UNITED STATES INTERNATIONAL TRADE COMMISSION

FRESH CUT FLOWERS

Report to the President
on Investigation No. TA-201-22
Under Section 201 of the Trade Act of 1974

USITC Publication 827
Washington, D.C.
August 1977

UNITED STATES INTERNATIONAL TRADE COMMISSION

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REPORT TO THE PRESIDENT

United States International Trade Commission,
August 1, 1977

To the President:

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

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

> cut flowers, fresh, provided for in item 192.20 of the Tariff Schedules of the United States,

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

The investigation was instituted on February 12, 1977, upon receipt of a petition filed on January 31, 1977, by the Growers Division of the Society of American Florists and Ornamental Horticulturists.

Notice of the institution of the investigation and of the dates when and cities where public hearings would be held was issued on February 16, 1977. Notice of the starting times of the public hearings, of the buildings wherein they would be held, and of a change of date and city for the Florida hearing was issued on March 17, 1977. The notices

were posted at the Commission's offices in Washington, D.C., and New York City, and were published in the Federal Register on February 22 and March 22, 1977, respectively (42 F.R. 10347 and 15474). The public hearings were duly held at the times and places announced. All interested parties were afforded an opportunity to be present, to produce evidence, and to be heard.

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

A transcript of the hearings and copies of briefs submitted by interested parties in connection with the investigation are attached. 1/

DETERMINATION OF THE COMMISSION

On the basis of its investigation, the Commission determines (Vice Chairman Parker not participating) that cut flowers, fresh, provided for in item 192.20 of the Tariff Schedules of the United States, are not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

1/ Attached to the original report sent to the President. These materials are available for inspection at the U.S. International Trade Commission, except for information submitted in confidence.

Views of Chairman Daniel Minchew and Commissioners George M. Moore, Catherine Bedell, and Italo H. Ablondi

On January 31, 1977, the Growers Division of the Society of American Florists and Ornamental Horticulturists petitioned the United States International Trade Commission for import relief pursuant to section 201 of the Trade Act of 1974. Following receipt of the petition, the Commission instituted an investigation on February 12, 1977, to determine whether cut flowers, fresh, provided for in item 192.20 of the Tariff Schedules of the United States, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Section 201(b)(1) of the Trade Act requires that each of the following conditions must be satisfied before the Commission can make an affirmative determination.

(1) Imports of an article into the United States are increasing (either actually or relative to domestic production);

(2) The domestic industry producing an article like or directly competitive with the imported article is being seriously injured or threatened with serious injury; and

(3) Increased imports are a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Determination

On the basis of information obtained in the present investigation, we have determined that fresh cut flowers, provided for in item 192.20 of the Tariff Schedules of the United States, are not being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article. Because our negative determination is based on the lack of evidence supporting the "serious injury" criterion, it is unnecessary to discuss the other criteria of section 201 of the Trade Act of 1974.

Domestic industry

For the purpose of this investigation we have concluded that the relevant domestic industry consists of those facilities in the United States devoted to the production of fresh cut flowers.

Serious injury or the threat thereof

Evidence developed during the investigation shows that the domestic producers of fresh cut flowers are being injured by imported fresh cut flowers. However, in order for the requirement of section 201 to be met, such injury must be "serious injury." When making a determination of serious injury, the Commission is directed by the Trade Act to take into account all economic factors which it considers relevant, including the significant idling of productive facilities in the industry, the inability of a significant number of firms to operate at a reasonable level of profit, and significant unemployment or underemployment within the industry. The act further directs that the

threat of serious injury is to be considered in light of a decline in sales, a higher and growing inventory, and a downward trend in production, profits, wages, or employment. In our opinion, imports of fresh cut flowers are not causing injury to the domestic industry of the magnitude necessary for an affirmative determination in this case. The evidence supporting this conclusion is discussed below.

The facts do not support a finding that there is significant idling of productive facilities in the domestic industry. In the period 1972-76, the wholesale value of domestic fresh cut flower production increased by 12 percent--from $252 million to $283 million. During the same period, U.S. exports of fresh cut flowers more than tripled in value, rising from $4.3 million to nearly $14 million. The acreage devoted to fresh cut flower production was the same in 1976 as it was in 1972.

There is no significant unemployment (or underemployment) in the domestic industry. The average annual number of employees increased by 6 percent over the period 1972-76.

The evidence regarding profitability of the domestic fresh cut flower industry does not support a finding of serious injury. Responses to the Commission questionnaire show that sales have increased every year since 1972 and that despite a decline in average operating margins for the industry from 1972 to 1974, such margins rose from 4.9 percent in 1974 to 7.7 percent in 1976. Since 1974, profit margins have increased by 57 percent. In addition, prices of imported fresh cut flowers have generally been the same as or higher than prices received by U.S. growers for the same flower type, thereby negating any tendency toward price depression. The foregoing

facts indicate that the average operating profit margin for the industry is healthy, and the trend for such margins is positive at this time.

