of evenly divided votes I think that it is advisable to address the issue of what Commissioners do in cases of affirmative findings. Specifically, are those Commissioners who make a negative determination expected to participate in the recommendation when a Commission majority has made an affirmative findings? One view would appear to be that only the majority supporting the affirmative finding would be allowed to fashion the recommendation, and in the case of an inability to agree on the recommendation, the majority view of those voting affirmatively would constitute the Commission recommendation to the President. I do not accept this view. I believe that the statute anticipates in all cases of affirmative findings two separate, distinct votes, and, further, that each Commissioner has a duty to participate in the recommendation process regardless of the Commissioner's individual vote on the question of serious injury.

I think it is important to examine the statute and supporting materials on this important question. Section 201(d)(1) refers to the recommendation by the "Commission" without any reference to a majority or to those Commissioners voting in the affirmative. I believe the Congress intended separate votes by the Commission: First, the Commission was to determine whether the provisions of 201(b) are met so that import relief could be awarded, and, second, the "Commission" is to decide on a recommendation to be transmitted to the President, as provided in section 201(d).

Section 332(g) of the Tariff Act of 1930, as amended by section 173 of the Trade Act of 1974, provides:

> Reports to President and Congress.--The Commission shall put at the disposal of the President of the United States, the Committee on Ways and Means of the House of Representatives, and the Committee on Finance of the Senate, whenever requested, all informatin at its command, and shall make such investigations and reports as may be requested by the President or by either of said committees or by either branch of the Congress, and shall report to Congress on the first Monday of December of each year hereafter a statement of the methods adopted and all expenses

> incurred, a summary of all reports made during the year, and a list of all votes taken by the commissioners voting in the affirmative and the negative on each vote and those commissioners not voting on each vote and the reasons for not voting. (Emphasis supplied.)

The purpose of the final phrase, added by the Trade Act of 1974, as outlined in the Senate Finance Committee Report at page 117 is as follows:

> . . . any vote which results in public notice of an action, or any vote on an investigation of the Commission or which results in a report being issued, would be included in the report. It is hoped that this amendment will encourage participation by all Commissioners in the important business of the Commission. (Emphasis supplied.)

I think there can be little doubt that a recommendation to the President would be considered "important business of the Commission."

Equal in importance to the authority cited above, which, to me, represents an affirmative duty by Commissioners to participate in the recommendation, is the fact that nowhere in the act do we see any prohibition of an action by a Commissioner to participate in important Commission business.

A separate policy issue presents itself as to whether a Commissioner should participate in the development of a Commission recommendation if he has voted negatively in the determination. I am of the opinion that a Commissioner should participate actively in the development of the recommendation.

If a Commissioner has voted negatively (which he may have done for several reasons under the statute) but the Commission has made an affirmative finding, the Commissioner must then separate the views on an affirmative or negative finding and set to the task of making a recommendation which would best redress the injury, as determined by the Commission to the domestic industry. I am not persuaded by the argument that a Commissioner cannot possibly separate the two. That is one of the responsibilities of a Commissioner. Indeed, it is possible that a Commissioner who voted negatively on the determination has sympathy with the domestic industry. It is possible that a Commissioner could find that there are no increased imports, an evaluation which necessitates a negative finding, even though the Commissioner feels the domestic industry has been injured.

The Senate Finance Committee Report at page 123 focuses on votes by Commissioners with regard to remedy (recommendation) when it states:

> . . . the Committee feels strongly that the Commission ought to reach a clear, definitive majority view on the nature of the remedy that is most suitable to the injury found.

It is hoped that this stated intent of the Congress will go a good way toward eliminating any attempt by those who might have voted in the minority to thwart the will of the majority who may have determined affirmatively.

The Commission must draw upon the diverse backgrounds of all members of the Commission in order to assure that all views are properly presented. It is in this way that the Commission was intended to function by those who established it as a Commission instead of a judicial body.

Since I feel that, in instances of affirmative determinations I must participate in the formulation of a recommendation, regardless of how I voted in the determination, I have concluded that, although I have made a negative determination in this case, I may give my view on a recommendation, because, by Presidential action, this evenly divided determination could become an affirmative finding.

My recommendation, should the President consider the Commission action an affirmative finding, is a quota as outlined below:

(1) The following quantitative limitations on the aggregate amount of asparagus, fresh or chilled, but not frozen, imported into the United States from all foreign countries, and entered for consumption under items 137.85 and 138.50 1/ of the Tariff Schedules of the United States, are necessary to remedy such injury--

(a) for an initial 3-year period, a quantitative limitation of not over 700,000 pounds entered per month, during the period of February 1 to April 30;

(b) during the fourth year, a quantitative limitation of not over 875,000 pounds entered per month during the period February 1 to April 30;

(c) during the fifth year, a quantitative limitation of not over 1,050,000 pounds per month during the period February 1 through April 30;

It is not intended that there be any quantitative limitation on asparagus entered during the other nine months of the year.

(2) In connection with the quantitative limitation found to be necessary under (1) above, it is recommended that, in order to provide an equitable distribution of the imports among supplying countries during the respective quota periods, the quota should be allocated according to historical sources of supply. 2/

1/ Became 138.50 of the Tariff Schedules of the United States on Jan. 1, 1976.

2/ In practical effect, this allocation for quota is probably little different than the allocation suggested by Commissioners Moore, Bedell, and Ablondi.

Affirmative Views of Commissioners George Moore and Catherine Bedell

We have made an affirmative finding that the asparagus-growing industry in the United States has sustained serious injury, or is threatened with serious injury, substantially caused by increased quantities of imports of asparagus (fresh, chilled, canned, and frozen). Also, we believe that the domestic asparagus-growing industry (hereinafter referred to as the domestic industry) is entitled to relief by way of certain import restrictions on fresh asparagus as outlined earlier.

On the basis of the facts disclosed during the Commission's investigation, it is clear that annual imports of asparagus in all forms are increasing. Since 1970 such imports have more than doubled, and there is every reason to believe that this trend will continue.

Asparagus imported and sold in the United States in the fresh, chilled, canned or frozen state displace asparagus which would have been produced by the domestic industry. In recent years, as this displacement occurred, the domestic asparagus growers, particularly those on the West Coast, where 75 percent of the asparagus is grown, experienced economic problems.

The Trade Act of 1974 (hereinafter referred to as the Act) requires the Commission, in connection with determining serious injury, to consider a number of economic factors, including significant idling of productive facilities. The evidence obtained by the Commission shows a decline in productive asparagus acreage of 19,000 acres since 1972.

During the same period total production of asparagus decreased more than 76 million pounds. In order to evaluate the effect of this severe decrease in production and acreage on the domestic industry, it must be pointed out that it required at least 3 years of cultivation, risk, and investment before 1972 to achieve peak production, which has now been lost. Thus, the injury to the domestic industry is doubly serious.

Another economic factor which the Act requires the Commission to consider concerns significant unemployment or underemployment within the domestic industry. It is clear that this criterion is met. The attached report of the Commission shows that employment in the domestic industry dropped from 28,000 to 21,000 workers between 1963 and 1974. In the last 2 years, employment has decreased by 2,000 workers.

The Act also requires the Commission to examine the inability of a significant number of firms to operate at a reasonable level of profit. The investigations by the Commission did not resolve this matter to our satisfaction. In our opinion, the evidence did not show that a significant number of grower establishments within the domestic industry experienced either greater or less profits or losses during the past several years while imports increased. However, at the hearings the petitioners representing the domestic industry presented evidence which leads us to the conclusion that there has been a diminution of a reasonable level of profits for a significant portion of the domestic industry during the past several years.

On the basis of the foregoing analysis, it is clear that the preponderance of the evidence developed by the Commission supports the conclusion that the domestic industry is suffering serious injury.

With respect to the final critical issue, i.e. whether increased imports of asparagus were a substantial cause of serious injury to the domestic industry, sections 201(b)(2)(C)[1/] and 201(b)(4)[2/] of the Act appear to be most significant. Taken together these two provisions simply mean that the Commission shall, first, evaluate the words "substantial cause" in terms of whether there was an increase in imports (either actual or relative to domestic production) and a decline in the proportion of the domestic market supplied by domestic producers, and, second, measure the words "substantial cause" in terms of whether increased imports were a cause which is important and not less than any other cause.

Statistics developed during the Commission's investigation reveal that since 1972 total domestic production of asparagus decreased from 289 million pounds to 213 million pounds representing a decline of 26 percent which reflects the impact of the marked increase in imports which began in 1971. On the other hand, total imports of all asparagus increased from 8 million pounds in 1970 to 19.1 million pounds in 1974, representing an increase of 137 percent.

The proportion of the domestic market supplied by the domestic producers has declined. Since 1970 the domestic industry has lost

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1/ 201(b)(2)"(C) with respect to substantial cause, an increase in imports (either actual or relative to domestic production) and a decline in the proportion of the domestic market supplied by domestic producers."

2/ 201(b)"(4) For purposes of this section, the term "substantial cause" means a cause which is important and not less than any other cause."

6.2 percent of the domestic market to asparagus imports. With respect to the U.S. fresh asparagus market only, the domestic industry has lost 5.9 percent of the market since 1970.

More than 5.5 million pounds of asparagus is now imported annually by Del Monte Corporation, Green Giant Company, Campbell Soup Company, and General Foods Corporation. Prior to 1970 these firms were substantially supplied by the domestic industry. The loss to the domestic industry represents the asparagus yield from approximately 3,300 acres.

Thus it is clear that while domestic production decreased substantially, imports increased markedly, and, at the same time, the domestic industry suffered serious losses to imports in the domestic market. While it is true that apparent consumption of asparagus in the United States has decreased, nevertheless, under the evaluation above the Commission is required to make pursuant to section 201(b)(2)(C) of the Act, the domestic industry has sustained serious injury.

A number of causes for the injury to the domestic industry have been suggested as more important than increased imports, e.g., reduced domestic consumption, loss of the white asparagus export market, and disease in the New Jersey growing area.

<u>As cited above in the analysis of section 201(b)(2)(C) the Act suggests that reduced consumption may not be cited as a cause more important than imports if it is found that increased imports are taking a significant share of the remaining domestic market while the domestic industry is experiencing a substantial loss in production.</u>

With respect to the white asparagus export market, the domestic industry sustained this loss in the mid-1960's, before the surge of asparagus imports. The asparagus plant disease in New Jersey and consequent loss of U.S. production does not account for the serious loss in acreage and production on the West Coast, where 75 percent of U.S.-produced asparagus is grown.

The other causes cited are likewise less important than increased imports.

Applying the foregoing analysis of evidence secured during the Commission's investigation to the issue of whether there is a threat of serious injury to the domestic industry, an affirmative conclusion must be reached. There is every reason to believe that the downward trends in sales, production, profits and employment in the domestic industry will continue. Based upon the evidence, the capabilities possessed by the exporting countries for increased production and processing of asparagus pose a continuing threat of increased imports to the domestic industry. Moreover, the largest inventory of canned asparagus in the last 10 years occurred in 1975, when the carry-in stocks of such asparagus reached 74.5 million pounds. It is doubtful that this stock will be sufficiently depleted to enable the canning industry to accommodate anticipated asparagus production in 1976.

Therefore, in our opinion, the statutory criteria having been met, an affirmative determination is required in this investigation. Also, it is our view that relief should be granted to the domestic industry in the form of import restrictions recommended by the three Commissioners voting in the affirmative. In determining the import quota for fresh asparagus it is our opinion that the representative period upon which to base such quota is 1966-1968.

Views of Commissioner Italo H. Ablondi

On July 10, 1975, the United States International Trade Commission received a petition filed by the California Asparagus Growers Association and the Washington Asparagus Growers Association requesting an investigation under section 201 of the Trade Act of 1974 with respect to imports of asparagus. On July 22, 1975, the Commission instituted an investigation to determine whether asparagus, fresh, chilled, or frozen or otherwise prepared or preserved, provided for in items 137.85, 138.00, 1/ and 141.81 of the Tariff Schedules of the United States (TSUS), are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or threat thereof, to the domestic industry producing articles like or directly competitive with such imported articles.

Section 201(b)(1) of the Trade Act requires that each of the following conditions be met before the Commission can recommend import relief to the President:

> (1) Imports of an article into the United States are increasing (either actually or relative to domestic production);
>
> (2) The domestic industry producing an article like or directly competitive with the imported article is being seriously injured or threatened with serious injury; and
>
> (3) Increased imports are a substantial cause (i.e., an important cause and not less than any other cause) of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

1/ The asparagus covered by item 138.00 is currently covered by item 138.50 of the tariff schedules by virtue of Executive Order 11888. Accordingly, item 138.50 will be referred to hereinafter in lieu of item 138.00.

Domestic industry

For purposes of this determination it is my view that the domestic industry includes all domestic growers of asparagus.

Asparagus is a perennial crop that requires a substantial capital investment and a growing period of several years before any possible return on the investment can be realized. There is no crop harvest the year the stand is planted, and yields during the second year are small. Asparagus production is normally at commercial levels in the third year. Estimates as to the life of the asparagus stand vary, ranging from 8 to 15 years. In order to insure continued production, new plantings are started before the older stands are taken out.

Question of increased imports

Annual imports of both fresh and processed asparagus have increased both in absolute volume and relative to domestic production. The period during which the increases have occurred coincides with the measuring period outlined by the Committee on Finance of the United States Senate in its Report No. 93-1298 at page 120:

> The increase in imports referred to would generally be such increases as have occurred since the effectiveness of the most recent trade agreement concessions proclaimed by the President, i.e., as of now, the effectiveness of the Kennedy Round concessions beginning in 1968.

Imports of fresh asparagus increased from 3.8 million pounds in 1969 to more than 9 million pounds in 1974; during the same period, imports of processed asparagus (canned and frozen) rose from 1.6 million pounds to 10 million pounds. The same pattern of rapidly increasing imports is reflected in the ratio of imports to domestic production, which, for all forms of asparagus, rose steadily from 2.0 percent in 1969 to 8.3 percent in 1974.

That imports have increased within the meaning of the act is conceded even by the major foreign asparagus exporter in stating that--

> Trend lines for the five-year period 1970-74 show an increase in all three categories of imports--canned, frozen, and fresh--both actual and relative to domestic production and apparent consumption.

No matter how construed, the criteria of increasing imports has been met.

Serious injury or threat thereof to growers of fresh asparagus

With respect to serious injury, section 201(b)(2) of the Trade Act of 1974 requires the Commission to take into account all economic factors which it considers relevant, including (but not limited to) the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry. Consideration of all relevant factors supports a determination that the domestic industry is suffering serious injury from increased imports. This criterion (serious injury) was not changed in the Trade Act of 1974 from an earlier provision in the Trade Expansion Act of 1962. Over the years since 1962 a number of Commissioners have established or accepted the definition of "serious injury" to be "an important, crippling, or mortal injury; one having permanent or lasting consequences." 1/ Such injuries are to be distinguished from the less important and temporary injuries which domestic concerns are expected to absorb without Government assistance.

1/ Pianos and Parts Thereof: Investigation No. TEA-I-14, TC Publication 309, 1969, p. 6; Flat Glass and Tempered Glass, investigation No. TEA-I-15, TC Publication 310, 1969, p. 28; Nonrubber Footwear, investigation No. TEA-I-18, TC Publication 359, 1971, p. 20.

Acreage devoted by U.S. growers to the cultivation of asparagus has been reduced significantly during recent years. Total U.S. acreage harvested in asparagus declined from 115,400 acres in 1969 to 100,000 acres in 1975. In California alone, the acreage planted in asparagus declined from 44,700 acres in 1969 to 38,200 acres in 1975.

The Department of Agriculture indicates that U.S. asparagus acreage and production in 1975 were substantially lower than in 1974. Production of asparagus for fresh market and processing in 1975 actually decreased to 212.6 million pounds in 1975--18 percent below such production in the previous year. Acreage harvested was down 11 percent from 1974.

The impact of acreage loss and the concomitant decrease in production is particularly severe for a capital and labor intensive crop like asparagus. Workers employed in the growing, harvesting, and packing of asparagus have suffered a significant reduction in employment in recent years. The number of these workers employed throughout the United States declined from 28,000 in 1963 to 21,000 in 1974.

Such losses are confirmed by the seasonal nature of the industry. Since asparagus is the first crop harvested in most growing regions, and is believed to be the only crop harvested during February and March, the absence of an asparagus crop necessarily means a loss of employment.

During the course of this investigation the Commission sought to obtain profit-and-loss data from a stratified random sample of domestic asparagus growers. The sample survey was constructed in such a manner as to preclude a meaningful statistical analysis of the financial performance of the domestic industry producing asparagus. However, in addition to its investigation in the instant case, this Commission has studied conditions in the asparagus industry on two prior occassions, including a comprehensive study initiated in 1972. 1/ From all the evidence obtained, it appears that the financial position of the domestic asparagus growers has deteriorated to the degree that a significant number of growers were unable to operate at a reasonable level of profit.

Substantial cause

The term "substantial cause" is new to the "escape clause" criteria. The Trade Act, at section 201(b)(4), defines "substantial cause" to mean "a cause which is important and not less than any other cause." The legislative history of the Trade Act sheds considerable light on the meaning of the term. The House Ways and Means Committee report states that--

> The Committee intends that a dual test be met--imports must constitute an important cause and be no less important than any other single cause. For example, if imports were just one of many factors of equal weight, imports would meet the test of being "not less than any other (sic) but it would be unlikely that any of the causes would be deemed an "important" cause. If there were any other cause more important than imports, then the second test of being "not less than any other cause" would not be met. On the other hand, if imports were one of two factors of equal weight and there were no other factors, both tests would be met. 2/

1/ See Conditions of Competition Between U.S.-Produced and Foreign-Produced Asparagus, TC Publication 550, 1973.

2/ H. Rept. No. 92-571 (93d Cong., 1st sess.), 1973, at p. 46.

The Senate Finance Committee report states further:

> The Committee recognizes that "weighing" causes in a dynamic economy is not always possible. It is not intended that a mathematical test be applied by the Commission. The Commissioners will have to assure themselves that imports represent a substantial cause or threat of injury, and not just one of a multitude of equal causes or threats of injury. 1/

It is contended that factors other than increased imports may have affected the domestic industry. The loss of the white asparagus export market has negatively impacted domestic production, but this loss occurred primarily at a time prior to the period now in question. Upon analysis the injury caused by the increasing imports is no less important a cause of the injury complained of by domestic growers than any other cause. Increased imports may not be the major cause of injury, but such a test is not required under the circumstances. The increased imports are, as the statute requires, a substantial cause, that is, not less than any other cause. Evidence adduced during the investigation supports this conclusion. Domestic production of asparagus declined from more than 281.5 million pounds in 1969 to 260.4 million pounds in 1974, when the volume of imports nearly quadrupled to 19.1 million pounds. The impact of this pattern is clearly reflected in the share of total domestic consumption taken by imports, which rose sharply and continuously from 2.1 percent in 1969 to more than 9 percent in 1974. In light of all the circumstances, such an impact has to be deemed a substantial cause.

1/ S. Rept. No. 93-1298 (93d Cong., 2d sess.), 1974, at pp. 120-121.

Determination

After considering all the evidence obtained in this investigation, we have determined that asparagus, fresh, chilled, or frozen, or otherwise prepared or preserved, provided for in items 137.85, 138.50, and 141.81 of the Tariff Schedules of the United States, is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic growers of asparagus.

Findings and recommendations

On the basis of our finding of serious injury we are required, pursuant to section 201(d)(1), to recommend such relief as would remedy the injury found. The recommended remedy is as follows:

(1) The following quantitative limitations on the aggregate amount of asparagus, fresh or chilled, but not frozen, imported into the United States from all foreign countries and entered for consumption under items 137.85 and 138.50 of the Tariff Schedules of the United States are necessary to remedy such injury:

(a) For an initial 3-year period, a quantitative limitation of not over 700,000 pounds entered per month during the period February 1 to April 30;

(b) During the fourth year, a quantitative limitation of not over 875,000 pounds entered per month during the period February 1 to April 30.

(c) During the fifth year, a quantitative limitation of not over 1,050,000 pounds entered per month during the period February 1 through April 30.

It is not intended that there be any quantitative limitation on asparagus entered during the other nine months of the year.

(2) In connection with the quantitative limitations found to be necessary under (1) above, it is recommended that, in order to provide an equitable distribution of the imports among supplying countries during the respective quota period, the entire quota should be limited to imports from Mexico, the only country supplying imports in significant commercial quantities.

The import relief recommended in this case is directed to importation of fresh asparagus. Mexico is currently the source of all the fresh asparagus imported into this country. Until the late 1960's the volume of these imports remained low and stable. However, beginning in 1969, imports of fresh asparagus began to increase rapidly rising from 3.8 million pounds in 1969 to more than 9 million pounds in 1974. More fresh asparagus is imported than any other form of asparagus. In 1974 fresh asparagus took a larger share of domestic consumption than either frozen or canned asparagus--11.3 percent for fresh, compared with 5.2 percent and 8.2 percent for frozen and canned, respectively.

