UNITED STATES TARIFF COMMISSION

MUSHROOMS

Report to the President on
Investigation No. 332-72
Under Section 332 of the Tariff Act of 1930

TC Publication 580
Washington, D.C.
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UNITED STATES TARIFF COMMISSION

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Address all communications to

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REPORT TO THE PRESIDENT

U.S. Tariff Commission,
May 30, 1973.

To the President:

This report presents the results of an investigation on mushrooms conducted by the Tariff Commission in response to your request of January 30, 1973. 1/ Your letter to the Chairman of the Tariff Commission was as follows:

> Dear Mrs. Bedell:
>
> I hereby request the Tariff Commission, under section 332 of the Tariff Act of 1930, to conduct an investigation of the competitive conditions in the United States between domestically produced and imported fresh and processed mushrooms.
>
> This request results from a petition of the Mushroom Processors Association for initiation of negotiations with certain foreign governments under Section 204 of the Agricultural Act of 1956, as amended, to limit the export of canned mushrooms to the United States. After reviewing the Association's petition and available information from executive agencies, I do not believe the facts available are sufficient for making a decision at this time. I am therefore requesting a comprehensive report from the Commission to provide the necessary background on this matter.
>
> In examining the conditions of competition between domestic and imported mushrooms, the Commission should report on trends in production, consumption,

1/ Public notice of the institution of a Commission investigation on mushrooms was issued Feb. 9, 1973. The notice was posted at the Commission's offices in Washington, D.C., and in New York City, and was published in the Federal Register of Feb. 14, 1973 (38 F.R. 4443) and in the Feb. 28, 1973, issue of the Customs Bulletin. A public hearing was held Mar. 20 and 21, 1973; interested parties were afforded opportunity to produce evidence and to be heard. In addition to the information submitted at the hearing, the Commission obtained information from briefs of interested parties, from fieldwork, from responses to questionnaires sent to producers and importers, from other Government agencies, and from other appropriate sources.

prices, employment, imports, the profit and loss experience of domestic producers, and plans of foreign suppliers for increased marketing in the United States.

I would also appreciate receiving any conclusions the Commission may reach, following its investigation, as to whether the domestic mushroom industries are suffering from or threatened with injury from imports and, if so, whether the extent of any injury or threat thereof has been sufficient to warrant serious consideration of some form of relief.

The Commission's report should be submitted as soon as possible but no later than May 1, 1973 so that proper attention can be given to the Association's petition before the next marketing year begins in the Fall of 1973.

I have asked the Director of the Council on International Economic Policy to maintain a close surveillance of the mushroom processing industry and to forward his recommendation in the event the industry's situation requires action before the Commission's report is available.

Sincerely,

(signed)
Richard Nixon

With the concurrence of the Director of the Council on International Economic Policy, the Commission has taken 4 weeks beyond the date that you specified so that it could comply fully with your request for a comprehensive report.

Conclusions of the Commission

Views of Chairman Bedell and Commissioners Moore and Ablondi

Chairman Bedell and Commissioners Moore and Ablondi are of the opinion that the Commission's report supports the conclusion that the domestic mushroom industries are not suffering injury from imports at the present time. However, they believe the economic trends disclosed by the Commission's investigation are of such a nature that the domestic mushroom industries are threatened with future injury and that the extent thereof is sufficient to warrant serious consideration of some form of relief.

Views of Commissioner Young

In his letter of January 30, 1973, the President, pursuant to section 332 of the Tariff Act of 1930, requested the Tariff Commission to conduct an investigation of the competitive conditions in the United States between domestically produced and imported mushrooms. He stated that his request resulted from a petition of the mushroom industry for negotiated import restraints under section 204 of the Agricultural Act of 1956. The President also requested that he receive "any conclusions the Commission may reach, following its investigation, as to whether the domestic mushroom industries are suffering from or threatened with injury from imports and, if so, whether . . . serious consideration of some form of relief" is warranted. Having reached a conclusion with respect to these matters, my conclusion and the reasons therefor are hereinafter set forth as requested by the President.

As to the basis for such conclusion, a brief comment on the statutes involved is considered appropriate. Neither section 204 of the Agricultural Act of 1956 nor section 332 of the Tariff Act of 1930 provide for a Commission determination of injury or a Commission recommendation pertaining to the advisability of securing relief. As such, there has not been any basis for the Commission's developing any standards for injury determinations in such cases. Insofar as concerns the advisability of relief, it would appear that the Commission's historical role as a fact finding and advisory agency might preclude it from asserting the necessity for undertaking any course of action which could serve as a basis for trade policy considerations.

Notwithstanding the above, I submit the following in this case with the understanding that no attempt is being made to formulate standards under either of the above-referred-to acts which could set a precedent for their future use.

On the basis of Investigation No. 332-72, it is my view that domestic growers and canners of mushrooms are being injured by imports of canned mushrooms and that the domestic industries are threatened with further injury unless exports to the United States are restrained.

Most of the imported mushrooms are canned and compete directly with the domestically canned product. Mushroom growers are vitally dependent on canners inasmuch as more than two-thirds of their output goes to market in cans.

Imports of canned mushrooms into the United States began to make serious inroads in the domestic market in the early 1960's. In the past 10 years, imports of canned mushrooms quadrupled, their share of the domestic market increased from a fifth to more than a third, and the annual rate of increase in imports was twice that of domestic product sales. Indeed, imports in the marketing year 1971/72 were about equal to the total sales of the domestic canned mushrooms in 1962/63. Only the expansion in the domestic market kept U.S. growers and canners from being virtually driven out of business in the face of the sharply rising imports.

Import penetration has been even more pronounced in the last 2 years when the prices of fresh and canned mushrooms declined substantially. The ratio of net operating profits to net sales of canned mushrooms in 1972 was only one-half percent, compared with an average of 2 percent during

1968-71. Even the 2 percent return on sales of canned mushrooms was far below the return of about 5 percent for all processors of food and kindred products. In this connection, it might be observed that determinations of injury and serious injury have been made by the Tariff Commission in cases where import penetration was substantially less and profits substantially more than the experience of the canned mushrooms industry.

Mushroom growers also have realized lower profits than have farmers on the average. The ratio of net profits of mushroom growers to their net sales were only about two-thirds the ratio calculated for all farm enterprises. Although data are not available, it would appear that grower returns on capital investments are relatively low. Specialized buildings and expensive equipment are employed in raising mushrooms, including the use of air-conditioning equipment by growers that produce mushrooms throughout the year. The specialized buildings and equipment used by mushroom growers in their operations cannot economically be adapted to the growing of other vegetable crops.

Inventories of domestically canned mushrooms in the hands of U.S. canners climbed sharply in 1972. On December 31, 1972, they were about a third higher than a year earlier.

The generally acknowledged differential in wages earned by workers in the United States and those earned by workers in the principal supplying countries leaves no doubt that the domestic mushroom industries are in an unfavorable competitive position vis-á-vis foreign industries. The low profit margins realized by U.S. canners of mushrooms in recent years makes it unlikely that they can raise sufficient capital to develop and install automated equipment in their operations and thus reduce their costs in order to try to meet foreign competition.

Information from abroad foretells of potential supplies of canned mushrooms available for export from the Republic of China (Taiwan) and the Republic of Korea (South Korea) that will far exceed the current levels. Taiwan and South Korea are in the process of expanding their capabilities to supply export markets. Taiwan has an agricultural development program to improve its growth rate of many agricultural commodities, including mushrooms. South Korea has plans to double its exports during 1973-76. Current indications that the European Community may limit imports from Asian sources could lead to the diversion of Taiwan and South Korean exports to the United States.

The above clearly indicates that the relentless increase in imports of canned mushrooms has caused injury to domestic growers and canners of mushrooms. There is every indication that domestic producers can meet the growing needs of the U.S. market. Unless some form of import restraint is adopted, there is the threat that imports will continue to increase and further aggravate the injury to the domestic industries.

Views of Vice Chairman Parker and Commissioner Leonard

As indicated in the President's letter requesting this investigation (reproduced above), the origin of the investigation lies in a petition of the Mushroom Processors Association for an agreement with foreign countries under section 204 of the Agricultural Act of 1956, as amended, to limit the export of canned mushrooms to the United States. In requesting that the Commission conduct an investigation of the competitive conditions in the United States between domestically produced and imported fresh and processed mushrooms, the President indicated that the Executive Branch did not have sufficient facts to make a decision on the petition.

The President's letter contained the following request:

> I would also appreciate receiving any conclusions the Commission may reach, following its investigation, as to whether the domestic mushroom industries are suffering from or threatened with injury from imports and, if so, whether the extent of any injury or threat thereof has been sufficient to warrant serious consideration of some form of relief.

The Commission's report in this investigation sets forth an array of economic data relating to the operations of domestic and foreign producers of fresh and processed mushrooms, and the current competitive conditions in the U.S. market for those articles. The report provides a foundation on which a decision respecting the need for increased import restrictions on mushrooms may be based. It thus is in keeping with the Commission's historic role as an independent, fact-finding agency that provides technical advice to those concerned with trade policy.

Contrary to our colleagues, we have not attempted to reach any conclusions whether the domestic mushroom industries are suffering from or are threatened with injury from imports and, if so, whether the extent of any injury or threat thereof has been sufficient to warrant serious consideration of some form of relief. In this case, there are no established standards by which the Commission may appropriately judge whether injury has occurred or is threatened. Section 204 of the Agricultural Act of 1956, as amended--the provision under which the Mushroom Processors Association initially petitioned--has no standards governing the negotiation of export agreements with foreign countries.

Moreover, we believe that the Commission should neither reach a conclusion based on injury standards in the relief provisions of other statutes, nor should it attempt to make ad hoc determinations of what standards of injury are sufficient to warrant consideration of some form of import relief. To consider the questions of injury and relief therefrom when there are no explicit standards provided necessarily injects the Commission into matters of tariff and trade policy which properly are the province of the Congress and the Executive. These are matters which should not involve the Commission in the present proceeding. We have, therefore, refrained from expressing views on these matters in this report.

Introduction

The U.S. consumption of fresh mushrooms is supplied almost exclusively by domestic growers, while dried mushrooms have traditionally come almost entirely from abroad. The bulk of the consumption of canned mushrooms is supplied by domestic producers, but their share of the market has been shrinking as imports have taken a larger part.

Concerned with rising imports, domestic canners have periodically sought to have imports of canned mushrooms into the United States restricted. In 1964, they filed a petition with the Tariff Commission for an "industry" investigation under section 301(b) of the Trade Expansion Act of 1962. In the investigation, the Commission found that canned mushrooms were being imported in increased quantities within the meaning of section 301(b) of the act, but that such increased imports were not attributable in major part to trade-agreement concessions. 1/ In 1966 the canners requested the President to enter into negotiations under section 204 of the Agricultural Act of 1956 with the Republic of China (Taiwan), the principal supplier of imported canned mushrooms, for the purpose of limiting that country's exports to the United States. 2/ Following a review by an interagency task force,

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1/ The Commission's report, Mushrooms Prepared or Preserved (TC Publication 148), was sent to the President on Jan. 27, 1965.

2/ Sec. 204 of the Agricultural Act of 1956 authorizes the President to negotiate with foreign governments to obtain agreements limiting the export from those countries and the importation into the United States of any agricultural commodity or product manufactured therefrom. The President is authorized to issue regulations governing the importation of these products. If a multinational agreement has been concluded under this authority among countries accounting for a significant part of world trade in the articles with respect to which the agreement was concluded, the President may also issue regulations governing the importation of the same articles which are the products of countries not party to the agreement.

the request for negotiations was denied; the primary reason given for the denial was that canners' profits were above the level that prevailed before imports assumed a significant role. 1/

Taiwan took steps in 1968 to place a limit on its shipments of canned mushrooms to the United States during that year. 2/ The export limitation imposed by Taiwan permitted some growth in U.S. imports from Taiwan over those in 1967 but amounted to a substantial reduction in Taiwan's initial export target for the U.S. market. The limitation was operative only in 1968. In 1972 the domestic canners again sought Presidential approval for the initiation, under section 204 of the Agricultural Act of 1956, of discussions with the Governments of the Republic of China and the Republic of Korea for the purpose of obtaining agreements to limit their exports of canned mushrooms to the United States. It was in this climate of growing concern that the President directed the Commission to obtain information for him.

1/ From Canned Mushrooms: A Situation Report, issued by the U.S. Department of Agriculture, Foreign Agricultural Service, Fruit and Vegetable Division, on July 5, 1972.

2/ U.S. Department of State Memorandum of Conversation. See appendix B.

Summary

Trends 1/

U.S. consumption.--U.S. consumption of mushrooms has been expanding for many years. During the marketing years 1962/63 to 1971/72, consumption of mushrooms in all forms increased at an annual rate of 7.6 percent, from 156 million to 303 million pounds (fresh-weight basis). The increase in consumption resulted both from a rise in annual per capita consumption from 0.8 to 1.47 pounds and from an increase in U.S. population. In recent years, about three-fourths of the mushrooms consumed in the United States have been processed (primarily canned), and one-fourth have been in the fresh form. To a substantial degree, mushrooms in the fresh, canned, and frozen forms are used interchangeably with one another. 2/

U.S. production and sales.--U.S. production of fresh mushrooms reached a record high of 231 million pounds, valued at $107 million, in 1971/72; output in July-December 1972 was about 6 percent higher than in the corresponding months of 1971. 3/ Sales of canned mushrooms

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1/ Trade data for fresh mushrooms are reported on a fresh-weight basis, whereas processed mushrooms are reported on a processed-product-weight basis. To facilitate discussion, quantitative textual data on the domestic trade in this report have been converted to a common measure--the fresh-weight equivalent. Where appropriate, data in appendix A are shown on both a fresh-weight and a product-weight basis. All data in this report are given on a marketing-year basis unless otherwise noted. The marketing year for mushrooms in the United States begins July 1 and ends the following June 30.

2/ Imported dried mushrooms and domestic freeze-dried mushrooms are used almost exclusively for various soups, including dehydrated soup mixes, and certain specialty foods.

3/ Some of the figures for fresh-mushroom production are based on a sample. The sample design is described and sampling variability is shown in appendix D.

by domestic canners have increased in recent years, reaching 127 million pounds (fresh-weight basis), valued at $90 million, in 1971/72; canners' sales were 15 percent higher in July-December 1972 than in July-December 1971. In 1968-72, inventories of canned mushrooms held by domestic canners declined, but then increased substantially in late 1971 and early 1972; late in 1972 they were again reduced but remained at a level higher than a year earlier or in 1968. Annual sales of domestically produced frozen and freeze-dried mushrooms increased from 3 million pounds in 1968/69 to 5 million pounds in 1971/72 but continued to remain small in relation to total sales of all processed mushroom products.

U.S. employment.--In the past decade the number of commercial growers has declined from about 700 to about 500, and the number of canners has increased by one, to 35; 17 of the 35 canners were also growers of mushrooms. Employment in the growing and canning sectors of the mushroom industry increased during the marketing years 1968/69 to 1971/72. During that period, the number of workers employed by growers rose by 30 percent, 1/ while the number employed by canners in their growing and canning operations increased by 22 percent; the upward trend in employment continued during July-December 1972.

Financial experience of U.S. producers.--Annual net operating profits of domestic canners on their mushroom-canning operations increased from $627,000 in calendar year 1968 to $2.8 million in 1971, but then decreased to $514,000 in 1972. The ratio of net operating profits to

1/ Sampling variability is shown in appendix D.

net sales increased from 1.2 percent in 1968 to 3.1 percent in 1971, but then decreased to less than 1 percent in 1972. Net operating profits of canners on all products produced in the establishments in which mushrooms are canned rose from $2.5 million in 1968 to $5.0 million in 1971, and then declined to $2.2 million in 1972. The ratio of net operating profits to net sales of all products produced in those establishments increased from 3.9 percent in 1968 to 4.8 percent in 1971 and then dropped to 2.1 percent in 1972; by comparison, the ratio of net operating profits to net sales of those products during 1960-64 ranged from 4.1 percent to 5.7 percent.

During 1968-72, annual net profits of mushroom growers increased from $5.3 million to $14.7 million; the ratio of net profits to net sales rose from about 14 percent in 1968 and 1969 to about 20 percent in 1971 and 1972. 1/

U.S. imports.--During the period 1962/63 to 1971/72, annual U.S. imports of mushrooms in all forms increased from 24 million to 72 million pounds (fresh-weight basis). Imports of mushrooms have supplied an increasingly larger share of the U.S. market during the past decade. In the marketing year 1971/72, aggregate imports in all forms accounted for 24 percent of total mushroom consumption, compared with 15 percent in 1962/63. In 1971/72, canned mushrooms accounted for 86 percent of total imports and dried mushrooms accounted for almost all of the remainder; fresh and frozen mushrooms accounted for less than 1 percent of the total.

1/ Sampling variability is shown in appendix D.

Annual imports of canned mushrooms increased from 16 million pounds (fresh-weight basis) in 1962/63 to 62 million pounds in 1971/72. During the period July 1972 to March 1973, imports amounted to 52 million pounds, about 20 million pounds more than was imported during July 1971 to March 1972. Taiwan and South Korea have been the principal foreign suppliers of canned mushrooms to the U.S. market in recent years; Taiwan became a supplier in 1960/61, and South Korea, in 1963/64.

U.S. imports of canned mushrooms supplied 33 percent of U.S. consumption of mushrooms sold in that form in the marketing year 1971/72, compared with 19 percent in 1962/63. Some domestic canners have been importers of canned mushrooms, but their share of total imports decreased from 19 percent in 1968/69 to 11 percent in 1971/72.

Although importers have expanded their share of the U.S. market for canned mushrooms, sales by domestic producers have increased in each recent year. Sales of domestically produced canned mushrooms increased at an annual rate of 12.3 percent during 1967/68 to 1971/72, compared with a rate of 16.2 percent for imports of that product. A large increase in imports that occurred during 1972 and has continued into 1973 was, according to the major importers, at least in part in anticipation of some restriction of access to the U.S. market. During July-December 1972, sales of domestically canned mushrooms were 9 million pounds more, and imports were 19 million pounds more, than in the corresponding period in 1971.

Prices.--The principal style of pack for the domestic and imported canned products is mushroom stems and pieces, which are sold mainly in

4-ounce (retail-size) containers and in 68-ounce (institutional-size) containers. The domestic canners' price for stems and pieces packed in 4-ounce containers was above the importers' price for the Taiwan product from 1969 until early 1971, and above that for the South Korean product from 1969 until early 1972. Early in 1972 the domestic product was 3 percent lower in price than the Taiwan product and about the same price as the South Korean mushrooms. During 1972, importers reduced their prices at a slower rate than the canners did. By early 1973, the domestic product was 10 percent lower in price than the Taiwan and South Korean products. Mushroom stems and pieces packed in 68-ounce containers by domestic canners were generally priced higher than the imported product during 1970-72. In early 1973, however, the domestic product was very slightly lower in price than the Taiwan mushrooms, but slightly higher in price than the South Korean product.

Canned mushroom slices and buttons are more expensive and sell in smaller volume than the canned stems and pieces. Domestic slices and buttons packed in 4-ounce containers have been consistently higher priced than imports in recent years; in early 1973 the domestic mushrooms were 16 percent higher in price than the Taiwan product and 19 percent higher than the South Korean product, compared with 11 percent and 7 percent, respectively, in early 1972. However, the domestic slices and buttons packed in 68-ounce containers were consistently lower in price than the comparable imported product during 1969-72 and early 1973; in early 1973 the domestic pack was 5 percent lower in price than the imported product, compared with a difference of 12 percent in early 1972.

Plans of foreign suppliers.--Production of fresh and canned mushrooms in Taiwan and South Korea, the principal foreign suppliers of canned mushrooms to the U.S. market, will probably continue to expand in the absence of import restrictions in the United States and the European Community (EC). Taiwan has announced an agricultural development program, which includes mushrooms, for 1972-74 to improve the country's agricultural growth rate. South Korea plans by 1974 to put one governmental organization in charge to promote sales of canned mushrooms abroad and to attain export goals; it is projected by the Government that exports will almost double in value during 1973-76. In 1971/72 the Taiwan production of canned mushrooms was about one-fourth larger than the U.S. output, whereas the South Korean production was about one-third of the U.S. output. Domestic consumption in Taiwan and South Korea is relatively unimportant, and any increased supplies in those two countries would be exported. The United States and West Germany have been their principal markets. Imports into West Germany from all sources have increased substantially. In the recent past, however, an increasing share of West Germany's supply of foreign-produced mushrooms has come from duty-free intra-EC trade, and the share from outside the EC has declined. European mushroom canners are reported to be preparing an appeal to the European Community Commission to establish minimum import prices for canned mushrooms--prices which, if implemented, could conceivably lead to reduced imports into the EC from non-EC sources and the diversion of Taiwan and South Korean exports to other markets, including the United States.

Additional conditions of competition

Most of the mushrooms imported into the United States enter in the canned form. The imported canned mushrooms are generally of the same species as the domestic canned mushrooms, and are comparable in flavor and appearance. Fresh mushrooms are very perishable and therefore must be used within a few days after harvesting. Domestic growers market a large share of the fresh mushrooms they produce to processors, chiefly for canning. Inasmuch as the growers rely on processors as a market for their output, the growers are affected by the operations of the processors and by the effects of imports of canned mushrooms. Traditionally, imports have supplied virtually all of the U.S. consumption of dried mushrooms, which, in general, are not freely interchangeable with fresh or canned mushrooms.

The bulk of the domestically canned mushrooms have been sold in retail-size containers, whereas the bulk of the imported product has been marketed in institutional-size containers. In recent years the product mix of the imports has not changed materially, but the share of domestically canned mushrooms packed in retail-size containers has increased. About three-fourths of the domestic output of canned mushrooms has been made up of the lower valued stems-and-pieces style of pack in recent years, whereas three-fifths of the imports have been in that style of pack.

Description and Uses

Mushrooms are marketed either fresh, dried, frozen, or canned. Fresh mushrooms, used primarily as a garnish with meats and other foods, are also served separately or in gravies, sauces, relishes, salads, and soups. In the market, some consumers will freely interchange canned and frozen mushrooms, and--to a lesser degree--dried mushrooms, with fresh mushrooms, while other consumers will not make such a substitution.

The domestic mushrooms destined for the fresh market are usually sold (with roots trimmed off) in 3- or 10-pound baskets either through retail stores or to institutional users (restaurants and other bulk buyers). Handling of the fresh product in retail markets generally results in many damaged mushrooms, which must be sold at reduced prices or discarded because of their appearance. The damage has resulted in many attempts to prepackage fresh mushrooms in retail-size containers holding 5 to 16 ounces or more. However, problems have been encountered in choosing the right types and sizes of containers and in inducing consumers to purchase prepackaged mushrooms.

Mushrooms destined for canning are sold either with roots attached ("pulls") or roots removed ("cuts"), generally in containers holding about 10 pounds; those for processing into soup are sold with roots removed in bulk containers of similar sizes.

Before they are canned, mushrooms are trimmed (roots removed), washed, graded, sometimes sliced, and then blanched. They are then put into containers, covered with a preserving medium, sealed airtight, and pressure-cooked. Most are canned in brine; some are preserved in vinegar (pickled mushrooms), wine, or oil (marinated mushrooms).

The three main styles of canned mushrooms are stems and pieces (including random-sliced mushrooms), sliced mushrooms, and whole mushrooms (including buttons). The containers range in size from 2 to 68 ounces (drained weight).

Most of the imported canned mushrooms are of the same species as the domestic canned mushrooms and are comparable in flavor and appearance. A small portion of the imports consists of either cultivated or wild species which are not grown commercially in the United States and which differ from the domestic cultivated mushrooms in both flavor and appearance. The most important mushroom of this type is the "shiitake" mushroom from Japan, which is used principally in oriental cuisine. The mushrooms imported from France have a prestige value over the domestic product as a result of tradition, fancy packaging, and their reputed quality. They are sold principally to restaurants and gourmet food stores, where consumers are willing to pay a higher price for them.

The mushrooms canned in brine are used for essentially the same purposes as the fresh mushrooms. The mushrooms packed in one of the other mediums (vinegar, wine, or oil) are limited to use mainly as appetizers.

A relatively small part of the domestic mushroom crop is marketed frozen for the same uses as fresh mushrooms.

The only method being used in the United States to dry mushrooms commercially is freeze-drying. When moisture is added, the mushrooms (usually diced or sliced) regain approximately the size, shape, texture, and flavor of the original fresh product and can be substituted for fresh or canned mushrooms in most uses. Freeze-dried mushrooms, however, cost considerably more than fresh or canned mushrooms, and their acceptance has been limited.

U.S. Tariff Treatment

Imported mushrooms are classified for tariff purposes under part 8D of schedule 1 of the Tariff Schedules of the United States (TSUS). The rates of duty currently applicable to imports from countries other than those designated as being under Communist control 1/ and the share of U.S. total imports that entered under each TSUS item in the marketing year 1971/72 are shown in the following table:

Mushrooms: U.S. rates of duty and percentage distribution of imports, by TSUS items, marketing year 1971/72

TSUS No.	Commodity	Rate of duty	Percent of total	
			Quantity (fresh basis)	Value
	Mushrooms:			
144.10	Fresh	5¢ per lb. + 25% ad val.	1/	1/
144.12	Dried	3.2¢ per lb. + 10% ad val.	14	13
144.20	Otherwise prepared or preserved.	3.2¢ per lb. on drained weight + 10% ad val.	86	87

1/ Less than 0.5 percent.

1/ Products of most Communist-controlled countries are dutiable at the statutory rates shown in table 1, in appendix A.

These rates reflect concessions granted by the United States in the General Agreement on Tariffs and Trade. The statutory rate of duty on "otherwise prepared or preserved" mushrooms (i.e., canned mushrooms), 10 cents per pound on the drained weight plus 45 percent ad valorem, has been modified four times in trade agreements--three times in negotiations with France and once (two stages) in negotiations with the European Community (table 1). The most recent of these reductions became effective in July 1963. The ad valorem equivalent of the present rate averaged 15 percent based on the value of imports from all countries in 1971/72, whereas that of the 1930 rate averaged 60 percent.

The statutory rate on dried mushrooms, 10 cents per pound plus 45 percent ad valorem, has been modified three times in trade agreements--twice in negotiations with Japan and once in the Kennedy Round (table 1). The statutory rate on fresh mushrooms, 1/ 10 cents per pound plus 45 percent ad valorem, has been modified once in an agreement with Canada (table 1). The ad valorem equivalents of the present rates, based on the value of imports from all countries in 1971/72, averaged 12 percent for dried mushrooms and 39 percent for fresh mushrooms, while that of the 1930 rate averaged 48 percent for dried mushrooms and 72 percent for fresh mushrooms.

U.S. Growers and Processors

Mushrooms were first commercially grown in the United States in the latter part of the 19th century. New York City and nearby Long

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1/ Frozen whole mushrooms not otherwise prepared or preserved are classified under the provision for fresh mushrooms (C.D. 4401).

Island constituted the first growing center. By 1890, greenhouse operators in the Kennett Square area 1/ had begun to grow mushrooms in the unused spaces under their greenhouse benches. Soon many farmers in that area were utilizing idle space in barns, sheds, and cellars for growing mushrooms. At the turn of the century, special houses were being built for the sole purpose of growing mushrooms. In addition to being situated near several large metropolitan centers where fresh mushrooms were in demand, Kennett Square could also obtain from nearby stables the horse manure needed to facilitate mushroom growing. At present well-composted horse manure, synthetic compost, and mixtures of the two are used to produce mushrooms commercially.