The trends evidenced in the above-mentioned factors indicate that at this time there is no threat of serious injury. Moreover, we note that a recent Department of State telegram from the U.S. Embassy in Bogota, Colombia, reports that the Minister of Agriculture for Colombia is attempting to implement a program whereby carnation and pompon chrysanthemum exports to the United States would be limited to be consistent with the absorptive capacity of the U.S. market.

Conclusion

On the basis of the considerations discussed above, we conclude that imports of fresh cut flowers are not a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article. Our determination is, therefore, in the negative.

The petitioner in this proceeding has recommended that the United States negotiate an orderly marketing agreement with Colombia to restrict the volume of fresh cut flower imports entering the United States. We do not believe that the Commission has the authority to recommend the negotiation of orderly marketing agreements to the President as a remedy in section 201 cases. However, it seems that in light of the market conditions in the U.S. industry,

some form of marketing agreement may be given consideration by the President under his authority to negotiate trade agreements. 1/

1/ Commissioner Ablondi states that in light of the unanimous negative determination made by the Commission in this investigation, he does not join in the recommendation that the President give consideration to "some form of marketing agreement."

INFORMATION OBTAINED IN THE INVESTIGATION

Introduction

On January 31, 1977, the Growers Division of the Society of American Florists & Ornamental Horticulturists filed a petition with the United States International Trade Commission for import relief pursuant to section 201 of the Trade Act of 1974. Following receipt of the petition, the U.S. International Trade Commission instituted an investigation on February 12, 1977, to determine whether cut flowers, fresh, provided for in item 192.20 of the Tariff Schedules of the United States, are being imported into the United States in such increased quantities as to be a substantial cause of serious injury, or the threat thereof, to the domestic industry producing an article like or directly competitive with the imported article.

Notice of the institution of the investigation and of the dates and sites of the public hearings was issued on February 16, 1977. Notice of the times and places of the public hearings and of the change of date and site for the Florida hearing was issued on March 17, 1977. The notices were posted at the Commission's offices in Washington, D.C., and New York City, and were published in the Federal Register on February 22, 1977 (42 F.R. 10347), and March 22, 1977 (42 F.R. 15474), respectively. Hearings were held on April 14, 1977, in Coral Gables, Fla., and April 19 and 20, 1977, in San Francisco, Calif. All interested parties were afforded an opportunity to be present, to produce evidence, and to be heard. The Trade Act of 1974 directs the Commission to complete its investigation under section 201 within 6 months--in this case by July 31, 1977.

Summary

Imports of fresh cut flowers nearly tripled in value during 1972-76, rising from about $15 million in 1972 to almost $42 million in 1976. Domestic sales of fresh cut flowers also increased during this period, but the rate of increase was less rapid than that for imports. As a result, the ratio of imports to apparent consumption climbed from 5.7 percent in 1972 to 13.4 percent in 1976. Colombia, Guatemala, and Mexico are the leading foreign suppliers of these flowers.

Imported carnations and pompon chrysanthemums have been making the largest inroads into the U.S. market among the major fresh cut flowers. The ratio of imports to apparent consumption (in terms of quantity) for pompon chrysanthemums rose sharply from 10.5 percent in 1972 to 32.9 percent in 1976. For carnations the ratio increased from 8.3 percent in 1972 to 25.9 percent in 1976.

An examination of short-term price data shows that, despite the sharp increases in carnation and pompon chrysanthemum imports, import prices for carnations and pompon chrysanthemums have generally been higher than the domestic prices of these flowers in recent years. Moreover, regression estimates suggest that carnation and pompon chrysanthemum imports are much more heavily influenced by the aggregate level of consumer purchasing power than by short-term fluctuations in the domestic and import prices of these flowers.

Data from Commission questionnaires indicate that employment remained relatively stable throughout 1972-76 for the 65 firms providing employment and wage information. However, the number of man-hours worked declined annually in 1974-76.

Operating expenses increased faster than sales during 1972-76 for the reporting U.S. growers of fresh cut flowers. The aggregate profit of these firms declined sharply in 1974 and 1975 to about one-third of the level in 1972 and 1973. In 1976 profit recovered to about 75 percent of the level in 1972 and 1973.

Apparent U.S. consumption of fresh cut flowers (based on indicated wholesale sales) increased from $194 million in 1967 to $311 million in 1976. The increase in value indicates an increase in quantity, since wholesale prices did not increase proportionately with the increase in value.

During the last 25 years, the per capita consumption of carnations, pompon chrysanthemums, and standard chrysanthemums increased substantially, while that of gladioli decreased and that of roses remained stable. These trends are expected to continue.

Annual U.S. exports of fresh cut flowers have trended upward since 1970. In 1976 they reached $14 million. Canada, which has a less favorable climate for flower production than the United States, is the chief market, accounting for two-thirds of U.S. exports.