The recommended relief is also intended to alleviate conditions during the domestic industry's main harvesting and marketing period, when the bulk of imported fresh asparagus enters the United States. The imported fresh asparagus takes the "bloom" off the fresh asparagus market and deprives asparagus growers of the best prices received in the fresh market, which are higher than the prices received from processors. It is hoped, therefore, that the proposed relief will enable growers to compete more effectively and actively in the fresh market, where the profit potential is the greatest.

In addition, the remedy is fashioned to allow importation of fresh asparagus during the time of year when domestic marketing thereof is lowest, and thus to assure the consumer a continued supply of fresh asparagus.

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On July 10, 1975, the California Asparagus Growers Association, Inc., and the Washington Asparagus Growers Association filed a petition with the United States International Trade Commission for import relief pursuant to section 201 of the Trade Act of 1974.

Following receipt of the petition, the U.S. International Trade Commission instituted an investigation on July 22, 1975, to determine whether asparagus, fresh, chilled, or frozen or otherwise prepared or preserved, provided for in items 137.85, 138.50, and 141.81 of the Tariff Schedules of the United States, is being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Public notice of the institution of the investigation was issued on July 24, 1975, and notice of the places and times of the public hearings was issued on September 29, 1975. 1/ The hearings, which afforded all interested parties an opportunity to be present, to produce evidence, and to be heard, were held on October 14 and 15, 1975, in San Francisco and on October 21, 1975, in Washington, D.C. The Trade Act of 1974 directs the Commission to complete its investigation within 6 months--in this case by January 10, 1976.

The Commission obtained information during this investigation at the public hearings; from written briefs submitted by interested

1/ Notices of the investigation and the public hearings were posted at the Commission's offices in Washington, D.C., and New York City and were published in the Federal Register (40 F.R. 31836 and 40 F.R. 45480, respectively).

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 growers, processors, and importers.

In April 1973, the Commission concluded an investigation of asparagus under section 332 of the Tariff Act of 1930. The investigation was conducted in response to a resolution adopted by the Committee on Ways and Means of the House of Representatives directing the Tariff Commission (now the United States International Trade Commission) to investigate the conditions of competition between domestic and foreign asparagus. The Commission, in its report to the House Ways and Means Committee, indicated that the principal problems of the U.S. asparagus industry were declining per capita consumption, loss of export markets, rapidly expanding imports (though at a relatively low level), and the likelihood of continued expansion of imports.

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.

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 sometimes served as a cooked vegetable, but is probably more often used as a salad vegetable or as a garnish for food dishes.

For most uses, asparagus in processed form can be used interchangeably with fresh asparagus, although for certain dishes a specific form may sometimes be preferred. White asparagus, however, is not used in the fresh form in the United States. Hospitals are the most important institutional users of canned and frozen asparagus. Asparagus is included in many therapeutic diets because it is a bland, high-vitamin vegetable containing only a few calories in comparison with most other vegetables. Fancy restaurants and clubs are also important institutional markets for asparagus.

Asparagus Production and Processing Techniques

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 upon whether the asparagus is to be marketed as green or white asparagus. White asparagus is produced by covering or ridging the root crown with considerably more soil than is used to produce 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 harvested only after the spears have grown to the desired length (usually 7 to 10 inches) above ground. 1/ White

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1/ In Michigan, where the crop is sold to freezers or canners for processing into "cuts and tips" almost exclusively, harvesting is often accomplished by means of a cutting sled. Such a sled is dragged on top of the ground and snaps the spears off at shorter lengths than are generally harvested by hand.

asparagus whose tips have remained above ground long enough to turn green is called green-tipped white asparagus. Most of the white asparagus canned in the United States is actually green-tipped white asparagus.

The asparagus plant is a deep-rooted perennial which may thrive indefinitely under ideal conditions. Depending on the growing area, 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, the first commercial crop from a new planting is generally 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.

Following harvest, asparagus can be sold through fresh-market outlets or can be canned or frozen. 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 asparagus harvest is processed. In the 1970-74 period, about two-thirds of the U.S. asparagus crop has been processed by canning or freezing; the remainder has been sold through fresh-market outlets. Of the amount processed, approximately three-fourths has been canned, and the rest has been frozen.

Asparagus destined for fresh-market sale is usually taken to a packing shed adjacent to the field and graded by spear diameter, often tied in bunches, trimmed to a uniform spear length (usually about 9 inches), 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 (un-bunched) 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 (usually about 7 inches) 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 air-tight, 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 several sizes of cartons which hold from 8 to 16 ounces; frozen asparagus for the institutional market is usually packed in cartons holding 2-1/2 pounds.

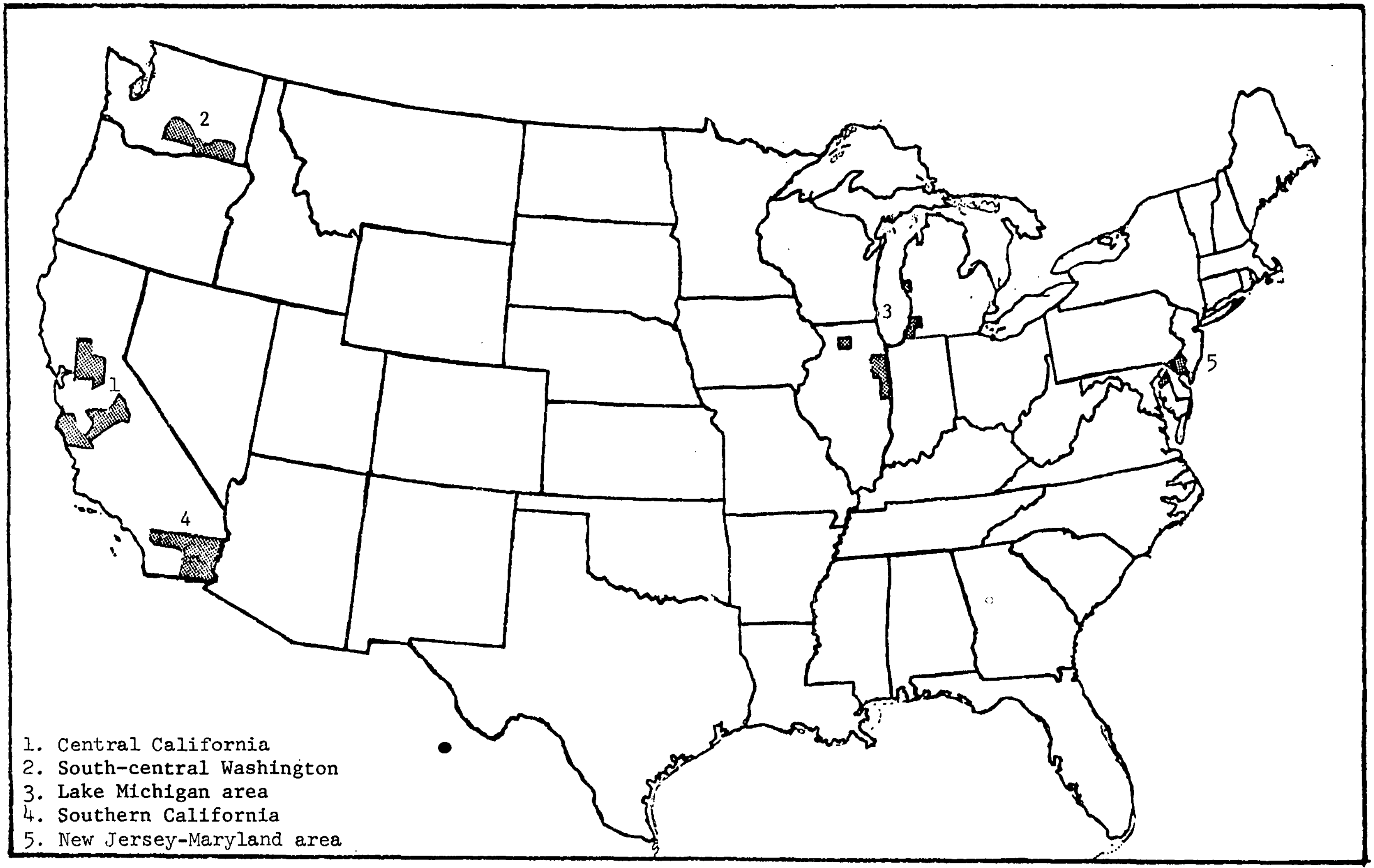
U.S. Producers

Growers

In the United States in 1975, asparagus was harvested on an estimated 2,400 farms 1/ located principally in five regions: central California, southern California, south-central Washington (including northeast Oregon), 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 (fig. 1). Other less important asparagus-producing areas situated outside of these five major regions are in Massachusetts, Virginia, Ohio, Indiana, and Iowa.

1/ Estimated by the U.S. International Trade Commission.

Figure 1.--U.S. asparagus-producing regions



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

Source: 1969 U.S. Census of Agriculture.

The central California region produces more asparagus than any of the other regions in the United States. Asparagus produced in this region is sold both to fresh-market outlets and to processors. The central California region has also accounted for all of the U.S. white asparagus production in recent years. The average amount of land devoted to asparagus on each of the asparagus-producing farms in this region is believed to exceed 200 acres. Industry sources indicate that in the central California region the growers in recent years have generally harvested a planting of asparagus for about 10 years. San Joaquin County, located in this region, is by far the nation's most important asparagus-producing county, with 26,200 acres harvested in 1974.

The south-central Washington region ranks second in asparagus production among the five regions. Yakima and Franklin Counties, with 8,600 and 5,100 acres, respectively, harvested in 1974, account for a substantial portion of this region's output. The south-central Washington region, like the central California region, markets asparagus through both fresh-market and processing outlets. Asparagus acreage per asparagus-producing farm in this region, however, is believed to be relatively small--probably averaging less than 50 acres. Also, growers in the south-central Washington region generally expect to harvest a planting for substantially more years than in central and southern California--sometimes for more than 20 years.

The Lake Michigan region is the third ranking U.S. region in production, although this region usually has more asparagus acres harvested than south-central Washington. Van Buren, Oceana, Berrien, and Cass Counties are the most important counties in terms of harvested acreage. Average asparagus acreage per asparagus-producing farm in this region is believed to be less than 20 acres. Growers in the Lake Michigan region, like their counterparts in south-central Washington, expect to harvest their plantings for many years--sometimes as long as 20 years. Asparagus output here is sold almost entirely to processors.

In contrast, the southern California region markets virtually all of its asparagus through fresh-market channels. Acreage devoted to asparagus production is estimated to average over 200 acres per asparagus-producing farm. In the southern California region, growers anticipate harvesting their plantings only 8 to 10 years. These plantings are thus in production for a slightly shorter period than in Central California. Imperial County is the leading asparagus-producing county in the region, with 4,600 acres harvested in 1974.

The region east and south of Wilmington, Del., has declined significantly in importance in recent years--largely because of the decline in acreage and production in New Jersey. This has come about primarily as a result of serious plant disease problems that have eliminated or damaged many plantings, but also because of a shortage of farm labor, increased labor costs, and increased valuation of agricultural land for nonfarm use. Most New Jersey plantings are in production for about 10 years, under normal conditions.

In the 5-year period 1970-74, asparagus was harvested from an average of 115,000 acres in the United States (table 1). The share of

Table 1.--Asparagus: U.S. acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-74, annual 1965-75

Period	Acreage harvested	Production 1/		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
1970-74	114.7	65,492	271.7	87.7	184.1	28.5	22.2
Annual:							
1965	131.2	49,072	328.0	104.0	224.0	16.3	14.4
1966	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
1973	115.4	66,411	254.5	86.0	168.5	31.1	23.6
1974	112.5	74,277	260.4	82.4	178.0	33.4	26.3
1975	100.0	61,058	212.6	85.9	126.7	34.1	25.1

1/ Data for 1965 and 1966 exclude approximately 10 million pounds produced but not marketed.

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

this acreage accounted for by the five most important producing States as well as that accounted for by all other States is shown below:

State	Percent
California	38
Washington/Oregon	18
Michigan	13
New Jersey	10
Illinois	8
All other	13
Total	100

In 1974 the number of farms on which asparagus was harvested in each of the major producing States was as follows: Michigan, 1,400; Washington, 425; California, 200; New Jersey, 150; and Illinois, 75. 1/

In all States and regions, nearly all asparagus growers derive only 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.

Processors

In 1975, asparagus was processed by 27 canners and 8 freezers in the United States. Rarely does one processor both can and freeze asparagus. In general, asparagus is one of a number of products processed by these concerns, and usually one of the less important ones.

For most processors, asparagus is the first commodity processed during the season. The processing of asparagus generally extends a firm's processing season by 1 to 2 months inasmuch as asparagus is available much earlier than most of the other commodities.

1/ Estimated by the U.S. International Trade Commission.

Even so, most firms carry on processing operations during only 9 months or less each year, and some operate only a few months each year.

Canners

The total number of firms canning asparagus declined from about 60 in the mid-1960's to 38 in 1972 and 27 in 1975. A few of the canners that had ceased to process asparagus by 1975 had ended all canning operations, and some had become affiliated with one of the 27 remaining canners through mergers. Industry sources indicate that the others ended their asparagus-canning operations for reasons such as an inability to procure sufficient supplies of asparagus.

In 1972, the latest year for which such data are available, the three largest asparagus canners accounted for 45 percent of the canned asparagus produced, 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. Industry sources indicate that no firms were canning asparagus in New Jersey in 1975.

Freezers

Only 8 firms froze asparagus in 1975, compared with 19 in 1972 and 21 in the mid-1960's. The number of firms freezing asparagus declined largely for the same reasons that the number of asparagus canners declined. The majority of the freezers were located in the western United States.

No firms were freezing asparagus on the east coast in 1975. It is believed that the eight remaining freezers operated only one plant each in which asparagus was frozen.

The five largest freezers of asparagus produced about 65 percent of the total output of asparagus in 1972, the latest year for which such data are available, and the nine largest produced more than 90 percent of the total.

Foreign affiliates

Several large domestic firms are also involved in processing asparagus in Mexico for importation into the United States. Such processing is done through foreign concerns either affiliated or associated with these U.S. food-processing firms. No U.S. processors currently have such connections with Taiwanese processors.

Nearly all of the frozen asparagus imported into the United States is produced by Mexican affiliates of two U.S. firms. An important share of these frozen asparagus imports, however, are captive shipments--i.e., shipments destined for further processing into cream of asparagus soup in several of the firms' U.S. plants.

A substantial portion of U.S. imports of canned white asparagus in retail-size containers are produced in Mexico by an affiliate of a U.S. canner. In addition, a Mexican concern associated with (i.e., receiving quality control and other technological assistance from) a large U.S. processor produces the bulk of U.S. imports of canned green asparagus.

Channels and Methods of Distribution

Fresh asparagus

Fresh asparagus is a perishable vegetable which must be marketed within a few weeks after being harvested. After being packed by the grower, asparagus is shipped either by the grower or by commercial shippers, usually the latter, to chain stores or to wholesale produce markets in major U.S. cities; at times, brokers 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 (immerse in a cold-water shower) the asparagus to keep it fresh during transit to a distant market, and many maintain cold-storage facilities. Wholesale buyers--e.g., chainstores, regional distributors, and institutional jobbers--sell the fresh asparagus to homemakers, retail stores, and institutions.

Processed asparagus

If 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, and so forth, by the grower. Growers that contract with processors generally do so in advance of harvesttime, committing themselves to deliver their production of asparagus from a certain number of acres. Most growers sell either directly or indirectly to 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 ** percent of the asparagus canned in the United States in 1972 and an estimated ** percent in 1974.

Frozen and canned asparagus can be stored for many months. Inasmuch as asparagus is processed only during the short period each year that coincides with the main domestic harvest season (February-June), processors must pack and warehouse sufficient quantities of asparagus to fill orders between processing seasons. Processors maintain storage facilities adjacent to their major marketing areas, and 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. It is estimated that brokers handle 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 is probably about the same as for all processed fruits and vegetables. 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.

Importers

Importers of Fresh Asparagus

A few firms account for virtually all of the fresh asparagus imported into the United States. These importers are wholesale fruit and vegetable distributing concerns, but are not major marketers of domestically grown asparagus. The imported fresh asparagus is distributed in a manner similar to that detailed above for the domestically grown product.

The bulk 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 Imperial County in the southern California region--and reach a peak in March. Most of the fresh asparagus imports not entering through Calexico have entered at Hidalgo, Texas. These imports, which have made up an increasing portion of annual fresh asparagus imports in recent years, 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 in the United States during the main domestic growing season.

Importers of Processed Asparagus

Most of the frozen asparagus imported from Mexico and Taiwan is imported and marketed by U.S. firms that are major food processors and distributors in the United States. These firms maintain extensive sales organizations and market the imported asparagus as part of their broad line of products. Except for that which is used as an ingredient in soup, it is believed that 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 imported and marketed in the United States by two large U.S. processors and distributors of canned food products. Such imports, nearly all of which are in retail-size containers, are offered as a part of these firms' extensive lines 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 about 35 importers, which generally warehouse the goods at the port of entry. From that point, the importers sell to food chains, wholesale grocers, or institutional wholesalers. Virtually all of these imports from Taiwan are canned white asparagus. Formerly, most Taiwan imports consisted of institutional-size cans, but retail-size containers have become more important in recent years. 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.

The frozen asparagus imported from Mexico (by far the bulk of U.S. imports of frozen asparagus) is virtually all produced by affiliates of the same U.S. firms responsible for its importation and marketing. Moreover, an important portion of these Mexican supplies are captive shipments (i.e., shipments destined for further processing, domestically, by the same firm prior to final consumption). In this case, these imports are processed into asparagus soup.

The canned asparagus imported from Mexico is produced in that country by firms either affiliated with or associated with (i.e., receiving quality control and other technological assistance from) domestic processors importing and marketing the Mexican canned product. These supplies from Mexico account for most of the U.S. imports of canned green asparagus and an important portion of U.S. imports of canned white asparagus in retail-size cans.

No U.S. asparagus processors presently have any affiliation or association with Taiwanese freezers and canners.

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). Virtually all imports of fresh asparagus are classified for tariff purposes in TSUS item 137.85; most imports of frozen asparagus enter under item 138.50 (formerly part of 138.00); canned asparagus imports are classified under item 141.81. The rates of duty currently applicable to such imports are shown in table 2.

Table 2.--Asparagus, fresh, frozen, or canned: U.S. rates of duty, January 1976

TSUS item	Description	Column 1 rate	Column 2 rate
	Vegetables, fresh, chilled, or frozen (but not reduced in size nor otherwise prepared or preserved):		
	Other:		
137.85	Other [fresh or chilled asparagus (pt.)] 1/2/---	25% ad val.	50% ad val.
	Vegetables, fresh, chilled, or frozen, and cut, sliced, or otherwise reduced in size (but not otherwise prepared or preserved):2/		
138.50	Other------------------------	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:		
	Other [except packed in salt, in brine, or pickled]:		
141.81	Other [than palm hearts] 2/3/--------	17.5% ad val.	35% ad val.

1/ Effective Jan. 1, 1973, a statistical suffix (item 137.8520) was established for fresh or chilled asparagus under the Tariff Schedules of the United States Annotated (TSUSA) and frozen asparagus not reduced in size, nor otherwise prepared or preserved, became part of the more general description (statistical suffix item 137.8540).

2/ The U.S. Treasury Department has determined administratively (ORR ruling 51-70) that imports of fresh, chilled, or frozen asparagus which has been cut into 5-inch or shorter lengths is classifiable under TSUS item 138.50 if the asparagus has not been otherwise prepared or preserved. If the asparagus has been otherwise prepared (e.g., frozen asparagus packed in butter sauce), it is dutiable under item 141.81. While there have been no customs court decisions as to what constitutes reduced-in-size fresh, chilled, or frozen asparagus for classification under items 137.85 or 138.50 (the most recent customs court decision on reduced-in-size vegetables was on frozen onions decided on Mar. 31, 1975 (CD 4590)), under current customs practice little if any imported frozen asparagus is dutiable under item 137.85. Similarly, little if any fresh or chilled asparagus is currently imported under item 138.50.

3/ Effective Jan. 1, 1969, a statistical suffix (item 141.8140) was established in the TSUSA for asparagus under TSUS item 141.81 which covers asparagus "otherwise prepared or preserved," including canned asparagus.

The column 1 rates reflect concessions granted by the United States in the General Agreement on Tariffs and Trade; such rates are applicable to all products except products of designated nonmarket economy countries, which are subject to the column 2 rate.

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.

The Question of Increased Imports

U.S. Imports

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 domestically produced product and is similarly packaged.