Growers

In 1972, mushrooms were commercially grown by about 500 growers, about 200 fewer than a decade earlier. Although the number of growers has declined, average operations per grower have expanded and become more productive. Some large-scale growing operations have been established in recent years, including several by multiproduct food processors. During marketing years 1967/68 to 1971/72, the area in production increased about 13 percent. The following table shows the land area devoted to production and per unit yields in recent years:

1/ The Kennett Square area is comprised of southeastern Pennsylvania and nearby portions of Delaware and Maryland.

Mushrooms: U.S. area in production and per unit yields, marketing years 1967/68 to 1971/72

Marketing year (July 1-June 30)	Area	Yield
	Million sq. ft.	Pounds per sq. ft.
1967/68	83	2.17
1968/69	85	2.23
1969/70	82	2.35
1970/71	87	2.36
1971/72	94	2.47

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

Growers planned to increase their area of production in 1972/73 6 percent over that in 1971/72.

Commercial production is concentrated in Pennsylvania, although mushrooms are also grown near many of the larger U.S. population centers. California, New York, and Delaware are the other principal producing States. Percentage distribution of the area in production in principal producing States in the marketing year 1971/72 was as follows: Pennsylvania, 57 percent; California, 9 percent; New York, 4 percent; Delaware, 3 percent; and all other States, 27 percent.

Most mushrooms are grown during the period from October through May, when climatic conditions favor growth. Most growers raise two crops per year, one in the fall and another in the spring. The use of air conditioning in recent years has resulted in substantially increased production during the summer months. Between 1970/71 and 1971/72, the square footage in crops harvested after the normal fall and spring crops 1/ increased by 23 percent.

1/ One mushroom crop is called a fill, which has approximately a 100-day cycle from initial preparation of the substrata to the final picking.

An innovation in the growing of mushrooms has been the "tray" system, which involves moving the tray holding the growing medium from one controlled environment to another during the period of early growth. Through mechanization, the "tray" system eliminates a number of hand-labor operations essential to the conventional "bed" system. Because of the high cost of installing the "tray" system, however, industry sources indicate that less than 20 percent of the output is grown by this technique.

Canners

Canned mushrooms are presently being produced by 35 firms, compared with 34 firms in 1964. More than half of these canners are in Pennsylvania; most of the other firms are in California, Ohio, Michigan, Minnesota, and Washington.

For the most part, mushroom-canning operations are similar to the operations of other small canners in the United States. However, unlike most canners, which operate during only a few weeks or months of the year, mushroom canners generally operate throughout the year, with the principal canning season extending from October to the following May. Most mushroom canners are situated in areas economically unsuited for growing other canning crops and accordingly process few other products.

Fifteen of the canners each sold more than 3 million pounds of canned mushrooms in 1971/72. No single firm, however, accounted for more than 12 percent of U.S. sales. Two of the firms are grower-owned cooperatives.

During the marketing years 1968/69 to 1971/72, five of the domestic canners imported canned mushrooms at one time or another. Two other canners which had allotments from the Taiwan Mushroom Packers United Export Corporation (TMPUEC) 1/ chose to assign their shares to other buyers and did not import canned mushrooms themselves. 2/ By 1972/73, however, one of the five canners that had imported canned mushrooms discontinued canning domestic mushrooms and turned to imports completely. Another canner had ceased to import. A third firm had sold its facilities to a new concern and established growing and canning operations in Latin America. 3/ Thus, by early 1973 only two canners were known to be importing canned mushrooms.

During the marketing years 1968/69 to 1971/72, 17 canners grew part or all of their requirements for fresh mushrooms. In 1971/72 canners accounted for about a fourth of the total U.S. output of fresh mushrooms and for about a third of the sales of domestic canned mushrooms. Some canners may ship part of their fresh supplies (either grown or purchased by them) to the fresh market at times when their canning operations have sufficient supplies or when returns from the sales of fresh produce appear to be more favorable than returns from their canning operations.

1/ The operations of the TMPUEC are discussed in the section entitled "Foreign Producers" that appears later in this report.

2/ One of these canners did purchase canned mushrooms from the importer to which he had assigned his allotment.

3/ The latter concern contended that the high cost of fresh mushrooms in 1972 and its inability to develop automated canning equipment led to the sale of its U.S. facilities.

Driers and freezers

Fewer than 10 concerns produce freeze-dried and frozen mushrooms in the United States; most of the output is accounted for by the same concerns that can mushrooms. However, the freezing or freeze-drying operations of most domestic canners are small in relation to their canning operations. Producers accounting for the bulk of the domestic output are situated in Pennsylvania, Michigan, and Ohio. There are no known commercial driers of mushrooms in the United States.

U.S. Consumption

Apparent U.S. consumption of mushrooms has been expanding for many years. 1/ During the marketing years 1962/63 to 1971/72, annual consumption increased steadily from 156 million pounds (fresh-weight basis) to 303 million pounds (table 2). The annual rate of increase during the 10-year period was 7.6 percent. Annual per capita consumption increased during the period from 0.8 to 1.47 pounds; several factors contributed to the increase, namely, (a) an increased availability of mushrooms in many areas of the United States, resulting from aggressive marketing and transportation improvements; (b) an increase in per capita disposable income; (c) an increase in U.S. population; and (d) an extension of the marketing season for fresh mushrooms, resulting from increased use of air conditioning in growing operations.

During the marketing years 1968/69 to 1971/72, about three-fourths of the domestic and imported mushrooms consumed (fresh-weight basis)

1/ Apparent U.S. consumption is compiled on the basis of the U.S. output of fresh mushrooms plus imports (on a fresh-weight basis) of processed mushrooms; U.S. exports have been negligible.

in the United States were processed (primarily canned), and one-fourth were in the fresh form. The relative importance of processed mushrooms to the total consumed was about the same during 1959/60 to 1963/64. The following table shows U.S. consumption in recent years:

Mushrooms: U.S. consumption of domestic and imported processed and fresh product, marketing years 1968/69 to 1971/72

(In millions of pounds, fresh-weight basis)

Marketing year (July 1-June 30)	Processed			Fresh	Total
	Canned	Other 1/	Total		
1968/69	126	47	173	59	232
1969/70	142	39	181	62	243
1970/71	158	46	204	56	260
1971/72	189	47	236	67	303

1/ Includes the quantity of mushrooms dried, frozen, freeze-dried, or used in soup.

Annual U.S. consumption of canned mushrooms during 1962/63 to 1971/72 more than doubled, increasing irregularly from 84 million pounds (fresh-weight basis) to 189 million pounds (tables 3 and 4 and fig. 1). 1/ The annual rate of increase was 9.4 percent for the entire 10-year period; during the last 4 years alone (1968/69 to 1971/72) the annual rate of increase was 14.5 percent. During 1968/69 to 1971/72, imports doubled while sales of the domestic product went up about one-third. In terms of absolute quantities, however, each supply source contributed about the same volume toward the 63-million-pound increase in consumption experienced during the period. During July-December

1/ Table 3 shows consumption on a fresh-weight basis and table 4 shows the same information on a processed product-weight basis.

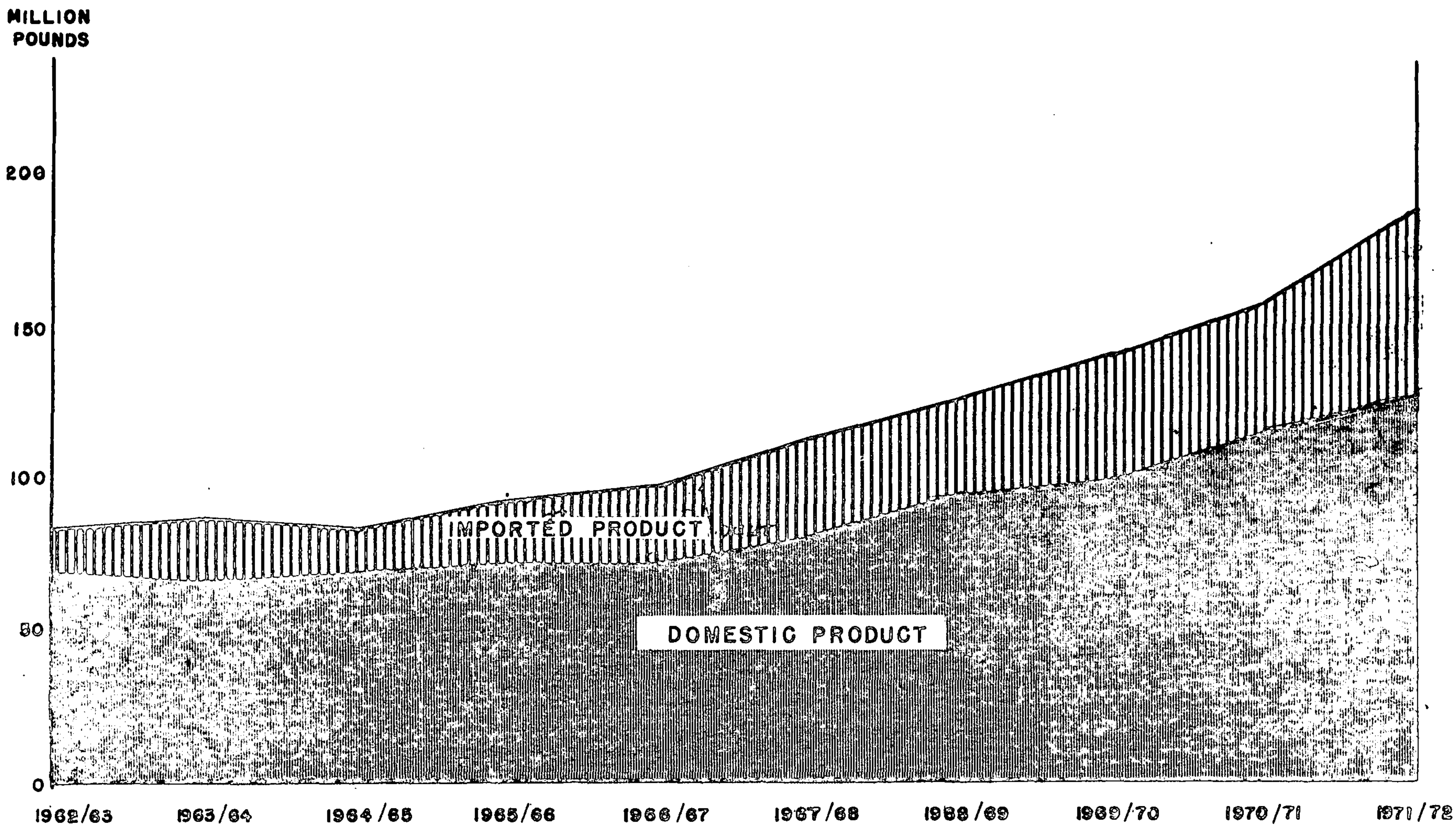

Figure 1.--Mushrooms, canned: Apparent U.S. consumption, marketing years 1962/63 to 1971/72.

1972, consumption of canned mushrooms amounted to 102 million pounds.

U.S. consumption of mushrooms in the fresh form increased during 1968/69 to 1971/72 at an annual rate of 4.5 percent, from 59 million to 67 million pounds. Almost all of the consumption in the fresh form was supplied by domestic producers. In the same period, some 30 million to 35 million pounds of fresh mushrooms annually went into the manufacture of soups. Annual consumption of dried mushrooms ranged from 7 million to 12 million pounds (fresh-weight basis) during 1968/69 to 1971/72 and averaged 10 million pounds. All of the dried product was supplied from foreign sources. During this period, some 3 million to 5 million pounds (fresh-weight basis) of frozen and freeze-dried mushrooms were consumed annually. Frozen mushrooms have gained in popularity in recent years, but their share of the total market is still small. Consumer demand for the freeze-dried product has been limited.

Nature of Information on Sales by Domestic Canners

No official statistics are available for recent years on the U.S. sales of canned mushrooms or on the operations of producers. The Commission, in its earlier investigation, developed sales information from data supplied by domestic canners for the marketing years 1959/60 to 1963/64. Subsequently, the National Canners Association published data for the marketing years 1964/65 to 1968/69 showing the volume of mushroom packs, based on information it obtained from cooperating canners; this series was discontinued in 1969. Since that year, an estimate of annual U.S. sales of canned mushrooms has been made by the

Tariff Commission and the U.S. Department of Agriculture from data on the fresh mushroom crop going to processing, as reported by the Department.

Concern has been expressed in some quarters that data on U.S. sales of canned mushrooms in recent years were too low, the reason being that too much of the crop reported as going to processors was not accounted for in sales of processed product. 1/ Information collected from responses to Commission questionnaires reveals that the estimates on annual sales by U.S. canners have, indeed, been too conservative.

Questionnaires were sent to all known or probable producers of canned mushrooms. Usable returns having sales data were received from 34 of 35 canners; sales data for the one canner that did not supply usable data were estimated from information available to the Commission. The aggregate sales of domestically canned mushrooms by all 35 canners in 1969/70, 1970/71, and 1971/72 were 30 percent, 42 percent, and 48 percent higher, respectively, than the sales data estimated earlier for those years.

In this report the data on sales of canned mushrooms for 1968/69 to 1971/72 and for 1962/63 and 1963/64 are those submitted to the Commission by domestic canners. The data used for 1964/65 to 1967/68 are those compiled by the National Canners Association.

1/ Transcript of the hearing, pp. 110-112.

U.S. Production, Sales, and Inventories

U.S. production of fresh mushrooms increased from 132 million pounds (fresh-weight basis) in 1962/63 to 231 million pounds in 1971/72 (table 2). The value of production in 1971/72 was $107 million. During July-December 1972, production of fresh mushrooms amounted to 113 million pounds, 1/ compared with 106 million pounds in the corresponding period in 1971. 2/ The annual rate of increase during the 10-year period was 6.4 percent. Pennsylvania was by far the principal producing State, accounting in 1971/72 for 61 percent of the total U.S. output. California, the next leading State, accounted for 8 percent of the total, followed by Delaware, with 3 percent, and New York, with 2 percent.

Fresh mushrooms are sold by domestic growers in the fresh market and to processors, with the latter using about 70 percent of the total production in the marketing years 1968/69 to 1971/72. Unlike some producers of vegetable crops, mushroom growers generally do not contract in advance to sell their crop. Some growers sell only to the fresh market, others sell only to processors, but most sell in whatever market offers the highest return at any given point in time. Indeed, growers may deal with several market outlets in any one day.

Canned mushrooms

Annual sales of domestically canned mushrooms increased from 68 million pounds (fresh-weight basis) in 1962/63 to 127 million pounds

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1/ Sampling variability is shown in appendix D.

2/ Some 5 million pounds of output was lost during July-December 1972, when one large grower closed operations owing to a labor strike; these operations were resumed in February 1973.

in 1971/72 (tables 3 and 4). 1/ Canners' sales during July-December 1972 amounted to 66 million pounds, about 9 million pounds more than those in the corresponding period in 1971. 2/ The annual rate of increase in sales over the 10-year period was 7.2 percent, but in the last 5 years alone it was 12.3 percent. During 1968/69 to 1971/72 the value of annual sales of canned mushrooms increased from $56 million to $90 million; sales during July-December 1972 were valued at $45 million, about $3 million more than in the corresponding period in 1971. In the period 1968/69 to 1971/72 about three-fifths of the canners' sales were of mushrooms packed in retail-size containers; the remainder were packed in institutional-size containers. More than nine-tenths of the domestic product was packed in a brine solution; the remainder consisted largely of specialty packs. Seventy-six percent of the mushrooms packed in brine consisted of the stems-and-pieces style of pack, 16 percent were sliced mushrooms, and 8 percent were whole mushrooms or buttons (caps). The stems-and-pieces pack is generally lower in value than the other packs.

Sales of the domestic product by canners that do not import far outweigh sales by canner-importers. Sales by the former accounted for about 80 percent of the total sales in 1968/69 to 1971/72. The

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1/ Table 3 shows sales data on a fresh-weight basis, and table 4 shows the same information on a processed-product-weight basis.

2/ On Apr. 5, 1973, following disclosure of the third instance in 1973 of the bacterium Clostridium botulinum in domestically processed mushrooms, the U.S. Food and Drug Administration announced plans to investigate the domestic mushroom-processing industry. The effect that these disclosures will have on sales of domestic mushrooms (or on sales of imports) for the remainder of 1972/73 cannot be measured yet.

following table shows U.S. sales in recent years by type of canner.

Mushrooms, canned: Sales of domestically produced product by U.S. canners and canner-importers, marketing years 1968/69 to 1971/72 and July-December 1972

(In millions of pounds, fresh-weight basis)

Marketing year (July 1-June 30)	Canners	Canner-importers	Total
1968/69	78	17	95
1969/70	82	18	100
1970/71	91	24	115
1971/72	99	28	127
1972/73 (July-Dec.)	48	18	66

During 1968/69 to 1971/72 sales by all canners rose by 34 percent; those by canner-importers increased 65 percent, while those by canners that do not import rose 27 percent. Sales by all canners during July-December 1972 were 15 percent higher than in the corresponding period in 1971.

Canada is believed to be the only important export market for U.S. canned mushrooms; data on U.S. exports are not separately reported. Canadian import statistics show that annual imports of canned mushrooms from the United States during the calendar years 1967-70 ranged from 87,000 pounds (1970) to 321,000 pounds (1969) and averaged 195,000 pounds (fresh-weight basis). Canadian imports of U.S. canned mushrooms amounted to 170,000 pounds in 1971 and to 182,000 pounds in 1972. In recent years, nearly nine-tenths of the Canadian imports have come from Taiwan and mainland China; the U.S. product has accounted for about 1 percent of the total.

Sales of U.S.-produced frozen and freeze-dried mushrooms are small in relation to total sales of fresh and processed mushrooms. During the marketing years 1968/69 to 1971/72, annual sales of frozen and freeze-dried mushrooms increased from 3 million to 5 million pounds (fresh-weight basis). Frozen mushrooms accounted for most of the sales in the period.

Inventories

Inventories of domestically canned mushrooms held by canners at the end of the marketing year declined from June 1968 until June 1971, and then increased substantially before again being reduced late in 1972 (table 5). The rise in inventories in 1971/72 occurred at a time when output increased at a somewhat faster rate than sales and imports increased by about 40 percent. On December 31, 1972, inventories in the hands of 28 canners that submitted usable information amounted to 22 million pounds (fresh-weight basis), about 3 million pounds less than on June 30, 1972, the close of the preceding marketing year. 1/ The inventory on June 30, 1972 (25 million pounds) was 6 million pounds more than on June 30, 1968.

The ratio of yearend inventories to sales declined from 25 percent on June 30, 1969, to 13 percent on June 30, 1971, and then rose to 20 percent on June 30, 1972. Inventories on December 31, 1972, were equivalent to 43 percent of canners' sales during July-December 1972, compared with a ratio of stocks on December 31, 1971, to sales during July-December 1971 of 33 percent.

1/ The 28 canners accounted for 89 percent of sales of canned mushrooms in 1971/72.

On December 31, 1972, 51 percent of the inventory on hand was mushrooms in brine or butter in retail-size containers, 36 percent consisted of such mushrooms in institutional-size containers, and 13 percent consisted of other canned mushrooms.

U.S. Imports

Mushrooms are imported into the United States in these forms: Fresh or frozen, dried, and canned. In the 10 marketing years 1962/63 to 1971/72, aggregate U.S. imports of mushrooms in all forms increased irregularly from 24 million to 72 million pounds (fresh-weight basis). The annual rate of increase was 13 percent. In 1971/72, U.S. imports of canned mushrooms accounted for 86 percent of the total imports of mushrooms in terms of quantity and for 87 percent in terms of value, and dried mushrooms accounted for nearly 14 percent of the quantity and for 13 percent of the value; fresh or frozen mushrooms accounted for less than 1 percent of either quantity or value.

Canned mushrooms

U.S. imports of canned mushrooms amounted to less than 5 million pounds (fresh-weight basis) annually during the 1930's, 1940's, and 1950's. 1/ During the 1960's imports began to grow, increasing irregularly from 5 million pounds in the marketing year 1960/61 to 42 million pounds in 1969/70. In 1970/71, imports of canned mushrooms amounted to 43 million pounds, and in 1971/72 they rose sharply to 62 million

1/ An exception was the year 1930, in which nearly 8 million pounds was imported. Table 6 shows U.S. imports in 1930 and the years since on a processed-weight basis.

pounds. During July 1972 to March 1973, 52 million pounds was imported, compared with 32 million pounds in the corresponding period a year earlier. The value of imports in 1971/72 was $27 million. The annual rate of increase during the 10-year period 1962/63 to 1971/72 was 17 percent. The share of U.S. consumption of canned mushrooms supplied by imports increased irregularly from 19 percent in 1962/63 to 33 percent in 1971/72 (table 3). Testimony at the hearing suggested that the large influx of imports in 1972 and early 1973 was in anticipation of some restriction of access to the U.S. market (table 7). 1/

Before the 1960's, France had been the principal supplier of U.S. imports of canned mushrooms. In the early 1960's Taiwan and South Korea became suppliers of canned mushrooms to the U.S. market; imports from Taiwan began in 1960/61, and amounted to 488,000 pounds, and those from South Korea began in 1963/64, and amounted to 5,000 pounds. In recent years Taiwan has accounted for the bulk of the imports, followed by South Korea, France, and Japan (figs. 2 and 3). In 1971/72 and in the period July 1972-March 1973, Taiwan supplied about 70 percent of the total imports, and South Korea, about 20 percent. During 1968/69 to 1971/72 South Korea's share of the U.S. imports increased substantially, while Taiwan's share declined somewhat. Tables 8 and 9 show imports by principal sources on a processed-product-weight basis; table 8 gives figures for marketing years and table 9, for calendar years.

The average annual unit values of imports of canned mushrooms from Taiwan and South Korea have been close to one another, the Korean

1/ Transcript of the hearing, pp. 75, 76, and 267.

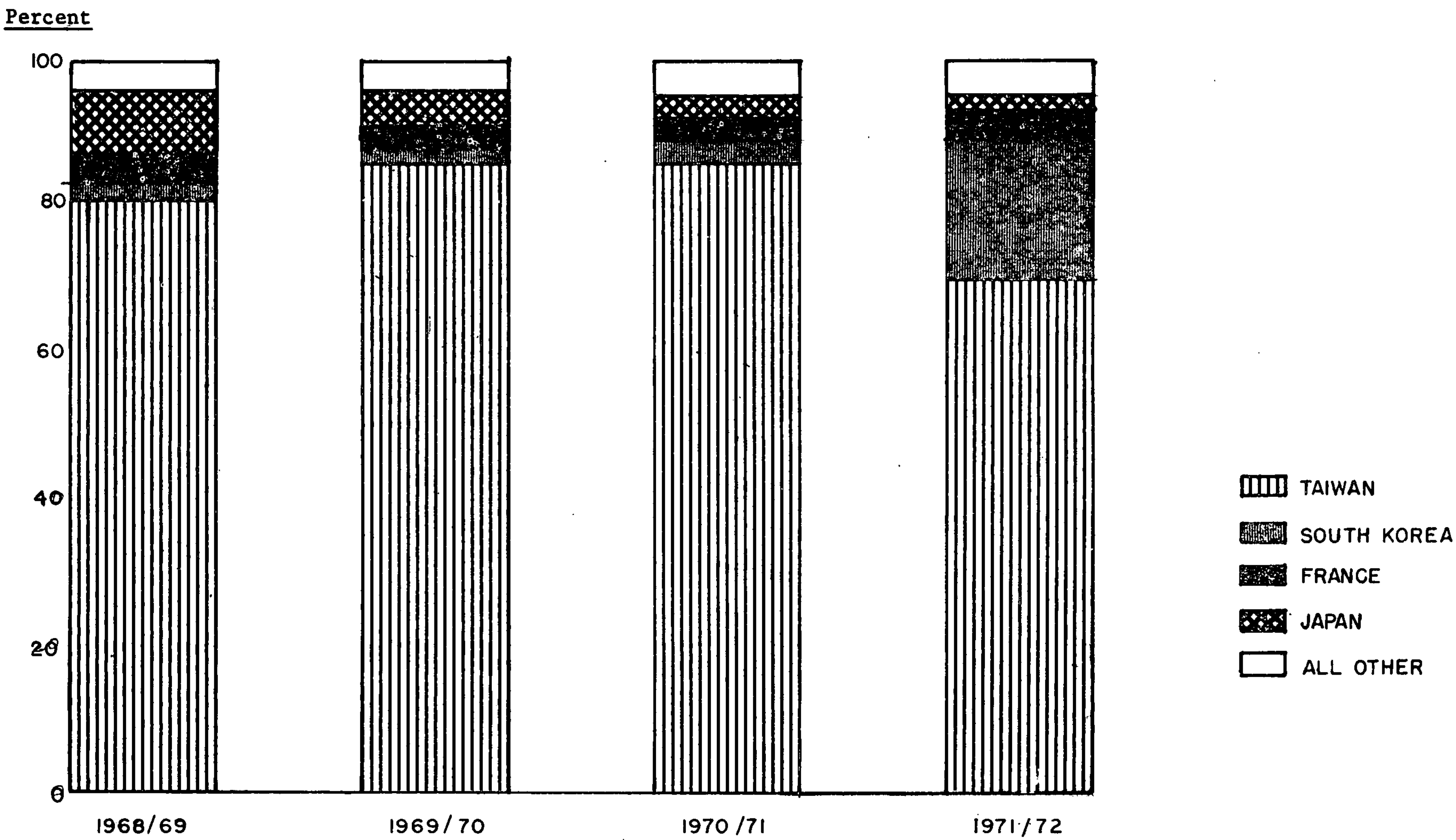

Figure 2.--Mushrooms, canned: Share of U.S. imports for consumption supplied by principal sources, marketing years 1968/69 to 1971/72.

Source: U.S. Department of Commerce.