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 have increased on an irregular basis since 1969 as shown in table 3, which summarizes the data shown in tables 4, 5, and 6. Such imports are partially estimated. 1/

Table 3.--Asparagus: U.S. imports for consumption, by types, 5-year averages 1960-74, annual 1965-74, January-October 1974, and January-October 1975

(In millions of pounds)

Period	Fresh	Canned	Frozen	Total
5-year average:				
1960-64	1.2	-	-	1.2
1965-69	2.2	1.1	-	3.3
1970-74	7.2	7.7	1.7	16.6
Annual:				
1965	.7	-	-	.7
1966	2.4	.6	-	3.0
1967	2.0	2.5	-	4.5
1968	2.1	.9	-	3.0
1969	3.8	1.5	.1	5.4
1970	5.0	2.5	.5	8.0
1971	6.2	5.4	1.6	13.2
1972	8.2	9.4	3.1	20.7
1973	7.3	12.5	2.0	21.8
1974	9.1	8.8	1.2	19.1
Jan.-Oct.--				
1974	8.6	8.3	1.1	18.0
1975	8.0	7.5	1.3	16.8

1/ Official U.S. Department of Commerce statistics 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 Jan. 1, 1969, and Jan. 1, 1973, respectively. Data collected by the U.S. Department of Agriculture under the Plant Quarantine Act of 1912, as amended, was used by the U.S. International Trade Commission in estimating the quantity, but not the value, of fresh (prior to Jan. 1, 1973) and frozen asparagus imported into the United States from all countries other than Canada.

Table 4.--Asparagus, fresh: U.S. production for fresh market, imports, exports, and apparent consumption, 5-year averages 1945-74, annual 1965-74, January-October 1974 and January-October 1975

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
1970-74	87.7	7.2	9.1	85.7	8.4
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
1973	86.0	7.3	10.5	82.8	8.8
1974	82.4	9.1	10.9	80.6	11.3
Jan.-Oct.--					
1974	82.4	8.6	10.7	4/	4/
1975	85.9	8.0	11.0	4/	4/

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.
4/ Not meaningful.

Source: Production data compiled from official statistics of the U.S. Department of Agriculture; imports prior to 1973 estimated by the U.S. International Trade Commission from data supplied by the U.S. Department of Agriculture; exports and imports compiled from official statistics of the U.S. Department of Commerce, except as noted.

Table 5.--Asparagus, frozen: U.S. carry-in stocks, production, imports, and apparent consumption, 5-year averages 1945-74, annual 1965-74, January-October 1974, and January-October 1975

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	-
1950-54-------	7.1	26.0	-	24.7	-
1955-59-------	13.6	30.9	-	30.2	-
1960-64-------	17.2	33.3	-	33.9	-
1965-69-------	14.2	31.0	-	31.2	-
1970-74-------	14.2	25.2	1.7	27.1	6.3
Annual:					
1965----------	14.2	30.9	-	30.2	-
1966----------	14.9	34.5	-	30.8	-
1967----------	18.6	32.5	-	32.7	-
1968----------	18.4	34.4	-	33.0	-
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	28.9	5.5
1972----------	10.9	33.6	3.1	25.9	12.0
1973----------	21.7	20.2	2.0	26.4	7.6
1974----------	17.5	16.1	1.2	23.1	5.2
Jan.-Oct.--					
1974----------	17.5	16.1	1.1	2/	2/
1975----------	11.7	3/ 16.9	1.3	2/	2/

1/ Carry-in stocks at the beginning (Jan. 1) of each period or year.
2/ Not meaningful.
3/ Preliminary.

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 U.S. International Trade Commission from data supplied by industry sources and official statistics of the U.S. Department of Agriculture.

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

Table 6.--Asparagus, canned: U.S. carry-in stocks, production, imports for consumption, exports of domestic merchandise, and apparent consumption, 5-year averages 1945-74, annual 1960-74, January-October 1974, and January-October 1975

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
1970-74-------	64.0	2/	133.6	133.6	7.7	5.0	135.4	5.7
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/	129.7	5/ 129.7	5.4	4.5	137.7	3.9
1972----------	6/ 42.1	2/	137.1	5/ 137.1	9.4	3.8	133.4	7.1
1973----------	6/ 51.4	2/	135.6	5/ 135.6	12.5	4.1	149.1	8.4
1974----------	6/ 46.3	2/	132.1	5/ 132.1	8.8	5.1	107.6	8.2
Jan.-Oct.--								
1974----------	6/ 46.3	2/	132.1	5/ 132.1	8.3	4.2	7/	7/
1975----------	6/ 74.5	2/	83.1	5/ 83.1	7.5	2.3	7/	7/

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 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 U.S. International Trade Commission on the basis of partial reports.
5/ Reported as only green asparagus beginning in 1971; production of white asparagus was small in the years 1971-75.
6/ Includes only green asparagus. Jan. 1 stocks of white asparagus are believed to have been small in the years 1971-75.
7/ Not meaningful.

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.

Fresh asparagus

It is believed that all imported 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 product. Virtually all U.S. imports of fresh asparagus are from Mexico. Such imports have entered regularly since 1957, but did not exceed 1 million pounds annually until 1961.

Table 7 shows that over four-fifths of the annual U.S. imports of fresh asparagus during the 1969-73 period entered the United States in February, March, and April. In 1974, 72 percent of U.S. imports entered during those 3 months. More than three-fourths of the fresh asparagus imported annually during the 1969-72 period entered at Calexico, Calif. (table 8). In 1973 and 1974, 74 percent and 69 percent, respectively, entered at that point. 1/ This asparagus is produced in the Mexicali Valley in Mexico, and is shipped through Calexico at approximately the same time of year as that shipped from the Imperial Valley area of California (fig. 2). Shipments of Mexicali asparagus also coincide to a great extent with fresh asparagus production in other areas of California (table 9); however, such Mexicali shipments usually peak prior to the peak in fresh production in California areas outside the Imperial Valley. The asparagus that enters the United States during the fall (August-November) is produced in the Bajio area of central Mexico and enters this country through Hidalgo, Tex. Although imports of Mexican fall asparagus appear to have increased in recent years, very little asparagus is harvested in the United States during the fall months.

1/ * * * * * * * * is currently being investigated by the U.S. Customs Service (18 U.S.C. 1542) for alleged undervaluation for assessment purposes.

Table 7.--Asparagus, fresh and frozen: U.S. imports, by months, 1969-75

(In thousands of pounds)

Month	1969	1970	1971	1972	1973	1974	1975
	Fresh asparagus						
January	209	184	127	215	-	149	30
February	795	872	1,954	1,399	229	2,536	1,367
March	1,488	2,432	2,799	4,552	5,400	3,229	4,542
April	761	1,099	505	627	632	762	751
May	140	98	-	73	-	43	-
June	1/	-	-	-	-	-	49
July	-	-	-	-	-	-	-
August	-	-	1/	163	59	287	-
September	-	18	211	549	306	651	485
October	240	255	391	531	419	988	776
November	115	45	164	114	238	413	2/
December	8	5	28	-	6	51	2/
Total	3,756	5,008	6,179	8,223	7,289	9,109	2/
	Frozen asparagus						
January	-	36	301	220	-	2	-
February	-	-	-	383	7	-	-
March	-	-	58	42	7	-	-
April	27	134	253	424	303	38	610
May	99	98	190	430	560	300	-
June	-	39	64	224	194	346	56
July	-	-	14	25	119	132	-
August	-	42	96	787	192	-	20
September	-	-	212	382	328	-	453
October	-	33	159	69	217	256	117
November	-	97	145	43	-	100	2/
December	-	-	119	59	38	-	2/
Total	126	479	1,611	3,088	1,965	1,174	2/

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

Source: Compiled by the U.S. International Trade Commission from data supplied by industry sources and from official statistics of the U.S. Department of Agriculture and the U.S. Department of Commerce.

Table 8.--Asparagus, fresh and frozen: U.S. imports, by ports of entry, annual 1969-74, January-October 1974, and January-October 1975

(In thousands of pounds)

Port of entry	1969	1970	1971	1972	1973	1974	Jan.-Oct.-- 1974	Jan.-Oct.-- 1975
	Fresh asparagus							
Calexico, Calif---	3,111	3,820	4,801	6,199	5,388	6,279	6,278	6,493
Nogales, Ariz-----	290	942	606	667	871	353	353	245
Hidalgo, Tex------	355	232	772	1,351	1,022	2,383	2,014	1,261
Other-------------	1/	14	1/	6	8	94	-	1
Total---------	3,756	5,008	6,179	8,223	7,289	9,109	8,645	8,000
	Frozen asparagus							
Laredo, Tex-------	126	382	818	1,360	1,719	1,174	1,074	1,256
Brownsville, Tex--	-	-	54	294	204	-	-	-
New York, N.Y-----	-	-	218	345	7	-	-	-
Boston, Mass------	-	-	103	-	-	-	-	-
San Francisco, Calif-----------	-	97	359	1,065	8	1/	-	-
Los Angeles, Calif-----------	-	-	53	24	27	-	1/	-
Other-------------	1/	-	6	-	1	-	-	-
Total---------	126	479	1,611	3,088	1,965	1,174	1,074	1,256

1/ Less than 500 pounds.

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

Figure 2.--California shipping districts

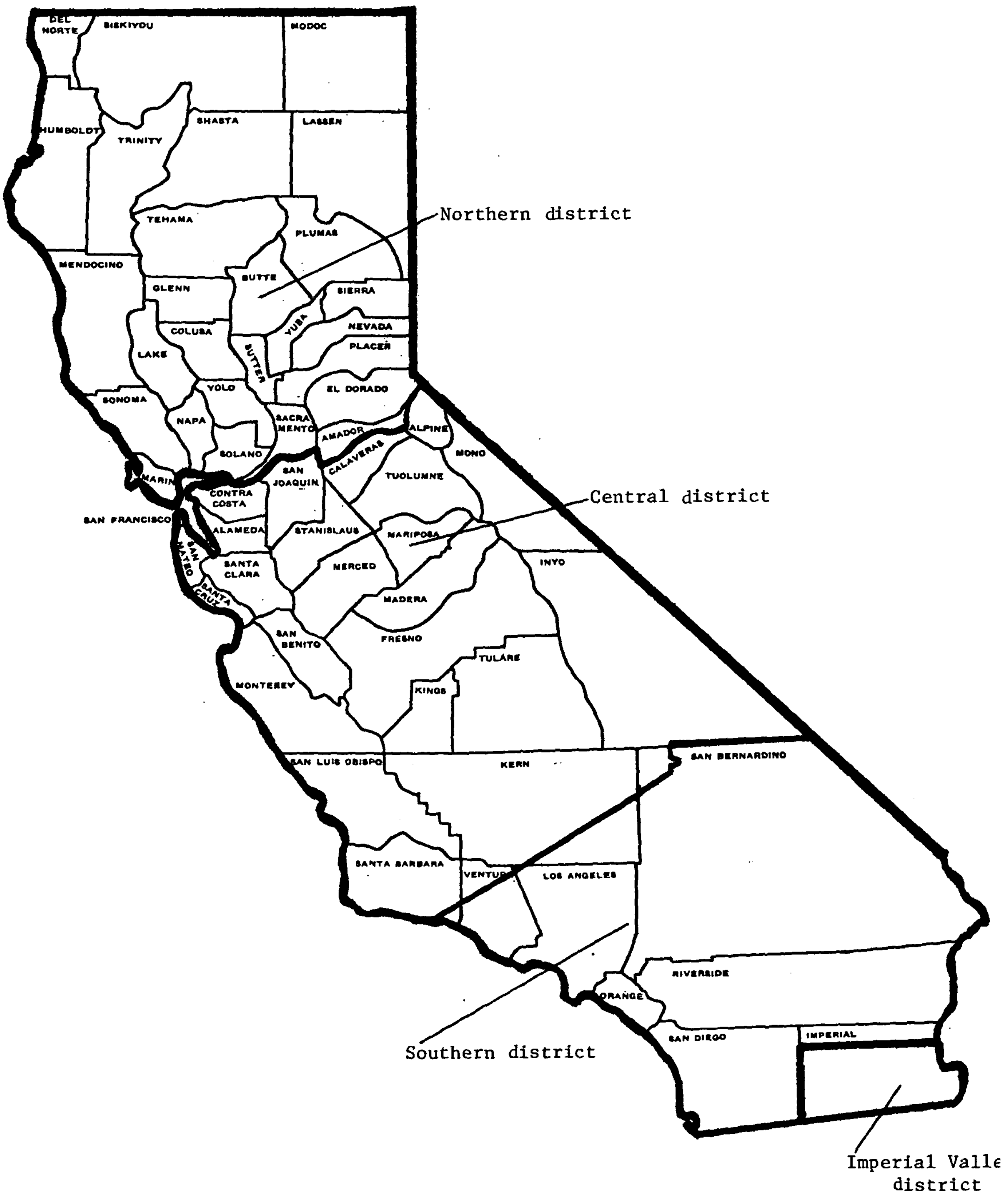


Table 9.--Asparagus, fresh: California production, by shipping districts, and U.S. imports for consumption, by ports of entry, by months, 1973-75

(In thousands of pounds)

Year and month	California production					U.S. imports				
	California shipping district				Total	Customs port of entry				Total
	Northern	Central	Southern	Imperial Valley		Calexico, Calif.	Hidalgo, Tex.	Nogales, Ariz.	Other ports	
1973										
January	-	-	72	251	322	-	-	-	-	-
February	-	215	1,792	3,870	5,876	143	-	83	2	229
March	72	10,176	2,938	11,322	24,508	4,770	-	630	-	5,400
April	932	19,026	3,511	2,831	26,300	474	-	157	-	632
May	322	4,909	2,257	-	7,489	-	-	-	-	-
June	-	824	681	-	1,505	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	59	-	-	59
September	-	-	-	-	-	-	300	-	5	306
October	-	-	-	-	-	-	419	-	-	419
November	-	-	-	-	-	-	238	-	-	238
December	-	-	-	-	-	-	6	-	-	6
Total	1,326	35,150	11,251	18,274	66,000	5,388	1,022	871	8	7,289
1974										
January	-	-	397	1,553	1,951	148	-	1	-	149
February	-	434	1,517	3,793	5,744	2,433	-	103	-	2,536
March	181	11,344	2,276	9,826	23,626	3,026	-	181	22	3,229
April	903	16,546	1,481	1,915	20,845	657	-	68	37	762
May	542	4,660	1,337	-	6,539	14	-	-	29	43
June	-	1,120	614	-	1,734	-	-	-	-	-
July	-	253	-	-	253	-	-	-	-	-
August	-	72	-	-	72	-	287	-	-	287
September	-	36	-	-	36	-	651	-	-	651
October	-	-	-	-	-	-	982	-	7	988
November	-	-	-	-	-	-	413	-	-	413
December	-	-	-	-	-	-	51	-	-	51
Total	1,626	34,464	7,623	17,088	60,800	6,279	2,383	353	94	9,109

See footnotes at end of table.

Table 9.--Asparagus, fresh: California production by shipping districts, and U.S. imports for consumption, by ports of entry, by months, 1973-75--Continued

(In thousands of pounds)

Year and month	California production 1/					U.S. imports				
	California shipping district				Total	Customs port of entry				Total
	Northern	Central	Southern	Imperial Valley		Calexico, Calif.	Hidalgo, Tex.	Nogales, Ariz.	Other ports	
1975										
January	-	-	-	75	75	30	-	-	-	30
February	-	-	634	2,125	2,759	1,347	-	20	-	1,367
March	-	7,085	2,834	11,671	21,590	4,412	-	130	-	4,542
April	559	20,433	2,051	5,406	28,449	667	-	84	-	751
May	746	7,159	2,908	-	10,813	-	-	-	-	-
June	37	1,119	858	-	2,014	37	-	11	1	49
July	-	-	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-	-	-	-
September	-	-	-	-	-	-	485	-	-	485
October	-	-	-	-	-	-	776	-	-	776
November	-	-	-	-	-	2/	2/	2/	2/	2/
December	-	-	-	-	-	2/	2/	2/	2/	2/
Total	1,342	35,796	9,285	19,277	65,700	2/	2/	2/	2/	2/

1/ Preliminary.
2/ Not currently available.

Source: Production derived from official fresh-vegetable shipment data of the U.S. Department of Agriculture; imports compiled from official statistics of the U.S. Department of Commerce.

Note.--Because of rounding, figures may not add to the totals shown.

Frozen asparagus

By far the bulk of U.S. imports of frozen asparagus during the 1969-74 period were from Mexico. Most of the remainder were from Taiwan although sizable shipments from Australia were received in 1970 and 1971 (table 10). Imports of frozen asparagus from Mexico began in 1969, while those from Taiwan began in 1971. Table 8 on page A-27 shows that frozen asparagus enters the United States chiefly at three ports--Laredo, San Francisco, and New York. Most Mexican supplies enter this country at Laredo. Importations of frozen asparagus are spread throughout the year (table 7 on page A-26).

It is believed that 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 either in retail-size containers or shipped in bulk, while that from Taiwan may be packed either in bulk or in institutional- and retail-size packages. Frozen asparagus imported in bulk from Taiwan is later repacked in the United States into retail- and institutional-size containers, and that imported in bulk from Mexico is later reprocessed into asparagus soup. All of the imported frozen product is believed to be green asparagus since white asparagus is not very suitable for freezing. Imports consist of spears, cuts and tips, and frozen soup stock.

An important share of U.S. frozen asparagus imports consist of frozen asparagus pieces and asparagus puree, shipped in bulk containers,

Table 10.--Asparagus, fresh and frozen: U.S. imports, by principal sources, annual 1961-74, January-October 1974, and January-October 1975

(In thousands of pounds)

Period	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
1973	7,284	5	-	-	-	-	7,289
1974	9,109	-	-	-	-	-	9,109
Jan.-Oct.--							
1974	8,645	-	-	-	-	-	8,645
1975	8,000	-	-	-	-	-	8,000
	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
1973	1,923	42	-	-	-	-	1,965
1974	1,174	1/	-	-	-	-	1,174
Jan.-Oct.--							
1974	1,074	1/	-	-	-	-	1,074
1975	1,256	-	-	-	-	-	1,256

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

Source: Imports of fresh asparagus for the years 1961-72 estimated by the U.S. International Trade Commission on a calendar-year basis from fiscal year (July 1-June 30) data supplied by the U.S. Department of Agriculture. Imports of fresh asparagus for 1973, 1974, and 1975 compiled from official statistics of the U.S. Department of Commerce. Imports of frozen asparagus estimated from data supplied by industry sources and from official statistics of the U.S. Department of Agriculture.

to be reprocessed domestically into asparagus soup (table 11). These shipments may be considered "captive" in that this frozen soup stock is produced in Mexico, by a wholly owned subsidiary of a large U.S. food-processing firm, for the express purpose of being converted into asparagus soup in the United States by this same concern.

Table 11.--Asparagus, frozen: U.S. imports, total and those for reprocessing into asparagus soup, 1970-74

Year	Total	Imports for reprocessing into asparagus soup	Other imports of frozen asparagus	Ratio of imports for reprocessing to total imports
	1,000 pounds	1,000 pounds	1,000 pounds	Percent
1970	479	*	*	*
1971	1,611	*	*	*
1972	3,088	*	*	*
1973	1,965	*	*	*
1974	1,174	*	*	*

Source: Estimated by the U.S. International Trade Commission from data supplied by industry sources and official statistics of the U.S. Department of Agriculture.

Canned asparagus

Nearly all of the annual U.S. imports of canned asparagus during the years 1969-74 were from two countries--Taiwan and Mexico (table 12). Imports of canned asparagus from Mexico did not begin until 1970, but since that time they have grown much faster than have imports from Taiwan. In 1974, Mexico replaced Taiwan as this country's leading foreign supplier of canned asparagus. 1/ Nearly all imports of canned asparagus to date from Taiwan have been white asparagus, while imports

1/ Some of the materials (e.g., cans and lids) used in canning asparagus in Mexico are supplied from the United States. Such materials are not dutiable when imported into the United States as part of the finished product.

Table 12.--Asparagus, canned: U.S. imports for consumption, by principal sources, annual 1969-74, January-October 1974, and January-October 1975

Source	1969	1970	1971	1972	1973	1974	Jan.-Oct.-- 1974	Jan.-Oct.-- 1975
	Quantity (1,000 pounds)							
Taiwan	1,257	2,217	3,321	5,204	9,044	4,181	3,783	1,745
Mexico	-	156	1,923	3,830	3,282	4,546	4,442	5,582
Japan	120	81	61	32	69	42	42	14
Spain	44	23	26	106	70	68	67	182
France	40	22	21	42	14	4	1	7
West Germany	16	16	16	16	5	6	4	9
Belgium	3	3	7	23	3	-	-	-
Other	2	1	1/	2/ 110	16	3	2	3
Total	1,483	2,520	5,375	9,363	12,503	8,850	8,341	7,542
	Value (1,000 dollars)							
Taiwan	396	676	874	1,517	3,189	1,959	1,739	862
Mexico	-	39	610	1,135	1,102	1,739	1,682	2,428
Japan	45	39	22	20	39	22	22	13
Spain	10	7	13	31	26	30	30	140
France	27	15	15	33	17	6	2	1
West Germany	13	14	18	20	8	10	5	17
Belgium	3	3	7	9	5	-	-	-
Other	1	1	1	2/ 29	6	2	1	1
Total	496	794	1,560	2,794	4,392	3,768	3,481	3,471
	Average unit value (cents per pound)							
Taiwan	31.5	30.5	26.3	29.1	35.3	46.9	46.0	49.4
Mexico	-	24.8	31.7	29.6	33.6	38.3	37.9	43.5
Japan	37.8	48.1	35.5	62.9	57.5	52.4	52.4	97.6
Spain	22.7	30.4	50.0	29.1	36.5	44.1	44.8	76.9
France	66.4	68.0	72.0	79.8	119.9	150.0	200.0	142.9
West Germany	84.6	86.5	115.0	124.4	155.6	167.0	125.0	183.0
Belgium	95.8	98.3	106.7	40.3	159.3	-	-	-
Other	41.9	108.9	66.8	2/26.4	33.3	66.7	50.0	33.0
Average	33.4	31.5	29.0	29.8	35.1	42.6	41.7	46.0

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

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

from Mexico have included both white and green asparagus. The imported canned asparagus has consisted mostly of whole spears rather than cuts and tips. The canned white asparagus has been packed in both retail- and institutional-size containers; the canned green asparagus has been packed mainly in retail-size cans.