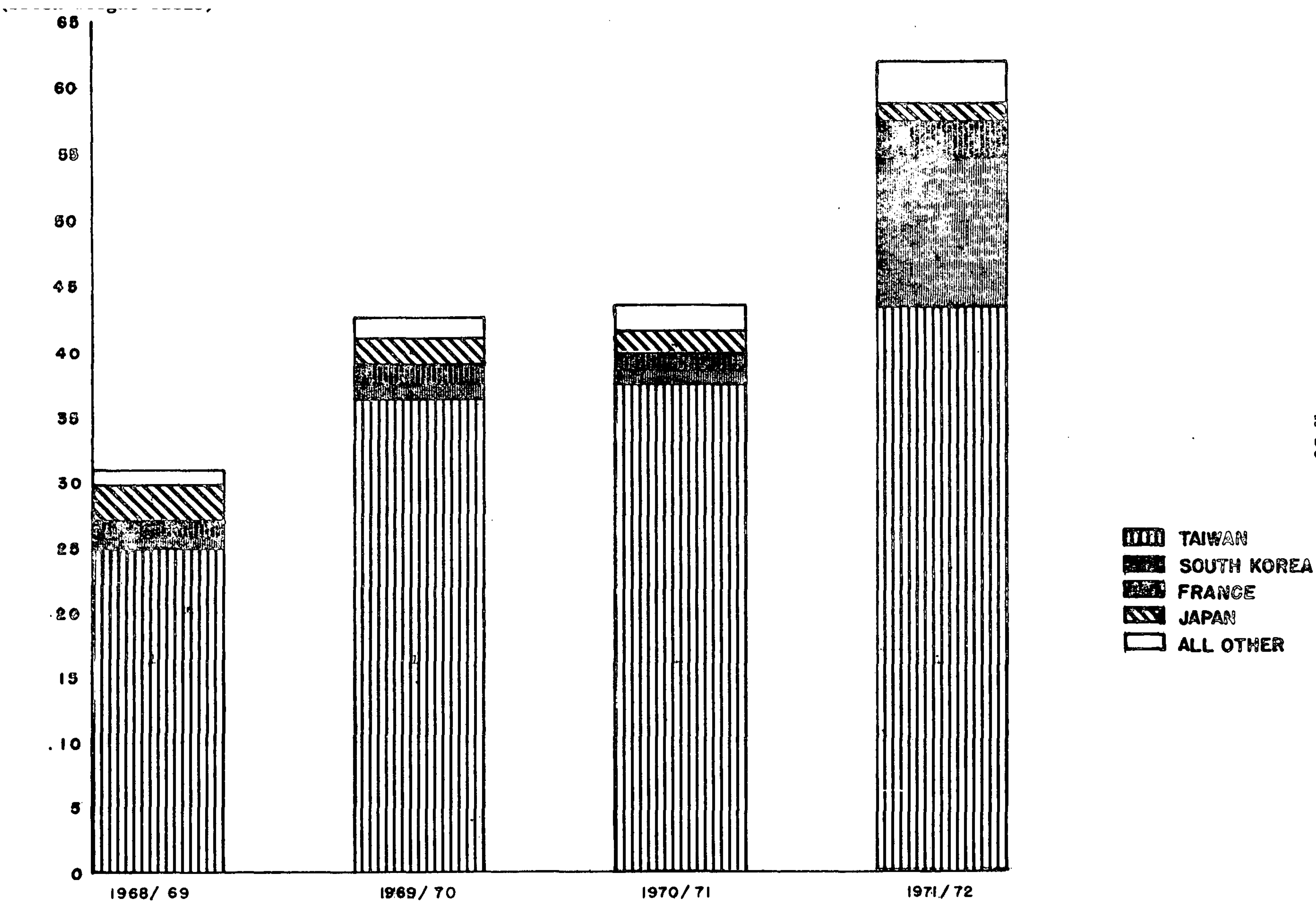

Figure 3.--Mushrooms, canned: U.S. imports for consumption supplied by principal sources, marketing years 1968/69 to 1971/72.

Source: U.S. Department of Commerce.

product usually being slightly higher in value than the Taiwan product. The French product is generally some 30 to 50 percent higher in value than that from Taiwan or South Korea, and the Japanese product usually has a unit value in between.

During 1968/69 to 1971/72 more than nine-tenths of the imported product was packed in a brine solution; the remainder consisted largely of specialty items. About 60 percent of the mushrooms packed in brine consisted of the stems-and-pieces style of pack, 22 percent were whole mushrooms or buttons (caps), and 18 percent were sliced.

About 60 percent of the imported canned mushrooms were packed in institutional-size containers and 40 percent were in retail-size containers during 1969/70 to 1971/72 and July-December 1972 (table 10). The percentage distribution of container sizes of the imports from Taiwan followed closely that of the total. The composition of container sizes of imports from South Korea changed from being nearly 90 percent of the retail size in 1969/70 to about 75 percent and about 60 percent of the institutional size in 1971/72 and July-December 1972, respectively. The share of institutional sizes from Japan increased from about 65 percent in 1969/70 to about 85 percent in July-December 1972. Virtually all imported mushrooms from France were packed in institutional-size containers.

The U.S. Food and Drug Administration inspects imports of mushrooms for adulteration and misbranding. Shipments failing to meet its standards are not permitted entry unless the defect is corrected. Detentions of canned mushrooms amounted to less than 2 percent of the total value of imports of such mushrooms in 1971/72.

Yearend inventories of canned mushrooms held by importers during the period June 1968-December 1972 were reduced annually until mid 1970, after which time they increased substantially. The following table shows the inventories of mushrooms canned in brine or butter held by importers which submitted usable information and which accounted for about two-thirds of the imports during 1968/69 to 1971/72:

Mushrooms, canned in brine or butter: Importers' inventories on June 30 of years 1968-72 and Dec. 31 of 1971 and 1972

(In millions of pounds, fresh-weight basis)

Container size	June 30--					Dec. 31--	
	1968	1969	1970	1971	1972	1971	1972
Retail-size	4.1	2.6	2.8	4.7	6.1	9.2	8.4
Institutional-size	1.3	1.8	1.3	1.5	5.8	1.7	7.8
Total	5.4	4.4	4.1	6.2	11.9	10.9	16.2

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic importers.

The sharp increase in inventories in 1972 is believed to reflect, in part, importers' concern over possible import restrictions. On December 31, 1972, importers' inventories were almost evenly divided between retail-size and institutional-size containers, whereas on June 30, 1968, 76 percent of their inventories were in retail packs and 24 percent in institutional packs. Generally, the bulk of the retail-size supplies were held by canner-importers during the 5-year period. The greatest increase in inventories took place in the institutional packs, and that occurred mostly in 1972. Indeed, the unsold supplies of imported mushrooms packed in institutional-size containers on hand on December 31, 1972, were more than 400 percent higher than they had been 18 months earlier on June 30, 1971. By comparison, inventories of canned mushrooms packed in retail-size containers rose about 80 percent over the same period. Yearend inventories of mushrooms canned other than in brine or butter were negligible.

As noted earlier, some U.S. canners have imported canned mushrooms in recent years. During 1968/69 to 1971/72 U.S. canners increased their sales of imported canned mushrooms about 25 percent; in the 6-month period July-December 1972 their sales of the imported product were up nearly 75 percent over those in July-December 1971. Although U.S. canners increased their sales of the imported product, their share of total imports of canned mushrooms decreased from 19 percent in 1968/69 to 11 percent in 1971/72. All of the importing canners increased their sales of the imported product, but the bulk of the increase was accounted for by one canner whose domestic output of canned mushrooms merely supplements his import operations. At the Commission's hearing in this investigation, this canner testified that his requirements could not be met either by his own operations in this country or by other domestic canners. 1/ Virtually all of the imports by canners were packed in retail-size containers.

Dried and fresh mushrooms

During the marketing years 1968/69 to 1971/72, annual U.S. imports of dried mushrooms ranged from 7 million to 12 million pounds (fresh-weight basis); imports in July 1972-March 1973 amounted to 9 million pounds, compared with 7 million pounds in the corresponding period a year

1/ Transcript of the hearing, pp. 178-182.

earlier. 1/ The value of imports in 1971/72 was about $4 million. Japan, Taiwan, and Chile were the principal sources of imports; together these three countries accounted for more than 90 percent of the total imports of dried mushrooms in 1971/72. Imports of fresh or frozen mushrooms have been unimportant, in terms of total mushroom imports, and have consisted almost entirely of frozen mushrooms from Taiwan. During 1968/69 to 1971/72, annual U.S. imports of frozen mushrooms increased from 4,000 to 354,000 pounds (fresh-weight basis)(table 12). During July 1972 to March 1973, imports amounted to 55,000 pounds, compared with 11,000 pounds in the corresponding period a year earlier.

Channels of Distribution

As indicated above, U.S. growers have sold the principal part of their output to processors, with the remainder going to the fresh market. Generally, the better quality mushrooms are offered first to the fresh market.

Fresh mushrooms

As has been noted, fresh mushrooms are sold by growers to the fresh market and to processors. Buyers that are wholesalers at fresh-market fruit and vegetable distribution centers purchase mushrooms directly from the growers. Growers sell their mushrooms in wooden baskets holding 3 pounds of mushrooms and in plastic containers holding 10 pounds of mushrooms. Buyers repackage some of the mushrooms; they sell

1/ Table 11 shows imports by principal sources on a dried-weight basis.

the mushrooms to retail grocery outlets in cardboard cartons holding either 1 or 2 pounds and in wooden baskets holding 3 pounds. Several large buyers ship fresh mushrooms by air freight to distant United States and Canadian markets. Some large growers that package their own mushrooms and ship directly to wholesalers or retail outlets may also buy mushrooms from other growers. Buyers for processors also purchase directly from growers; they buy the mushrooms that the growers could not sell or did not offer to sell to the fresh market.

Canned mushrooms

Three groups of primary suppliers market canned mushrooms in the United States: (1) Canners, which market only their domestically produced product; (2) importers, which market the foreign-produced product; and (3) canner-importers, which market both the domestic and foreign products. Many U.S. producers and importers of canned mushrooms are relatively small-scale operators, and most of them make use of so-called market middlemen (jobbers and wholesalers) to dispose of their product in the market place. In 1971/72, 48 percent of the canned mushrooms consumed in the United States were marketed by U.S. producers and importers to jobbers and wholesalers, 37 percent went directly to retail grocery outlets, 8 percent went directly to food reprocessors (e.g., manufacturers of frozen pizzas and TV dinners), 4 percent went to restaurants and other institutional users, and 3 percent went to other outlets.

In 1971/72 canners that did not import sold a slightly larger share of their supply to jobbers and wholesalers and to food reprocessors than did the importers that did not can mushrooms. The importers sold a greater part of their product directly to retail grocery outlets and to restaurants and other institutional users than did the canners. The canner-importers sold virtually all of their imported canned mushrooms and most of their domestically produced product directly to retail grocery outlets; other market outlets took only a small share of their canned product. The following table shows the percentage distribution of sales by canners and importers:

Mushrooms, canned: Percentage distribution of sales by U.S. canners and importers, by type of outlet, marketing years 1971/72

Outlet	Canners, excluding canner-importers	Canner-importers		Importers	Total
		U.S. product	Imported product		
Jobbers and wholesalers	61	14	2	57	48
Retail grocery outlets	19	81	95	28	37
Food reprocessors	13	-	-	3	8
Restaurants and institutions	3	2	-	9	4
All other	4	3	3	3	3
Total	100	100	100	100	100

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners and importers.

Most of the domestic product has been sold in retail-size containers, whereas the bulk of the imported product has been in institutional-size containers. During the period July 1969-December 1972 the product mix of the imports did not change materially. For domestically canned mushrooms, however, sales of the retail-size containers increased in importance at the expense of those of the institutional-size containers during the early 1970's, as is shown in the following table:

Mushrooms, canned: Percentage distribution of sales of the U.S. and the imported product, by container size, marketing years 1969/70 to 1971/72 and July-December 1972

Marketing year (July 1-June 30)	U.S. product			Imported product		
	Retail-size	In-stitu-tional-size	Total	Retail-size	In-stitu-tional-size	Total
1969/70------------	59	41	100	39	61	100
1970/71------------	55	45	100	41	59	100
1971/72------------	60	40	100	38	62	100
1972/73 (July-December)--------	68	32	100	39	61	100

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners and importers.

A study conducted in 1969 by the Pennsylvania State University 1/ reveals that three basic systems are used by canners to distribute canned mushrooms: In less-than-truckload quantities direct to customers, in truckload or rail carload quantities direct to customers, and in truckload or carload quantities to public warehouses. It was found that 56 percent of the canned volume transported was shipped in less-than-truckload quantities and 44 percent was shipped in truckload or carload quantities. Nearly 60 percent of the canned mushrooms sold by canners were shipped direct to customers, and about 40 percent were distributed through public warehouses. The study suggests the need for consolidated distribution centers--points where products of many manufacturers can be gathered for consolidation of mixed orders for direct delivery to wholesalers and grocery chain warehouses.

1/ W. C. Bates, W. T. Butz, and A. P. Stemberger, Alternative Systems for Distributing Canned Mushrooms, Agricultural Experiment Station, The Pennsylvania State University, University Park, Pa., July 1972.

Prices

Mushroom prices varied widely in the period 1964-73. From 1964 through 1968, prices of fresh mushrooms increased slowly, but in 1969, 1970, and 1971 the prices of both fresh and processed mushrooms rose rapidly, reaching a peak in late 1971. Thereafter, prices generally fell in 1972. In 1973, prices for some items were showing recovery, while prices for others continued their decline.

Fresh mushrooms

One measure of the prices paid for fresh mushrooms is the wholesale price series for New York City published by the U.S. Department of Agriculture (table 13 and fig. 4). This price series is based on prices for fresh mushrooms delivered to the New York City market. The New York City price includes transportation, various handling charges, and brokers' fees.

Prices in the New York City market show a high degree of seasonality, with large price increases during the summer months. In the period 1964-68 the trend in prices was slowly upward, with an average annual rate of increase of less than 4 percent. In 1969, prices began to increase rapidly, at an average annual rate of approximately 20 percent. They reached a peak in the summer months of 1971 and then began to decline. The decrease continued through 1972, after which prices appear to have leveled off in 1973.

The average price in 1964/65 was 55 cents per pound. In 1968/69 it was 67 cents per pound, representing an increase of 12 cents over

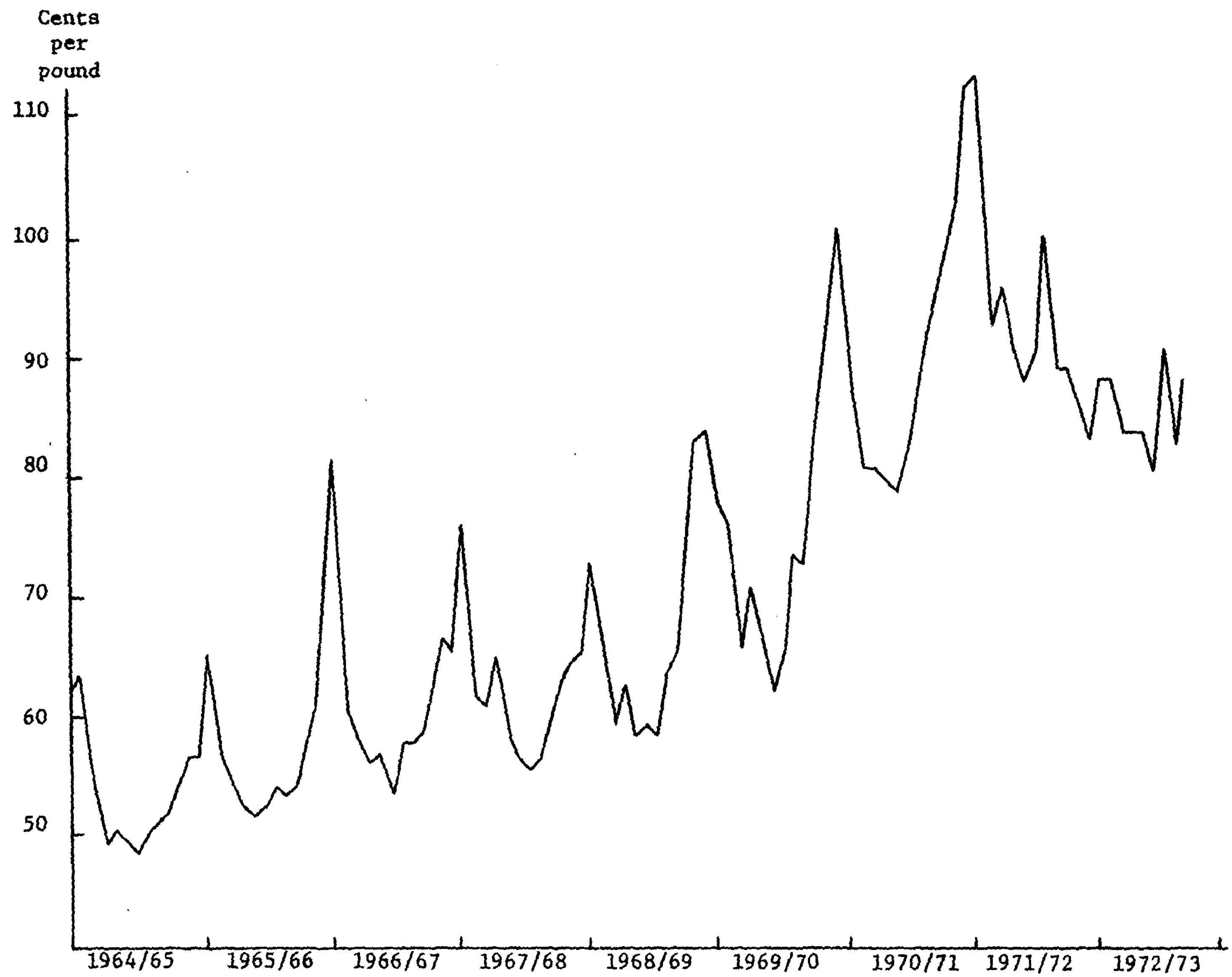

Figure 4.--Mushrooms, fresh: Wholesale prices in New York City, by months, July 1964-April 1973.

Source: Table 13.

4 marketing years. In the following years, average prices increased from 76 cents per pound in 1969/70 to $1.00 per pound in 1971/72; a monthly high of $1.21 per pound was recorded in September 1971, after which the decline began. A yearly average is not available for 1972/73, but monthly prices in table 13 indicate that prices were firming in the first 4 months of 1973. The monthly average was 83 cents per pound in January, 95 cents in February, 85 cents in March, and 92 cents in April. The April price was 24 percent below the peak reached in September 1971.

The Pennsylvania Department of Agriculture publishes a price series for fresh mushrooms sold to canners in the Kennett Square and Temple areas of Pennsylvania (table 14 and fig. 5). These prices tend to be lower than the New York City prices for fresh mushrooms for two principal reasons: (1) They do not include transportation, handling charges, and brokers' fees, and (2) they do not reflect seasonally high summer prices, since the bulk of the mushrooms sold to canners in the area are marketed in the main production season and the Pennsylvania Department of Agriculture does not collect off-season price data. Two price series are available--one for pulled mushrooms (with roots) and one for clean-cut mushrooms (trimmed by the grower and generally higher in price).

Notwithstanding differences in actual price series, the trend in prices in the Pennsylvania area was the same as the trend in fresh mushroom prices in the New York City market. The 1964-68 period was one of modest increase. Prices began to increase rapidly in 1968 and

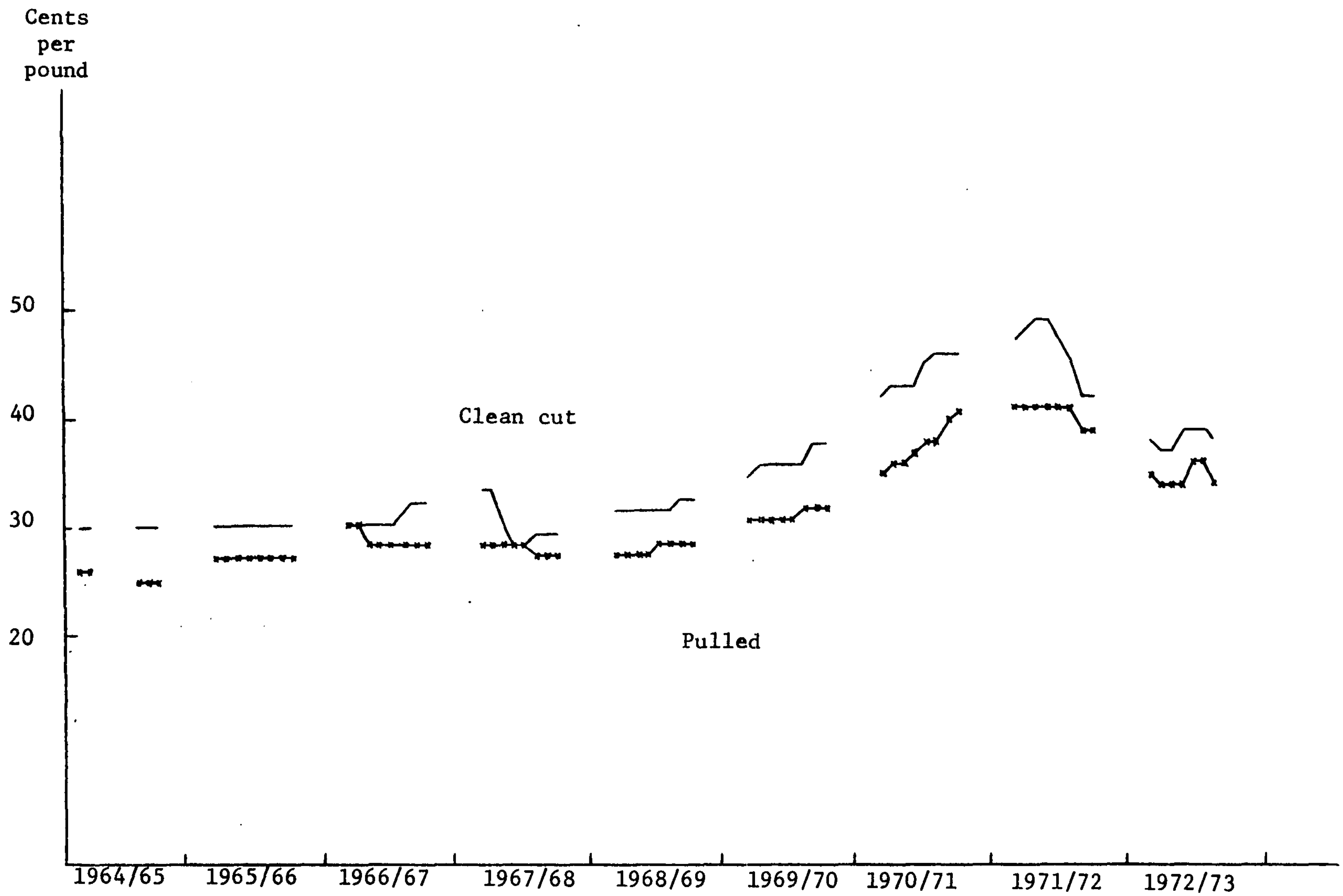

Figure 5.--Mushrooms for processing: Prices received by growers for clean-cut and pulled bed-run mushrooms in Kennett Square and Temple areas of Pennsylvania, by months, marketing years 1964/65 to 1971/72 and October-April 1972/73.

Source: Table 14.

reached a peak in late 1971. Prices fell during 1972 but stabilized in early 1973.

The average annual prices in 1964/65 for clean-cut and pulled mushrooms were 30 cents and 25 cents per pound, respectively. In 1968/69 the respective prices were not much higher, at 31 cents and 28 cents per pound. Prices subsequently increased to 45 cents and 40 cents per pound, respectively, in 1971/72. Monthly highs of 48 cents per pound for clean-cut mushrooms and 40 cents for pulled mushrooms were recorded in December 1971 and January 1972. Annual averages for 1972/73 are not yet available, but monthly prices in table 14 indicate a stabilization after the 1972 decline, as follows: January 1973, 38 cents and 33 cents per pound; February, 38 cents and 35 cents; March, 38 cents and 35 cents. In April the prices of clean-cut mushrooms, 37 cents per pound, and of pulled mushrooms, 33 cents, were 23 percent and 18 percent lower than their 1971/72 peaks.

Figure 6 presents New York City prices and Pennsylvania prices graphed on a logarithmic scale. 1/ As shown on the chart, the large seasonal (summer) increase in New York City prices occurs whenever there is a break or gap in the Pennsylvania price series. Thus, the seasonal price increases in New York City occur in the summer off-season when reduced supplies reach New York City because of lower production. It should be noted that the traditional seasonal fluctuation in the summer

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1/ This presentation is useful since changes in two series with widely differing prices can be compared on the same graph. Lines with the same slopes at any place on the chart represent the same percentage change. The two price series therefore are directly comparable on a percentage-change basis.

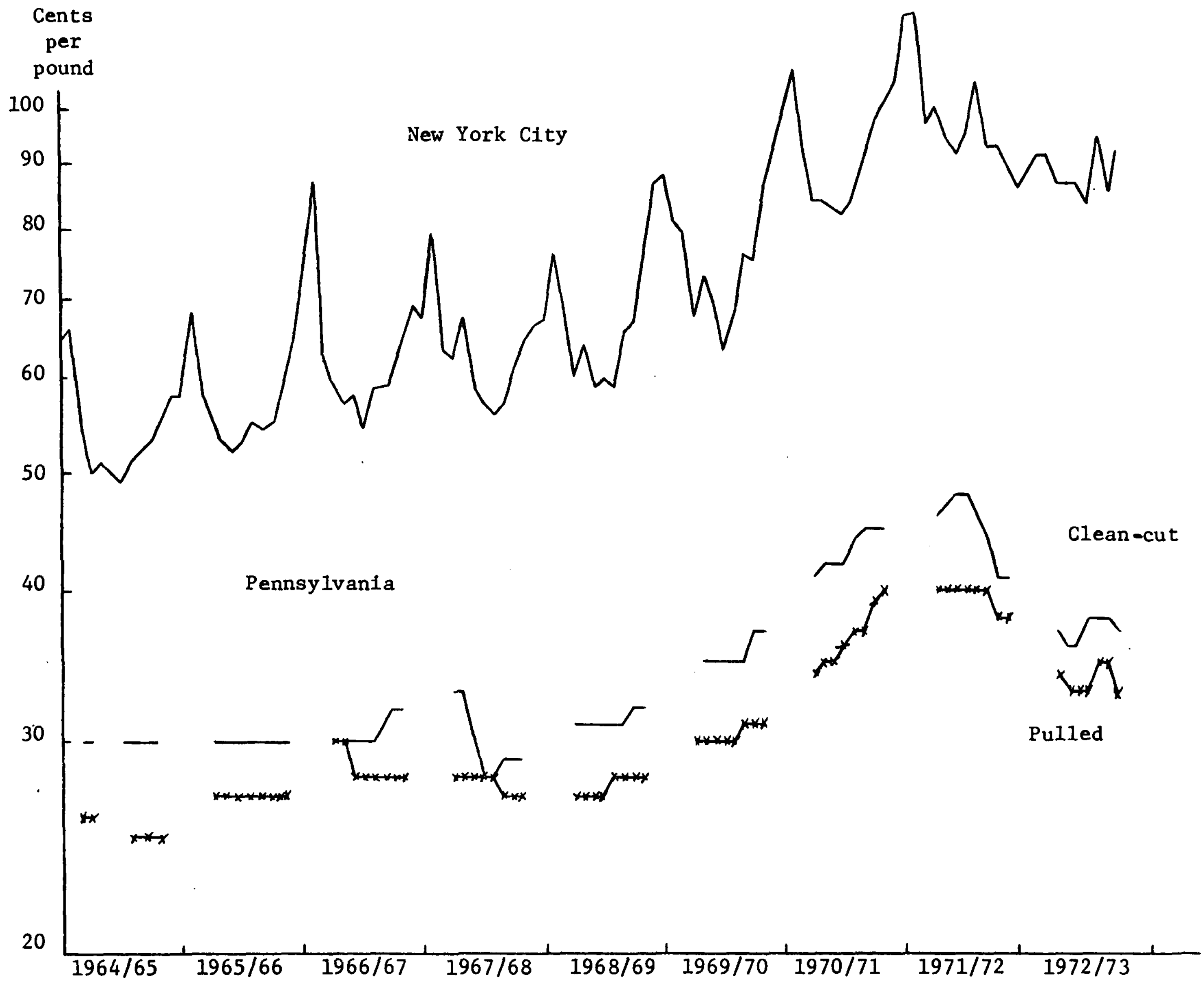

Figure 6.--Mushrooms, fresh: Prices on logarithmic scale, New York City and Pennsylvania area, by months, July 1964-April 1973.

Source: Tables 13 and 14.

price in New York City did not occur in 1972, indicating the probability that the high mushroom prices in 1970 and 1971 had stimulated output sufficiently to offset historic declines in output in the summer season.

Canned mushrooms

Price data for canned mushrooms were calculated from information submitted to the U.S. Tariff Commission by domestic canners and importers. The prices represent weighted averages of quarterly prices for the period from 1969 through early 1973. A separate section is devoted to canner-importers.

There are two size divisions, retail size (4-ounce containers) and institutional size (68-ounce containers). There are two styles of pack, stems and pieces and slices and/or buttons. The stems-and-pieces style of pack is the major sales item. In the period 1968/69 to 1972/73 the domestic pack of mushroom stems and pieces was approximately 75 percent of the total pack; the stems-and-pieces pack accounted for approximately 60 percent of total imports. The prices of mushroom stems and pieces, therefore, are the most important.

Figures 7 and 8 were prepared on a logarithmic scale to provide an initial perspective of the price behavior among all the domestic mushroom products and, similarly, among all the Taiwan mushroom products. 1/ The trends in all prices were generally the same; prices increased from 1969 through 1971 and then most prices showed some decline in 1972 and early 1973. The price behavior of domestic mushroom slices and/or

1/ Because less information was available on the prices of South Korean products, the prices of South Korean canned mushrooms were not included in this exercise.

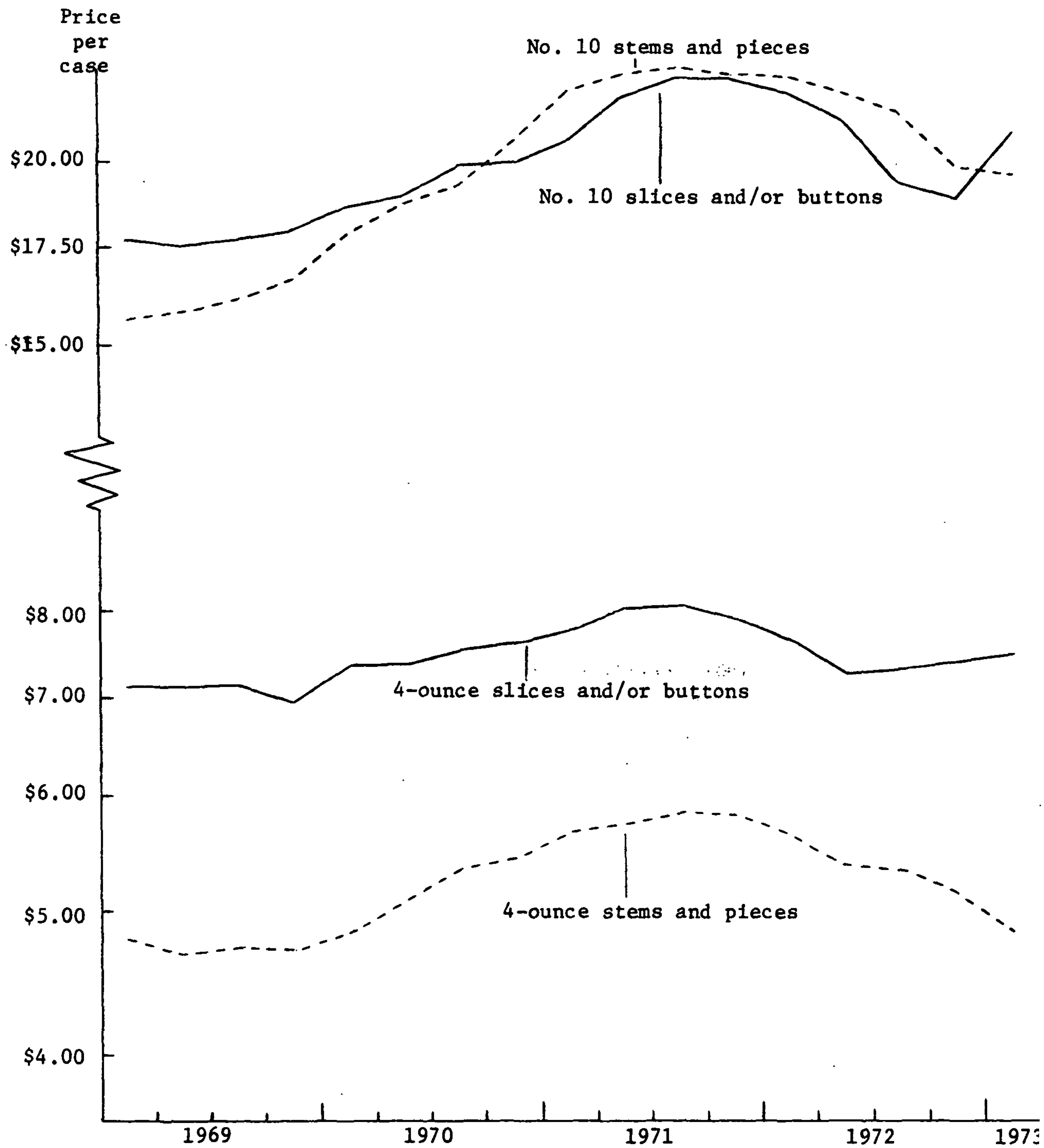

Figure 7.--Mushrooms, canned: Prices of U.S. mushroom products on logarithmic scal for 24/4-ounce containers and 6/No. 10 cans of stems and pieces, and slices and/c buttons, by quarters, 1969-73.

Source: Tables 15 and 16.

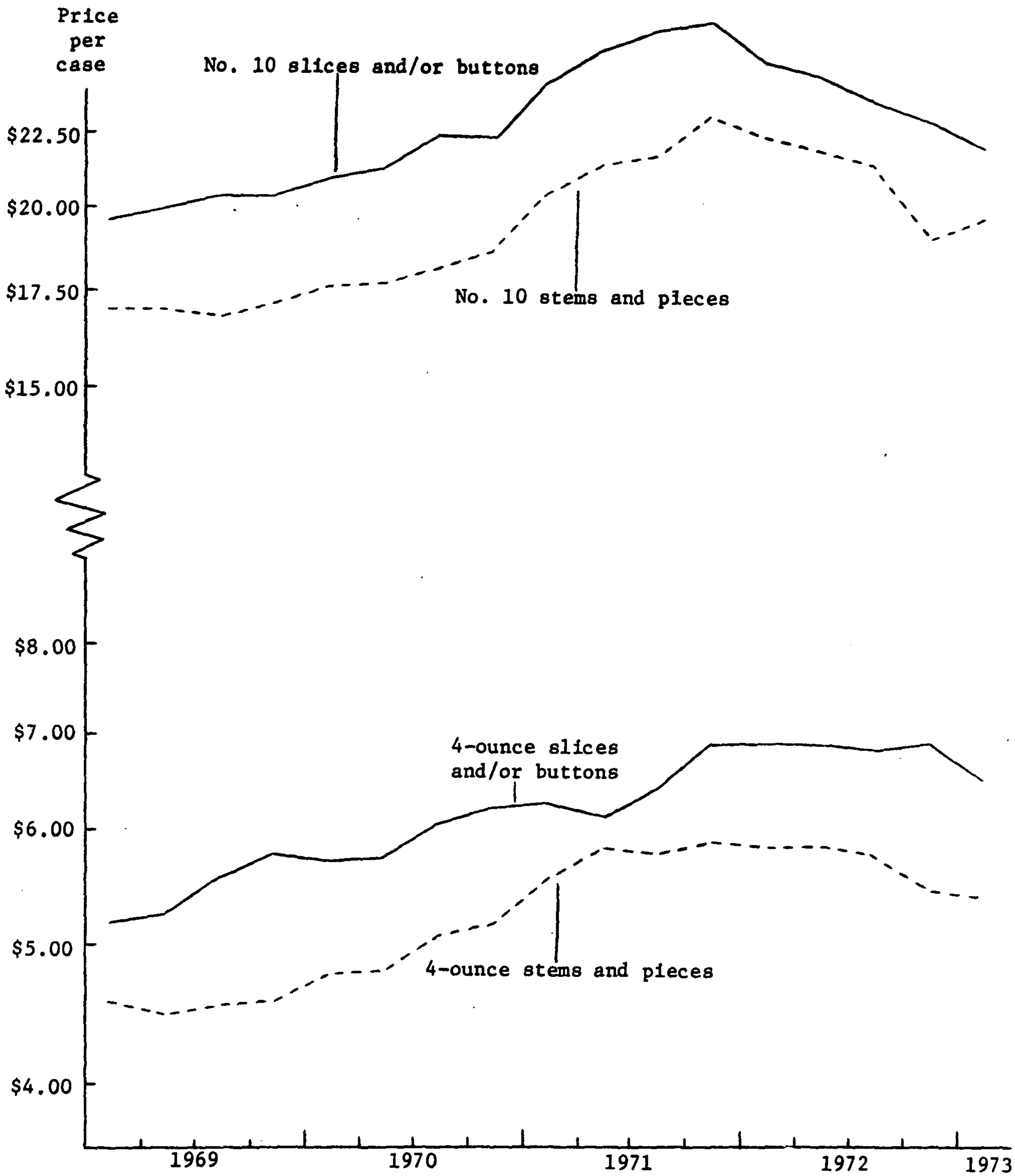

Figure 8.--Mushrooms, canned: Prices of mushroom products of the Republic of China (Taiwan) on logarithmic scale for 24/4-ounce containers and 6/No. 10 cans of stems and pieces, and slices and/or buttons, by quarters, 1969-73.

Source: Tables 15 and 16.

buttons packed in 68-ounce containers is not considered to be significant since this market is very small relative to the market for mushroom stems and pieces packed in 68-ounce containers.

Retail size.--Table 15 presents the prices of retail-size containers for both styles of pack.

In summary, the price of mushrooms packed in 4-ounce containers from all sources increased during the period 1969 to mid-1971. The price of the domestic product for both styles of pack began falling in late 1971. The price of the domestic mushroom stems and pieces did not show any recovery through the rest of the period considered here and was below the prices of the imported products during 1972 and early 1973. The price of domestic mushroom slices and/or buttons did show recovery in 1972 and early 1973, and was higher than the prices of the imported products during this period.

Testimony at the hearing and conversations with domestic producers established that the market for mushrooms in retail-size containers is not highly price competitive but depends more on brand name or label. 1/ Therefore, a similarity of prices in 4-ounce containers of stems and pieces is to be expected.

Figure 9 shows the prices for mushroom stems and pieces packed in retail-size containers from the three principal sources: U.S. producers, Taiwan, and South Korea. The general trends in the prices of mushrooms from the three sources in 1969 and since have been about the same. Prices were steady in 1969 and then began to climb rapidly. The prices

1/ Transcript of the hearing, pp. 50-55.

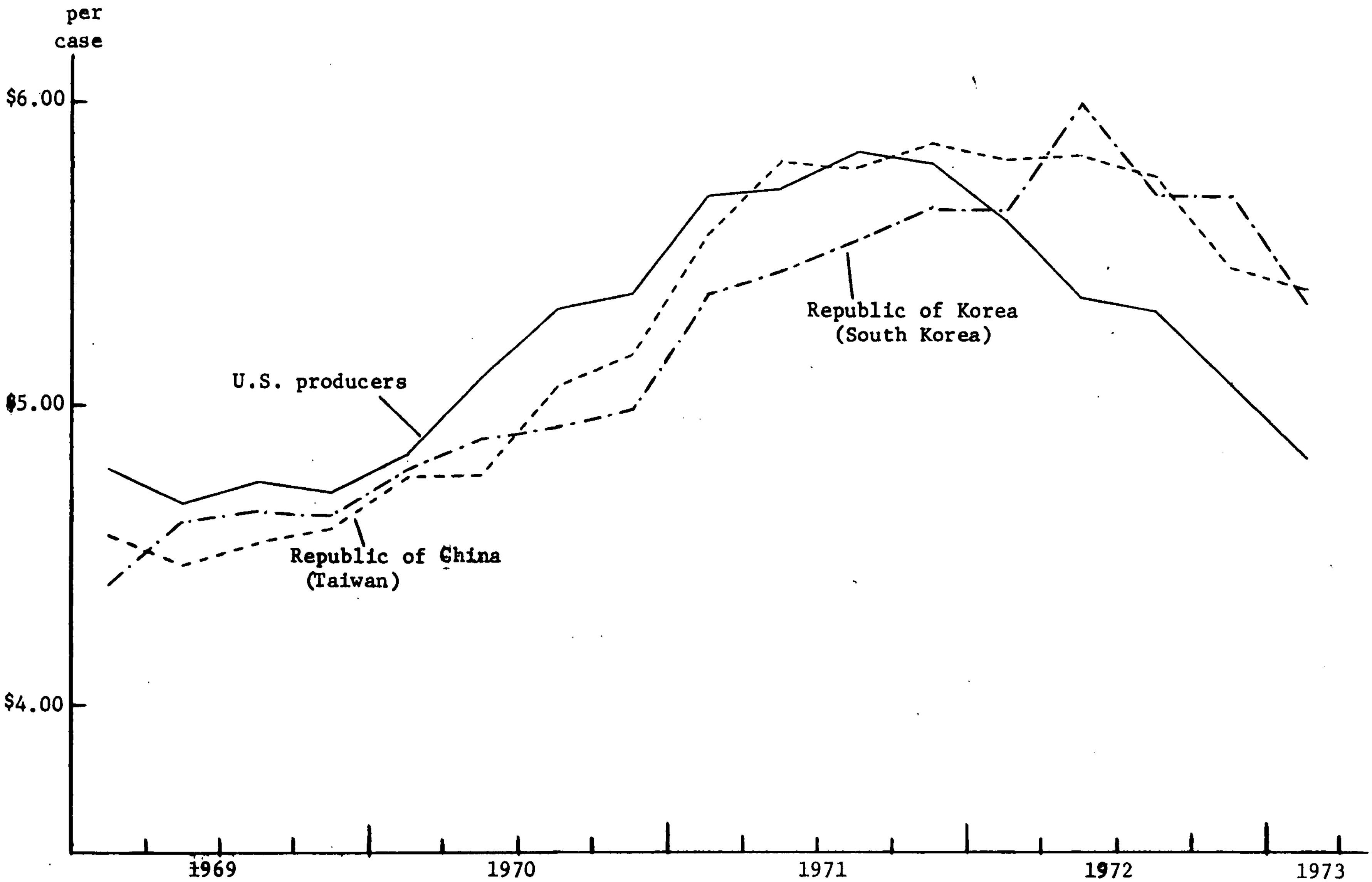

Figure 9.--Mushrooms, canned: Prices to U.S. jobbers and wholesalers, retail outlets, and distributors of 24/4-ounce containers of stems and pieces, generally first quality, by principal scurces and by quarters, 1969-72 and January-March 1973.

Source: Table 15.

of domestic mushrooms reached a peak in mid-1971 and then fell during the remainder of the period. The prices of Taiwan mushrooms reached a high point at approximately the same time, but maintained this high level until late 1972, when they too began to decline. The prices of South Korean mushrooms did not peak until the second quarter of 1972, and immediately thereafter they began to fall.

In 1969 the average price of domestically packed stems and pieces in 4-ounce containers was $4.73 per case of 24 containers. The price rose steadily through 1970 and 1971 until it peaked in the third quarter of 1971 at $5.84 per case, representing an increase of $1.11 per case. Prices fell from that point to a first quarter 1973 price of $4.83 per case, or by $1.01 per case.

The prices of imported mushroom stems and pieces packed in 4-ounce containers also rose to peaks but behaved differently at these peaks. The average 1969 price of the Taiwan product was $4.54 per case, or 19 cents less than the price of the domestic article. The price of the Taiwan product increased through 1970 and 1971 until it was equal, on an average basis, to the price of the domestic article in 1971 at $5.76 per case. The price of the Taiwan product maintained this high level through most of 1972, until it fell in the fourth quarter of 1972 to $5.46 per case and reached $5.39 per case in 1973. Therefore, the price of stems and pieces in 4-ounce containers from Taiwan was always higher than the price of comparable domestic canned mushrooms in 1972 and 1973. The average quarterly difference in 1972 was 41 cents per case.

In 1969 the average price of South Korean stems and pieces packed in 4-ounce containers was $4.57 per case, or 16 cents per case less than the price of the domestic product. The price of the South Korean product increased throughout 1970, 1971, and January-June 1972, reaching a peak of $6.00 in the second quarter of 1972. It fell from this point to $5.34 per case in early 1973. The prices of the South Korean product and of the domestic product in the first quarter of 1972 were approximately equal, $5.65 and $5.62 per case, respectively. From that point the price of the South Korean product exceeded that of the domestic. The average quarterly difference over the last three quarters of 1972 and the first quarter of 1973 was 54 cents per case.

Figure 10 presents the prices for 4-ounce containers of domestic, Taiwan, and South Korean mushroom slices and/or buttons. The trend was the same, with prices rising to a high point in late 1971. The trend in the price of the domestic product was generally upward during 1969, 1970, and much of 1971. In late 1971 and early 1972 the price of the domestic product fell, then showed a definite recovery beginning in the third quarter of 1972 and continuing into 1973. The trend in the price of the Taiwan product was upward during 1969-71. The price of the Taiwan product reached a high point in the last quarter of 1971 and remained near that point throughout 1972. The only significant price decrease occurred in early 1973. Prices for South Korean slices and/or buttons packed in 4-ounce containers were available only for 1972 and 1973. The trend in these prices was rapidly downward through the first three quarters of 1972, then they experienced a slight recovery in the

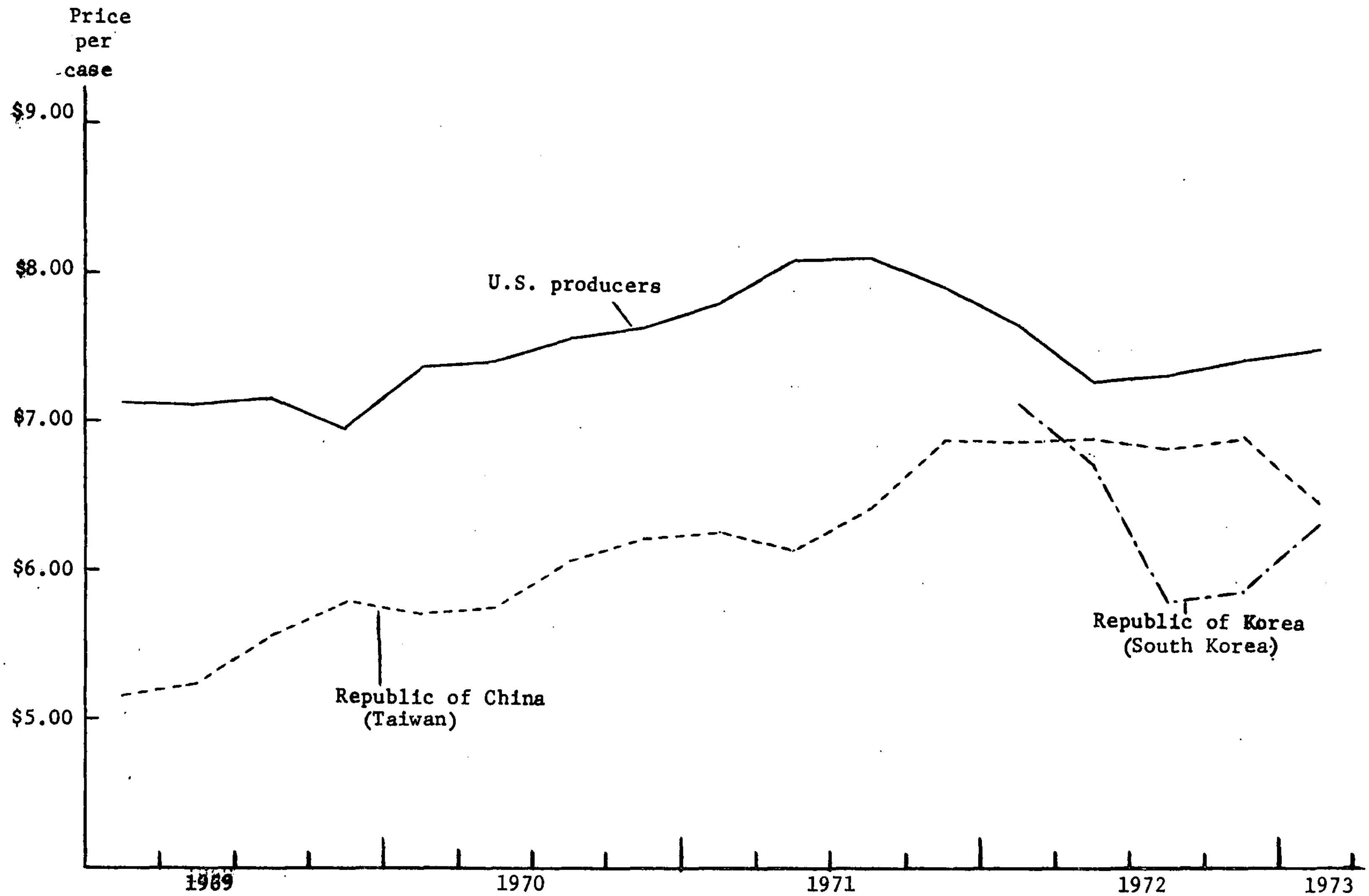

Figure 10.--Mushrooms, canned: Prices to U.S. jobbers and wholesalers, retail outlets, and distributors of 24/4-ounce containers of slices and/or buttons, generally first quality, by principal sources and by quarters, 1969-72 and January-March 1973.

Source: Table 15.

fourth quarter of 1972 and a significant increase in 1973. For the most part, the prices of the South Korean product were below the prices of the domestic and Taiwan articles.

The average 1969 price of domestically canned slices and/or buttons packed in 4-ounce containers was $7.07 per case. This price was $1.00 to $2.00 per case higher than the price of the Taiwan product. Prices of the domestic article increased to a peak of $8.08 per case in mid-1971, representing an increase of $1.01 per case. The price of the domestic article then fell to $7.24 per case in the second quarter of 1972, or by 84 cents per case. There was a definite recovery at this point, and the price in early 1973 was $7.46 per case, representing an increase of 22 cents per case.

The price of Taiwan slices and/or buttons packed in 4-ounce containers increased 63 cents per case in 1969, from $5.16 to $5.79 per case. The price increased to a high point in late 1971 of $6.86 per case. This price was $1.02 per case less than the domestic price. The price of the Taiwan product maintained its high level throughout 1972, and because the price of the domestic article was falling during part of this period, a minimum price difference of 37 cents per case occurred in the second quarter of 1972. The price of the Taiwan product fell in 1973, while the price of the domestic article continued its recovery. The absolute price difference in the first quarter of 1973 was $1.01 per case.

The price of South Korean slices and/or buttons packed in 4-ounce containers was extremely varied during 1972 and early 1973. In early

1972 the price of the South Korean product was $7.10 per case, which was 52 cents per case less than the price of the domestic product and 25 cents per case more than the price of the Taiwan product. The price of the South Korean product then fell to $5.77, but recovered in early 1973 to $6.29 per case, which was $1.17 per case less than the price of the domestic product and 16 cents per case less than the price of the Taiwan product.

Institutional size.--Table 16 presents the prices of 68-ounce containers of mushrooms for both styles of pack. In summary, the prices of mushroom stems and pieces from U.S. producers, Taiwan, and South Korea indicate close competition in this market. The price of domestic mushroom stems and pieces was less than the price of Taiwan mushroom stems and pieces in 1969, rose above the price of the Taiwan product in 1970 owing to more rapid price increases, and has been very competitive with it since late 1971. Fourth quarter 1971 to first quarter 1973 saw the average price per case of the domestic product $21.36, exceed that of the Taiwan product by 17 cents. Information on the price of South Korean mushroom stems and pieces was available only for July 1972 to March 1973. Over this period the average price of the South Korean product was less than that of either the domestic or the Taiwan product.

The price of domestic mushroom slices and/or buttons packed in 68-ounce containers was always less than the price of Taiwan mushroom slices and/or buttons packed in 68-ounce containers, a reversal of the price relationship for such mushrooms packed in retail-size containers.

Figure 11 illustrates the prices of domestic, Taiwan, and South Korean mushroom stems and pieces packed in 68-ounce containers. The trends in the prices of domestic and Taiwan mushrooms in such containers were upward from 1969 through 1971. These prices fell during 1972. The price of the domestic product increased during 1969 and 1970, reached a peak in the third quarter of 1971, and then began to fall. A significant moderation in this price decrease occurred in 1973.

The price of Taiwan mushroom stems and pieces packed in 68-ounce containers increased during 1969, 1970, and 1971. A price peak occurred in late 1971, and then the price fell rapidly until it recovered in 1973. The early upward trend in the price of the domestic product was greater than that of the price of the Taiwan product, so that the price of the domestic product reached a peak in the third quarter of 1971 as against the fourth quarter of 1971 for the price of the Taiwan product. Beginning in the fourth quarter of 1971 the downward trends in both domestic and Taiwan mushroom prices were virtually identical, as were the prices themselves.

The trend in the price of the South Korean article in late 1972 and early 1973 was the reverse of the trends of the prices of the other two products. The trend in the South Korean price was upward in late 1972, when the prices of the domestic and Taiwan products were falling; the trend was downward in 1973, when the other prices showed some recovery.