Table 13 shows that, while imports from Taiwan are received regularly throughout the year, those from Mexico enter largely during the months of March 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 14). Imports from Mexico enter predominantly through San Diego, Laredo, and El Paso. It is believed that all U.S. imports of canned asparagus from Mexico are produced by either a Mexican subsidiary of a major U.S. producer of canned foods or a Mexican concern receiving technical assistance from a large U.S. asparagus processor. 1/

1/ Imports of canned asparagus from Mexico were investigated by the U.S. Department of the Treasury under countervailing duty law (19 U.S.C. 1303). A determination was made on Jan. 5, 1976, that bounties were not being granted by the Mexican Government on exports of canned asparagus. Notice of this determination was published in the Federal Register (41 FR 1299) Jan. 7, 1976.

Table 13.--Asparagus, canned: U.S. imports for consumption, total and from Taiwan and Mexico, by months, 1969-74 and January-October 1975

(In thousands of pounds)

Source and month	1969	1970	1971	1972	1973	1974	1975
Total:							
January	26	95	395	481	501	996	172
February	66	45	98	333	656	731	81
March	15	46	245	346	1,220	1,926	906
April	25	54	793	2,041	1,735	1,935	3,251
May	10	70	774	1,617	1,258	114	694
June	96	248	565	914	146	670	679
July	129	217	240	650	1,075	193	658
August	294	348	695	667	1,257	664	407
September	365	350	318	877	717	454	271
October	149	285	330	587	1,666	658	423
November	165	299	292	440	1,252	186	1/
December	143	463	630	410	1,125	323	1/
Total	1,483	2,520	5,375	9,363	12,503	8,850	1/
From Taiwan:							
January	26	74	344	466	488	868	163
February	59	36	39	230	645	729	81
March	14	40	238	331	721	589	92
April	14	51	152	408	363	218	155
May	-	17	246	386	348	26	112
June	79	158	270	307	51	72	216
July	111	216	133	235	672	110	79
August	238	337	362	656	1,114	432	187
September	323	341	290	803	703	375	237
October	116	234	296	579	1,596	364	423
November	149	264	289	397	1,222	180	1/
December	128	449	612	406	1,121	218	1/
Total	1,257	2,217	3,321	5,204	9,044	4,181	1/
From Mexico:							
January	-	-	39	-	-	127	-
February	-	-	-	-	-	-	-
March	-	-	-	-	485	1,337	807
April	-	-	641	1,604	1,363	1,713	3,096
May	-	40	523	1,231	800	88	528
June	-	75	288	588	80	598	423
July	-	-	102	407	403	83	537
August	-	-	298	-	90	204	191
September	-	-	-	-	-	-	-
October	-	41	32	-	62	292	-
November	-	-	-	-	-	-	1/
December	-	-	-	-	-	104	1/
Total	-	156	1,923	3,830	3,282	4,546	1/

1/ Not currently available.

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

Table 14.--Asparagus, canned: U.S. imports for consumption, total and from Taiwan and Mexico, by principal customs districts, annual 1969-74, January-September 1974, and January-September 1975

(In thousands of pounds)

Source and customs district	1969	1970	1971	1972	1973	1974	Jan.-Sept.-- 1974	Jan.-Sept.-- 1975
Total:								
New York, N.Y	564	888	1,541	1,566	3,086	769	717	570
San Diego, Calif	2	75	625	1,672	1,804	3,139	3,140	4,340
Laredo, Tex	-	81	781	1,309	1,015	498	498	848
San Francisco, Calif	373	462	422	854	1,317	790	678	352
Los Angeles, Calif	227	470	383	853	1,121	943	859	155
El Paso, Tex	-	-	460	768	464	909	804	509
Miami, Fla	46	131	261	485	618	176	154	180
San Juan, P.R	6	17	176	270	132	222	213	101
Honolulu, Hawaii	46	78	88	269	225	49	49	40
Baltimore, Md	18	43	101	298	725	572	461	217
Other	201	275	537	1,019	1,996	783	748	230
Total	1,483	2,520	5,375	9,363	12,503	8,850	8,341	7,542
From Taiwan:								
New York, N.Y	413	798	1,461	1,379	3,049	697	651	516
San Francisco, Calif	361	448	410	829	1,225	748	656	326
Los Angeles, Calif	224	460	383	851	1,114	943	859	155
Miami, Fla	45	125	260	485	618	176	154	180
San Juan, P.R	5	12	101	176	123	215	205	100
Honolulu, Hawaii	43	77	82	248	210	49	49	24
Baltimore, Md	18	43	101	298	718	572	461	217
Other	148	254	523	938	1,987	781	748	227
Total	1,257	2,217	3,321	5,204	9,044	4,181	3,783	1,745
From Mexico:								
San Diego, Calif	-	75	613	1,669	1,804	3,139	3,140	4,340
Laredo, Tex	-	81	781	1,309	1,015	498	498	733
El Paso, Tex	-	-	460	768	464	909	804	509
San Juan, P.R	-	-	69	84	-	-	-	-
Total	-	156	1,923	3,830	3,283	4,546	4,442	5,582

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

Green asparagus.--Imports of canned green asparagus have increased both absolutely (table 15) and relative to total imports of canned asparagus (table 16). These trends have developed because of the rise of the Mexican asparagus-processing industry.

Table 15.--Canned green asparagus: U.S. carry-in stocks, production, imports for consumption, exports, and apparent consumption, 5-year average 1970-74, annual 1970-74

Period	Carry-in stocks 1/	Production	Imports	Exports	Apparent consumption	Ratio of imports to consumption	Ratio of imports to production
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Percent	Percent
5-year average:							
1970-74---	49.0	133.6	1.8	4.7	127.4	1.4	1.3
Annual:							
1970------	58.4	133.3	2/	6.3	138.4	3/	3/
1971------	47.0	129.7	.5	4.3	130.8	.3	.3
1972------	42.1	137.1	2.0	3.8	126.0	1.5	1.4
1973------	51.4	135.6	2.9	4.1	139.5	2.0	2.1
1974------	4/ 46.3	132.1	3.5	5.1	102.5	3.4	2.6

1/ Carry-in stocks at the beginning (Jan. 1) of each period or year.
2/ Less than 50,000 pounds.
3/ Less than 0.05 percent.
4/ Jan. 1, 1975, carry-in stocks totaled 74.5 million pounds.

Source: Derived from tables 5 and 17 of this report.

Table 16.--Canned green asparagus: U.S. imports 1970-74, January-June 1974, and January-June 1975

	1970	1971	1972	1973	1974	Jan.-June-- 1974	Jan.-June-- 1975
Imports of canned green asparagus-------1,000 lb--	15	481	2,022	2,916	3,506	3,308	4,262
Ratio of imports of canned green asparagus to imports of all canned asparagus--------percent--	1	9	22	23	40	52	74

Source: Derived from table 17 of this report.

Table 17.--Asparagus, canned: U.S. imports of green and white (or green-tipped white) canned asparagus, by principal sources, annual 1970-74, January-June 1974, and January-June 1975

(In thousands of pounds)

Item	1970	1971	1972	1973	1974	January-June 1974	January-June 1975
Green canned asparagus:							
Mexico----------------	*	*	*	*	*	*	*
Taiwan----------------	*	*	*	*	*	*	*
Total---------------	15	481	2,022	2,916	3,506	3,308	4,262
White (or green-tipped white) canned asparagus:							
Mexico----------------	*	*	*	*	*	*	*
Taiwan----------------	*	*	*	*	*	*	*
Other-----------------	147	131	329	177	123	7	110
Total---------------	2,505	4,894	7,341	9,587	5,344	3,064	1,521
All canned asparagus:							
Mexico----------------	156	1,923	3,830	3,282	4,546	3,864	4,854
Taiwan----------------	2,217	3,321	5,204	9,044	4,181	2,501	819
Other-----------------	147	131	329	177	123	7	110
Total---------------	2,520	5,375	9,363	12,503	8,850	6,372	5,783

Source: Estimated by the U.S. International Trade Commission from data received by the Commission in response to questionnaires submitted to importers of canned asparagus and from official statistics of the U.S. Department of Commerce.

White asparagus.--White asparagus has a limited and relatively distinct market in the United States. Most of the domestic pack of canned white asparagus was formerly destined for European markets with the United States as only a minor market. When foreign production supplanted the U.S. pack in Europe largely because of price competition, U.S. canners also found it hard to compete in the domestic market because the domestic price was not high enough to cover costs of production and to return a profit. Hence, imports of canned white asparagus have increased during the 1970's, largely to satisfy a domestic demand no longer adequately supplied by the domestic output of this product. By 1975, no canned white asparagus was being produced in the United States.

The retail/institutional makeup of canned white asparagus imports was altered somewhat with the demise of the domestic white asparagus industry, which had formerly packed mainly in retail-size cans largely for export. As imports increasingly replaced the U.S. pack in domestic markets during the 1970-74 period, a majority of such imports were in retail-size cans, as indicated in table 18.

Table 18.--Percentage of imports of canned white asparagus entering in retail and institutional containers, 1970-74

Container size	1970	1971	1972	1973	1974
Retail	48	77	69	71	54
Institutional	52	23	31	29	46

Source: Compiled from data submitted to the U.S. International Trade Commission by importers.

Virtually all of the institutional imports and the bulk of the retail imports were from Taiwan. Significant amounts of canned white asparagus packed in retail-size containers have been imported from Mexico, however.

Factors Affecting Imports

Among the principal factors that have contributed to 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 chiefly affected 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, at both the wholesale and retail levels. For example, the Bureau of Labor Statistics (BLS) Wholesale Price Index for canned asparagus was 165.8 for 1974, compared with 100 in the base year 1967. Canned asparagus prices through 1974 increased at a greater rate than those of other processed fruits and vegetables (table 19). The BLS Consumer Price Index for fresh asparagus shows that prices of fresh asparagus have either risen faster than or kept pace with prices of other fresh fruits and vegetables in recent years (table 20).

(3) Imports of processed asparagus from Mexico, all of which are believed to be produced by foreign concerns affiliated or associated with major U.S. food-processing firms, are facilitated by existing channels of distribution and ready financing.

Table 19.--Indexes of U.S. wholesale prices for canned asparagus and other selected categories, 1960-74 and January-September 1975

(1967=100.0)

Period	All processed fruits and vegetables	Canned vegetables and juices	Canned asparagus 1/
1960	92.8	82.0	82.4
1961	94.9	85.6	83.7
1962	91.4	83.3	84.3
1963	96.9	80.3	85.7
1964	97.8	80.5	83.6
1965	95.2	86.2	85.7
1966	97.8	92.2	91.4
1967	100.0	100.0	100.0
1968	106.5	101.3	105.8
1969	108.1	100.5	106.7
1970	110.6	105.1	110.8
1971	114.3	107.8	124.4
1972	119.7	110.7	135.7
1973	129.6	117.9	149.6
1974	154.6	142.2	165.8
1975 (January-September)	170.1	163.9	155.9

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 by the U.S. International Trade Commission from official statistics of the Bureau of Labor Statistics, U.S. Department of Labor.

Table 20.--Indexes of U.S. consumer prices for fresh asparagus and other selected categories, 1960-74 and January-September 1975

(1967=100.0)

Year	All fruits and vegetables	All processed fruits and vegetables	All fresh fruits and vegetables	Fresh asparagus 1/
1960	88.3	92.9	84.6	2/
1961	88.7	96.7	83.3	2/
1962	89.4	94.0	85.5	2/
1963	94.5	99.2	90.6	2/
1964	98.1	101.5	95.9	74.9
1965	98.0	98.3	97.9	89.1
1966	100.1	100.6	99.7	103.7
1967	100.0	100.0	100.0	100.0
1968	107.9	105.6	109.4	109.3
1969	109.3	106.5	111.1	121.7
1970	113.4	109.2	116.3	122.9
1971	119.1	116.2	121.0	131.0
1972	125.0	120.5	128.0	141.8
1973	142.5	130.2	150.8	155.0
1974	165.8	170.6	162.6	152.1
1975 (January-September)	171.8	176.6	168.6	183.8

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

Source: Compiled by the U.S. International Trade Commission from official statistics of the Bureau of Labor Statistics, U.S. Department of Labor.

(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 for processed asparagus. Likewise, excess freezing capacity in the strawberry-growing area of Mexico led to a search for other crops in that country suitable for freezing and exportation.

(5) Differences in growing seasons in Mexico and the United States help to stimulate the demand for imports of fresh asparagus during the off-season in the United States. Fresh asparagus imported from Mexico is marketed primarily during February through April, but increasing quantities have been entering during the fall and winter months.

The Ratio of U.S. Imports to Domestic Production

The ratio of U.S. imports of asparagus in all forms to domestic production of fresh, frozen, and canned asparagus increased during 1970-74 compared with 1965-69 as U.S. output, mainly of the processed products, declined, and imports, largely of fresh and canned asparagus, rose. This is summarized in table 21 (on following page), compiled from tables 4,5, and 6 on pages A-22, A-23, and A-24. The loss of the U.S. export market for canned white asparagus significantly helped to effect the decline in that product's production, while rising U.S. exports of fresh asparagus helped sustain U.S. fresh asparagus output.

Table 21.--Asparagus: Ratio of U.S. imports to production, by forms, 5-year averages 1960-74, annual 1965-74

(In percentages)

Period	Fresh asparagus	Processed asparagus			Total asparagus
		Frozen	Canned	Total	
5-year average:					
1960-64	1.1	-	1/	1/	0.4
1965-69	2.5	-	0.7	0.6	1.2
1970-74	8.2	6.7	5.8	5.9	6.7
Annual:					
1965	.7	-	1/	1/	.2
1966	2.9	-	.3	.3	1.1
1967	2.4	-	1.6	1.3	1.7
1968	2.3	-	.6	.5	1.0
1969	4.5	.4	.9	.9	2.0
1970	5.3	1.9	1.8	1.8	3.1
1971	7.4	5.3	4.2	4.4	5.4
1972	8.9	9.2	6.9	7.3	7.9
1973	8.5	9.9	9.2	9.3	9.0
1974	11.0	7.5	6.7	6.7	8.3

1/ Imports were negligible or nil.

Source: Derived from tables 4, 5, and 6 of this report.

The Ratio of U.S. Imports to Domestic Consumption

Prior to 1966, U.S. imports constituted less than 1 percent of annual U.S. asparagus consumption. Annual imports during 1966-68, although larger than in previous years, still supplied less than 2 percent of annual consumption. After 1968, however, imports began to increase rapidly, rising from 3.0 million pounds in that year to 5.4 million pounds in 1969, and to 21.8 million pounds in 1973. Imports during the latter year were equivalent to over 8 percent of U.S. consumption of asparagus. The ratio of imports to domestic consumption surpassed 9 percent in 1974, although imports in that year were somewhat lower than in 1973. The increasing importance of imports in domestic consumption is seen in table 22 (on following page), compiled from tables 4, 5, and 6 on pages A-22, A-23, and A-24.

The ratio of U.S. imports of fresh-market asparagus to consumption has been rising in recent years because of rising imports. The trend in consumption of fresh-market asparagus has been quite stable over the last decade.

Domestic consumption of frozen asparagus in recent years has been falling, and imports of such asparagus, though still at a relatively low level, have been increasing; the import-consumption ratio, therefore, has increased.

Annual domestic consumption of canned asparagus has experienced a greater decline than has frozen asparagus consumption in recent years. That decline, coupled with rising imports, has caused the annual ratio of imports to consumption of canned asparagus to increase. In recent years a decline has occurred in the consumption of canned green asparagus, which accounts for over 90 percent of U.S. consumption of canned asparagus, but increases in imports of both canned green and canned white asparagus have been significant.

Table 22.--Asparagus: Ratio of U.S. imports to consumption, by forms, 5-year averages 1960-74, annual 1965-74

(In percentages)

Period	Fresh asparagus	Processed asparagus			Total asparagus
		Frozen	Canned	Total processed	
5-year average:					
1960-64	1.2	-	1/	1/	0.4
1965-69	2.6	-	0.7	0.6	1.3
1970-74	8.4	6.3	5.7	5.8	6.7
Annual:					
1965	.7	-	1/	1/	0.3
1966	3.0	-	.4	.3	1.2
1967	2.6	-	1.8	1.4	1.8
1968	2.4	-	.6	.5	1.1
1969	4.6	0.3	1.0	.9	2.1
1970	5.4	1.6	1.7	1.7	2.9
1971	7.5	5.5	3.9	4.2	5.3
1972	9.1	12.0	7.1	7.8	8.3
1973	8.8	7.6	8.4	8.3	8.4
1974	11.3	5.2	8.2	7.7	9.1

1/ Imports were negligible or nil.

Source: Compiled from tables 4, 5, and 6 of this report.

Trends in imports and consumption of asparagus in all forms can be seen in table 23 on the following page.

Table 23.--Asparagus, fresh, frozen, and canned: Changes in imports and consumption, by forms, annual 1969-74, 6-year period 1969-74

(In millions of pounds)

Period	Absolute changes from previous year of--							
	Fresh		Frozen		Canned		Total	
	Imports	Consumption	Imports	Consumption	Imports	Consumption	Imports	Consumption
Annual:								
1969	+1.7	-5.1	+0.1	-3.2	+0.6	+1.8	+2.4	-6.5
1970	+1.2	+10.7	+.4	+1.5	+1.0	+1.1	+2.6	+13.3
1971	+1.2	-10.3	+1.1	-2.4	+2.9	-11.7	+5.2	-24.4
1972	+2.0	+8.0	+1.5	-3.0	+4.0	-4.3	+7.5	+.7
1973	-.9	-7.5	-1.1	+.5	+3.1	+15.7	+1.1	+8.7
1974	+1.8	-2.2	-.8	-3.3	-3.7	-41.5	-2.7	-47.0
6-year period:								
1969-74 1/	+7.0	-6.4	+1.2	-9.9	+7.9	-38.9	+16.1	-55.2

1/ Data reflect absolute changes over the entire period, i.e., from 1968 (the year prior to 1969) through 1974.

Source: Derived from tables 3, 4, 5, and 6 on pp. A-21, A-22, A-23, and A-24.

Although the ratio of imports of canned green asparagus to consumption of this product is still relatively low, such imports constitute a rapidly increasing share of all canned asparagus imports (table 17 on p. A-39).

The rising importance of imports in the domestic consumption of both canned green and canned white asparagus is shown in table 24.

Table 24.--U.S. imports and apparent consumption of canned green asparagus and canned white asparagus, 1970-74

Item	1970	1971	1972	1973	1974
	Canned green asparagus				
Imports-----1,000 pounds--:	15	481	2,022	2,916	3,506
Apparent consumption-- ----------1,000 pounds--:	138,455	130,805	126,022	139,516	102,306
Ratio of imports to consumption----percent--:	1/	0.4	1.6	2.1	3.4
	Canned white asparagus				
Imports-----1,000 pounds--:	2,505	4,894	7,341	9,587	5,344
Apparent consumption 2/ ----------1,000 pounds--:	10,693	*	*	*	*
Ratio of imports to consumption----percent--:	23.4	*	*	*	*

1/ Less than 0.05 percent.
2/ Includes estimated U.S. production of canned white asparagus, which, with the exception of 1970, is not included in table 6, p. A-24.

Source: Compiled from information received in response to questionnaires of the U.S. International Trade Commission, and from tables 6 and 17 on pp. A-24 and A-39.

Annual U.S. consumption of canned white asparagus averaged 9.3 million pounds for the 1970-74 period. Imports accounted for a sharply increasing portion of U.S. consumption during that period, as the last important domestic-pack year for white asparagus was 1970.

Foreign Production and Trade

During the past decade significant shifts of concentration have occurred in world production of and foreign trade in asparagus. Prior to 1965, the United States produced more asparagus than the rest of the world combined. Even though the great bulk of the crop produced in the United States had always been for domestic consumption, this country was by far the world's leading exporter of asparagus (tables 25 and 26).