In 1969 the average price of domestically packed stems and pieces in 68-ounce containers was $15.99 per case. This was 99 cents per case

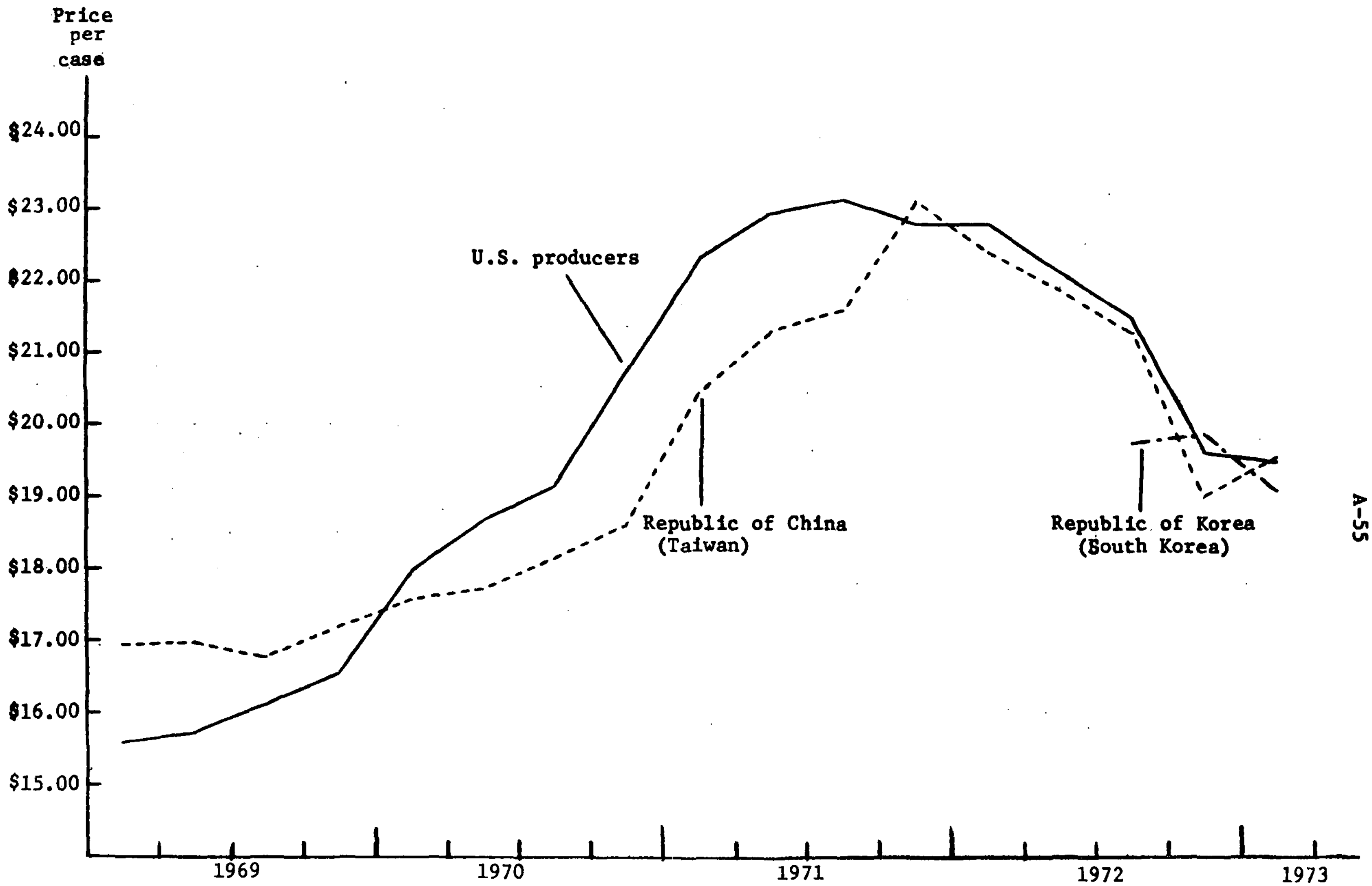

Figure 11.--Mushrooms, canned: Prices to U.S. jobbers and wholesalers, retail outlets, and distributors of 6/No. 10 cans of stems and pieces, generally first quality, by principal sources and by quarters, 1969-72 and January-March 1973.

Source: Table 16.

less than the average 1969 price of the Taiwan product. The price of the domestic product increased rapidly during 1970 and early 1971 and reached a peak in the third quarter of 1971 at $23.11 per case, representing an increase of $7.12 per case above the 1969 price. The price of the domestic product began falling in the second quarter of 1972, reaching a price of $19.47 per case in early 1973, representing a decline of $3.64 per case from the third quarter 1971 peak.

The average 1969 price of Taiwan mushroom stems and pieces was $16.98 per case. The price of the Taiwan product was exceeded by the price of the domestic article in early 1970 because the price of the domestic article had increased at a greater rate than did the price of the Taiwan product. In 1971 the price of the Taiwan product began to increase more rapidly and reached a peak in the fourth quarter of that year at $23.07 per case, $6.09 per case above the 1969 price. At this point the Taiwan product was 29 cents per case higher in price than the domestic product. The price of the Taiwan product then fell to a fourth quarter 1972 price of $19.00 per case, or by $4.07 per case. In early 1973 the price of the Taiwan product recovered to $19.55 per case--8 cents per case more than the price of comparable domestic canned mushrooms.

Information on the price of South Korean mushroom stems and pieces packed in 68-ounce containers was available only for late 1972 and early 1973. This price was $19.71 per case in the third quarter of 1972, or less than the price of either of the other products. In the fourth quarter of 1972 the price of the South Korean product increased to

$19.85, which was 25 cents per case more than the price of the domestic and 85 cents more than the price of the Taiwan product. In early 1973 the price of the South Korean product fell below the other prices by 40 to 50 cents per case.

The price for domestic and Taiwan mushroom slices and/or buttons packed in 68-ounce containers moved in a virtually parallel pattern throughout the 1969-72 period (table 16, fig. 12). 1/ The trends in the prices from both sources were rapidly upward until they reached a peak in late 1971. Then both prices fell off rapidly. The trend in the price of the domestic product and that of the Taiwan product differed only in 1973, when the price of the domestic product showed a significant recovery, while the price of the Taiwan product continued to decline. Throughout the period 1969-73 the price of Taiwan slices and/or buttons exceeded the price of domestic slices and/or buttons. This is a reversal of the price behavior of slices and/or buttons packed in 4-ounce containers, for which the price of the domestic product was always greater than the price of the Taiwan product. The average quarterly price difference between the domestic and Taiwan products packed in 68-ounce containers was $3.08 per case during the 1969-72 period. The market for these mushroom slices and/or buttons is so small relative to the market for mushroom stems and pieces packed in 68-ounce containers that this price reversal is not considered important to the overall price picture.

1/ No price data on South Korean No. 10 slices and/or buttons are available.

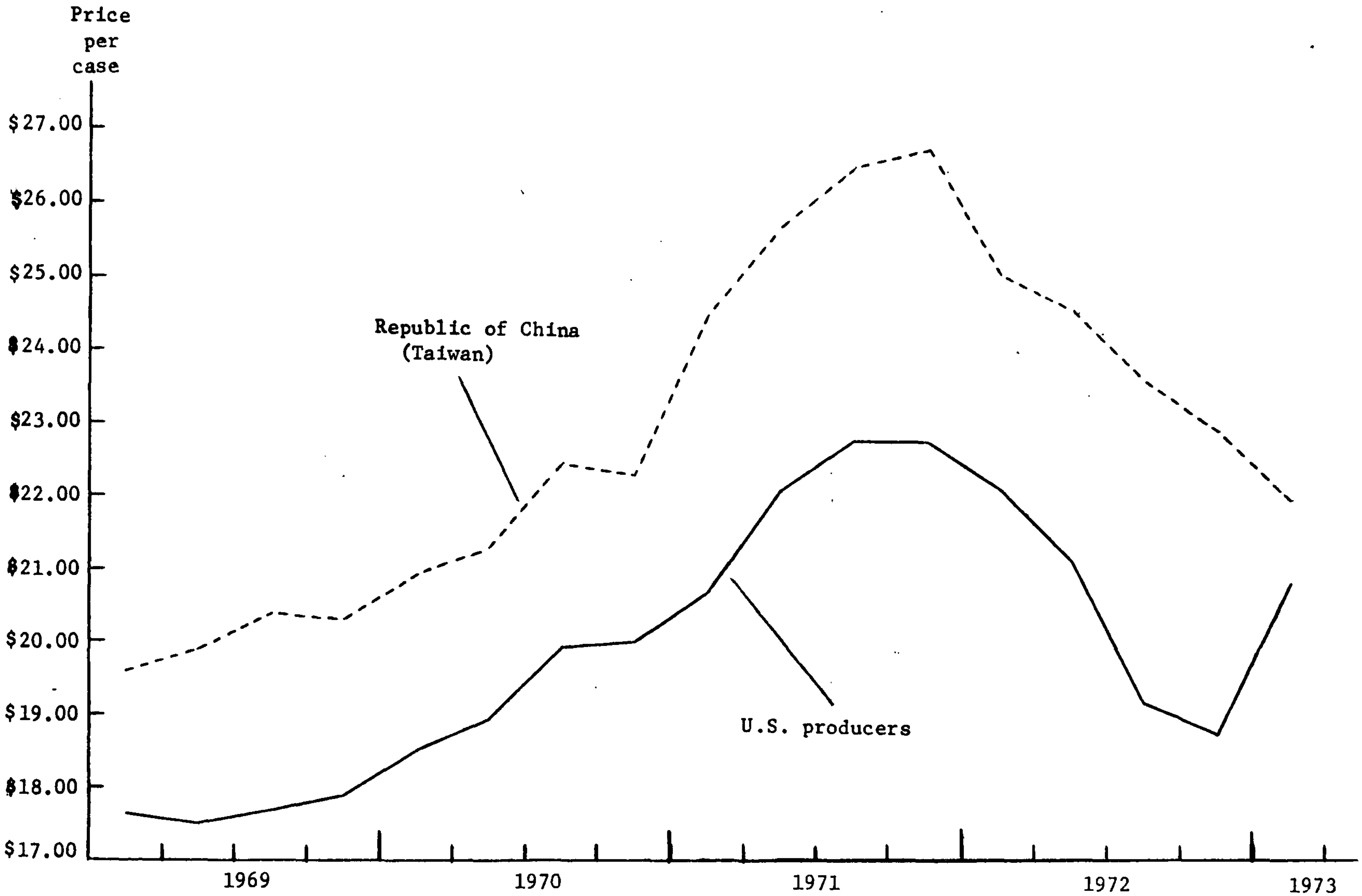

Figure 12.--Mushrooms, canned: Prices to U.S. jobbers and wholesalers, retail outlets, and distributors of 6/No. 10 cans of slices and/or buttons, generally first quality, by principal sources and by quarters, 1969-72 and January-March 1973.

Source: Table 16.

<u>Canner-importers</u>.--The domestic canner-importers were excluded from all domestic and imported-product price series to prevent possible bias resulting from mixing data on domestic and import prices. The canner-importers are too few in number to support compilation of average price series, and their prices are discussed here only in terms of price trends.

Canner-importers' prices of the imported product followed the general trend of the aggregate prices of imported canned mushrooms. Their prices of the imported product increased during 1969, 1970, and 1971, reached a peak in late 1971 or early 1972, and then decreased slightly in 1972 and early 1973. Canner-importers' prices of domestically canned mushrooms increased during 1969, 1970, and 1971. In only one instance did a canner-importer's domestic-product price fall slightly after 1971. In all other cases the prices received by canner-importers for the domestic product either remained unchanged or increased in the period from late 1971 to early 1973. This trend in prices was not the same as the trend in aggregate prices of domestically canned mushrooms, which showed a general decrease in the period from late 1971 to early 1973.

U.S. Employment

U.S. employment in growing and canning mushrooms has increased in recent years. During the last 6 months of 1972 nearly 6,000 persons were employed in raising mushrooms 1/ (including 1,100 workers employed

1/ Sampling variability is shown in appendix D.

by domestic canners in their growing operations) and about 1,900 workers were engaged in canning mushrooms.

Growers

The average annual number of persons employed by mushroom growers that do not process mushrooms increased 30 percent 1/ during 1968/69 to 1971/72. During July-December 1972 nearly 4,800 persons 1/ were engaged in raising mushrooms, compared with about 4,400 1/ employed during the corresponding months in 1971. The number employed in late 1972 would have been greater except that the operations of one large grower were closed because of a labor dispute.

Almost all growers employ persons outside their immediate family. During 1968/69 to 1971/72, family labor supplied somewhat less than one-fifth of the total labor force engaged by the growers in their operations; four-fifths of the labor force came from outside the growers' immediate family.

Canners

The average annual number of production and related workers 2/ employed by U.S. mushroom canners increased each year during the period 1968/69 to 1971/72 (table 17).3/ In 1971/72, 22 percent more workers were employed by canning firms in growing and canning mushrooms than in 1968/69. The greater part of the increase in employment was in the

1/ Sampling variability is shown in appendix D.
2/ Production and related workers include working foremen and all non-supervisory personnel engaged in growing and canning mushrooms, as well as those who perform inspection, receiving, storage, handling, packing, warehousing, shipping, maintenance, repair, record keeping, and similar services closely associated with the growing and canning operations.
3/ Information is for 31 canners that submitted usable data.

canners' growing operations; in those operations employment went up 41 percent, whereas the average annual number of workers employed in canning operations increased 14 percent. A comparison of employment in July-December 1972 with that in the corresponding months in 1971 reveals that 22 percent more people were employed in all operations in the 1972 period, with 24 percent more workers in the growing operations and 21 percent more in the canning operations. During July-December 1972 nearly 3,000 production workers were employed; about 1,900 workers were in the canning operations and 1,100 workers were in the growing operations.

Man-hours worked by production and related workers engaged in canning operations increased 30 percent during 1968/69 to 1971/72; in July-December 1972 the number of man-hours they worked was 22 percent more than in July-December 1971 (table 18). Domestic canners have become more efficient in their canning operations, in terms of labor utilization. During 1968/69 to 1971/72 the average output of canned mushrooms per man-hour was 23 pounds, about 75 percent above that in 1960/61 to 1963/64. The increased efficiency is due in part to plant modernization by some canners and to a larger share of their output being the stems-and-pieces style of pack, which generally requires less labor to produce.

Financial Experience of U.S. Producers

Mushroom canners

The Commission obtained financial data from 32 firms which produced canned mushrooms during 1968-72; these firms accounted for virtually all of the U.S. production of canned mushrooms in each of those years.

The net sales of canned mushrooms by the reporting firms increased annually, from $51 million in 1968 to $90 million in 1971 and $92 million in 1972 (table 19). Net operating profits increased from $627,000 in 1968 to $2.8 million in 1971 but then declined sharply to $514,000 in 1972. The ratio of net operating profits to net sales was between 1 percent and 2 percent in each of the years 1968-70; it rose to 3 percent in 1971 and then declined to less than 1 percent in 1972. The increase in profits during 1968-71 coincided with substantially growing sales of canned mushrooms by the firms involved and rising prices received by them. The decline in profits in 1972 occurred in a year when prices of canned mushrooms declined, prices of fresh mushrooms for processing (the firms' raw material) also declined, and sales of canned mushrooms by domestic firms increased in volume. During the period 1968-72, the firms for which data are available had a mixed financial experience--some operating at a loss and some at a profit in each year. Ten firms sustained losses on their mushroom operations in 1968; 9 firms reported losses in 1969, 11 in 1970, 6 in 1971, and 16 (half of the number reporting) in 1972.

Overall, the establishments in which canned mushrooms are produced are devoted predominantly to the canning of that product. The ratio of sales of mushrooms to sales of all products by such establishments was 80 to 82 percent in each of the years 1968-70, 87 percent in 1971, and 88 percent in 1972. Net sales of all products produced in the establishments in which mushrooms are canned increased annually, from $64 million in 1968 to $104 million in 1971 and $105 million in 1972 (table 20). Net operating profits rose from $2.5 million in 1968 to $5.0 million in 1971 and then declined to $2.2 million in 1972. The ratio of net operating profits to net sales of all products increased from 3.9 percent in 1968 to 4.8 percent in 1971 and then dropped to 2.1 percent in 1972. In the Commission's earlier investigation, it was found that during 1960-64 the ratio of net operating profits to net sales of all products by establishments in which mushrooms were canned ranged from 4.1 percent to 5.7 percent. At that time canned mushrooms accounted for about 90 percent of total sales by canners of mushrooms.

The profits earned by the mushroom canners have been smaller relative to sales than have the profits of domestic firms engaged in the production of food and kindred products. The ratio of net operating profits before taxes for producers of food and kindred products ranged from 5.0 percent to 5.2 percent in the 5 years 1968-72; 1/ the corresponding ratios for the mushroom canners ranged from 2.1 percent to 4.8 percent on the total operations of the establishments in which mushrooms were produced and 0.6 percent to 3.1 percent on the mushroom-canning operations.

Table 21 presents the profit-and-loss experience of canners that have growing operations and those that have no growing operations.

1/ Quarterly Financial Report for Manufacturing Corporations published by the Federal Trade Commission reported the ratios of net operating profits to net sales as 5.0 percent in 1968, 5.2 percent in 1969, and 5.1 percent in 1970-72.

During 1968-72 the canner-growers were consistently more profitable than the canners that did not grow mushrooms, showing a higher ratio of net operating profit to net sales. The trends of profits and the ratio of profits to net sales generally corresponded for both groups--rising in 1971 and dropping in 1972.

Mushroom growers 1/

The sales of mushrooms by growers increased steadily from $37 million in 1968 to $72 million in 1972 (table 22). The net profits earned on those sales grew somewhat less regularly than sales, rising from $5.3 million to $14.7 million. The ratio of net profits to net sales amounted to 14 percent in 1968 and 1969, and was close to 20 percent in each of the years 1970-72.

The data available to the Commission for mushroom farms which are unincorporated do not include in the expenses of the farm an amount for the labor of the owner and the owner's family. In 1972, more than three-fourths of the mushroom growers were unincorporated. Most of the unincorporated farms are fairly close to the owner's residence, enabling members of the family to participate in picking, watering, and other required labors in growing mushrooms. The extent to which the profits shown would be reduced if an appropriate amount imputed for the labor of the owner and the owner's family was included in the expenses of mushroom growing cannot be estimated.

1/ The profit-and-loss data for mushroom growers relate to the financial experience of enterprises growing mushrooms for sale to others; they exclude the growing operations of canner-growers, which are reflected in the profit-and-loss data of the canners. The profit-and-loss data for mushroom growers were obtained by a sampling procedure. The sample design and sampling variability are shown in appendix D.

Foreign Producers

Taiwan and South Korea are the principal exporters of canned mushrooms to the United States. Because of their dominance as foreign suppliers and in light of the very rapid growth in their export volume over the past several years, their plans and prospects for increased marketing in the United States are considered below on an individual basis.

Republic of China (Taiwan)

Fresh product.--The world's largest exporter of canned mushrooms, Taiwan, continues to expand its growing capacity. Over the period 1964/65 to 1971/72, the total harvested area increased by 40 percent to 112 million square feet and fresh-mushroom production increased by 150 percent to 183 million pounds (fresh-weight basis). The 1971/72 season was a bumper year with ideal weather conditions; output in that year was 38 percent larger than in 1970/71 (table 23).

Owing to various market factors, however, the long-term increase in production, while strong, has been irregular. In 1968 the Governments of the Republic of China (Taiwan) and the United States negotiated a voluntary marketing agreement to place a limit on canned mushrooms exports to the United States (appendix B). This export agreement necessitated a 25-percent reduction in Taiwan production and export goals for the 1968/69 season; the area planted in Taiwan actually declined 39 percent. Owing to an excessively mild winter and reduced producer interest, fresh-mushroom production fell in 1968/69 by 44 percent. The voluntary agreement was limited to the 1968/69 season and was not renegotiated. Mushroom production recovered, and output of fresh mushrooms in the 1970/71 season exceeded that in 1967/68.

Yields fluctuated around 0.9 pound per square foot through the 1964/65 to 1968/69 period, began to increase in 1969/70, and by 1971/72 averaged 1.6 pounds per square foot. The yield increases can be attributed largely to improvement in growing facilities. Traditionally, mushrooms were grown during the winter in simple sheds of bamboo and rice straw by farmers who grew rice during the rest of the year. Lining the shed with plastic sheeting of polyvinyl chloride (PVC) was found to substantially increase yields for reasons of both climate and pest control. Other factors contributing to increased yields were the addition of electric blowers and the sterilization of the compost. Producers were encouraged to adopt these new practices, and demonstration sheds were set up in the various growing districts.

Expansion in the adoption of these new facilities was rapid. A severe typhoon in October 1969, which destroyed 20 percent of the existing sheds and damaged another 60 percent of them, provided an opportunity to introduce the plastic-lined shed at an accelerated pace. The number of PVC sheds increased from 50 in 1968/69 to over 2,500 in 1969/70. Pleased with the results, for many producers tripled their yields, the Government further encouraged the adoption of PVC sheds through the supply of US$500,000 in 2-year loans at 12.6 percent per annum, with a goal of 10,000 PVC sheds for the 1970/71 season. By the 1971/72 season the total forecast area of 82 million square feet consisted of 63 million square feet in plastic sheds and 19 million square feet in the old-style, unlined sheds. Final revised data indicate that the planted area actually reached 112 million square feet, although the PVC-covered area may not have increased proportionately.

To sum up: as a result of only a relatively few years of active promotion and official stimulation, the Taiwan mushroom-growing industry has attained a size and efficiency rivaling those of its U.S. counterpart. The following table illustrates this clearly:

Key data on mushroom growing in the United States and the Republic of China, marketing year 1971/72

Item	United States	Republic of China
Harvested area------------------million sq. ft--	94	112
Yield-----------------------pounds per sq. ft--	2.5	1/ 1.6
Total production---------------million pounds--	231	183

1/ A rise to 2.0 pounds per square foot has been forecast for 1972/73.

Mushroom growing in Taiwan is dominated by small operations: most producers cultivate mushroom beds in a size range from 1,800 to 5,300 square feet. The latest available information indicates a possible decreasing trend in the number of small growers; there were about 50,000 growers in 1968/69 versus 60,000 in 1966/67. In order to insure in the raw product sufficient quality for export, canners are allowed by the Government to grow up to 30 percent of their own mushroom input. Their planted area increased from 2.5 million square feet in 1967/68 to 5.8 million square feet in 1969/70, with respective fresh production of 2.3 million and 8.7 million pounds. The implied per unit yield for 1969/70 thus was 1.7 times that of the 1967/68 season.

Growers are organized in cooperatives, the Farmers' Associations, which organize the gathering of fresh mushrooms for a handling fee of US$0.0034 per pound. Growers are eligible for short-term loans from the Taiwan Cooperative Bank. In recent years there has been some difficulty in obtaining farm labor as more people, particularly the young, migrate into industrial occupations in urban areas.

Canned product.--Production of canned mushrooms increased about 150 percent over the 1964/65 to 1971/72 period (table 24). Production of 158 million pounds in 1971/72 was exceptionally high, the result of a bumper crop of mushrooms in that period. There were 84 individual canneries in operation in 1969, with only one canner packing as much as a tenth of total production; five canners accounted for about a third of total production. Eighty canneries were in operation in the 1971/72 season, and 78 canneries, in the 1972/73 season. Entry by new firms is not permitted by the Government, and mergers are encouraged. Firms with poor quality performance are penalized by reductions in the share of total pack allocated to them.

Canners are expected to pack a standard case (24 pounds, drained weight) with an input of 40 pounds of fresh mushrooms and must supply receipts to substantiate this performance. Only first-quality mushrooms are exported to the United States.

Canners are organized into both the Taiwan Canners Association and the Taiwan Mushroom Packers United Export Corporation (TMPUEC). The Official Agricultural Production and Planning Committee establishes a planned production program for exports of canned mushrooms. A total production goal of standard cases is set, and this production target is divided among the various canners. Canners receive short-term loans from the Taiwan Cooperative Bank covering 70 percent of the expected export volume that they will produce.

The Government (Taiwan) recently drafted a basic set of regulations for the production and export of canned mushrooms. These regulations will be in effect for all future crops in place of the annual issue of regulations. Therefore, only production and export targets, allocations among canners, and prices will require annual revision, and the entire process of close Government control will be improved.

Exports.--Total exports of canned mushrooms approximately doubled in the period 1964/65 to 1971/72, increasing from 65 million pounds to about 135 million pounds (tables 24 and 25, fig. 13). The United States and West Germany are Taiwan's leading customers. Exports to the United States increased by 120 percent, from 24 million pounds in 1965/66 to 55 million pounds in 1971/72, while exports to West Germany increased only 18 percent (from 37 million pounds to 43 million pounds) over the same period. However, mushroom exports to West Germany moved irregularly, and figure 14 shows this variation graphically. Figure 15 shows the inverse movements of percentage shares of total exports going to each market as they are tabulated in table 25.

West Germany has been Taiwan's leading export market in most years, with the United States second. Demand for canned mushrooms in West Germany has grown considerably over the past decade; total imports increased slightly more than 200 percent from 1966 to 1971, rising

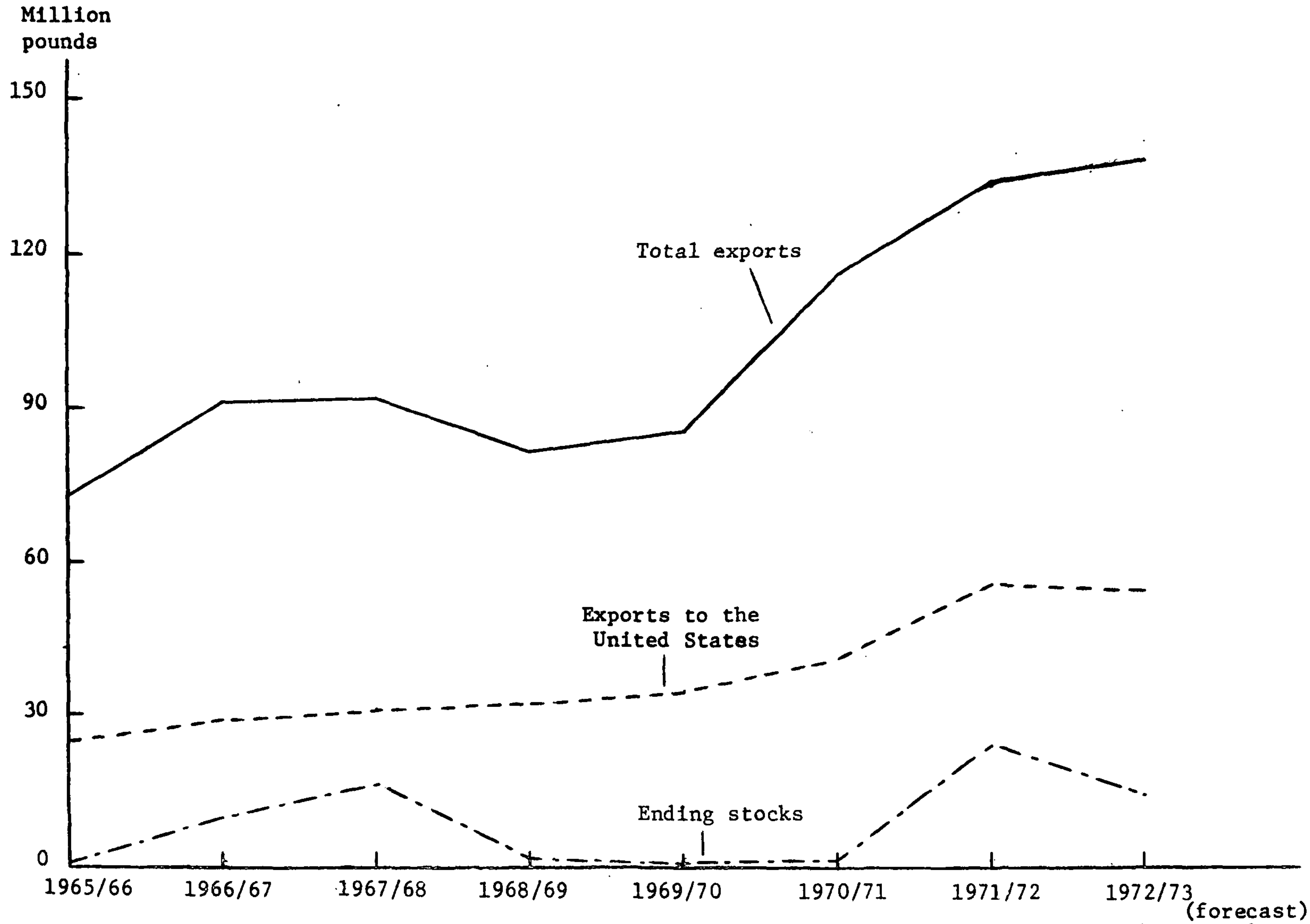

Figure 13.--Mushrooms, canned: Total exports, exports to the United States, and ending stocks, of the Republic of China (Taiwan), marketing years 1965/66 to 1972/73 (forecast).