Under the stimulus of attractive export markets, and assisted by an infusion of U.S. technology, Taiwan rapidly increased asparagus production beginning in the mid-1960's, surpassing the United States as the leading exporter in 1966 and as the leading producer in 1971. Mexico has rapidly increased production of asparagus for export since the late 1960's. Mexican production and exports are small in relation to those of Taiwan, but are of particular importance to the United States since Mexican production has been primarily for export to the United States. Exports from Taiwan have always been destined largely for European consumption.

Other major asparagus-producing countries include Spain, Japan, France, Australia, Canada, and West Germany. The quantity produced in each of these countries, with the exception of Spain, does not appear to have increased significantly in recent years. Their production, again with the exception of Spain, is believed to be largely for local consumption.

The major part of world commercial production of asparagus is canned, and world trade in asparagus consists predominantly of the canned

Table 25.--Asparagus, canned: Production by specified countries, 1961-74

(In millions of pounds)

Country	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
United States	195.3	211.6	216.5	192.0	168.4	184.5	155.1	161.8	159.3	139.6	1/ 129.7	1/ 137.1	1/ 135.6	1/ 132.1
Taiwan	-	-	2/	2.7	45.0	72.9	73.7	110.3	153.2	221.6	174.6	136.5	185.8	199.5
Spain	11.4	17.0	18.0	22.5	26.7	31.6	36.2	40.3	44.2	47.8	52.7	45.7	30.4	3/
Japan	8.8	10.5	11.5	14.0	16.0	19.4	20.4	3/	3/	20.5	21.3	23.8	25.6	3/
France	8.1	10.8	10.1	7.1	7.4	9.7	11.1	10.0	9.1	12.0	12.6	10.4	14.8	12.1
Australia 4/	8.8	9.8	12.5	9.1	10.0	9.5	11.8	8.9	9.0	10.1	11.5	13.0	9.6	3/
Canada	5.8	5.6	5.4	6.5	8.3	7.5	7.6	9.8	9.3	9.2	11.2	13.9	12.0	13.0
West Germany	10.4	7.9	7.7	8.8	9.5	8.4	3.7	3/	3/	5.3	2.5	3.4	2.4	1.6
Mexico 5/	2/	2/	2/	2/	2/	2/	.2	.8	1.2	3.4	5.6	6.9	8.3	9.5

1/ Does not include production of white asparagus, which is believed to have been small.
2/ Less than 50,000 pounds.
3/ Not available.
4/ Year beginning July 1.
5/ Data shown represent exports only.

Source: U.S. Department of Agriculture, Foreign Agricultural Service. 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 26.--Asparagus, canned: Exports by specified countries, 1962-74

(In millions of pounds)

Country	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
United States	64.1	62.2	61.7	46.4	29.0	18.9	15.7	11.5	7.5	4.5	3.8	4.1	5.1
Taiwan	-	1/	1.5	36.0	41.2	78.5	96.1	150.9	167.6	180.8	151.9	168.4	157.2
Spain	7.0	3.5	7.3	10.6	6.2	3.8	12.1	9.2	10.0	12.0	16.2	12.8	11.8
Japan	3.8	3.7	3.2	3.9	1.3	4.2	5.6	2.1	1.5	1.6	1.1	.7	.3
Netherlands	2.4	2.5	2.5	2.2	1.8	1.2	1.2	1.7	1.6	1.8	3.2	4.3	5.9
France	2.1	1.5	1.3	1.3	.8	.7	.8	.8	.6	.5	.5	.6	2.0
Australia 2/	2.0	2.5	1.0	1.0	1.2	.9	1.1	1.0	.8	.3	.6	.9	3/
Belgium-Luxembourg	.8	.5	.6	.8	.6	.5	.3	.1	.2	.2	2.0	2.3	2.7
Canada	3/	3/	3/	3/	3/	3/	1.4	1.5	1.4	1.4	1.3	1.7	2.1
Mexico	1/	1/	1/	-	1/	.2	.8	1.2	3.4	5.6	6.9	8.3	9.5

1/ Less than 50,000 pounds.
2/ Year beginning July 1. Data shown may include some exports of frozen asparagus.
3/ Not available.

Source: Compiled from official export statistics of the above countries. Data for Taiwan is from the Taiwan Asparagus Canners' Export Corp.

product. The principal importers are western European countries of which West Germany probably imports more than all other countries combined (table 27). Asparagus consumers outside the United States and Canadian markets generally prefer white asparagus, and most international trade in canned asparagus is in that which is white or white with green tips. There is a small volume of international trade in both fresh and frozen asparagus, but trade in the fresh product is primarily between contiguous countries owing to the product's high perishability.

Mexico

The production of asparagus in Mexico has grown rapidly in the last few years. Mexican production, for both the fresh market and processing, increased from about 5.5 million pounds in 1969 to 23.7 million pounds in 1974. About half the crop is canned, and most of the remainder is sold fresh. Relatively small quantities are frozen. The expansion in production has been primarily for export to the United States in all three forms, canned, fresh, and frozen, although there has also been a substantial increase in exports of canned asparagus to Switzerland and Venezuela (tables 28 and 29). About one-fourth of the Mexican output is consumed in that country.

Mexican asparagus is grown largely in two regions--the Mexicali Valley in the State of Baja California, just across the border from a big U.S. producing area in the Imperial Valley of California, and the Bajio area in the State of Guanajuato, in central Mexico. The Mexicali Valley crop is exclusively green, and is marketed as both fresh and

Table 27.--Asparagus, canned: Imports by specified countries, 1965-74

(In millions of pounds)

Country	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
United States	1/	2/ 0.6	2/ 2.5	2/ 0.9	1.5	2.5	5.4	9.4	12.5	8.8
West Germany	62.1	51.8	78.7	88.4	107.4	130.1	144.7	111.6	114.5	103.3
Switzerland	7.0	10.1	6.9	7.5	10.3	13.1	12.0	11.4	11.2	14.5
Sweden	4.6	4.8	4.6	4.2	5.2	5.8	4.3	4.8	5.7	6.1
Japan	3.5	.2	.6	1/	6.8	4.8	6.7	5.6	6.8	9.3
United Kingdom	3.4	4.1	4.3	4.8	3.8	3.3	4.4	3.6	6.9	5.0
Belgium-Luxembourg	3.0	3.6	3.8	4.7	7.1	7.9	11.5	10.9	10.2	12.6
France	2.4	3.3	2.7	3.6	3.5	5.3	7.5	8.6	5.3	8.3
Norway	1.5	1.5	1.5	1.6	1.6	1.8	2.3	2.1	2.7	2.1
Netherlands	1.3	1.9	2.5	1.9	3.8	6.3	8.7	6.8	8.7	10.9
Canada	.5	.5	.5	.6	.6	.7	.7	.8	.8	.9

1/ Less than 50,000 pounds.
2/ Estimated.

Source: U.S. Department of Agriculture, Foreign Agricultural Service, and official import statistics of the above countries.

Table 28.--Asparagus, fresh: Mexican exports, by principal markets, 1965-74

Market	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
	Quantity (1,000 pounds)									
United States	1,900	2,070	2,105	2,577	4,621	5,805	7,010	5,594	6,751	11,338
United Kingdom	-	-	-	2	7	77	140	220	39	1/
Switzerland	-	2/	-	-	2	31	1	-	3	1/
Other	-	-	-	3	-	2	79	56	65	1/
Total	1,900	2,070	2,105	2,582	4,630	5,915	7,230	5,870	6,858	11,612
	Value (1,000 dollars)									
United States	183	231	204	250	328	569	758	755	756	1/
United Kingdom	-	-	-	3/	3	20	56	64	8	1/
Switzerland	-	1/	-	-	3/	10	3/	-	2	1/
Other	-	-	-	1	-	3/	33	18	39	1/
Total	183	231	204	251	331	599	847	837	805	1/
	Average unit value (cents per pound)									
United States	9.6	11.1	9.7	9.7	7.1	9.8	10.8	13.5	11.2	1/
United Kingdom	-	-	-	4/	42.3	25.7	39.8	29.1	20.5	1/
Switzerland	-	4/	-	-	4/	31.1	30.2	-	66.7	1/
Other	-	-	-	4/	-	4/	41.0	32.1	60.0	1/
Average	9.6	11.1	9.7	9.7	7.1	10.1	11.7	14.3	11.7	1/

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

Source: Direccion General de Estadistica, Secretariat of Industry and Commerce; Anuario Estadistico del Comercio Exterior de los Estados Unidos Mexicanos; and U.S. Department of Agriculture, Foreign Agricultural Service.

Note.--Data include transexportation shipments through the markets listed.

Table 29.--Asparagus, canned: Mexican imports and exports, by principal sources and markets, 1965-74

(In thousands of pounds)

Item	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Imports from--										
United States	165	64	11	11	11	401	9	7	5	1/
Spain	4	2	4	15	7	10	2/	-	2/	1/
All other	7	2	2/	2/	11	2	2/	2	1	1/
Total	176	68	15	26	29	413	9	9	6	1/
Exports to--										
United States	-	2	2/	-	22	105	2,037	5,224	4,744	6,079
Venezuela	-	-	236	467	677	672	852	327	841	875
Switzerland	-	-	-	-	276	1,415	1,863	616	1,155	1,576
West Germany	-	-	-	64	4	335	2/	-	602	293
Sweden	-	-	-	-	-	271	90	169	59	1/
All other	-	2/	2/	298	223	603	791	544	864	661
Total	-	2	236	829	1,202	3,401	5,633	6,880	8,265	9,484
Net trade balance	-176	-66	221	803	1,173	2,987	5,624	6,871	8,259	1/

1/ Not available.
2/ 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.

Note.--Data include transexportation shipments through the markets listed.

canned asparagus. Nearly all of the Mexicali crop is for export, mainly to the United States. It is harvested during the months of January-April. There were probably about 4,000 acres devoted to asparagus in the Mexicali area in 1974.

In the Bajio area, both white and green asparagus are grown. Over half of the crop is used for canned white asparagus, while the rest is green asparagus for the fresh market and for processing. In this region, the asparagus for the fresh market is harvested in the fall, while the asparagus for processing is harvested in the spring. There are believed to be about 7,500 acres devoted to asparagus production in the Bajio area and about 75 growers. Plantings in this area average about 100 acres per grower. In both Mexican areas, established mature plantings are harvested for about 70 days annually.

Some of the asparagus beds established in the late 1960's and early 1970's in both areas are declining in production, and few new beds are now being established because of competition from other crops, rising wage costs, and the substantial investment required before production starts. Hence, production appears to be flattening out. Loans from the International Bank for Reconstruction and Development (World Bank) have helped to improve the irrigation system in the Mexicali area and have financed the construction of new fertilizer plants in Mexico.

Mexican fresh asparagus production was pioneered by a U.S. firm in 1960 but large-scale asparagus processing in Mexico did not start until 1968. Mexican production of canned asparagus rose from less than 1 million pounds in 1968 to 9.5 million pounds in 1974. A major portion of the canned asparagus is produced in the Bajio area and is primarily white asparagus. Canned green asparagus is produced in both the Bajio and Mexicali areas. All forms of green asparagus produced in Mexico are comparable in quality to that produced in the United States.

Asparagus for processing in the Bajio area is grown under a contractual arrangement. Processors generally finance the initial investment for establishing the asparagus beds, and often provide the financing for such aids to production as fertilizer and insecticides, as well as technical assistance in maintaining and harvesting the asparagus. A long-term contract is usually signed, in which the growers agree to supply the processors with their output at a negotiated price.

Most of the Mexican output of canned and frozen asparagus has been produced by firms affiliated or associated with U.S. food-processing companies. There are seven or eight canners in the Bajio area, but all of the exports of canned white asparagus are made by an affiliate of a large U.S.-based multinational firm. All of the exports of canned green asparagus from the Mexicali area are produced by a Mexican firm receiving technological assistance from a large U.S. canner. Most of the frozen asparagus is produced in the Bajio area by affiliates of two large U.S. firms.

As previously indicated, asparagus for processing is only available during a few months of the year. To enjoy the economies of scale through use of plant and labor during longer periods, the processors of Mexican asparagus also process a variety of other fruits and vegetables in season.

The Mexican Government's efforts to promote exports have been concentrated on manufactures and processed products. Consequently, governmental incentives generally have not been offered to stimulate exports of nonprocessed agricultural products, such as asparagus for the fresh market. However, some indirect subsidies have been granted by the Government to agriculture such as artificially low prices for fertilizers purchased from a fertilizer plant owned and subsidized by the Government and artificially low prices for diesel fuel purchased from PEMEX, the Government petroleum agency.

For exports of manufactured and processed goods, the Mexican Government provides a substantial incentive through the CEDI (Certificados de Devolución de Impuestos Indirectos, i.e., Certificates for Return of Indirect Taxes). These generally take the form of tax credits, although some cash refunds have been made, so as to reduce the tax liabilities of the exporters of such commodities. The Mexican Government provides processors with a 10-percent tax credit for the value of all canned and frozen asparagus exported. Such exporters receive a certificate from the Ministry of Industry and Commerce that is valued at 10 percent of the value of the asparagus exported, and such certificates may be used within 3 years by the processors receiving them to pay any direct Mexican taxes. This and other alleged bounties to encourage the exportation of processed asparagus from Mexico were investigated by the U.S. Department of the Treasury. A notice of the investigation published in the Federal Register (40 F.R. 28106) reads in part as follows:

> On January 15, 1975, a "Notice of Receipt of Countervailing Duty Petitions" was published in the Federal Register (40 F.R. 2718). The notice stated that petitions had been received, including, among others, a petition alleging that payments, bestowals, rebates or refunds, granted by the Mexican Government upon the manufacture, production, or exportation of processed asparagus constitute the payment or bestowal of a bounty or grant, directly or indirectly, within the meaning of section 303 of the Tariff Act of 1930, as amended (19 U.S.C. 1303). For the purposes of this notice the term "processed asparagus" refers to canned asparagus.

A determination was made on January 5, 1976, that bounties were not being granted by the Mexican Government on exports of canned aspargaus. 1/

The U.S. Customs Service has, from time to time, withheld appraisal on imports of asparagus from Mexico pending verification of value declarations for duty purposes.

There have been no Government or industry restrictions or controls on production of asparagus in Mexico. Exports of both fresh and processed asparagus require export permits from the Ministry of Industry and Commerce, but these are obtained without difficulty. No export quotas have been imposed on exports of fresh or processed asparagus.

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 for exportation by Taiwan has been spectacular. Production rose from 1 million pounds in 1963 to a peak of 286 million pounds in 1971. Likewise, exports of

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1/ Notice of this determination was published in the Federal Register (41 FR 1299) Jan. 7, 1976.

canned white asparagus, for which most of the output was used, increased from less than 1 million pounds in 1963 to a peak of 181 million pounds in 1971. These exports in 1974 were about 157 million pounds, still far in excess of exports of all other countries combined. The 245 million pounds of asparagus produced in Taiwan in 1974 were harvested from about 43,000 acres (table 30). The average yield was about 6,000 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 8 years.

In 1974 asparagus was produced by about 44,000 small-scale growers that chiefly utilized family labor; about 150,000 people were engaged in growing the crop. However, asparagus is considered a minor crop by most Taiwanese growers owing to the slow return on investment, the need for special soil characteristics, and the instability of prices. The average size of asparagus planting has been less than an acre. The harvested asparagus is taken to one of a network of collecting and grading stations operated by district, township, and village branches of the Taiwan Farmers' Association (TFA). Membership in the TFA, a co-operative, is mandatory in order for an asparagus grower to sell his output.

In 1975, about 95 percent of the Taiwan crop was utilized for canning, 4 percent was frozen, and 1 percent was consumed as fresh

Table 30.--Asparagus: Taiwan's acreage, total production, yield per acre, and production and exports of canned asparagus, 1963-74 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	221.6	167.6
1971	44,001	285.5	6,488	174.6	180.8
1972	39,111	235.0	6,009	136.5	151.9
1973	38,730	247.9	6,401	185.8	168.4
1974	42,780	245.0	5,727	199.5	157.2

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 50,000 pounds.

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.

asparagus. Most of the crop is harvested as white asparagus, and virtually all of the white asparagus is used for canning. The small portion of the crop harvested as green asparagus is used primarily in freezing and canning, although some is consumed in the fresh state. About 95 percent of the canned asparagus and probably all of the frozen asparagus are produced for export. Prices paid by the processors are determined by negotiation between TFA and the canners and freezers. The official purchase price established for fresh white asparagus used for canning was 22.0 cents per pound in 1975 compared with 9.0 cents per pound in 1971. The index of all wholesale prices in Taiwan almost doubled in this period.

Because of overproduction, excess capacity, and erratic export prices during recent 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. 1/ The BOFT established a maximum production goal of 4.6 million "standard cases"--equivalent to about 207 million pounds--of white asparagus for 1974; because of a reduction in market demand, the 1975 goal was reduced to 3.45 million cases (155 million pounds). The production goal is allocated back to the individual canneries by quotas based on past production and export

1/ As of 1975, there were 88 asparagus canners, the largest 3 of which accounted for about 14 percent of Taiwan's production. Many asparagus canners have consolidated and merged since 1967 when there were 164 canners packing a materially smaller crop. About 60 percent of Taiwan's capacity for producing canned asparagus is being utilized. About 20,000 people are employed in the canneries to process asparagus.

records. The TACEC, with BOFT approval, establishes export goals by country destination and a uniform export price system, f.o.b. Taiwan. The goal or target quantity for export to the United States is almost negligible in relation to the total Taiwanese exports. By far the principal market is West Germany, which took about 70 percent of Taiwan's exports of canned asparagus during 1964-74. Other principal markets include the Netherlands, Belgium, Switzerland, and Japan (table 31).

Taiwan has produced little canned green asparagus in the past and only began producing frozen green asparagus in 1971. The quality of Taiwanese frozen and canned green asparagus has, to date, not been acceptable to U.S. consumers. After initial shipments in 1972 and 1973, purchases have fallen off to negligible quantities. Most U.S. production and consumption is of green asparagus.

Table 31.--Asparagus, canned: Taiwan's exports, by principal markets, 1964-74

(In millions of pounds)

Market	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
United States	1/	1/	.5	2.5	0.7	1.3	3.5	5.2	5.2	10.0	3.9
West Germany	1.4	29.1	27.8	53.4	81.0	116.0	126.3	132.6	106.3	103.1	96.8
Netherlands	1/	1.9	7.1	12.0	6.4	11.0	16.2	16.8	7.5	8.5	9.4
Belgium	1/	.4	2.4	3.1	3.3	7.4	7.6	9.5	9.0	8.5	8.4
Thailand	1/	.1	.5	.4	.5	1.0	.2	1/	1/	-	-
Switzerland	-	1/	.2	.2	1/	.2	2/	2/	5.5	7.0	8.3
Japan	-	4.2	.3	.4	.1	7.7	4.3	6.8	5.3	6.7	8.9
United Kingdom	1/	1/	.7	.8	1.1	.7	2/	2/	1.3	3.2	1.9
Other	.1	.3	1.7	5.7	3.0	5.6	9.5	9.9	11.8	21.4	19.6
Total	1.5	36.0	41.2	78.5	96.1	150.9	167.6	180.8	151.9	168.4	157.2

1/ Less than 50,000 pounds.
2/ Not available.

Source: Taiwan Asparagus Canners' Export Corp., and U.S. Department of Agriculture, Foreign Agricultural Service.

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

The Question of Serious Injury or Threat Thereof to the Domestic Industry

U.S. Production

Annual U.S. production of asparagus was at an alltime high during the early 1960's, when it averaged 369 million pounds. This was the culmination of a trend which began in the early 1950's, when such production averaged only 312 million pounds (table 1 on p. A-10). After the peak in the early 1960's, annual production declined sharply to an average of about 272 million pounds during the 5-year period 1970-74. Output totalled only 219 million pounds in 1975.