Source: Tables 24, 25, and 29.

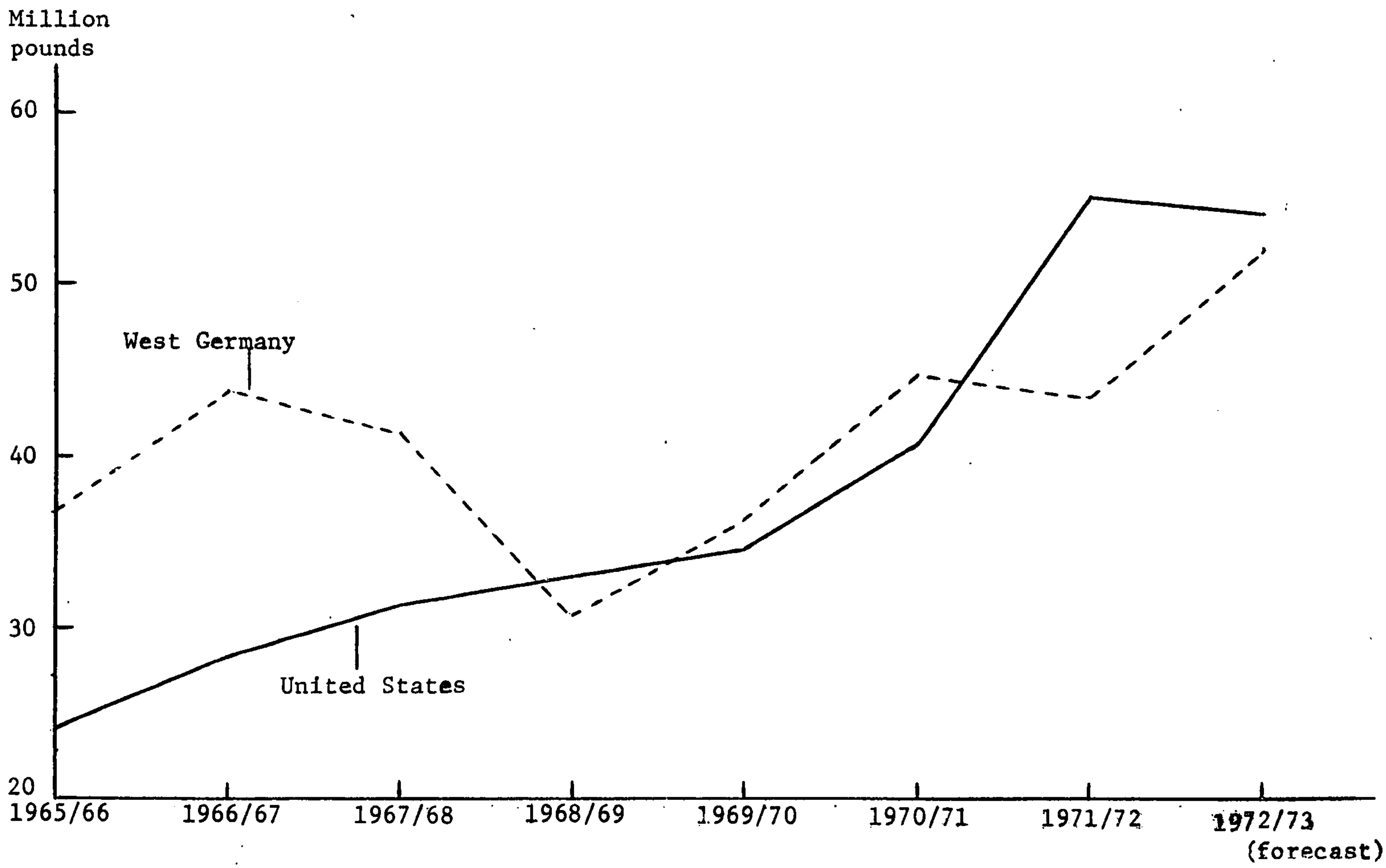

Figure 14.--Mushrooms, canned: Exports of the Republic of China (Taiwan) to the United States and West Germany, 1965/66 to 1972/73 (forecast).

Source: Tables 25 and 29.

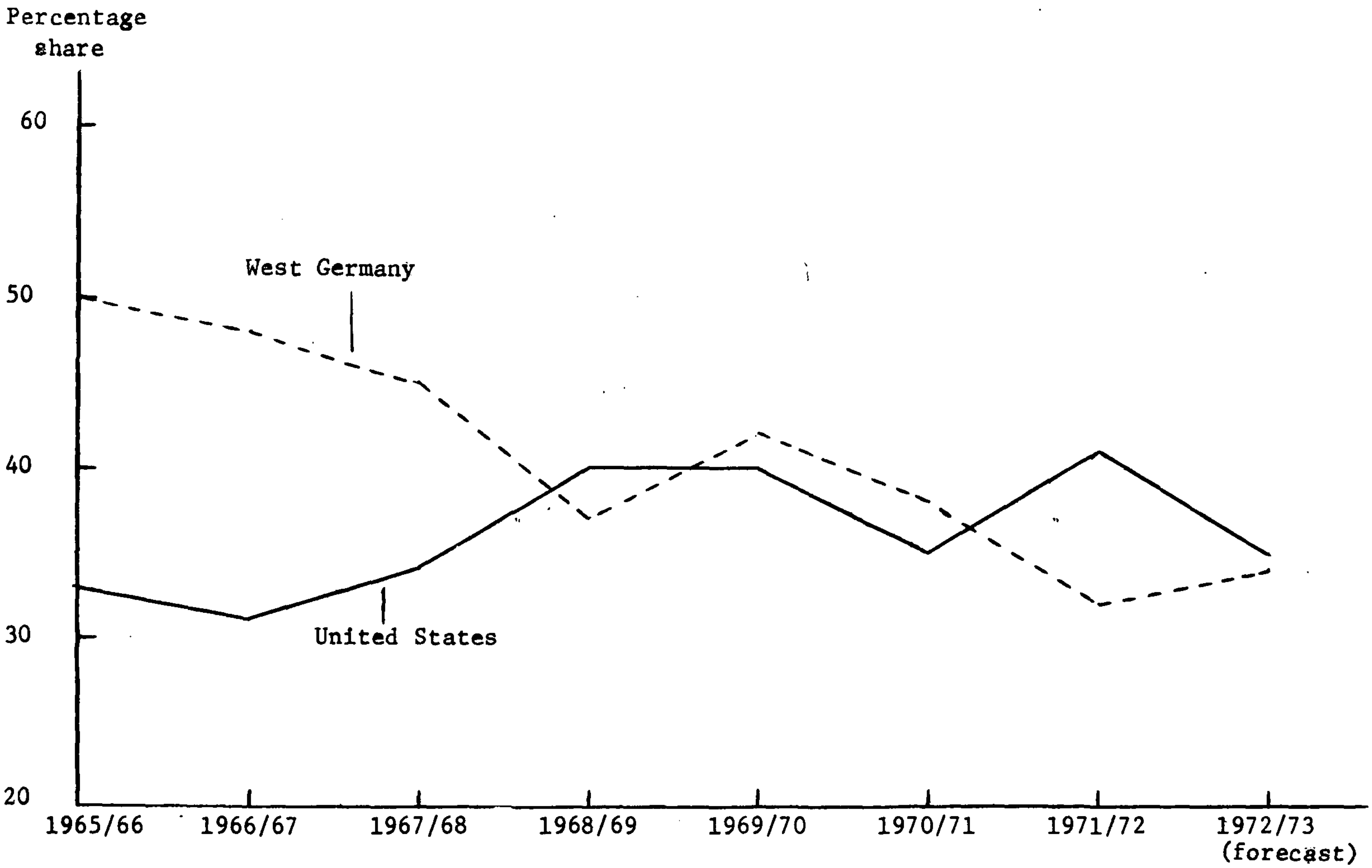

Figure 15.--Mushrooms, canned: Exports of the Republic of China (Taiwan) to the United States and West Germany as percentage shares of total mushroom exports, 1965/66 to 1972/73 (forecast).

Source: Tables 25 and 29 and table on p. A-74.

from 53 million pounds to 159 million pounds (table 26). Taiwan's share of West Germany's mushroom imports, however, fell from 65 percent in 1966 to 31 percent in 1971. France and the Netherlands have supplied more of Germany's increasing demand, at Taiwan's expense. The European Community's high external tariffs on non-EC trade and the absence of tariffs on intra-EC trade after 1968 help to explain the leveling off of Taiwan's exports to West Germany at about 30 percent of that market, while French and Dutch sources within the EC increased production to supply West Germany's expanding market.

TMPUEC has marketed mushrooms in the United States through 24 exclusive agents and one glass-pack contract since it began exports in 1964. The exports are allocated among these agents by TMPUEC, and there is a reluctance to admit additional agents or pack directly for U.S. retailers since this would reduce the amount of pack available to the original 24 agents.

TMPUEC examines the current world marketing situation and sets prices f.o.b. Taiwan in U.S. dollars. These prices are published and presented in table 27. As this table shows, export prices from Taiwan have increased slowly over the period 1967/68 to 1972/73. Prices for 1972/73 have been reduced about 5 percent on an f.o.b. basis for non-European sales. The price for European sales for 1972/73 is to be read on a c.i.f. basis, hence the price reduction for this area is correspondingly greater--as is clearly evident in table 28, which presents estimates of the prices for European sales recalculated on an f.o.b. basis.

The recent devaluation adds an additional complication. The average 8-percent price cuts to European markets have been compounded by an extra 10-percent reduction resulting from the dollar devaluation, because Taiwan's prices are quoted in U.S. dollars. This 10-percent price reduction applies to the c.i.f. prices as they appear in table 28. The dollar quotation remains the same, but there is an effective 10-percent reduction in terms of German marks. The effective price reduction has significantly affected the competitive position of Taiwan mushrooms vis-a-vis French and Dutch mushrooms in the West German market, in Taiwan's favor.

Goals.--Goals for the 1972/73 marketing year appear in table 29. Area planted has been reduced by almost 40 percent, while fresh production is expected to fall only 22 percent owing to increases in yields. The expected yield for 1972/73 is 2 pounds per square foot, 25 percent more than that for 1971/72. Output of canned mushrooms is expected to be down 20 percent, at 129 million pounds. TMPUEC indicates that the official export goal is 153 million pounds, which is equal to total supply; unexpectedly mild winter weather accounted for the smaller export estimate of 139 million pounds which appears in the table. Export targets based on the official 153-million-pound goal are presented below:

Mushrooms, canned: Export targets of the Republic of China, by destination, for 1972/73

Destination	Quantity
	Million pounds, fresh-weight basis
United States	54
West Germany	52
Canada	16
Other European	14
East Asia	4
Other	4
Undecided	9

The preceding table indicates respective shares of total exports to the United States and West Germany of 35 percent and 34 percent. These shares are considerably different from those of the 1971/72 marketing year, when 41 percent went to the United States, and 32 percent, to West Germany.

Because a rise in the share of Taiwan's mushroom exports going to West Germany is often accompanied by an inverse movement in exports to the United States, it is important to trace out in detail the factors which have affected Taiwan's shipments to both markets since 1970 and to show how these factors may affect current and future market situations. In 1971, world prices were at very high levels compared with those in the past. Taiwan's contracts with the Germans for 1972 deliveries were negotiated at the high 1971 prices. When prices fell in 1972, however, West German importers sought to renegotiate their contracts and refused to accept deliveries from Taiwan. As a result, Taiwan's percentage share of the West German market in 1972 fell, and ending stocks in Taiwan went up sharply (table 24 and fig. 13). French and Dutch sources, meanwhile, moved rapidly into the West German market because they, too, had expanded production in response to the high 1971 prices.

In an effort to stabilize the quantities and prices of mushrooms on the West German market, a group of French producers, estimated to account for 80 to 85 percent of French production, approached the Government (Taiwan) to negotiate a marketing arrangement. Under an agreement of January 1973, Taiwan would have been permitted to regain a larger share of the West German market in 1972/73. France would have exported 52 million pounds, and Taiwan would have also supplied 52 million pounds, a figure consistent with Taiwan's official goals. Prices were to be maintained at current levels through the end of April with an upward adjustment of at least 3 percent on May 1, 1973. Sales were to be spaced to avoid market disruption.

This marketing agreement failed as a result of the February 1973 dollar devaluation, which cut Taiwan prices by 10 percent. A French source indicates that French exports to the West German market have practically ceased, while Taiwan is currently shipping large quantities of mushrooms into Germany. Therefore, Taiwan should be capable of achieving its export goal as long as domestic supplies of raw product hold up. As noted earlier, domestic supplies are probably down as a result of a mild winter. The testimony of the TMPUEC representative indicated that the large ending stocks of 1972 had already been shipped to West Germany, and this statement agrees with the information above.

Prospects for the post-1972/73 period are indeterminate. Reports indicate that the European mushroom products are preparing an appeal to the European Community Commission concerning minimum price standards. This, of course, could lead to renewed restrictions on Taiwan exports to West Germany and a resulting reemphasis on exports to the United States.

Republic of Korea (South Korea)

Fresh product.--South Korea initiated production of canned mushrooms in the early 1960's. Owing to the disappointing performance of the industry, the Korean Government instituted a corporation, the

Agricultural and Fishery Development Corporation (AFDC), to stimulate development of the entire agricultural sector. Operating through a subsidiary, Korean Mushroom, the AFDC established a program to increase production through improved cultivation methods, control of pests and disease, and the use of a new high-yield strain of mushroom. Production of fresh mushrooms and output of canned mushrooms have responded strongly to this new program (table 30). Planted area increased from 11 million square feet in 1967 to 20 million square feet in 1972, after lagging in the years 1968 and 1969. 1/ Production of fresh mushrooms increased steadily from 4 million pounds in 1967 to nearly 43 million pounds in 1972. Perhaps the most important development was the increase in yield from a low of 0.4 pound per square foot in 1967 to 2.2 pounds per square foot in 1972. Good climate, plenty of fertilizer, and an abundant supply of labor in conjunction with improved management are the principal factors in this rapid growth in aggregate production of fresh mushrooms.

The French variety of white mushroom accounts for practically all commercial production. The mushroom beds are housed in aboveground sheds accommodating 1,800 square feet of beds in two- or three-tier arrangements. Two crops are produced (in the spring and the fall) inasmuch as no atmospheric control systems are in use. 2/ The Ministry of Agriculture and Forestry provides loans to growers for shed construction (3 years of grace, 5 years for repayment) at 9-percent interest.

1/ In this report, data for South Korea are shown on a calendar-year basis.

2/ Taiwan, on the other hand, produces only one crop a year.

Canned product.--Production of canned mushrooms has increased along with expansion of the output of fresh mushrooms (table 31). Approximately 80 percent of the fresh mushrooms produced are processed; about 46 pounds of fresh mushrooms are required for a standard case of 24/16-ounce cans, versus the 40 pounds required in Taiwan. AFDC hopes to equal Taiwan's performance by 1974. There were 45 canneries in operation in early 1973 with a daily capacity of 560,000 pounds; 32 canneries produced in 1972 with a daily capacity of 440,000 pounds; 21 canneries produced in 1971. These plants are locally financed, and approximately 80 percent of their total output consists of mushrooms. No single plant is responsible for as much as 10 percent of total daily capacity.

There is a heavy emphasis on the export of canned mushrooms because Korean canned goods, unlike many other Korean exports, have an advantage in that the raw materials are available in-country. Annual domestic consumption has averaged less than 10 percent of production (table 31).

Exports.--There are currently five exporting organizations or firms. AFDC and the National Agricultural Cooperative Federations (NACF) are public organizations; Kumi Trading Co., Taiyang Industry, and Sawan Nongsan Co. are private firms, the latter being a 1973 entry. In November 1972 the respective shares of total exports shipped by the first four organizations listed above were 43 percent, 43 percent, 8 percent, and 5 percent.

The United States and West Germany are South Korea's principal export markets (table 32). Nine U.S. firms are reported to have contracts for Korean canned mushrooms. At least one contractual arrangement for a glass pack stipulated that the U.S. firm was to provide capping machines, empty bottles, caps, labels, and technical assistance.

The wide yearly fluctuations in percentage shares of total exports to the United States and West Germany indicate the difficulty South Korea has experienced in securing established market shares for its exports. This is particularly evident with regard to West Germany in recent years. The export goal for West Germany was $3.9 million in 1972, but only 200,000 dollars' worth of goods was ultimately shipped. 1/ Shipments to the United States have not made up for this deficiency, with the result that yearend stocks have risen strongly. Ending stocks in 1971 were well above those of 1970, and 1972 stocks of 17 million pounds were four times as large as those of 1971 (table 31, fig. 16).

Shipments to Japan and Sweden in 1971 and Japan, Sweden, Switzerland, and the Netherlands in 1972 were nil. Shipments in previous years indicate, however, that earlier efforts to market in these countries had been successful.

Export prices for canned mushrooms f.o.b. South Korea are not fully available on comparable bases; the available figures exhibit some fluctuation. The prices shown in table 33 for 1969 and 1970 are for spring crops, are directly comparable, and show a 26-percent average increase. Prices in 1971 are for a fall crop, which should run higher, and they imply that prices in that year were down significantly. Prices in 1972 are yearly averages, and except for sliced mushrooms they imply some strengthening in average price levels.

1/ Goals are set in value terms.

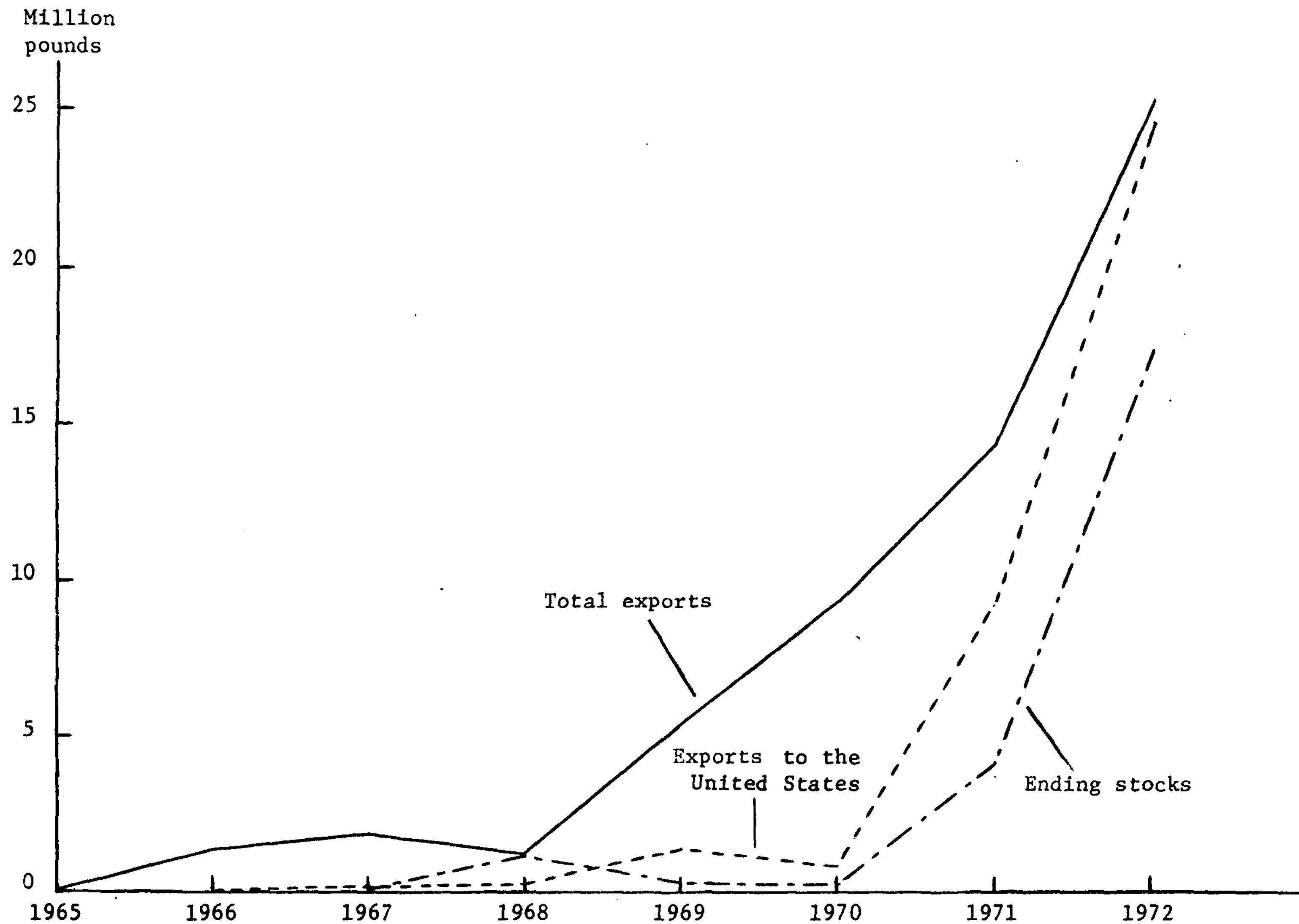

Figure 16.--Mushrooms, canned: Exports and ending stocks of the Republic of Korea (South Korea), 1965-72.

Source: Tables 31 and 32.

In the current period, demands are heard for price cuts to meet strong competition from Taiwan in world markets. Sources in Seoul indicate that West German and Canadian buyers are urging this reduction to bring the Korean product in line with the Taiwan products which have been priced about 10 percent less. Heretofore, the AFDC has placed the price about 10 percent above the Taiwan price since it considers the Korean product to be superior in quality. The increase in ending stocks and concern about a U.S. quota have added to the demand for price cuts. Information from Bonn indicates that a price cut for the West German market has taken place; South Korean offer prices in Germany were running below Taiwan prices as of March 1973, despite the effect of the devaluation on Taiwan prices.

Goals.--Following previous practice, the AFDC has established both short- and long-term goals for mushroom production. The latest estimates and projections appear in table 34. The figures for 1973 (47 million pounds in canned output, and $13 million in exports) are very recent estimates whereas the estimates for future years are from an earlier 5-year plan which has already seen its 1972 goals substantially exceeded. No goals on yields have been reported as past experience has shown yield projections to be consistently exceeded in practice. The long run supply of fresh mushrooms depends strongly on developments in future yields. Canned production depends both on the supply of fresh mushrooms and on the success in reducing the per-case input of fresh mushrooms.

In 1971 there were five mushroom research centers in South Korea. Two more were to be added in 1972; two are planned for 1973 and one in 1974. Expectations are that 357 technicians will have been trained by the end of 1974. At this time, processors will be required to employ licensed technicians and 12 new official inspectors will be employed solely to inspect canned mushrooms for export.

The goal for future marketing in the United States is said to be 90 percent of the planned pack of 47 million pounds or approximately 42 million pounds. The 13-percent increase in canned output to 47 million pounds seems conservative because of the expected 42 percent increase in fresh production to 61 million pounds. If the fresh mushroom goal is achieved, then the production of canned pack must increase or there must be some other outlet for the fresh mushrooms. Presently, there are no Korean facilities other than canneries for dealing with this large increase in fresh production. The 90-percent goal for exports to the United States is in line with the percentage distribution in 1972. However, given the 17 million pound carryover and the possibly large increase in fresh product, it becomes less clear that future plans for a relatively low volume to be shipped to the United States are realistic.

The South Koreans most assuredly would like to increase their relatively small exports to the West German market. Other countries also have been markets for the Korean product (table 32), but high European Community external levies and expanded production by France and the Netherlands have limited some of these.

The Koreans may be anticipating increased sales to West Germany in 1973 for several reasons. In 1972, Taiwan executed a one-year supply contract at a lower price than the Korean price. Taiwan has discontinued this approach, however, and now markets on an individual sale basis. Therefore, Korea expects to increase its exports on the basis of superior quality. In addition, it now is clear that Taiwan is selling very successfully on the European market due to both voluntary price cuts and the effect of the devaluation. Because the Korean offer price is now below the Taiwan price, and because France has severely curtailed its exports to the West German market (at least for the time being), there should be heavy South Korean sales in the large West German market in 1973. Such sales alone could absorb the expected 42 percent increase in fresh production.

In order to broaden its marketing base AFDC is reviewing plans to diversify the production of canned mushrooms to include products which merely contain mushrooms. The government plans by 1974 to place mushroom export under a monopoly organization to reduce competition, permit positive sales promotion in the world market, and make just one organization responsible for the attainment of export goals.

Proposals Regarding Imports by Domestic and Foreign Interests

Domestic interests at the Commission's hearing proposed quantitative import restrictions that would limit the volume of canned mushroom imports to 25 percent of domestic consumption, with an annual adjustment to allow imports to increase at the rate of 25 percent of any increase in the quantity of domestic consumption. Foreign producer interests at the same proceeding suggested that restrictions on the canned product, if they are found to be necessary, be limited for the initial quota year to no less than 75 million pounds (drained-weight basis) and that the annual growth rate should be no less than 15 percent of the preceding year regardless of consumption. The following tabulation compares the two proposals.

Comparison of proposals for limiting imports of canned mushrooms

(Quantity on drained-weight basis)

Interests	Proposal	Recommended 1972/73 quota	Imports 1972/73 (Estimated)	Imports 1971/72
Domestic supplier	25% of U.S. consumption of canned product + 25% of any annual increase in consumption	35.8 million pounds 1/	44 million pounds	40.1 million pounds
Foreign supplier	75 million pounds in initial quota year + 15% of preceding year for quota years thereafter	75 million pounds	44 million pounds	40.1 million pounds

1/ The calculated quota is 25 percent of 1971/72 consumption of 123 million pounds plus 25 percent of 20 million-pound increase in consumption between 1970/71 and 1971/72.

Appendix A

Statistical Tables

Table 1.--Mushrooms, fresh, dried, or otherwise prepared or preserved: U.S. rates of duty, June 18, 1930, to May 1973

TSUS No.	Description	Statutory rate effective June 18, 1930	Trade-agreement modification	
			Rate	Effective date
	Mushrooms:			
144.10	Fresh	10¢ per lb. + 45% ad val.	5¢ per lb. + 25% ad val.	January 1948
144.12	Dried	10¢ per lb. + 45% ad val.	5¢ per lb. + 25% ad val.	September 1955
			4.5¢ per lb.+ 22.5% ad val.	July 1962
			4¢ per lb. + 20% ad val.	July 1963
			3.2¢ per lb. + 18% ad val.	January 1968
			3.2¢ per lb.+ 16% ad val.	January 1969
			3.2¢ per lb.+ 14% ad val.	January 1970
			3.2¢ per lb.+ 12% ad val.	January 1971
			3.2¢ per lb. + 10% ad val.	January 1972
144.20	Otherwise prepared or preserved.	10¢ per lb. + 45% ad val.	8¢ per lb. 1/ + 25% ad val.	June 1936
			5¢ per lb. 1/ + 15% ad val.	January 1948
			4¢ per lb. 1/ + 12.5% ad val.	June 1951
			3.6¢ per lb.1/ + 11% ad val.	July 1962
			3.2¢ per lb.1/ + 10% ad val.	July 1963

1/ Drained weight.