Most of the decrease in the U.S. production of asparagus has occurred in California and New Jersey (table 32). During the early 1960's, California's annual production of asparagus averaged 195 million pounds, accounting for 53 percent of the U.S. production. New Jersey's output, during the same period, averaged 70 million pounds, which represented about 19 percent of the U.S. total. But during the early 1970's California's share of annual U.S. production declined to 50 percent, and its annual production averaged only 136 million pounds for the years 1970-74. Average annual production in New Jersey during the 1970-74 period fell to 19 million pounds and accounted for only 7 percent of total U.S. output during this period. Since the early 1960's, the production of asparagus in the other important producing areas of the United States experienced less important declines. The largest increase in the other areas occurred in the State of Washington, where annual production averaged more than 15 million pounds more during the early 1970's than during the early 1960's. Some of this

Table 32.--Asparagus: U.S. production, total and by use, by principal States, 5-year averages 1945-74

(In millions of pounds)

Average for 5-year period--	California	Washington and Oregon 1/	New Jersey	Michigan	Illinois	Other States	Total U.S.
	Production 2/						
1945-49	161.5	37.2	66.9	12.6	20.4	21.7	320.3
1950-54	158.4	33.9	70.1	14.3	15.8	19.6	312.1
1955-59	186.8	39.8	74.8	15.8	15.8	24.2	357.2
1960-64	195.3	47.2	70.1	16.4	16.8	23.2	369.0
1965-69	146.8	52.6	54.1	18.7	16.3	24.7	313.3
1970-74	136.0	63.1	19.1	22.1	12.4	19.1	271.7
	Fresh-market use						
1945-49	53.5	19.8	28.8	2.4	3.4	15.0	122.9
1950-54	54.5	11.1	28.7	2.1	2.7	11.2	110.3
1955-59	62.4	12.0	32.9	2.1	3.1	8.3	120.8
1960-64	60.2	10.0	27.7	1.4	2.8	6.1	108.2
1965-69	55.2	8.7	17.2	1.5	1.1	4.5	88.1
1970-74	64.9	8.5	9.1	1.5	1.0	2.6	87.7
	Processing use						
1945-49	108.0	17.4	38.1	10.2	17.0	6.7	197.4
1950-54	103.9	22.9	41.4	12.2	13.0	8.4	201.8
1955-59	124.4	27.7	41.9	13.7	12.7	15.9	236.3
1960-64	135.0	37.2	42.4	15.0	14.0	17.2	260.8
1965-69	91.7	43.9	36.9	17.3	15.2	20.2	225.1
1970-74	71.1	54.6	10.0	20.7	11.4	16.4	184.1

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

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

increase was replacement of loss of output by other States. In the 5 years 1970-74, the shares of U.S. asparagus production accounted for by the various States were as follows:

State	Percent
California-------------------	50
Washington/Oregon-----------	23
New Jersey------------------	7
Michigan--------------------	8
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 33). In the central California production area and the State of Washington 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 oversupplied 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. In the other major areas of production, asparagus tends to be marketed through either fresh-market or processing channels almost exclusively. For example, the southern California growing area ships almost entirely to fresh market, and the States of Michigan and Illinois sell largely to processors.

Fresh asparagus

Fresh-market use.--In California, the volume of asparagus harvested for fresh-market sale becomes quite heavy by late February, reaches a peak

Table 33.--Asparagus: U.S. Production, total and by use, by principal States, 1960-75

(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	376.2
1961	198.0	47.1	68.5	16.2	16.2	23.2	369.2
1962	199.8	51.2	65.8	16.2	16.3	22.8	372.1
1963	204.3	45.2	71.2	14.3	17.3	23.3	375.6
1964	183.1	47.9	65.3	16.5	17.2	22.3	352.3
1965	153.7	52.6	60.0	19.0	18.4	24.3	328.0
1966	160.9	52.6	60.0	17.1	16.0	25.3	331.9
1967	140.6	48.3	55.0	19.6	16.8	24.5	304.8
1968	149.4	56.1	55.3	17.6	15.8	26.0	320.2
1969	129.6	53.5	40.3	20.4	14.4	23.3	281.5
1970	133.0	53.8	32.6	19.8	16.3	20.0	275.5
1971	137.6	65.9	23.8	18.9	12.4	20.5	279.1
1972	155.4	61.3	17.9	21.8	14.1	18.6	289.1
1973	126.0	64.3	12.5	24.6	10.4	16.7	254.5
1974	127.9	70.1	8.8	25.5	8.6	19.5	260.4
1975	107.0	4/ 55.2	6.4	19.6	9.5	5/ 14.9	212.6
	Fresh market use						
1960	63.1	10.9	35.8	1.7	3.9	7.6	123.0
1961	60.4	11.8	26.9	1.1	3.2	6.4	109.8
1962	57.8	11.6	25.1	1.4	2.9	5.5	104.3
1963	61.4	7.3	26.4	1.2	2.0	5.4	103.7
1964	58.5	8.5	24.3	1.4	1.9	5.4	100.0
1965	63.7	10.1	22.1	1.4	1.3	5.4	104.0
1966	46.1	11.5	19.9	1.4	1.2	4.6	84.7
1967	52.6	6.5	19.1	1.6	1.0	4.2	85.0
1968	59.8	8.6	14.8	1.5	.8	3.7	89.2
1969	53.6	7.0	10.2	1.4	1.1	4.5	77.8
1970	67.9	8.1	12.6	1.6	1.0	3.2	94.4
1971	59.5	8.6	10.2	1.1	.9	3.0	83.3
1972	70.4	7.1	9.2	1.5	1.0	3.0	92.2
1973	66.0	7.7	7.3	1.7	1.1	2.2	86.0
1974	60.8	11.1	6.4	1.4	.9	1.8	82.4
1975	65.7	4/ 9.6	5.7	2.1	.9	5/ 1.9	85.9

See footnotes at end of table.

Table 33.--Asparagus: U.S. production, total and by use, by principal States, 1960-75--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	253.2
1961	137.6	35.3	41.6	15.1	13.0	16.8	259.4
1962	142.0	39.6	40.7	14.8	13.4	17.3	267.8
1963	142.9	37.9	44.8	13.1	15.3	17.9	271.9
1964	124.6	39.4	41.0	15.1	15.3	16.9	252.3
1965	90.0	42.5	37.9	17.6	17.1	18.9	224.0
1966	114.8	41.1	40.1	15.7	14.8	20.7	247.2
1967	88.0	41.8	35.9	18.0	15.8	20.3	219.8
1968	89.6	47.5	40.5	16.1	15.0	22.3	231.0
1969	76.0	46.5	30.1	19.0	13.3	18.8	203.7
1970	65.1	45.7	20.0	18.2	15.3	16.8	181.1
1971	78.1	57.3	13.6	17.8	11.5	17.5	195.8
1972	85.0	54.2	8.7	20.3	13.1	15.6	196.9
1973	60.0	56.6	5.2	22.9	9.3	14.5	168.5
1974	67.1	59.0	2.4	24.1	7.7	17.7	178.0
1975	41.3	4/ 45.6	.7	17.5	8.6	5/ 13.0	126.7

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, and Arkansas.
3/ Excludes quantities produced but not marketed for 1965, 1966, and 1969.
4/ Washington only.
5/ Includes Oregon.

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

in March or April, and declines sharply in May and June; however, smaller quantities are sometimes harvested in California in other months. In Washington and New Jersey, harvesting begins in April and continues into June and July. In the other States, harvesting of asparagus for the fresh market is almost entirely restricted to the months of May and June.

The amount of U.S. asparagus production sold for fresh-market use has declined since the end of World War II. The amount of asparagus sold annually for fresh use declined from an average of 123 million pounds in 1945-49 to only 88 million pounds in 1965-69 (table 1 on p. A-10). Sale of the fresh product appears to have stabilized since the mid-1960's, however, averaging 88 million pounds for the 1970-74 period, also. The share of U.S. asparagus production sold through fresh-market outlets also declined from the mid-1940's through the late 1960's. In the early 1970's however, this share increased to the levels of the 1950's, as indicated in the following tabulation:

5-year period	Fresh-market share of U.S. production (percent)
1945-49	38
1950-54	35
1955-59	34
1960-64	29
1965-69	28
1970-74	33

In all of the major producing States except California, the amount of asparagus sold annually to the fresh market has declined (tables 34-38). In California, annual sales through fresh-market outlets averaged 65 million pounds in 1970-74--significantly more than the 54-million-pound average

Table 34.--Asparagus: California acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-74, annual 1965-75

Period	Acreage harvested	Production 1/		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
1970-74	44.1	33,481	136.0	64.9	71.1	28.7	21.1
Annual:							
1965	54.9	24,037	153.7	63.7	90.0	16.4	15.1
1966	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
1973	45.0	33,618	126.0	66.0	60.0	30.8	22.2
1974	44.1	36,940	127.9	60.8	67.1	34.6	23.7
1975	38.2	32,870	107.0	65.7	41.3	35.1	23.8

1/ Excludes approximately 10 million pounds produced in 1965 and 1966 but not marketed.

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

Table 35.--Asparagus: New Jersey acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-74, annual 1965-75

Period	Acreage harvested	Production 1/		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
1970-74	12.4	4,833	19.1	9.1	10.0	29.0	23.8
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	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
1973	10.4	3,653	12.5	7.3	5.2	31.7	25.8
1974	6.8	2,943	8.8	6.4	2.4	36.5	25.3
1975	4.6	2,320	6.4	5.7	.7	37.2	28.5

1/ Excludes 4.4 million pounds produced in 1969 but not marketed.

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

Table 36.--Asparagus: Washington acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-74, annual 1965-75

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
1970-74	20.8	13,343	60.4	8.5	52.0	26.4	21.3
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
1973	22.0	14,230	61.6	7.7	53.9	30.8	22.0
1974	23.4	16,890	67.9	10.8	57.1	22.1	25.4
1975	18.4	14,001	55.2	9.6	45.6	25.2	25.4

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

Table 37.--Asparagus: Michigan acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-74, annual 1965-75

Period	Acreage harvested	Production: Value	Production: Quantity	Utilization: Fresh market	Utilization: Processing	Average return to growers: Fresh market	Average return to growers: 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
1970-74	14.6	6,067	22.1	1.5	20.7	30.9	26.7
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
1973	15.4	7,117	24.6	1.7	22.9	33.4	28.6
1974	17.0	8,593	25.5	1.4	24.1	40.6	33.3
1975	17.8	4,772	19.6	2.1	17.5	28.9	23.8

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

Table 38.--Asparagus: Illinois acreage harvested, production, utilization, and average return to growers, 5-year averages 1945-74, annual 1965-75

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
1970-74-----------	8.9	2,751	12.4	1.0	11.4	34.1	22.5
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
1973--------------	8.7	2,978	10.4	1.1	7.3	37.0	27.7
1974--------------	7.2	2,814	8.6	.9	7.7	44.4	31.4
1975--------------	6.8	2,529	9.5	.9	8.6	41.7	25.1

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

of the late 1940's. California's share of the total U.S. output of asparagus sold to fresh-market outlets increased from an average of 43 percent in the late 1940's to 74 percent in 1970-74.

Asparagus sold for processing use.--Annual U.S. production of asparagus sold for processing increased following World War II and reached a peak of 272 million pounds in 1963. Since then it has declined and in 1970-74 averaged only 184 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 following the early 1960's (table 34). 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 (table 35). 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 (tables 36 and 37). Those areas were the second and third most important producing areas for asparagus for processing in 1974. 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 1970-74 it amounted to only 39 percent. New Jersey's share of the U.S. output of asparagus for processing declined from 19 percent in 1945-49 to 5 percent in 1970-74. On the other hand, the share of U.S. processing asparagus provided by Washington/Oregon increased from 9 percent in 1945-49 to 30 percent in 1970-74, and the share supplied by Michigan increased from 5 percent in 1945-49 to 11 percent in 1970-74.

In recent years, approximately three-fourths of the U.S. output of asparagus sold for processing has been canned, and the rest has been frozen. These shares are variable, however. In 1974, for example, only 16 percent of the asparagus purchased for processing was for freezing, down from 37 percent 2 years earlier.

Frozen asparagus

Only moderate amounts of asparagus were preserved by freezing prior to and during World War II, but afterwards production began to increase, and by 1955-59 it averaged 31 million pounds annually (table 5 on p. A-23). From that time until 1973, annual production fluctuated around that amount. In 1973 and 1974, annual production slumped to 20 mil- pounds and 16 million pounds, respectively. In 1975, only 8 firms froze asparagus in the United States, down from 19 in 1972. These 8 firms produced an estimated 17 million pounds.

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 134 million pounds during 1970-74 (table 6 on p.A-24). U.S. production of canned asparagus in 1975 totaled only 83 million pounds, with only 27 firms canning asparagus, down from 38 in 1972 and 60 in the mid-1960's.

Green asparagus.--Annual U.S. production of canned green asparagus continued to increase beyond the 1960-64 period, when it averaged 133 pounds, to an average of 142 million pounds during 1965-69, but in the most recent 5-year period, 1970-74, such production averaged only 134 million pounds. The U.S. pack of green asparagus fell to 83 million pounds in 1975.

White asparagus.--During the peak production period of 1960-64, white asparagus accounted for 34 percent of the U.S. canned asparagus produced; however, during recent years, white asparagus has accounted for only a very small share of production. The last major U.S. pack of white asparagus occurred in 1970. In that year the product made up only about 5 percent of all asparagus canned in the United States. From 1972 through 1974, only one domestic firm processed white asparagus, down from five canners in 1970. It is believed that no white asparagus was canned in the United States in 1975.

U.S. Exports

Fresh asparagus

Annual U.S. exports of fresh asparagus rose from an average of about 2 million pounds in 1945-49 to 9 million pounds in the first half of the 1970's (table 4 on p. A-22). Such exports totaled almost 11 million pounds in 1974 and accounted for more than 13 percent of the domestic production of asparagus for fresh-market sale. In most years, about 90 percent of the exports of fresh asparagus have gone to Canada. Trade sources indicate that in some years a substantial share of the U.S. exports entering Canada have been utilized by processing establishments in that country to extend their production season.

Frozen asparagus

U.S. exports of frozen asparagus are not separately reported, but such exports are believed to be small.

Canned asparagus

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 perent of domestic production. In those years, such exports are reported to have exceeded the combined exports of all other U.S. canned vegetables. During World War II, 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 alltime high of 64 million pounds in 1962 (table 6 on p. A-24). Annual exports remained at about that level in 1961 and 1964, but declined steadily thereafter. Nearly all of these exports consisted of white asparagus until the last few years. As shown in table 6, the production of canned white asparagus and exports of all canned asparagus have generally followed similar patterns. In 1974, exports, which were believed to be entirely green, amounted to only about 5 million pounds and accounted for only 4 percent of domestic production of canned asparagus, compared with about 30 percent in the peak export years of 1962-64.

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 39), which were largely canned white

Table 39.--Asparagus, canned: U.S. exports, by principal markets, 5-year averages 1960-74, annual 1970-74, January- October 1974, and January-October 1975

Market	5-year average 1960-64	5-year average 1965-69	5-year average 1970-74	1970	1971	1972	1973	1974	Jan.-Oct.-- 1974	Jan.-Oct.-- 1975
	Quantity (1,000 pounds)									
Canada	-	-	383	165	80	124	-	1,547	1,127	432
Denmark	1,178	1,358	1,043	1,374	1,230	891	905	813	578	269
United Kingdom	2,221	1,390	961	756	900	1,087	1,361	702	698	701
Sweden	3,104	2,273	578	1,294	538	299	315	445	445	156
Norway	1,002	756	132	204	175	75	178	30	30	95
West Germany	31,772	10,076	259	635	285	211	113	50	20	-
Belgium	3,083	1,742	285	913	154	168	139	50	50	2
Switzerland	4,879	1,749	124	280	82	30	89	138	138	-
France	256	560	32	112	13	17	20	-	-	-
All other	9,222	4,396	1,195	1,753	1,027	920	933	1,343	1,129	620
Total	56,727	24,300	4,993	7,486	4,484	3,822	4,053	5,118	4,215	2,275
	Value (1,000 dollars)									
Canada	-	-	88	37	34	42	-	325	238	87
Denmark	195	353	296	309	319	237	319	296	224	86
United Kingdom	745	561	361	348	420	277	497	262	260	272
Sweden	800	742	225	445	174	121	139	246	246	94
Norway	256	276	55	70	63	38	85	17	17	51
West Germany	6,075	2,017	39	117	28	25	14	13	4	-
Belgium	733	491	77	232	64	27	51	13	13	2
Switzerland	1,556	757	64	118	39	16	50	98	98	-
France	80	202	14	42	6	8	12	-	-	-
All other	2,535	1,606	554	703	460	456	458	695	571	457
Total	12,975	7,005	1,773	2,421	1,607	1,247	1,625	1,965	1,671	1,049

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

asparagus in those years. 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 Canada have been the most important markets for the greatly reduced export shipments (of predominantly green product).

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 dominant 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. Since 1971, other countries are believed to have become more of a factor in the West German market for canned asparagus, displacing Taiwan to some extent.

U.S. Inventories

Asparagus must be utilized in its fresh state by the consumer within a few weeks after harvest even though it is 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. Asparagus in the processed state can be stored for substantial periods and inventories are accumulated.

Frozen asparagus

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 5 on p. A-23). Changes in consumption and imports also affect inventories. For example, 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 22 million pounds, largely because domestic production and imports had been high during 1972 while consumption had declined. Stocks of frozen asparagus fell to 18 million pounds on January 1, 1974, and 1975 beginning-of-year-inventories totaled only 12 million pounds.

Canned asparagus

Inventories of canned asparagus, as measured by beginning-of-year 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 6 on p. A-24). From that time, 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. However, such stocks have been higher since that time. On January 1, 1975, they totaled 75 million pounds--the largest carryover in a decade.

U.S. Employment

Overall employment by producers of asparagus

Some 30,000 workers were employed by U.S. asparagus growers and processors at the peak of the 1974 asparagus harvesting and processing season. In comparison, some 41,000 workers are estimated to have been so employed in 1963, and about 34,500 in 1972. In those years, more than 90 percent of the workers were employed in the four major U.S. asparagus-producing States--California, Washington, Michigan, and New Jersey. In 1974, two-thirds of these workers were employed in growing, harvesting, and packing the asparagus for market. The other third were engaged in canning and freezing the crop.

The man-hours worked by all persons engaged in total canning operations of the firms that responded to the questionnaire increased from about 7 million in 1970 to 10 million in 1974, an increase of 43 percent (table 40). The man-hours spent by workers doing asparagus canning during the same period increased 40 percent from about 500,000 to almost 700,000. 1/ A sharp decline was noted during the first 6 months of 1975, however, with the man-hours worked in asparagus-canning operations falling from about 560,000 to 300,000.

1/ During the same period the procurements of asparagus for canning by these firms increased 53 percent, from over 40 million pounds in 1970 to over 61 million pounds in 1974. These firms accounted for 30 and 41 percent of all the asparagus procured for canning in the United States in 1970 and 1974, respectively.

Table 40.--Asparagus: Man-hours worked by production and related workers on all products and on asparagus, canned and frozen, in the reporting establishments, 1970-74, January-June 1974, and January-June 1975

(In thousands of man-hours)

Producing area	All products: 1970	1971	1972	1973	1974	Jan. 1-June 30: 1974	Jan. 1-June 30: 1975	Percent change 1974/1970	Asparagus 1/: 1970	1971	1972	1973	1974	Jan. 1-June 30: 1974	Jan. 1-June 30: 1975	Percent change 1974/1970
	Canning operations															
California	4,354	4,523	4,788	6,423	6,684	1,778	1,509	54	289	327	389	372	508	415	161	76
Washington/Oregon*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Michigan	433	521	494	478	488	116	130	13	52	49	50	50	38	38	53	-27
New Jersey*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Del Mar Virginia*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
All other	1,731	2,685	2,635	2,553	2,694	1,359	1,364	56	41	98	108	71	95	94	70	132
Total	6,991	8,169	8,016	9,572	9,952	3,293	3,053	42	507	596	610	566	696	556	292	37
	Freezing operations															
California*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Washington/Oregon*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Michigan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
New Jersey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Del Mar Virginia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All other	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	1,696	2,223	2,136	2,253	1,915	948	948	13	219	306	338	295	228	228	197	4

1/ Procurements of asparagus for canning and for freezing operations, total and by reporting establishments, for 1970-74 were:

Item	Canning operations: 1970	1971	1972	1973	1974	Freezing operations: 1970	1971	1972	1973	1974
Procurements by reporting establishments--1,000 pounds	40,290	53,509	52,606	52,830	61,161	15,998	22,205	23,366	20,728	17,507
Total U.S. procurements------------1,000 pounds	129,800	134,400	123,400	123,600	149,400	51,300	61,400	73,500	44,900	28,600
Ratio of reporting establishment procurements to total U.S. procurements----------------percent	31.1	39.8	42.6	42.7	40.9	31.2	36.2	31.8	46.2	61.2

* Indicates only one firm reported--data confidential.

Source: Compiled from data submitted to the U.S. International Trade Commission by 15 domestic producers of canned asparagus and 4 domestic freezers.

The total number of hours worked by persons engaged in freezing operations, as reported by the respondents to the questionnaire, increased from 1.7 million man-hours in 1970 to 1.9 million man-hours in 1974. The man-hours worked in asparagus-freezing operations remained about the same in 1970 and 1974, but were higher during the 1971-73 period. 1/

Employment by growers.--In 1974, at the peak of the U.S. asparagus harvest season, which varies by geographic producing areas, about 21,000 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.

Workers who harvest asparagus by hand must be able to walk miles each day in a stooped position, often under extreme climatic 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. 2/ Under this program large numbers of Mexican citizens were

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1/ Between 1970 and 1974, the procurements of asparagus for freezing by these firms increased 13 percent, from almost 16 million pounds in 1970 to almost 18 million pounds in 1974. The firms accounted for 31 percent and 61 percent of all the asparagus procured for freezing in the United States in 1970 and 1974, respectively.

2/ Act of Oct. 3, 1961, Public Law 87-345, sec. 6 (75 Stat. 761).

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, resulting 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 piece rates recommended to be paid in 1975 for cutting and sledding asparagus to the packing shed were from 100 to 208 percent greater than in 1960 (table 41). The most notable increases occurred in the rates paid for harvesting and sledding white asparagus for canning--the type of asparagus that had accounted for virtually all of U.S. canned asparagus exports in the early 1960's and 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 1974 and 1975 the rate recommended for such workers was 208 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

Table 41.--Recommended piece rates for cutting and sledding asparagus to the packing shed in the central California producing area, 1960 and changes through 1975 1/

Year	Fresh market asparagus, rate per 30-pound crate: Amount	Fresh market asparagus, rate per 30-pound crate: Percent of 1960 rate	Green asparagus, For freezing, rate per 100 pounds: Amount	Green asparagus, For freezing, rate per 100 pounds: Percent of 1960 rate	Green asparagus, For canning, rate per 100 pounds: Amount	Green asparagus, For canning, rate per 100 pounds: Percent of 1960 rate	White asparagus for canning, rate per 100 pounds: Amount	White asparagus for canning, rate per 100 pounds: 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	8.00	246
1973---	1.75	175	5.65	188	7.00	187	8.00	246
1974---	2.00	200	6.30	210	8.00	213	10.00	308
1975---	2/	2/	2/	2/	2/	2/	3/	3/

1/ Rates shown are based on plantings yielding 2,500 to 4,000 pounds of asparagus per acre.
2/ No change from earlier year.
3/ No production.

Source: California Asparagus Growers Association.

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.

It is estimated that during the peak employment in the asparagus industry during 1974, a total of 8,112 people were employed in canning and freezing of asparagus-- 6,839 in canning and 1,273 in freezing.

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. Table 42 presents 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 1975 were, depending on certain factors, up to 105 percent more than in 1960. In addition to the basic hourly wages, these workers also received so-called fringe benefits, such as social security, pension, health and welfare benefits, 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 more than 30 percent of the basic hourly wage paid in 1975. 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.

Table 42.--Basic hourly wages received by workers employed in the production of canned and frozen asparagus in central California,1/ 1960-75

Year	Canned asparagus		Frozen Asparagus	
	Amount	Percent of 1960 rate	Amount	Percent of 1960 rate
1960	$1.94	100	$1.77	100
1961	2.03	105	1.85	105
1962	2.08	107	1.89	107
1963	2.13	110	1.93	109
1964	2.21	114	1.98	112
1965	2.28	118	2.04	115
1966	2.35	121	2.10	119
1967	2.45	126	2.16	122
1968	2.55	131	2.27	128
1969	2.66	137	2.38	134
1970	2.93	151	2.49	141
1971	3.15	162	2.70	153
1972	3.37	174	2.87	162
1973	3.50	180	3.12	176
1974	3.70	191	3.32	188
1975	3.90	201	3.62	205

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 producing canned asparagus and class VI workers producing frozen asparagus. These workers constitute the largest groups employed in processing asparagus in these central California plants.

Source: Compiled from data supplied by domestic asparagus processors.

Profit-and-Loss Experience

The data reported in this section represent the financial experience of the domestic growers, freezers, and canners of asparagus during the period 1970-75.

Domestic growers of asparagus

The Commission sought profit-and-loss information from a stratified random sample of the growers of asparagus.1/ Questionnaires were sent to 196 of an estimated 2,800 growers throughout the United States. The Commission received 96 responses. Of these 96 responses, twenty-two indicated that they did not produce asparagus during the survey period 1970-75. From the remaining 74, thirty-five provided complete profit-and-loss information. The response to the sample of growers surveyed was inadequate to assure a statistically valid representation of the profit-and-loss experience of the universe of asparagus growers.

Domestic freezers of asparagus

The data reported in this section represent the financial experience of seven freezers of asparagus, which accounted for approximately 80 percent of the total quantity of asparagus procured as raw material--whether by purchase or from their own companies--by domestic freezers during the year 1974.

The accounting years for each of the freezers ended between December 31 and June 30. For this report, the financial data of each company has been classified under the year in which its accounting year commenced. For example, accounting years ending between January 1, 1975, and June 30, 1975, have been classified as 1974.

1/ Commissioners Moore and Ablondi believe that the Commission was unable to develop a statistically reliable data base from which to determine the profit-and-loss experience of growers of asparagus in the United States.

Total company or establishment operations freezing asparagus.--Total net sales of the establihments (or total company net sales) for the seven freezers increased steadily from $159.9 million in 1970 to $268.6 million in 1974 (confidential table 1, app. A). Total net operating profit--following a trend different than that of net sales--increased from $20.9 million in 1970 to $24.3 million in 1971, declined to $23.3 million in 1972, increased again to $27.7 million in 1973, then declined once more to $21.9 million in 1974. As a share of net sales, the net operating profit averaged 13.1 percent in 1970, 11.6 percent in 1971, 9.9 percent in 1972, 10.8 percent in 1973, and 8.2 percent in 1974. * * *

* * * * * * *

Frozen asparagus operations.--Total net sales of frozen asparagus for the seven freezers increased steadily from $5.0 million in 1970 to $10.7 million in 1974 (confidential table 1). Total net operating profit--following a trend different than that of net sales--increased from $383,000 in 1970 to $1.4 million in 1971 before declining steadily to $618,000 in 1974. As a share of net sales, net operating profit averaged 7.6 percent in 1970, 15.3 percent in 1971, 10.5 percent in 1972, 6.2 percent in 1973, and 5.8 percent in 1974. * * *

Only one company reported a loss on its frozen-asparagus operations in any of the years 1970-72--that loss occurred in 1970. Two companies reported losses in 1973, and one company reported a loss in 1974.

Domestic canners of asparagus

The data reported in this section represent the financial experience of 19 canners of asparagus--2 grower-owned cooperatives and 17 proprietary companies--which accounted for approximately 61 percent of the total quantity of asparagus procured as raw material--whether by purchase or from their own companies--by domestic canners during the year 1974.

The financial experience of grower-owned cooperative canners and proprietary canners are presented separately in this section because they differ substantially in capital and operating structure.

The accounting years for each of the canners ended between December 31 and June 30. For this report, the financial data of each canner has been classified under the year in which his accounting year commenced. For example, accounting years ending between January 1, 1975, and June 30, 1975, have been classified as 1974.

Proprietary canners.--The proprietary canners were requested to submit financial data for 5 accounting years. One company did not pany did not furnish data for its total company or establishment operations in which asparagus is canned, and 12 other companies submitted financial data for their total company operations instead of for the establishments in which asparagus is canned.

Total company or establishment operations canning asparagus.--Total net sales of the establishments (or total company net sales) for the 17 canners increased steadily from $297.9 million in 1970 to $576.6 million in 1974 (confidential table 2). Total net operating profit--following a slightly different trend from net sales--declined from $26.3 million in 1970 to $20.4 million in 1971 before increasing steadily to $54.7 million in 1974. As a share of net sales, the net operating profit averaged 8.8 percent in 1970, 5.4 percent in 1971, 6.3 percent in 1972, 10.7 percent in 1973, and 9.5 percent in 1974. * * *

Two companies accounted for approximately half of the total net sales and total net operating profit for each of the years 1970-74.

Canned-asparagus operations.--Total net sales of canned asparagus for the 17 proprietary canners increased from $26.5 million in 1970 to $35.3 million in 1972 before declining to $32.5 million in 1974 (confidential table 2). Total net operating profit declined slightly from $2.2 million in 1970 to $2.1 million in 1971, then increased steadily to $3.4 million in 1973 before declining again to $2.3 million in 1974. As a share of net sales, the net operating profit averaged 8.3 percent in 1970, 6.5 percent in 1971, 7.9 percent in 1972, 10.0 percent in 1973, and 7.2 percent in 1974. * * *

During the period 1970-74, profitability varied greatly from one producer to another. Companies reporting operating losses during this period are shown, unidentified, in table 43.

Table 43.--Companies reporting net operating losses on their canned asparagus operations, 1970-74

Company	1970	1971	1972	1973	1974
A	x	x			
B	x	x	x	x	
C	x			x	x
D	x			x	
E					x
Total number of producers reporting losses	4	2	1	3	2

Source: Compiled from data submitted to the U.S. International Trade Commission by the domestic industry.

Grower-owned cooperative canners.-- Grower-owned cooperatives are organizations where earnings may or may not be exempt from Federal and other income taxes. The cooperatives which are exempt from income taxes are those which purchase all their raw material needs from their member growers. Those cooperatives which purchase part or all their raw material needs from nonmember growers must pay income taxes on that portion of earnings derived from such purchases. 1/

Grower-owned cooperative canners operate without the benefit of capital stock and accumulated retained earnings 2/ that proprietary companies enjoy. Cooperative canners are, therefore, dependent upon borrowed funds for most of their working capital; this results in a large yearly interest expense, normally equal to about 5 percent of net sales. In this investigation, interest expense of cooperatives is considered to be an operating expense.

1/ The two cooperatives purchase about 10 to 20 percent of their raw material needs from nonmember growers. Earnings from this portion of their business is taxable.

2/ The Internal Revenue Service requires that all earnings of cooperatives be distributed to their members wihin 8 ½ months after the close of each fiscal year.

The operations of the two grower-owned cooperatives are the same in that the growers' asparagus is pooled with other commodities, and they participate in the distribution of profits (or losses) from the combined pool in relationship to the market value of the raw materials they delivered to the cooperative. These two cooperatives also employ product cost accounting, but not for the distribution of profits.

Total company or establishment operations canning asparagus.--The commission requested financial data on the overall operations of the establishments in which asparagus is canned. One cooperative submitted, instead, financial data on its total operations, including establishments that do not can asparagus.

*   *   *   *   *   *   *

* * * * * * *

The profitability was not as good for canned asparagus as it was for other commodities canned by the two cooperative canners. The poor profit showing during the period can be attributed to several factors: overstocked inventories, resulting from bumper crops and/or poor market movement of asparagus, and increased operating costs, mainly labor, freight, and financing costs.

Combined profit-and-loss data on canned asparagus

The combined profit-and-loss data for the 2 grower-owned cooperatives and the 17 proprietary canners are summarized in table 44.

Table 44. * * * * * * *

Combined profit-and-loss data on processed asparagus

Aggregate profit-and-loss data for 26 processors of asparagus--consisting of 7 freezers and 19 canners 1/--are summarized in table 45.

Table 45. * * * * * * *

Combined, the 26 processors accounted for approximately 64 percent of the total fresh asparagus procured--whether by purchase or from their own company--by domestic processors during the year 1974.

1/ * * *

U.S. Producers' Efforts to Compete With Imports

For over 25 years, an extensive effort has been made by the U.S. asparagus industry to develop a mechanized harvester that would lower costs to growers and enable domestic production to compete more effectively with imports. Most of this research has been centered in California--especially at the University of California--and financed in recent years by the California Asparagus Growers Association. Despite this research effort over the years, and the relatively heavy expenditure by the industry, no machine has yet been developed that is economically feasible for the harvesting of asparagus spears. Spears constitute all of the asparagus for the fresh market and the bulk of asparagus sold for processing use in the United States.

However, a cutting sled has been developed that has proven to be economically feasible for the harvesting of asparagus that is sold for processing into cuts and tips. This device slides along the surface of the ground and snaps the asparagus at shorter-than-normal lengths. It is in common use in Michigan, where it is augmented by student and migrant labor.

Very recently, attempts have been made to get the asparagus plant itself to conform to the requirements of mechanical harvesters. Attention has, therefore, been given to breeding. It is too early to fully evaluate this new line of research.

Asparagus processing is also a very labor-intensive operation. It is believed that little research has been done toward the mechanization of asparagus-spear processing. Because of the delicate nature of asparagus spears, no means have thus far been developed to significantly reduce the large inputs of hand labor required to can or freeze them.

The Question of Imports as a Substantial Cause of Serious Injury

U.S. Consumption

Trends

Annual U.S. consumption of asparagus (all forms) 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 46). During the 5-year period 1970-74, the annual consumption of asparagus averaged 248 million pounds, representing a decline of about 11 percent from the 1960-64 average. Such consumption during 1970-74 was actually 2 percent less than it had been in the 5 years immediately following World War II, but the average annual per capita consumption of asparagus during the same period declined more sharply--from 2.2 to 1.4 pounds (table 47) because of the U.S. population increase during the last quarter of a century.

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 1970-74, the portion of the combined consumption accounted for by canned asparagus had increased to 54 percent, that accounted for by fresh asparagus had declined to 35 percent, and that accounted for by frozen asparagus had increased slightly to 11 percent.

Table 46.--Asparagus: Apparent U.S. consumption of fresh, frozen, and canned asparagus, 5-year averages 1945-74, annual 1965-74

(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
1970-74	85.7	26.7	135.4	247.9
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	137.7	248.5
1972	90.3	25.9	133.4	249.6
1973	82.8	26.4	149.1	258.3
1974	80.6	23.1	107.6	211.3

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 4, 5, and 6 of this report.

Table 47.--Asparagus: U.S. per capita consumption of fresh, frozen, and canned asparagus, 5-year averages 1945-74, annual 1965-74

(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
1970-74	.46	.22	.74	1.42
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	.81	1.59
1971	.40	.24	.73	1.37
1972	.50	.19	.70	1.39
1973	.50	.21	.84	1.55
1974 1/	.40	.19	.62	1.21

1/ Preliminary.

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

Depending upon their respective price and availability, there is some interchangeability of demand between fresh and processed asparagus. Some studies have indicated that such crossover in consumer demand is limited and is usually from the processed to the fresh product but seldom in the opposite direction. That is, many consumers of fresh asparagus may never buy processed, but buyers of processed asparagus sometimes purchase fresh when it is available.

Some crossover is apparent in table 48 compiled by a national research organization, which shows retail store movement of frozen and canned asparagus by months. Sales of processed asparagus seem to drop of in April. The extent of the effect of fresh asparagus availability alone on processed asparagus movement, however, cannot be determined, for sales of all frozen and canned vegetables in general are negatively correlated with the ready availability of all fresh fruits or vegetables in the months April through October.

Fresh-market asparagus.--After averaging 121 million pounds in the 5-year period immediately following World War II, the annual U.S. consumption of fresh-market asparagus declined to an average of 106 million pounds in 1950-54 (table 46 on p.A-104). It then increased to an average of 116 million pounds during 1955-59. The annual consumption of fresh-market asparagus again declined until the mid-1960's. For the past decade it has been relatively stable,

Table 48.--Indexes of U.S. retail store movement of frozen and canned asparagus, by 4-week periods, 1972-74

(Average 4-week period for each year=100)

Period ending--	1972		Period ending--	1973		Period ending--	1974	
	Frozen	Canned		Frozen	Canned		Frozen	Canned
Jan. 21	127	111	Jan. 19	124	112	Jan. 18	131	107
Feb. 18	127	115	Feb. 16	130	120	Feb. 15	143	128
Mar. 17	115	104	Mar. 16	124	110	Mar. 15	125	111
Apr. 14	95	94	Apr. 13	92	88	Apr. 12	109	113
May 12	83	83	May 11	81	80	May 10	92	99
June 9	82	92	June 8	88	91	June 7	90	97
July 7	80	93	July 6	80	99	July 5	85	93
Aug. 4	82	88	Aug. 3	87	100	Aug. 2	78	90
Sept. 1	77	89	Aug. 31	77	86	Aug. 30	78	86
Sept. 29	90	97	Sept. 28	82	83	Sept. 27	77	88
Oct. 27	98	104	Oct. 26	97	104	Oct. 25	89	99
Nov. 24	119	115	Nov. 23	114	118	Nov. 22	101	102
Dec. 22	125	115	Dec. 21	123	110	Dec. 20	104	92

Source: Information supplied by a national research organization whose name has been withheld upon request.

averaging about 85 million pounds during both the 1959-69 and 1970-74 periods. The annual per capita consumption of fresh market asparagus, which averaged about 1 pound in the 5 years following World War II, amounted to less than half that much during 1970-74 (table 47 on p. A-105). However, annual per capita consumption, like annual consumption, has stabilized during the last 10 years, averaging 0.46 pounds for the 1965-69 and 1970-74 periods.

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 46 on p. A-104). Since that time, however, annual consumption has declined; it averaged only 31 million pounds during 1965-69 and about 27 million pounds in 1970-74. The annual per capita consumption of frozen asparagus, which had been very small prior to World War II, averaged 0.3 pound during the 1950's and 1960's but only 0.2 pound during 1970-74 (table 47 on p. A-105).

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 46 on p. A-104). Such consumption, however, dropped to 135 million pounds in 1970-74. For many years, although the annual U.S. consumption of canned asparagus slowly increased, the U.S. per capita consumption of such asparagus declined (table 47 on p. A-105).

There is a distinct but limited U.S. market for canned white asparagus. Canned white asparagus is a gourmet item which is preferred over canned green asparagus for salad use and as a garnish for food dishes. In recent years, about 9 million pounds of the canned asparagus consumed in the United States is believed to have been of the white type. Imports have supplied an increasing share of such white asparagus consumption. Annual consumption of the white product in the 1970's is believed to have increased somewhat over 1960 levels. All of the decline in comsumption of canned asparagus was in green asparagus, which accounts for the bulk of U.S. consumption of the canned product.

Factors affecting consumption

Among the more important factors that affect the domestic consumption of fresh, frozen, and canned asparagus are population, price, consumer incomes and tastes, availability of supplies, extent of distribution, and the supply of and demand for alternative products. 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 processed forms (especially canned), has declined. A recent U.S. Department of Agriculture study found that taste preferences differ according to age group. 1/

1/ Consumers' Preferences, Uses, and Buying Practices for Selected Vegetables, A Nationwide Survey, U.S. Department of Agriculture Marketing Research Report No. 1019, 1974.

The oldest segments of the U.S. population have the greatest preference for asparagus; the lowest age categories have the least. The fact that the population is growing younger may have some effect on per capita consumption. Asparagus is usually higher priced than many other fresh and processed vegetables available to the consumer in the marketplace. The factor of high prices has probably been one of the major reasons for the decline in per capita consumption during the last 25 years, even though annual per capita disposable income increased significantly during this period.

During the last decade, the availability of fresh asparagus in all major producing areas has remained about constant except in New Jersey, where a number of factors, including a serious disease problem, labor shortages, increased labor costs, and increased valuation of asparagus-producing lands for nonfarm uses (table 35 on p. A-73), have had the effect of reducing supplies of fresh asparagus available to eastern U.S. markets. This reduced availability of the New Jersey product in 1970-74 may have restrained U.S. consumption of fresh asparagus during that period.

Prices

Asparagus, in both fresh and processed forms, has been one of the most expensive vegetables on the U.S. market. During recent years, asparagus prices generally have risen consistently and substantially at grower, wholesale, and retail levels.

U.S. production of asparagus is highly labor intensive, both for growing and processing. As for a number of other commodities, rising production costs, especially increased direct labor costs, have been reflected in higher prices to consumers. Since the termination of the bracero (hired Mexican labor) program in 1964 and the ensuing rise in wages paid to U.S. workers by domestic asparagus growers, asparagus prices have climbed steeply in the U.S. market.

Prices received by U.S. growers

In addition to such basic factors as production costs and the interaction of supply and demand, the price received by an asparagus grower for his crop is usually determined by conditions involving quality, timing, and location. The price per pound the grower receives depends upon the market in which its 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 in which the grower is located. In general, the following price structure prevails:

(a) Asparagus sold in the fresh market brings higher prices per pound than that for canning and freezing. 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.

(b) Of the asparagus sold to processors, that used for canning brings higher prices per pound than that for freezing. Higher prices are obtained for white asparagus than for green, since the former is more labor intensive and production costs per pound are higher.

(c) Asparagus spears bring higher prices than asparagus cuts and tips. Growers receive higher prices per pound from processors for 7-inch spears than for 9-inch or larger spears. 1/

(d) The larger the diameter of the spears, the higher price per pound they bring.

(e) Prices vary from State to State in the United States, although no general geographical trends are readily apparent.

Although the prices received for asparagus by growers have followed the same upward trend regardless of geographical area, there have been some price differences between producing States. In Michigan and Illinois, asparagus has been harvested predominantly by mechanical means for cuts and for tips and pieces destined mainly for processors; by 1973 the average price paid by processors to growers in these States became somewhat higher than the corresponding prices paid in such States as California, Washington, and New Jersey. A U.S. Department of Agriculture resume covering the years 1966-74 indicates these differences of average prices paid by processors to asparagus growers in these five States, as shown in table 49.

1/ Processors of green asparagus generally try to package spears 4-1/2 to 5 inches long. In order to do so they (at least on the west coast) 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.

Table 49.--Asparagus for processing: Average prices paid to growers by processors, by leading producing States, 1966-74

(Cents per pound)

Year	California	Washington	New Jersey	Michigan	Illinois
1966	17.85	14.90	16.50	16.25	12.40
1967	16.80	15.45	17.95	18.70	13.20
1968	17.60	16.45	18.15	20.60	15.30
1969	17.90	17.25	18.20	21.00	16.85
1970	18.60	17.80	21.85	20.70	15.25
1971	19.90	20.05	22.55	24.00	16.00
1972	21.30	21.00	23.15	26.90	22.35
1973	22.15	22.00	25.75	28.60	27.65
1974	23.70	25.40	24.45	33.30	31.35

Source: "Vegetable Processing, Annual Summary," Vg. 1-2, SRS, U.S. Department of Agriculture, 1975.