Table 2.--Mushrooms: U.S. production, imports for consumption, and apparent consumption, marketing years 1962/63 to 1971/72 and July-December 1972

(Quantity on fresh-weight basis)

Marketing year (July 1-June 30)	Production	Imports: Canned	Imports: Dried	Imports: Total 1/	Apparent consumption 2/	Ratio of imports to consumption
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Percent
1962/63	132	16	8	24	156	15
1963/64	131	21	8	29	160	18
1964/65	140	16	10	26	166	16
1965/66	156	21	7	28	184	15
1966/67	165	26	9	35	200	18
1967/68	181	34	10	44	225	20
1968/69	189	31	12	43	232	19
1969/70	194	42	7	49	243	20
1970/71	207	43	10	53	260	20
1971/72	231	62	10	72	303	24
1972/73 (July-Dec.)	3/ 113	36	7	43	156	28

1/ Includes small quantities of frozen mushrooms in some years.
2/ Production plus imports. Exports of mushrooms are negligible.
3/ Sampling variability is shown in appendix D.

Source: Production compiled from data supplied by a sample of domestic producers and by the U.S. Department of Agriculture; imports compiled from official statistics of the U.S. Department of Commerce.

Note.--Imports of canned mushrooms converted to fresh-weight equivalent on the basis of 1 pound of drained weight to 1.538 pounds of fresh weight and those of dried mushrooms converted on the basis of 1 pound of dried weight to 10 pounds of fresh weight.

Table 3.--Mushrooms, canned: Sales of U.S. product, U.S. imports for consumption, and apparent consumption, in terms of fresh-weight equivalent, marketing years 1962/63 to 1971/72 and July-December 1972

(Quantity on fresh-weight basis)

Marketing year (July 1-June 30)	Sales of U.S. product 1/	Imports	Apparent consumption 2/	Ratio of imports to consumption
	Million pounds	Million pounds	Million pounds	Percent
1962/63	68	16	84	19
1963/64	66	21	87	25
1964/65	68	16	84	19
1965/66	72	21	93	23
1966/67	72	26	98	27
1967/68	80	34	114	30
1968/69	95	31	126	24
1969/70	100	42	142	29
1970/71	115	43	158	27
1971/72 3/	127	62	189	33
1972/73 (July-Dec.) 3/	66	36	102	35

1/ Represents the sales of mushrooms canned in airtight containers containing 50 percent or more of mushrooms, by weight.
2/ Sales of U.S. product plus imports. Exports are negligible.
3/ Preliminary.

Source: Sales of U.S. product compiled from data supplied by domestic canners and the National Canners Association; imports compiled from official statistics of the U.S. Department of Commerce.

Note.--Data on canned product converted to fresh-weight equivalent on the basis of 1 pound of drained weight to 1.538 pounds of fresh weight.

Table 4.--Mushrooms, canned: Sales of U.S. product, U.S. imports for consumption, and apparent consumption, in terms of processed-weight equivalent, marketing years 1962/63 to 1971/72 and July-December 1972

(Quantity on processed product-weight basis)

Marketing year (July 1-June 30)	Sales of U.S. product 1/	Imports	Apparent consumption 2/	Ratio of imports to consumption
	Million pounds	Million pounds	Million pounds	Percent
1962/63	44	10	54	19
1963/64	43	14	57	25
1964/65	44	10	54	19
1965/66	47	14	61	23
1966/67	47	17	64	27
1967/68	52	22	74	30
1968/69	62	20	82	24
1969/70	65	27	92	29
1970/71	75	28	103	27
1971/72 3/	83	40	123	33
1972/73 (July-Dec.) 3/	43	23	66	35

1/ Represents the sales of mushrooms canned in airtight containers containing 50 percent or more of mushrooms, by weight.
2/ Sales of U.S. product plus imports. Exports are negligible.
3/ Preliminary.

Source: Sales of U.S. product compiled from data supplied by domestic canners and the National Canners Association; imports compiled from official statistics of the U.S. Department of Commerce.

Table 5.--Mushrooms, canned: U.S. canners' inventories of the domestically produced product on June 30 of years 1968-72 and Dec. 31 of 1971 and 1972

(In millions of pounds, fresh-weight basis)

Item	June 30--					Dec. 31--	
	1968	1969	1970	1971	1972	1971	1972
Mushrooms canned in brine or butter:							
Retail-size containers--------	11.1	11.0	10.3	8.9	14.2	8.3	11.3
Institutional-size containers-------	6.0	4.4	4.7	4.3	8.2	7.1	7.8
Subtotal--------	17.1	15.4	15.0	13.2	22.4	15.4	19.1
Other canned mushrooms----------------	2.0	2.2	1.8	1.4	2.6	1.4	2.9
Total-----------	19.1	17.6	16.8	14.6	25.0	16.8	22.0

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners.

Note.--Useable information on inventories was submitted by 28 canners that accounted for 89 percent of sales of canned mushrooms in 1971/72.

Table 6.--Mushrooms, canned: U.S. rates of duty and imports for consumption, calendar years 1930-59, marketing years 1959/60 to 1971/72

Period	Rate of duty	Average ad valorem equivalent	Imports: Quantity (drained weight)	Imports: Value
	Cents per pound; percent ad valorem	Percent	1,000 pounds	1,000 dollars
1930:				
Jan. 1-June 17	45 percent	45.0	3,834	1,016
June 18-Dec. 31	10¢ per lb. + 45%	80.6	1,143	321
Total 1930			4,977	1,337
1931	10¢ per lb. + 45%	81.4	2,773	761
1932	do	86.5	1,982	478
1933	do	84.8	1,417	356
1934	do	77.4	820	253
1935	do	76.6	560	177
1936:				
Jan. 1-June 14	do	76.7	146	46
June 15-Dec. 31	8¢ per lb. + 25%	50.5	316	99
Total 1936			462	145
1937	8¢ per lb. + 25%	53.7	999	278
1938	do	59.6	890	206
1939	do	63.5	890	185
1940	do	57.9	419	102
1941	do	50.3	38	12
1942	do	49.0	9	3
1943	do	39.9	1/	2/
1944	do	36.4	1/	2/
1945	do	36.5	23	16
1946	do	32.3	11	12
1947	do	30.7	5	7
1948	5¢ per lb. + 15%	23.5	159	94
1949	do	23.4	380	225
1950	do	23.4	337	200
1951:				
Jan. 1-June 5	do	22.9	156	99
June 6- Dec. 31	4¢ per lb.+ 12 1/2%	19.5	277	158
Total 1951			433	257
1952	4¢ per lb.+ 12 1/2%	19.2	955	570
1953	do	19.7	1,718	959
1954	do	20.0	2,572	1,378
1955	do	19.9	2,039	1,105
1956	do	19.2	2,040	1,220
1957	do	18.4	2,071	1,407
1958	do	18.9	2,501	1,567
1959	do	19.1	2,323	1,415
Marketing years (July 1-June 30):				
1959/60	do	18.8	2,237	1,430
1960/61	do	18.8	3,265	2,087
1961/62	do	20.0	10,013	5,367
1962/63	3.6¢ per lb.+ 11%	17.8	10,499	5,520
1963/64	3.2¢ per lb.+ 10%	16.2	13,555	6,949
1964/65	do	15.9	10,409	5,624
1965/66	do	15.8	13,658	7,482
1966/67	do	15.6	16,776	9,530
1967/68	do	15.6	22,009	12,514
1968/69	do	15.7	20,019	11,272
1969/70 3/	do	15.6	27,427	15,731
1970/71 3/	do	14.9	28,097	18,308
1971/72 3/	do	14.8	40,072	26,927

1/ Less than 500 pounds. 2/ Less than $500. 3/ Preliminary.

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

Table 7.--Mushrooms, canned: U.S. imports for consumption, by months, marketing years 1969/70 to 1971/72 and July-March 1972/73

(In thousands of pounds, drained weight)

Month	Marketing year (July 1-June 30)--			
	1969/70	1970/71	1971/72 1/	1972/73 1/
July	2,212	1,439	2,586	5,252
August	2,271	2,119	1,525	5,423
September	2,176	1,907	2,738	4,063
October	1,619	1,440	1,705	3,074
November	1,413	1,068	1,039	2,467
December	1,686	784	1,831	3,182
January	667	773	1,724	3,568
February	1,464	2,574	1,958	2,400
March	3,422	3,573	5,443	4,244
April	4,715	4,388	5,860	-
May	3,046	3,869	8,005	-
June	2,736	4,163	5,660	-
Total	27,427	28,097	40,072	33,673

1/ Preliminary.

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

Table 8.--Mushrooms, canned: U.S. imports for consumption, by principal sources, marketing years 1968/69 to 1971/72, July-March 1971/72, and July-March 1972/73

Source	Marketing year (July 1-June30)				July-March 1/	
	1968/69	1969/70	1970/71	1971/72 1/	1971/72	1972/73
	Quantity (1,000 pounds drained weight)					
Republic of China (Taiwan)	16,178	23,694	24,260	28,169	13,022	20,979
Republic of Korea (South Korea)	441	560	717	7,444	4,717	8,372
France	876	850	940	1,652	867	1,002
Japan	1,877	1,325	966	789	570	1,094
Ecuador	115	322	439	387	280	455
All other	532	676	775	2/ 1,631	1,091	1,771
Total	20,019	27,427	28,097	40,072	20,547	33,673
	Value (1,000 dollars)					
Republic of China (Taiwan)	8,891	13,260	15,293	18,318	8,388	13,537
Republic of Korea (South Korea)	236	297	497	5,139	3,271	5,383
France	658	723	922	1,416	791	899
Japan	882	816	699	642	448	745
Ecuador	54	148	244	265	186	321
All other	551	487	653	2/ 1,147	765	1,189
Total	11,272	15,731	18,308	26,927	13,849	22,074
	Unit value (per pound)					
Republic of China (Taiwan)	$0.55	$0.56	$0.63	$0.64	$0.64	$0.65
Republic of Korea (South Korea)	.54	.53	.69	.69	.69	.64
France	.75	.85	.98	.92	.91	.90
Japan	.47	.62	.72	.83	.79	.68
Ecuador	.47	.46	.56	.69	.66	.70
All other	1.04	.72	.84	2/ .70	.70	.67
Average	.56	.56	.65	.67	.67	.66

1/ Preliminary.
2/ Includes 399,000 pounds, valued at $265,000, from Costa Rica with a unit value of 74 cents per pound.

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

Table 9.--Mushrooms, canned: U.S. imports for consumption, by principal sources, 1968-72

Source	1968	1969	1970	1971	1972 1/
	Quantity (1,000 pounds drained weight)				
Republic of China	19,004	18,755	21,893	24,667	36,404
Republic of Korea	282	643	313	2,660	9,946
France	843	867	747	990	1,931
Japan	1,975	1,653	782	972	1,236
Ecuador	28	220	396	390	462
All other	556	545	677	1,084	2/ 2,132
Total	22,688	22,683	24,808	30,763	52,111
	Value (1,000 dollars)				
Republic of China	10,586	10,190	12,684	16,027	23,809
Republic of Korea	155	326	199	1,851	6,779
France	614	710	680	952	1,644
Japan	1,157	956	548	720	915
Ecuador	14	102	190	242	327
All other	346	402	545	795	2/ 1,448
Total	12,872	12,686	14,846	20,587	34,922
	Unit value (per pound)				
Republic of China	$0.56	$0.54	$0.58	$0.65	$0.65
Republic of Korea	.55	.51	.64	.70	.68
France	.73	.82	.91	.96	.85
Japan	.59	.58	.70	.74	.74
Ecuador	.50	.46	.48	.62	.71
All other	.63	.74	.80	.73	2/ .68
Average	.57	.56	.60	.67	.67

1/ Preliminary.

2/ Includes 395,000 pounds, valued at $300,000, imported from Costa Rica, with a unit value of 76 cents per pound; 364,000 pounds, valued at $217,000, imported from Hong Kong, with a unit value of 60 cents per pound; and 306,000 pounds, valued at $187,000, imported from Belgium, with a unit value of 61 cents per pound.

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

Table 10.--Mushrooms, canned: Percentage distribution of U.S. imports by container size 1/ and by principal sources, marketing years 1969/70 to 1971/72 and July-December 1972

Item	Republic of China (Taiwan)	Republic of Korea	France	Japan	All other	Total
1969/70:						
Retail size	39	88	2	36	47	39
Institutional size	61	12	98	64	53	61
Total	100	100	100	100	100	100
1970/71:						
Retail size	42	42	4	27	62	41
Institutional size	58	58	96	73	38	59
Total	100	100	100	100	100	100
1971/72:						
Retail size	43	24	3	31	46	38
Institutional size	57	76	97	69	54	62
Total	100	100	100	100	100	100
1972/73 (July-Dec.):						
Retail size	41	41	3	16	39	39
Institutional size	59	59	97	84	61	61
Total	100	100	100	100	100	100

1/ Retail-size containers, as here used, hold not more than 9 ounces each and institutional-size containers hold more than 9 ounces each.

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

Table 11.--Mushrooms, dried: U.S. imports for consumption by principal sources, marketing years 1968/69 to 1971/72, July-March 1971/72, and July-March 1972/73

Source	Marketing year (July 1-June 30)				July-March 1/	
	1968/69	1969/70	1970/71 1/	1971/72 1/	1971/72	1972/73
	Quantity (1,000 pounds, dried weight)					
Japan	456	385	545	521	385	336
Republic of China	27	21	48	239	143	174
Chile	559	202	286	140	97	208
France	6	9	21	13	8	7
West Germany	20	47	76	14	10	18
All other	86	68	66	52	37	162
Total	1,154	732	1,042	979	680	905
	Value (1,000 dollars)					
Japan	1,313	1,348	2,280	2,425	1,763	1,662
Republic of China	25	90	216	883	81	576
Chile	261	88	206	214	124	495
France	24	61	110	101	56	40
West Germany	44	70	172	42	34	57
All other	117	117	188	225	163	422
Total	1,784	1,774	3,172	3,890	2,721	3,252
	Unit value (per pound)					
Japan	$2.88	$3.50	$4.19	$4.65	$4.58	$4.95
Republic of China	.91	4.35	4.48	3.69	4.06	3.30
Chile	.47	.44	.72	1.53	1.29	2.38
France	4.21	6.63	5.36	7.66	7.22	6.02
West Germany	2.14	1.50	2.25	3.04	3.34	3.18
All other	1.66	2.33	3.12	4.36	4.36	2.60
Average	1.54	2.42	3.04	3.97	4.00	3.59

1/ Preliminary.

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

Note.--One pound of dried mushrooms is equivalent to 10 pounds of fresh mushrooms.

Table 12.--Mushrooms, fresh: U.S. imports for consumption, by principal source, marketing years 1967/68 to 1971/72, July-March 1971/72, and July-March 1972/73

Country	Marketing year (July 1-June 30)					July-March	
	1967/68	1968/69	1969/70	1970/71 1/	1971/72 1/	1971/72 1/	1972/73 1/
	Quantity (1,000 pounds)						
Republic of China	1	4	144	299	318	2	47
All other	2	-	1	17	36	9	8
Total	3	4	145	316	354	11	55
	Value (1,000 dollars)						
Republic of China	2/	2	43	111	118	1	19
All other	2	-	1	5	10	5	3
Total	2	2	44	116	128	6	22
	Unit value (cents per pound)						
Republic of China	43.9	53.3	29.5	37.3	37.2	44.7	39.3
All other	90.4	-	150.1	29.8	27.6	57.2	41.5
Average	72.9	53.3	29.9	36.9	36.2	54.6	39.6

1/ Preliminary.
2/ Less than $500.

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

Table 13.--Mushrooms, fresh: Wholesale prices in New York City, by months, marketing years 1964/65 to 1971/72 and July-April 1972/73 1/

(In cents per pound)

Month	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73
July	64	58	74	67	67	88	100	99	86
August	66	68	87	80	76	81	107	120	92
September	55	58	62	63	68	79	91	121	92
October	50	55	59	62	60	67	84	97	87
November	51	53	57	67	64	73	84	101	87
December	50	52	58	59	59	69	83	95	87
January	49	53	54	57	60	63	82	92	83
February	51	55	59	56	59	67	85	95	95
March	52	54	59	57	65	76	90	106	85
April	53	55	60	61	67	75	97	93	92
May	55	58	64	64	76	85	101	93	-
June	58	63	69	66	87	84	116	90	-
Average	55	57	64	63	67	76	93	100	

1/ The prices quoted represent monthly average prices calculated from the midpoints of Thursday's prices for medium- to large-size mushrooms of generally good quality and condition in 3-pound baskets.

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

Table 14.--Mushrooms for processing: Prices received by growers for clean-cut and pulled bed-run mushrooms in Kennett Square and Temple areas of Pennsylvania, by months, marketing years 1964/65 to 1971/72 and October-April 1972/73

(In cents per pound)

Month	1964/65		1965/66		1966/67		1967/68		1968/69		1969/70		1970/71		1971/72		1972/73	
	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/	Clean-cut	Pulled 1/
October---	30	26	30	27	30	30	33	28	31	27	34	30	41	34	46	40	37	34
November--	30	26	30	27	30	30	33	28	31	27	35	30	42	35	47	40	36	33
December--	-	-	30	27	30	28	30	28	31	27	35	30	42	35	48	40	36	33
January---	-	-	30	27	30	28	28	28	31	27	35	30	42	36	48	40	38	33
February--	-	-	30	27	30	28	28	28	31	28	35	30	44	37	46	40	38	35
March-----	30	25	30	27	31	28	29	27	31	28	35	31	45	37	44	40	38	35
April-----	30	25	30	27	32	28	29	27	32	28	37	31	45	39	41	38	37	33
May-------	30	25	30	27	32	28	29	27	32	28	37	31	45	40	41	38	-	-
Average--	30	25	30	27	31	28	30	28	31	28	35	30	43	37	45	40	-	-

1/ Kennett Square area only.

Source: Pennsylvania Department of Agriculture, Mushroom Market News.

Note.--Prices do not include precooling, handling, transportation, containers, or brokerage. No prices are reported during June-September.

Table 15.--Mushrooms, canned: Prices to U.S. jobbers and wholesalers, retail outlets, and distributors of 24/4-ounce containers of mushroom stems and pieces and 24/4-ounce containers of mushroom slices and/or buttons, generally first quality by principal sources and by quarters, 1969-72 and January-March 1973

Period	24/4-oz. stems and pieces			24/4-oz. slices and/or buttons		
	U.S. Producers	Republic of China: (Taiwan)	Republic of Korea	U.S. Producers	Republic of China: (Taiwan)	Republic of Korea
1969:						
January-March	$4.79	$4.57	$4.40	$7.11	$5.16	1/
April-June	4.67	4.47	4.61	7.10	5.23	1/
July-September	4.74	4.54	4.64	7.14	5.56	1/
October-December	4.71	4.58	4.63	6.94	5.79	1/
1970:						
January-March	4.83	4.76	4.78	7.35	5.70	1/
April-June	5.08	4.77	4.88	7.39	5.73	1/
July-September	5.32	5.06	4.93	7.53	6.05	1/
October-December	5.37	5.17	4.98	7.61	6.20	1/
1971:						
January-March	5.69	5.57	5.37	7.78	6.24	1/
April-June	5.72	5.81	5.45	8.06	6.11	1/
July-September	5.84	5.78	5.55	8.08	6.40	1/
October-December	5.80	5.87	5.66	7.88	6.86	1/
1972:						
January-March	5.62	5.82	5.65	7.62	6.85	$7.10
April-June	5.36	5.83	6.00	7.24	6.87	6.70
July-September	5.32	5.76	5.70	7.29	6.80	5.77
October-December	5.07	5.46	5.70	7.39	6.88	5.85
1973:						
January-March	4.83	5.39	5.34	7.46	6.45	6.29

1/ Not available.

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners and importers.

Note.--Prices are f.o.b. point of shipment and net of all discounts, allowances, brokers' fees, and freight paid by canner or importer.

Table 16.--Mushrooms, canned: Prices to U.S. jobbers and wholesalers, retail outlets, and distributors of 6/No. 10 1/ cans of mushroom stems and pieces and 6/No. 10 cans of mushroom slices and/or buttons, generally first quality, by principal sources and by quarters, 1969-72 and January-March 1973.

Period	6/No. 10 stems and pieces			6/No. 10 slices and/or buttons	
	U.S. producers	Republic of China (Taiwan)	Republic of Korea	U.S. producers	Republic of China (Taiwan)
1969:					
January-March	$15.59	$16.95	2/	$17.62	$19.60
April-June	15.71	16.99	2/	17.48	19.87
July-September	16.12	16.77	2/	17.68	20.39
October-December	16.55	17.19	2/	17.87	20.29
1970:					
January-March	17.98	17.58	2/	18.51	20.91
April-June	18.63	17.70	2/	18.92	21.28
July-September	19.14	18.13	2/	19.89	22.42
October-December	20.72	18.59	2/	19.98	22.29
1971:					
January-March	22.29	20.41	2/	20.65	24.44
April-June	22.91	21.29	2/	22.06	25.66
July-September	23.11	21.59	2/	22.74	26.48
October-December	22.78	23.07	2/	22.72	26.73
1972:					
January-March	22.77	22.39	2/	22.08	25.02
April-June	22.09	21.85	2/	21.09	24.55
July-September	21.44	21.26	$19.71	19.15	23.57
October-December	19.60	19.00	19.85	18.72	22.90
1973:					
January-March	19.47	19.55	19.07	20.80	21.97

1/ A No. 10 can holds 68 ounces of mushrooms.
2/ Not available.

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners and importers.

Note.--Prices are f.o.b. point of shipment to customer and net of all discounts allowances, brokers' fees, and freight paid by canner or importer.

Table 17.--Average number of production and related workers employed by U.S. canners of mushrooms, marketing years 1968/69 to 1971/72, July-December 1971, and July-December 1972 1/

Item	Marketing year (July 1-June 30)				July-December	
	1968/69	1969/70	1970/71	1971/72	1971	1972
Growing operations	631	725	820	887	890	1,103
Canning operations	1,548	1,574	1,670	1,767	1,537	1,859
Total, all operations	2,179	2,299	2,490	2,654	2,427	2,962

1/ Usable information was received from 31 canners.

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners.

Table 18.--Indexes of man-hours worked by production and related workers employed by U.S. canners of mushrooms, marketing years 1968/69 to 1971/72, July-December 1971, and July-December 1972 1/

(For marketing years, 1968/69=100; for partial years, July-December 1971=100)

Item	Marketing year (July 1-June 30)				July-December	
	1968/69	1969/70	1970/71	1971/72	1971	1972
Growing operations	100	116	127	140	100	134
Canning operations	100	109	112	130	100	122
Total, all operations	100	111	117	133	100	127

1/ Usable information was received from 30 canners.

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic canners.

Table 19.--Profit-and-loss experience of U.S. producers of canned mushrooms on their mushroom-canning operations, 1968-72

(Money figures in thousands of dollars)

Item	1968	1969	1970	1971	1972
Net sales	51,474	58,754	67,202	90,003	92,425
Cost of goods sold	43,097	49,169	57,350	77,170	81,706
Gross profit	8,377	9,585	9,852	12,833	10,719
Selling and administrative expenses	7,750	8,791	8,726	10,074	10,205
Net operating profit	627	794	1,126	2,759	514
Other income or (expense)	232	242	436	76	(158)
Net profit or (loss) before income taxes	859	1,036	1,562	2,835	356
Ratio of net operating profit to net sales	1.2	1.4	1.7	3.1	0.6
Number of reporting firms	29	30	31	32	32
Total number of firms which produced canned mushrooms	1/ 33	33	34	35	35
Ratio of reported net sales to estimated total industry net sales of canned mushrooms	98.5	99.3	99.2	99.6	99.6

1/ The operations of 1 firm which ceased operations in 1968 are not included.

Source: Compiled from data submitted to the U.S. Tariff Commission by the domestic producers.

Table 20.--Profit-and-loss experience of U.S. producers on their total operations in those establishments in which canned mushrooms were produced, 1968-72

(Money figures in thousands of dollars)

Item	1968	1969	1970	1971	1972
Net sales	64,351	73,001	82,368	103,982	104,503
Cost of goods sold	50,689	57,775	66,550	84,733	87,795
Gross profit	13,662	15,226	15,818	19,249	16,708
Selling and administrative expenses	11,175	12,477	12,536	14,279	14,516
Net operating profit	2,487	2,749	3,282	4,970	2,192
Other income or (expense)	245	274	467	61	(18)
Net profit or (loss) before income taxes	2,732	3,023	3,749	5,031	2,174
Ratio of net operating profit to net sales	3.9	3.8	4.0	4.8	2.1
Number of reporting firms	29	30	31	32	32
Total number of firms which produced canned mushrooms	1/ 33	33	34	35	35
Ratio of mushroom sales to total establishment sales	80.0	80.5	81.6	86.6	88.0

1/ The operations of 1 firm which ceased operations in 1968 are not included.

Source: Compiled from data submitted to the U.S. Tariff Commission by the domestic producers.

Table 21.--Profit-and-loss experience on canned-mushroom operations of producers that both grow and can mushrooms and of producers that only can mushrooms, 1968-72

(Money figures in thousands of dollars)

Item	1968	1969	1970	1971	1972
Net sales:					
Canner-growers	20,241	21,536	26,428	37,633	40,168
Producers engaged in canning only	31,233	37,218	40,774	52,370	52,257
Cost of goods sold:					
Canner-growers	15,924	16,999	21,730	31,259	34,610
Producers engaged in canning only	27,173	32,170	35,620	45,911	47,096
Gross profit:					
Canner-growers	4,317	4,537	4,698	6,374	5,558
Producers engaged in canning only	4,060	5,048	5,154	6,459	5,161
Selling and administrative expenses:					
Canner-growers	3,798	4,018	4,104	5,139	5,127
Producers engaged in canning only	3,952	4,773	4,622	4,936	5,078
Net operating profit:					
Canner-growers	519	519	594	1,235	431
Producers engaged in canning only	108	275	532	1,523	83
Other income or (expense):					
Canner-growers	119	243	503	226	(58)
Producers engaged in canning only	113	(1)	(67)	(151)	(100)
Net profit or (loss) before income taxes:					
Canner-growers	638	762	1,097	1,461	373
Producers engaged in canning only	221	274	465	1,372	(17)
Ratio of net operating profit to net sales:					
Canner-growers	2.6	2.4	2.2	3.3	1.1
Producers engaged in canning only	.3	.7	1.3	2.9	.2
Number of reporting firms:					
Canner-growers	12	13	13	14	12
Producers engaged in canning only	17	17	18	18	20

Source: Compiled from data submitted to the U.S. Tariff Commission by the domestic producers.

Table 22.--Profit-and-loss experience of U.S. mushroom growers on their mushroom operations, 1968-72

(Money figures in thousands of dollars)

Item	1968	1969	1970	1971	1972
Sales	36,914	42,423	53,241	63,562	72,406
Materials	8,430	9,512	11,654	13,911	15,896
Labor	12,303	14,229	16,377	18,797	21,836
Other expenses	10,836	12,675	14,907	17,786	19,953
Net profit	5,345	6,007	10,303	13,068	14,721
Ratio of net profit to net sales	14.5	14.2	19.4	20.6	20.3

Source: Compiled from data submitted to the U.S. Tariff Commission by domestic growers.