Note.--Growers in California, Washington, and New Jersey harvest by hand, and the asparagus sold for processing includes significant amounts of waste material (see footnote on p.A-112). Most asparagus harvested in Michigan and Illinois is grown for processing uses and cut largely by a sled that snaps the spears at lengths shorter than those of the asparagus harvested on the west coast; hence, the higher price per pound.

Prices received by U.S. canners

Canned-asparagus prices are usually quoted by the case, f.o.b. producer's point of shipment (plant or warehouse). The main factors influencing the price per case are--

(1) Pack type (number and size of cans or jars);

(2) Color and diameter of spears; and

(3) Geographical location of the canner.

According to trade sources, California canners tend to be the price leaders because California has been the State with the largest production of asparagus and the California asparagus harvest comes in earlier than that of other producing States.

The most important case size in which asparagus is packed is the 24/300; i.e., 24 No. 300 cans, each weighing about 15 ounces net, per case. During recent years, this size pack has accounted for about two-thirds of the U.S. pack of green asparagus and over one-half of the U.S. pack of white asparagus. 1/

Table 50, in which annual averages have been computed from monthly price data, lists the average annual prices received by canners during 1968-74 and for the first 8 months of 1975 for the 24/300 size pack of canned asparagus, by color and type of asparagus and by geographical location of the canners.

1/ No white asparagus was packed in the United States in 1975.

Table 50.--Asparagus, canned: Average annual wholesale prices 1/ received by domestic canners, 1968-74 and January-August 1975

(Per case of 24 No. 300 cans)

Type of asparagus and geographical location of canner	1968	1969	1970	1971	1972	1973	1974	Jan.-Aug. 1975
Green:								
Spears:								
California---	$10.03	$10.25	$11.13	$12.21	$13.24	$14.41	$15.80	$15.31
East---------	9.90	10.30	10.70	12.60	12.60	13.90	16.70	2/
Cuts and tips:								
Midwest------	6.06	6.19	6.13	7.10	7.78	8.00	10.19	8.50
East---------	6.30	6.63	6.70	7.30	7.50	8.13	10.20	8.43
White:								
Spears:								
California---	10.25	10.33	10.96	12.18	13.07	13.90	16.25	2/

1/ Average annual spot-selling prices, f.o.b. factory, including customary discounts and brokerage costs.
2/ No quotation available.

Source: Various issues (1968-75) of "The Canning Trade" and "Food Production Management."

As may be seen, the general trend of average annual wholesale prices received by canners of asparagus was steadily upward between 1968 and 1974, during which average prices increased by one-half or more. In 1975, however, these prices dropped below the 1974 level, especially for green cuts and tips. This was probably attributable to the presence of substantial carryover stocks from 1974, as the pack for that year was at a very high level and consumer demand was down because of the high retail prices for canned asparagus and the general economic conditions. Also, in 4 of the years in table 50 above, cans of California green spears sold at a premium to California white spears --normally the higher priced gourmet product.

<u>Prices received by U.S. freezers</u>

Prices received by processors of frozen asparagus rose steadily between 1968 and 1975, or by approximately 60 percent for both spears and cuts and tips. At least 75 percent of all sales of frozen asparagus (spears plus cuts and tips) are made in two basic case sizes:

(1) Case of 24 10-ounce packages, for the retail trade;

(2) Case of 12 2-1/2 pound packages, for institutional users.

Annual average prices received by the domestic freezers of asparagus, computed from monthly quotations on frozen green asparagus, are shown for these basic types and sizes on table 51. As indicated in the table, packages of frozen asparagus for the retail trade are quoted at dollars per case, while packages for institutional users are quoted at cents per pound, by the industry. It may be noted that frozen asparagus spears for both markets bring prices from 10 to 15 percent higher than those for the same size packages of cuts and tips.

Table 51.--Asparagus, frozen: Average annual wholesale prices 1/ received by domestic freezers, 1968-74 and January-August 1975

Period	Case of 24 10-oz. packages: 2/		Case of 12 2-1/2-lb. pkgs: 3/	
	Spears	Cuts and tips	Spears	Cuts and tips
	Per case	Per case	Cents per pound	Cents per pound
1968	$9.28	$7.40	59	48
1969	9.63	7.65	61	49
1970	10.38	8.38	64	53
1971	12.33	10.03	75	64
1972	12.88	10.20	78	65
1973	13.25	10.20	81	65
1974	14.66	11.14	92	71
1975 (Jan.-Aug.)	15.50	11.70	98	75

1/ Average annual spot-selling prices, f.o.b. factory, including customary discounts and brokerage costs, for green asparagus.
2/ Retail size, f.o.b. west coast.
3/ Institutional size, f.o.b. west coast.

Source: Various issues, (1968-75) of "Report on Food Markets", published by the American Institute of Food Distribution, Inc.

Pricing practices of importers of asparagus from Mexico.

Fresh-market asparagus.--During recent years, most U.S. imports of fresh asparagus entered the U.S. at Calexico, Calif., the product of Mexican growers in the Mexicali Valley. This asparagus enters the United States mainly during February-April. It competes in fresh markets throughout the United States, but especially with asparagus grown in southern California, where harvesting occurs at about the same time of the year as in the Mexicali Valley. Those imports not entering through Calexico in the spring are shipped from the Bajio area in the fall through Texas ports of entry. Importers at these points are believed to have similar operations to the one firm that has handled all asparagus imported at Calexico in recent years. An increasing share of U.S. imports of fresh asparagus have entered during the fall months in the 1970's.

Prices paid by importers for fresh asparagus are determined through contractual arrangements between the Mexican exporters and the U.S. importers. Imported fresh asparagus is sold on an f.o.b.-U.S.-port-of-entry basis; the Mexican growers pay the U.S. import duty, freight, and other expenses incidental to importation into the United States.

Canned asparagus.--Nearly all U.S. imports of canned asparagus from Mexico have been under U.S. nationally advertised brand labels. Such asparagus is imported and marketed in the United States by two large domestic canners and distributors at prices reported to be the same as those received for their U.S.-canned asparagus. Both white and green asparagus are canned in Mexico.

Frozen asparagus.--U.S. imports of frozen asparagus from Mexico have been relatively small. Such imports are produced by the Mexican affiliates of two major U.S. food-processing firms. One of these imports retail-size packages of frozen asparagus, and the other frozen soup stock for further processing in the United States. The retail-size packages are marketed under a nationally advertised brand label at prices approximately the same, if not identical, with those received from this company's U.S.-produced frozen asparagus.

Pricing practices of importers of asparagus from Taiwan

Canned asparagus.--About 95 percent of U.S. imports of asparagus from Taiwan are canned. U.S. imports of canned asparagus from Taiwan have been under private brand labels, and most have been of the white type. U.S. sales prices of canned white asparagus from Taiwan are somewhat below the prices of the domestic white product in comparable size containers. The United States, however, is considered a residual market for canned asparagus by the Taiwanese exporters, as most of their exports of this commodity are destined for European countries.

Frozen asparagus.--Imports of frozen asparagus from Taiwan have entered on a sporadic basis since 1970--largely in 1971 and 1972. Most U.S. imports of frozen asparagus from Taiwan have been sold in the domestic market by a large U.S. producer and distributor of frozen asparagus, at the identical average wholesale price received for this company's domestically produced frozen asparagus. Lesser quantities of this product have been imported and distributed by other firms that are not domestic producers of frozen asparagus. By 1974, however, imports of frozen asparagus from Taiwan were insignificant, and no importer contacted by the Commission reported any entries in 1975. Trade sources stated that this termination of frozen asparagus imports from Taiwan was attributable to the inferior quality of the product, primarily in relation to the freezing technology.

Price relationship between imported and domestically produced canned white asparagus

According to the U.S. Department of Agriculture, the prices for imported fresh asparagus in recent years were roughly comparable to the prices of domestically produced fresh asparagus. During the season when both U.S. and foreign fresh asparagus is grown and sold, prices do vary, however from day to day, depending on quality and supply of and demand for the product. There are generally no major quality differences between the domestic and imported products.

Frozen asparagus is brought into the United States primarily by two large importers and food processors. One reprocesses such imports into soup in the United States; the other imports frozen asparagus in retail-size packages which are believed to be sold at prices comparable to this firm's domestic product.

Canned green asparagus is brought into the United States mainly by a large domestic food packer. It is believed that the imported canned green asparagus is sold by this firm at a price comparable tc domestic packer prices. Most imports of canned green asparagus are of Mexican origin, and only sporadic supplies of this product are brought in from Taiwan.

It is believed that only the white canned asparagus is sold in the United States at prices below those quoted by domestic producers. Most of such imports originate from Taiwan.

The data obtained by the Commission on prices for domestic and imported canned white asparagus shows that the imports from * * * * * * * * * the domestic product during the period 1970-74 (table 52). While the domestic prices have increased more rapidly than the prices for the imported products, the Taiwanese product sold for * * * the Mexican product. During the period of consideration the domestic price for a case of 24/300 cans increased from an annual average of $10.96 to $16.25; the Mexican price * * * * * , and the Taiwanese price * * * * * . The highest differential between the domestic and import prices occurred during 1973, when the imported product from Taiwan * * * * * * * * * and Mexican imports * * * * * * * * . The price differential for a case of 6/5 squat-size cans was * * * * * * * * * During other years the price differentials were * * * * * * * . for Mexican imports of canned white asparagus sold in the United States during 1970. The average annual prices for two of the most popular sizes of canned white asparagus are shown graphically in figures 3 and 4 .

Table 52.--Asparagus, canned: Average annual prices per case of white asparagus sold to wholesalers by domestic packers and importers from Mexico and Taiwan, by case sizes, 1970-74 and January-September 1975

Period	Size 24/300					Size 6/5 squat		
	Domestic	Imported from--		* * *		Domestic	Imported from Taiwan	Percentage by which the import price was below the domestic price
		Mexico	Taiwan	Mexico	Taiwan			
	Price per case	Price per case	Price per case	Percent	Percent	Price per case	Price per case	Percent
1970-------	$10.96	*	*	*	*	$13.43	$11.46	14.7
1971-------	12.18	*	*	*	*	14.85	11.41	23.2
1972-------	13.07	*	*	*	*	15.84	11.09	30.0
1973-------	13.90	*	*	*	*	18.20	11.72	35.6
1974-------	16.25	*	*	*	*	19.95	15.72	21.2
Jan.-Sept. 1975-----	1/	*	*	*	*	1/	17.06	-

1/ No white asparagus was packed in the United States in 1975.

Source: Data supplied by importers and domestic producers and extracted from the monthly periodical, "Food Production Management."

Figure 3.--Canned white asparagus: Average annual prices, per case of 24/300 cans, sold to wholesalers by domestic packers and selected importers, 1970-74 and January-September 1975.

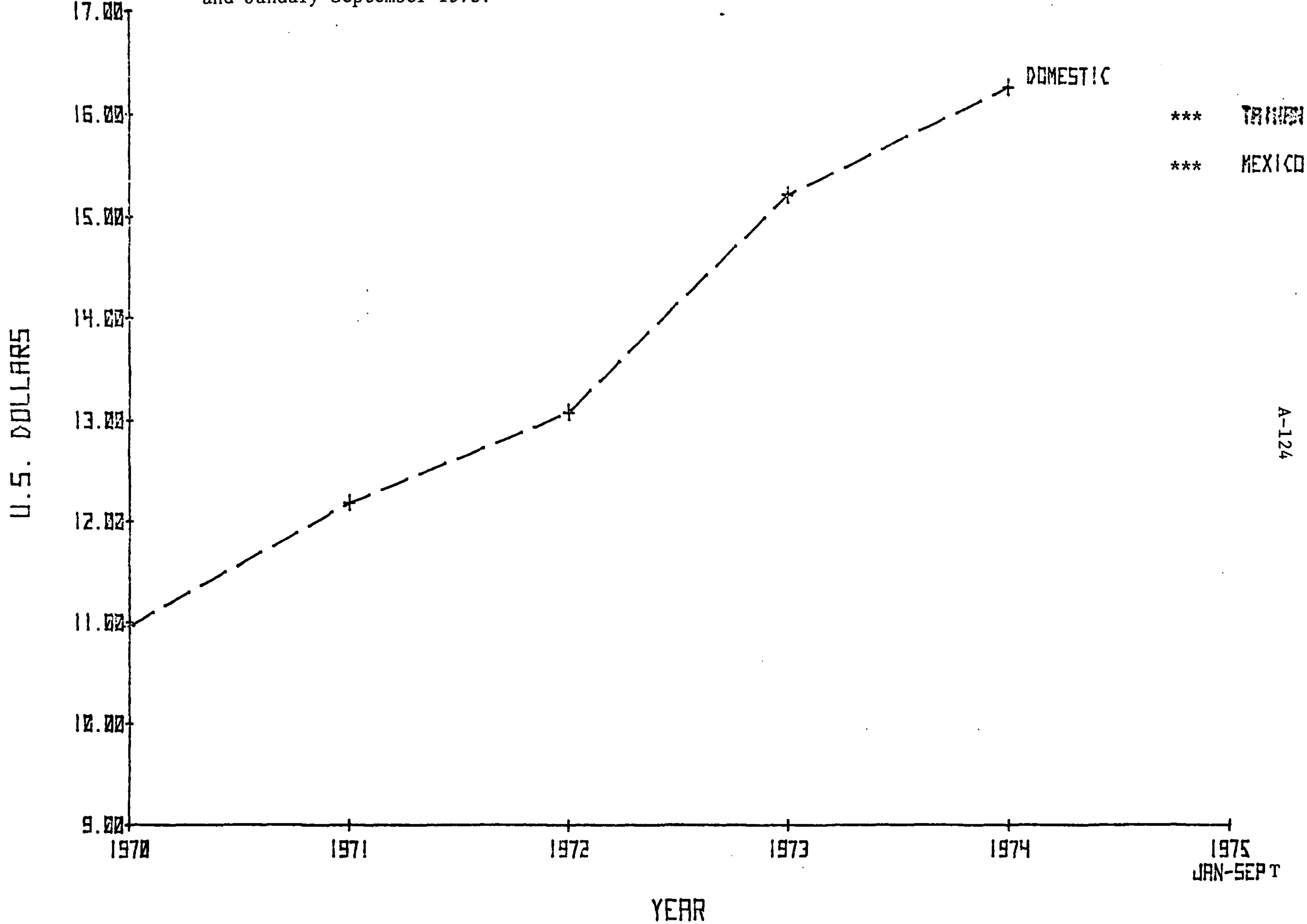
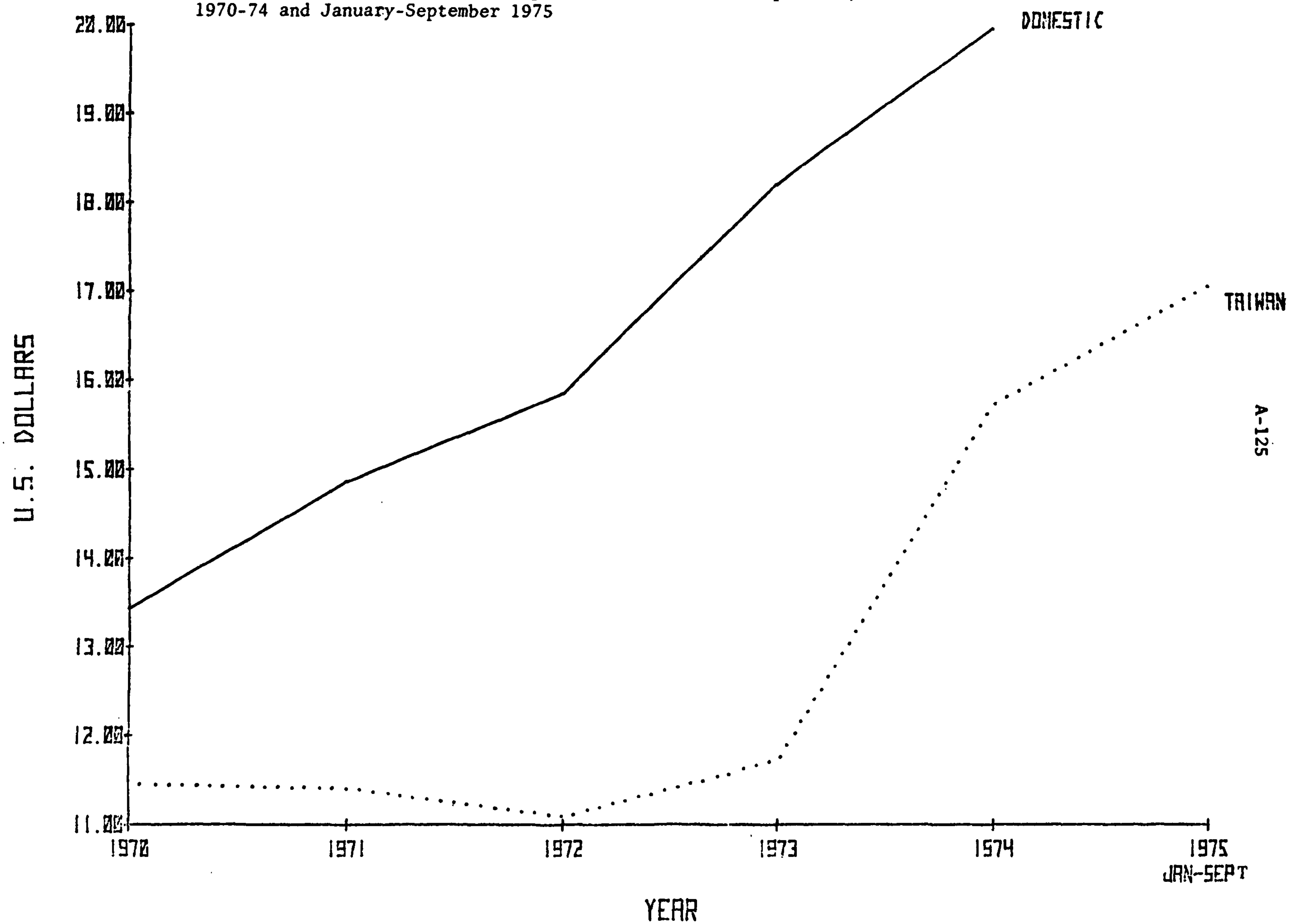


Figure 4.--Canned white asparagus: Average annual prices per case of 6/5 cans, sold to wholesalers by domestic packers and selected importers, 1970-74 and January-September 1975



The annual average wholesale price-index numbers 1/ for canned asparagus were compared with those for pertinent special categories, as reported by the U.S. Department of Labor, Bureau of Labor Statistics (BLS), for 1960-74 and for January-September 1975. The other categories used for comparison were "all processed fruits and vegetables" and "canned vegetables and juices."

All of these categories, based on 1967=100.0, registered considerable increases through 1974, with substantial increases registered for the year 1974. The wholesale price for canned asparagus rose during 1967-74 at a higher rate than did prices for "all processed fruits and vegetables' and "canned vegetables and juices." For January-September 1975, however, the rapidly rising index numbers for the two latter categories exceeded the corresponding index number for canned asparagus, which was actually lower than the average wholesale price index number for canned asparagus for the year 1974.

1/ Price-index numbers are relative measurements, not absolute values as are actual prices. Because the base level for canned asparagus is believed to have been comparatively high in the 1960's, its actual price by 1975 was thought to be greater than the actual price for comparable products or product categories even though relative increases of asparagus and comparable products were approximately the same. The actual price situation for canned asparagus, therefore, cannot be obtained from comparison of the index numbers for these categories, because their prices increases were measured from different base levels.

The annual average U.S. wholesale price indexes for the aforementioned categories, as computed from data of the BLS, are presented in table 19 on p. A-42.

The annual average consumer price-index numbers for fresh asparagus were compared with those for relevant special categories, as reported by the BLS, for 1960-74 and for January-September 1975. The other categories used for comparison were "all fruits and vegetables," "all processed fruits and vegetables," and "all fresh fruits and vegetables."

All of these categories, based on 1967=100.0, registered considerable increases through 1974, although "fresh asparagus" experienced a smaller increase than the other special categories. All of these increases continued during January-September 1975. The increase of the index number for "fresh asparagus" was considerable, however, for January-September 1975 compared with 1974, rising by approximately 20 percent. Rising production costs, the low level of 1974 asparagus prices relative to prices of other fresh vegetables in that year, and the substantial reduction of the New Jersey crop in 1975 were leading factors responsible for this sharp rise in fresh-asparagus prices to the U.S. consumer in 1975.

The annual average U.S. consumer price indexes for the aforementioned categories, as computed from data of the BLS, are presented in table 20 on p. A-43.

APPENDIX A

CONFIDENTIAL TABLES

A-129 through A-133

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