Note.--Sampling variability is shown in appendix D.

Table 23.--Mushrooms, fresh: Area harvested, production, and yield of the Republic of China (Taiwan), marketing years 1964/65 to 1971/72 1/

Item	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72
Area harvested--------million square feet--	80.2	111.4	127.4	132.2	80.2	90.4	108.4	112.2
Production:								
Fresh mushrooms----------million pounds--	72.5	87.1	118.4	122.8	68.8	89.6	132.7	183.0
Fresh mushrooms for canning million pounds--	65.6	77.7	100.8	100.5	65.5	84.7	119.3	158.7
Percent of fresh used for canning----------	90	89	85	81	95	94	89	86
Yield--------------pounds per square foot--	0.9	0.8	0.9	0.9	0.9	1.0	1.2	1.6

1/ Marketing year begins Dec 1.

Source: Compiled from reports from U.S. Embassy, Taipei, Taiwan.

Table 24.--Mushrooms, canned: Production, stocks, and exports of the Republic of China (Taiwan), 1964/65 to 1971/72 1/

(In millions of pounds, fresh-weight basis)

Item	1964/65	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72
Beginning stocks	-	-	1.1	9.6	16.9	2.5	0.7	1.4
Production	65.0	74.3	99.9	99.3	67.8	84.6	118.0	158.4
Total supply	65.0	74.3	101.0	108.9	84.7	87.1	118.7	159.8
Exports	65.0	73.2	91.4	92.0	82.2	86.4	117.3	135.1
Ending stocks	-	1.1	9.6	16.9	2.5	.7	1.4	24.7

1/ There is no apparent domestic consumption of canned mushrooms in Taiwan.

Source: Compiled from reports from U.S. Embassy, Taipei, Taiwan.

Note.--All data converted to fresh weight on the basis of 40 pounds of fresh mushroom input per case.

Table 25.--Mushrooms, canned: Exports of the Republic of China (Taiwan), to specified markets, marketing years 1965/66 to 1971/72

(Quantity in millions of pounds, fresh-weight basis)

Market	1965/66		1966/67		1967/68		1968/69		1969/70		1970/71		1971/72	
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total
Total	73.2	100	91.4	100	92.1	100	82.2	100	86.3	100	117.4	100	134.4	100
United States	24.0	33	28.1	31	31.2	34	32.9	40	34.5	40	40.7	35	55.0	41
West Germany	36.7	50	43.8	48	41.2	45	30.7	37	36.2	42	44.6	38	43.3	32
Canada	1.5	2	3.5	4	6.8	7	6.8	8	5.6	7	9.4	8	16.9	13
Sweden	1.3	2	1.5	2	1.2	1	1.5	2	.7	1	1.5	1	3.1	2
Switzerland	.3	0	2.9	3	3.8	4	3.5	4	3.3	4	6.8	6	6.6	5
Netherlands	4.0	5	1.9	2	1.3	1	1.3	2	1.3	2	2.0	2	1.0	1
All other	5.4	8	9.7	11	6.6	7	5.5	7	4.7	5	12.4	9	8.5	6

Source: Compiled from Taiwan Exports of Canned Food 1970, 1971, Taiwan Canners Association.

Note.--All data converted to fresh weight on the basis of 40 pounds of fresh mushroom input per case.

Table 26.--Mushrooms, canned: West German imports from specified sources, 1966-71

(Quantity in millions of pounds, fresh-weight basis)

Source	1966		1967		1968		1969		1970		1971	
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total
Total----	52.6	100	69.1	100	96.3	100	99.6	100	121.6	100	158.6	100
Taiwan--------	34.0	65	38.8	56	48.8	51	37.3	37	37.2	31	48.5	31
France--------	11.8	22	19.8	29	30.4	32	33.0	33	34.6	28	50.3	32
Netherlands--	5.4	10	9.0	13	16.0	16	25.4	26	38.3	32	45.6	29
All other-----	1.4	3	1.5	2	1.1	1	3.9	4	11.5	9	14.2	8

Source: Compiled from U.S. Embassy, Bonn, West Germany.

Note.--All data converted to fresh weight on the basis of 40 pounds of fresh mushroom input per case.

Table 27.--Mushrooms, canned: Republic of China (Taiwan) export prices, marketing years, 1966/67 to 1972/73

(Price per case in U.S. dollars)

Marketing year	Case 6/No. 10 cans			Case 24/4 oz. cans		
	Buttons	Slices	Stems and pieces	Buttons	Slices	Stems and pieces
1966/67	$14.12	$14.20	$11.78	$3.97	$4.01	$3.21
1967/68	14.30	14.70	12.25	4.00	4.10	3.30
1968/69	14.30	14.70	12.25	4.00	4.10	3.30
1969/70	15.00	15.40	12.80	4.20	4.30	3.50
1970/71	16.30	16.90	14.10	4.50	4.60	3.90
1971/72	16.90	17.50	14.70	4.55	4.65	3.90
1972/73 1/	16.20	16.80	14.10	4.40	4.50	3.80

1/ 1972/73 prices are to be read as f.o.b. for non-European sales and c.i.f. for European sales.

Source: Compiled from reports from U.S. Embassy, Taipei, Taiwan.

Table 28.--Mushrooms, canned: Republic of China (Taiwan) export prices on f.o.b. and c.i.f. basis to European and non-European markets, marketing year 1972/73

Item	6/No. 10 cans			24/4 oz. cans		
	Buttons	Slices	Stems and pieces	Buttons	Slices	Stems and pieces
	Price per case in U.S. dollars					
F.o.b. price to non-European markets	$16.20	$16.80	$14.10	$4.40	$4.50	$3.80
C.i.f. price to European markets	16.20	16.80	14.10	4.40	4.50	3.80
Estimated f.o.b. price to European markets	15.00	15.60	12.90	4.04	4.14	3.44
	Percent					
Difference between estimated f.o.b. price to European markets and f.o.b. price to non-European markets	7.4	7.1	8.5	8.2	8.0	9.5
Total price reduction on estimated f.o.b. basis to European markets between 1971/72 and 1972/73	11.2	10.9	12.2	11.2	11.0	11.8
Total price reduction on f.o.b. basis to non-European markets between 1971/72 and 1972/73	4.1	4.0	4.1	3.3	3.2	2.6

Source: Compiled from reports from U.S. Embassy, Taipei, Taiwan.

Table 29.--Mushrooms, fresh and canned: Republic of China (Taiwan) production and exports, marketing year 1971/72 and forecast for 1972/73

Item	1971/72	1972/73 1/
Area planted----------------------million square feet--	112.2	69.9
Yield-------------------------pounds per square foot--	1.6	2.0
Production, fresh total----------------million pounds--	183.0	142.9
Beginning stocks, fresh weight-----------------do--------	1.5	24.8
Canned mushroom production, fresh weight------do--------	158.4	128.6
Total supply, fresh weight--------------------do--------	159.8	153.2
Total exports, fresh weight-------------------do--------	135.1	138.9
Exports to the United States, fresh weight----do--------	55.0	53.6
Ending stocks, fresh weight-------------------do--------	24.8	14.4

1/ Forecast.

Source: Compiled from reports from U.S. Embassy, Taipei, Taiwan.

Table 30.--Mushrooms, fresh: Area harvested, production, and yield of the Republic of Korea (South Korea), 1965-72

Item	1965	1966	1967	1968	1969	1970	1971	1972
Area harvested million square feet--	1.2	7.4	10.7	7.1	5.5	8.4	13.1	19.5
Production, fresh mushrooms million pounds--	0.2	3.0	3.8	5.7	8.5	13.1	22.4	42.5
Yield-------pounds per square foot--	0.2	0.4	0.4	0.8	1.5	1.5	1.7	2.2

Source: Compiled from reports from U.S. Embassy, Seoul, Korea.

Table 31.--Mushrooms, canned: Production, stocks, and exports of the Republic of Korea (South Korea), 1965-72

(In thousands of pounds, fresh-weight basis)

Item	1965	1966	1967	1968	1969	1970	1971	1972
Beginning stocks	-	28	83	-	1,181	265	255	4,161
Production	60	1,486	1,787	3,005	5,204	10,314	20,370	41,885
Total supply	60	1,514	1,870	3,005	6,385	10,579	20,625	46,046
Domestic consumption	-	130	-	602	694	1,028	2,037	3,222
Exports	32	1,301	1,870	1,222	5,426	9,296	14,427	25,367
Ending stocks	28	83	-	1,181	265	255	4,161	17,457

Source: Compiled from reports from U.S. Embassy, Seoul, Korea.

Note.--All data converted to fresh weight on the basis of 46 pounds of fresh mushroom input per case.

Table 32.--Mushrooms, canned: Exports from the Republic of Korea (South Korea) to specified markets, 1965-72

(Quantity in thousands of pounds, fresh-weight basis)

Market	1965		1966		1967		1968		1969		1970		1971		1972	
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total
Total	32	100	1,301	100	1,871	100	1,222	100	5,426	100	9,296	100	14,427	100	25,366	100
United States	4	12	77	6	105	6	218	18	1,379	25	798	9	9,340	65	24,636	97
West Germany	-	-	910	70	1,409	75	328	27	1,907	35	5,952	63	3,927	27	684	3
Japan	19	60	222	17	140	7	125	10	1,012	18	51	1	-	-	-	-
Sweden	1/	-	92	7	217	12	453	37	722	13	159	2	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-	-	1,333	14	851	6	-	-
Netherlands	-	-	-	-	-	-	40	3	294	5	926	10	309	2	-	-
All other	9	28	-	-	-	-	58	5	112	3	77	1	-	-	-	-

1/ Sweden for 1965 included in all other.

Source: Compiled from reports from U.S. Embassy, Seoul, Korea

Note.--All data converted to fresh weight on the basis of 46 pounds of fresh mushroom input per case.

Table 33.--Mushrooms, canned: Republic of Korea (South Korea) export prices, 1966-72

(U.S. dollars per case of 24/16-oz. cans f.o.b.)

Year	Buttons	Sliced	Stems and pieces
1966	$14.29	1/	$12.06
1967	14.29	1/	12.08
1968	1/	1/	11.46
1969 2/	13.56	$13.91	11.54
1970 2/	16.82	17.47	14.81
1971 3/	16.90	17.30	14.50
1972	18.30	17.00	14.50

1/ Not available.
2/ Price for spring crop.
3/ Price for fall crop.

Source: Compiled from reports from U.S. Embassy, Seoul, Korea.

Table 34.--Mushrooms, fresh and canned: Republic of Korea (South Korea) short- and long-term goals for production and exports, 1973-76

Item	1973	1974	1975	1976	1977
Area planted------------------------million square feet--	26	35	38	38	1/
Production, fresh mushrooms-------------million pounds--	61	70	79	82	1/
Canned mushroom production, fresh weight-----do----------	47	60	71	78	1/
Exports ----------------------------million dollars--	13	20	24	27	30

1/ Not available.
2/ Dollar value of 1972 exports was $8 million.

Source: Compiled from reports from U.S. Embassy, Seoul, Korea.

Note.--Canned mushroon production in 1973 converted to fresh weight on 46 pounds per case fresh mushroom input. Production in 1974, 1975, and 1976 converted on assumption that South Korean efficiency approaches 40 pounds per case fresh mushroom input as indicated in South Korean 5-year Plan.

Appendix B

U.S. Department of State: Memorandum of Conversation

B-2

UNCLASSIFIED

DEPARTMENT OF STATE

Memorandum of Conversation

DATE: April 11, 1968

SUBJECT: Taiwan Mushrooms

PARTICIPANTS:

For the Republic of China
Minister Martin Wong
T. W. Hu, Economic Attache

For the United States
J. A. Greenwald, Deputy Assistant Secretary for International Trade Policy
H. L. Worthington
T. P. Shoesmith

COPIES TO:

Minister Wong informed Mr. Greenwald that the Government of the Republic of China has decided to limit the shipments of canned mushrooms from the Republic of China, during calendar year 1968, for ultimate delivery to the United States as follows:

1. not more than 850,000 standard cases of 24 pounds net each will be shipped from the Republic of China during 1968 for ultimate delivery to the United States market;

2. not more than 775,000 cases of these 850,000 cases will arrive in the United States in 1968;

3. 500,000 cases of these 775,000 cases will be shipped in the period January through June 1968; and

4. the delivery of 275,000 cases of these 775,000 cases will be spread as evenly as possible through the period July through December 1968.

For the purpose of this memorandum, it is understood that "canned mushrooms" mean only mushrooms canned or bottled in brine, commonly sold in the United States market today, and classified under Tariff Schedules of the United States 144.20 but shall exclude specialty items such as "straw mushrooms".

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It was also understood between Minister Wong and Mr. Greenwald that this decision of the Government of the Republic of China is without prejudice to shipments of canned mushrooms from Taiwan to the United States in future years and does not constitute a precedent with respect to such shipments.

Appendix C

Allegations Made and Remedies Proposed at the Tariff Commission Hearing and in Written Briefs Submitted to the Commission

At the Tariff Commission's hearing, which was held on March 20 and 21, 1972, and in briefs filed with the Commission, domestic and foreign interests presented many views and a number of recommendations concerning the mushroom situation. In this section the most salient of these views and recommendations are presented.

Excerpts From Statements Made in Behalf of Domestic Interests

Views

Members of the U.S. Congress:

> . . . the domestic mushroom industry is suffering serious injury as a result of the ever increasing quantities of imports, particularly from Taiwan and South Korea.... Imports of canned mushrooms from Taiwan and South Korea, at unreasonably low prices, have displaced domestically produced canned mushrooms in the U.S. marketplace....The cumulative effect of imports over the past ten years threatens the continued existence of the U.S. mushroom processing industry. In 1972, imports represented 42 percent of domestic consumption of canned mushrooms. If the trends continue for consumption and imports as were evident for the period 1959 to 1972, by the year 1982 imports will have taken over the whole market. As a practical matter, however, the demise of the domestic industry could be even sooner. (Statement delivered by Mr. James E. Van Zandt on behalf of Congressman Thomas E. Morgan, Twenty-Sixth District of Pennsylvania).

Mushroom Processors Association:

We believe that there is an explosion in the supply of mushrooms in the world that are headed in only three directions. The only three viable marketplaces in the world for processed mushrooms are West Germany, Canada, and the United States. We submit that the situation in West Germany . . . is saturated. The situation in Canada has become very confused, and with the large inventories that are existing in the Far East and other parts of the world, the only target place left is the United States.

The competition from imported products has always been a factor in this industry. The industry was able to co-exist with its foreign competition prior to 1960, first from France and later from Japan.

From a zero start in 1960 with trial exports, Taiwan jumped to the position of the world's foremost exporter of canned mushrooms two years later, a position that it has never relinquished.

Over the ten year period from 1961/62 to 1971/72. . . the average annual increase of U.S. production was only a little over one and one half percent. Conversely, apparent U.S. consumption increase at the annual average rate of 4 and one half percent during the same period, such production in relation to apparent consumption is extremely unhealthy for the industry in general.

Unreasonably large quantities of imports from Taiwan seriously disrupted the U.S. marketplace in the 1960's. The 1970's, with the entry of Korea into the marketplace, an exploding world supply, and eroding alternate markets, are witnessing a ruinous overkill situation for the United States.

. . . imported prices are the leaders, and we must follow them if we want to be competitive.

Imports are injurious in two ways; injurious in their price levels and in their quantity. . . a change in the quantity certainly would reflect itself on the domestic injury.

Other:

In ten years, the imports of canned mushrooms have increased from 19 percent to 42 percent. Now, as imports accelerate, we can hit 90 percent or better quite soon. With this foreign dominance of mushroom production, no one can reasonably expect our domestic industry to survive much less than tool up for extended production. In just two years, from 1970 to 1972, imports of canned mushrooms from Taiwan increased from 21.9 million to 36.4 million. Korea's penetration in this same period of time was astounding, going up from 313,000 to nearly 10 million pounds. Overall, foreign imports in the last two years have more than doubled. If imports double again in the next two years, we're going to reach that 90 percent figure and deal a final blow to our domestic industry. (Raymond Kerstetter, Deputy Secretary of Agriculture, Commonwealth of Pennsylvania).

. . . In 1965, our union had a membership of 4,200 workers in the mushroom area. Our membership is now down to 1,800; a loss of 2,400 members. These people and others that are only able to get work for two or three days a week are being subsidized by relief, and unemployment compensation, which is costing the taxpayers $10 million a year . . . . Unless we do something to cut down on the mushrooms that are shipped into this country, they will be left without any workers to process these mushrooms in the United States; and we'll be forced to lose about 10,000 jobs in these areas. (Morris Malmignati, Director of Organization, Retail, Wholesale and Department Store Union, Local Union 1034-AFL-CIO, Mushroom Canners and Growers Division, West Chester, Pennsylvania).

Recommendations

Members of the U.S. Congress:

> . . . time is of the essence and negotiations must be instituted immediately if a viable U.S. mushroom industry is to stay in existence. It is clear that it was never intended that the action provided for in Section 204 of the Agricultural Act of 1956 were to be the epitaph of a U.S. industry. Rather, Section 204 was intended to restore order to the marketing of agricultural products when other producing countries allow their exporting industries to severely disrupt the U.S. marketplace. (Statement delivered by Mr. James E. Van Zandt on behalf of Congressman Thomas E. Morgan, Twenty-Sixth District of Pennsylvania).

> Meeting with representatives of the mushroom industry request that you give the fullest possible consideration to the petition of the mushroom industry for protection from imports. The import of mushrooms to the United States, particularly from the Republics of Korea and China, poses a definite threat to the survival of this industry . . . action is urgently needed under Section 204 of the Agricultural Act of 1956. Consideration of this problem is sincerely appreciated. (Telegram from Senator Hugh Scott of Pennsylvania).

Mushroom Processors Association:

> The domestic mushroom processing industry is not selfish; it does not seek to have the U.S. market solely to itself. The industry believes that imports of processed mushrooms might properly contribute 25 percent of U.S. consumption of processed mushrooms in any given year. Import penetration of this magnitude will enable the U.S. industry to remain viable and will provide sufficient competition to encourage the creation and expansion of efficient practices.
>
> On behalf of all mushroom growers, who are independent of the canners and are associated with canners, petition the

Tariff Commission to favorably react to our request for a quota on imports of mushrooms so that the growing industry and canning industry and importing industry can get their reasonable share of the market and the consumer may enjoy mushrooms with no apparent increase in cost to her own budget.

Other:

We firmly believe that an increased domestic demand can be met by our own producers. We only ask that the pressure of foreign competition, which became intensive only with the help of American capital, be alleviated so that the industry can be assured that there will be a domestic market to receive our improved products. (Raymond Kerstetter, Deputy Secretary of Agriculture, Commonwealth of Pennsylvania).

Excerpts from Statements Made in Behalf of Foreign Interests

Views

Taiwan Mushroom Packers United Export Corporation:

. . . one of the most important factors in the sharp increase in imports from Taiwan during 1972 was the fact that the efforts of the domestic industry to secure a negotiated import quota under the authority of Section 204, the effort which prompts this investigation, was in progress throughout the year 1972, and the distinct possibility of a quota being imposed engendered some quantities of mushrooms from Taiwan which probably would not otherwise have been shipped to the United States during that year.

. . . the mushroom market in the United States is not stagnant and declining. Quite the contrary, it is dynamic and expanding at a rapid rate.

. . . the domestic industry is primarily retail-production oriented, while imports are predominantly oriented to the institutional market in the United States and thus fill a gap which is not adequately supplied by the domestic industry.

Other:

> . . . there is no need at this time presently for quotas . . . we feel that the market at the present time is making an upward turn, and that again, I believe that quotas are restrictive to the growth of the industry. I feel that there is tremendous growth available in the U.S.A. for mushrooms, if everybody wants to promote, merchandise and advertise. We haven't gotten near the growth that we project. (Edward Hable, Managing Director of International Operations for Green Giant Company).

Recommendations

Taiwan Mushroom Packers United Export Corporation:

> . . . the criterion of injury or threat thereof should be that of serious injury, not just injury of a temporary nature of injury which produces mere competitive discomfort, but injury which is so serious as to threaten the very existence of the domestic industry.
>
> . . . the working hypothesis, the Commission should follow in this is that fresh mushrooms are like or directly competitive with processed mushrooms, canned or processed other forms, and that all the economic considerations be weighed on that scale.
>
> The ultimate conclusions are, I submit; first, the conditions of competition in the mushroom market in the United States do not justify the imposition of an import quota. Second, if, nevertheless, a quota is imposed, the global quantity for the initial quota year must be no less than 75 million pounds drained weight basis and the annual growth rate must be no less than 15 percent.

Others:

. . . we respectfully request that the Commission advise the President: (A), that the domestic mushroom industry is not presently suffering from or threatened with injuries from imports, or (B), if the Commission determines that the domestic mushroom industry is suffering from or threatened with injury from imports, that that injury is not sufficient to warrant serious consideration of some form of relief, or (C), if the Commission determines that the domestic industry is suffering from or threatened with injury and that injury is sufficient to warrant serious consideration of some form of relief, quotas be established which are first high enough so that the current high level demand for mushrooms will be satisfied without substantial increases in price to the consumer and secondly, reflect the fact that the demand for mushrooms in the U.S.A. is increasing at a rate of about 15 percent per year, and thirdly, reflect the fact that the glass pack and frozen mushroom markets are not oversupplied and are growing at a rate of 25 percent per year. (Edward Hable, Managing Director of International Operations for Green Giant Company).

. . . I feel that if it were not for the Taiwan allocation system giving a selected few companies a monopoly on the importation of mushrooms to the U.S., particularly the Japanese based trading houses and the overseas Chinese, the market would stabilize through supply and demand. I recommend that you take action to insure that the importation of mushrooms into the U.S. is on a free basis without allocations, meddling, regulations or subsidies to the overseas producers by either overseas trade associations or their governments. I feel that this should be accomplished through negotiations or trade agreements and avoid if possible government imposed quotas or tariffs. (John F. Hogan, Jr., Hogan Associates, Consulting Food Technologists of San Francisco, Calif.).

. . ., the heart of the Commission's report must be four simple facts:

<u>One</u>, the domestic mushroom industry has almost doubled its total sales in the last ten years;

<u>Two</u>, the domestic mushroom canning industry has increased sales by more than 25 percent in the past ten years;

<u>Three</u>, consumption of mushrooms in the United States will continue to increase;

<u>Four</u>, importation of mushrooms will not deprive the domestic industry of the opportunity to compete in the marketplace.

These facts support but one conclusion to be reported to the President: <u>no import restraints are warranted</u>.

. . ., the Commission should apprise the President that there is widespread vertical integration between growing and processing in the domestic mushroom industry which may be inhibiting free and open competition. The Commission should also alert the President to the water pollution hazards which might result from any quota-imposing action. (Brief filed in behalf of Korea's Canning Industry Export Association; National Agricultural Cooperatives Federation; Agriculture & Fisheries Development Corporation).

. . ., Grocery Store Products Company wishes to state that it is opposed to any restraints being placed on importation of mushrooms in glass jars.

Grocery Store Products Company takes this position because:

(a) Mushrooms in glass are not generally available from domestic sources even though this product is a prominent item in the domestic market, and

(b) Any import restrictions involving glass-packed mushrooms would have the effect of restricting competition by allowing one major importer of this item to continue importation while preventing other interested parties from obtaining product. (W. H. Gerhard, Vice President, Grocery Store Products, West Chester, Pa.)

The high cost of domestic raw stock, coupled with the failure of a major effort by ASF to develop equipment to automate the canning function, were the two considerations which led to the sale by ASF of its Wilmington cannery.

. . . at the present time, ASF sees no necessity for the imposition of a quota on mushroom imports. If, however, a quota is adopted, ASF would be strenuously opposed to a quota which would restrict its ability to import canned mushrooms from Latin America. Any such restriction would be manifestly unfair to ASF, which has, in good faith, spent substantial funds to develop mushroom operations in this area. (Robert S. Burnham, Chairman of the Board, American Specialty Foods, Inc., Wilmington, Delaware).

APPENDIX D

The Sample Design

THE SAMPLE DESIGN

As part of its investigation, the Commission needed to obtain certain selected data from both domestic growers and canners of mushrooms. Because there were only 35 canners (including 17 canner-growers), it was decided to canvass all of them to obtain necessary data relating to mushroom canning operations in the United States. Since it was not feasible to canvass the 476 mushroom growers in the United States, it was decided to rely on questionnaires sent to a sample group to obtain necessary data relating to mushroom growing operations in the United States. Preliminary computations indicated that data from a sample of about 100 of the 459 growers not engaged in canning (together with data from the 17 canner-growers) would provide information with sufficiently small sampling errors to obtain sound inferences.

A representative sample was drawn as shown in the table below. 1/ Base data for use in the sample design was 1971-72 crop year production reported to the Department of Agriculture.

1/ The sample was designed with four-size strata among those units which were growers exclusively. The selection within strata was systematic with a random start. Canner-growers were treated as a separate stratum and were all included in the sample. Sample sizes were allocated to strata optimally.

Type of company	1971-72 growth class (pounds)	Number in universe	Number in sample
Growers, exclusively	0-149,999	245	25
	150,000-299,999	106	10
	300,000-499,999	47	12
	500,000 and over	61	61
Total----------------------------		459	108
Canner-growers, Total------------------		17	17
Grand total----------------------------		476	125

In addition, 18 companies were included in the investigation that were canners, exclusively. When added to the 17 canner-growers above, the total is 35.

To maintain the integrity of the figures in this report, major effort was made to obtain responses with a field follow-up when necessary. Of the 108 growers sampled out of 459, only four failed to respond. Estimates were made for them. All canner-growers responded. The non-respondents accounted for about two percent of the total U.S. production of fresh mushrooms in the crop year 1971-72.

In addition a very small number of companies failed to respond to individual questions. Estimates were also made for these.

The chances are about two in three that the differences between the figures in this investigation estimated from the sample and the results that would have been obtained from a canvass of all growers are less than the percentage sampling variability shown below. The chances are about 19 in 20 that those differences are less than twice the ones shown.

Selected items	Range of percentage sampling variability: Growers only (Percent)	Range of percentage sampling variability: Growers and canner/grower (Percent)
6-month production, 1971-72 (lbs.)	2.8 - 3.0	2.0 - 2.1
Total employment, 1968-72 (6 and 12 months)	3.9 - 5.2	3.3 - 4.2
Percent change in 6 months production, July-December 1971-72	1/ 3.1	1/ 2.4
Percent change, total employment 1968/69 to 1971/72	1/ 3.9	1/ 3.4
Year-to-year percent change in employment, 1969-72 (6 and 12 months)	1/ 3.3 - 3.9	1/ 1.2 - 3.4
Sales	3.1 - 4.4	-
Cost of materials	4.2 - 5.3	-
Cost of labor	2.6 - 4.6	-
Other costs	4.2 - 5.7	-
Profit	5.7 - 9.3	-
Profit, as percent of sales 1968-72	1/ 1.1 - 1.6	-

1/ Percentage points.