The value of sales of fresh cut flowers by U.S. commercial growers increased from $195 million in 1967 to $282.9 million in 1976. Most of the approximately 5,000 commercial growers produce more than one type of flower, and many also produce potted flower and foliage plants and bedding plants. About three-fourths of commercial production of fresh cut flowers is by one-fourth of the growers.

Description and Uses

Fresh cut flowers are parts of plants, characteristically including the inflorescenses and some attached plant material but not including roots and soil. They are highly perishable because they maintain only limited life-supporting processes by taking water up through their stems. Fresh cut flowers are used for decorative purposes such as vase arrangements and bouquets at formal events; designs for weddings and funerals; gifts on occasions such as Mother's Day, Valentine's Day, times of illness, and holidays like Christmas and Easter; corsages and boutonnieres; and informal displays for beautification in the home. Roses, carnations, pompon and standard chrysanthemums, and gladioli account for about 80 percent of domestic production of fresh cut flowers, with daisies, statice, orchids, and scores of other types accounting for the remainder.

Roses are members of the Rosaceae family; at least 100 species and thousands of varieties are known to exist. The two most economically important groups of these relatively expensive flowers are the miniatures and the hybrid teas. Roses may be white, pink, red, yellow, orange, or intermediate shades or tints. They are used in wreaths and bouquets for ceremonial occasions, and for general decorative purposes. As fresh cut flowers, roses last 3 to 5 days.

Carnations are members of the Caryophyllaceae or so-called pink family. These relatively inexpensive flowers are divided into two major groups, the standards and the miniatures. Carnations may be pure white, yellow, pink, various shades of red, or multicolored. As cut flowers, they last 7 to 10 days. Carnations are used in numerous ways such as in boutonnieres and hospital, funeral, and home arrangements.

Gladioli are members of the Iridaceae or iris family. These intermediately priced flowers vary considerably in size, and may be yellow, red, pink, blue, cream, white, bicolored, or multicolored. In recent years they have come to be thought of as funeral flowers, and their use for other purposes has diminished. As fresh cut flowers, gladioli last 7 to 10 days.

Chrysanthemums are a genus of the Compositae family. They are relatively low-priced flowers. The major groups grown commercially are the standards and the pompons. Chrysanthemums may be white, yellow, red, bicolored, or tricolored. As fresh cut flowers, pompons last 10 to 14 days, and standards last 7 to 12 days. They are considered good for both formal and informal use, and are suitable for almost all design types of work.

Orchids are member of the Orchidaceae family. The most important commercial types of these expensive flowers are the cattleya and the cymbidium. The cypripedium, or ladyslipper, and phalaenopsis orchids also have economic importance. Orchids are normally multicolored. As cut flowers, they may last 4 to 10 days, depending on the variety, and they are frequently used in corsages and wedding arrangements.

Many flowers are loosely classified under the term "daisies." The most important economically is the marquerite daisy (Chrysanthemum frutescans). Daisies are yellow or white but may be tinted with dyes to produce variously colored flowers. They are inexpensive and last 5 to 8 days. Daisies are used in many types of floral arrangements.

Statice, or sea lavender, is an inexpensive flower, represented by numerous varieties from several genera. Two major groups are grown commercially--the Russians, or cattails, and the sinuatas. Statice may be blue, purple, red, mauve, or white. They are often used as filler material in arrangements.

Snapdragons, tulips, irises, narcissuses, and stocks are other commercial types of fresh cut flowers. In general, these flowers are inexpensive. They too are used in many types of floral arrangements.

U.S. Producers

During 1950-76 there was a marked shift in the composition of the fresh cut flower industry, from many small local growers of fresh cut flowers near eastern and midwestern population centers to a few large and efficient growers primarily in California, Florida, and, to a lesser extent, in Colorado. California and Florida growers are situated in favorable climates for producing cut flowers. Although Colorado has some cold winter weather with high fuel costs, it also has a great deal of winter sunshine--a requisite for growing the carnations in which Colorado producers specialize.

The number of commercial producers of fresh cut flowers declined from about 12,000 in 1959 to 8,000 in 1970, according to the U.S. Bureau of the Census. There were probably fewer than 5,000 producers in 1976. However, the value of fresh cut flower production (sales) by commercial growers increased from $195 million in 1967 to $283 million in 1976 (table 1 and fig. 1).

Most growers produce more than one type of flower, and many also produce potted flower and foliage plants as well as bedding plants. About three-fourths of the commercial output of fresh cut flowers is produced by one-fourth of the growers, and a significant fraction of the output of any particular type of flower is accounted for by less than 10 percent of the growers. For example, in 1975 the top 8 percent of both standard carnation growers and standard chrysanthemum growers accounted for about one-third of the total production of each of those crops. A crop with even more concentration among producers is gladioli, more than two-thirds of the production of which was accounted for by the top 9 percent of the growers in 1975.

The shift in the location of production occurred with regard to the more durable flowers--carnations and chrysanthemums to California and carnations to Colorado. Production of the more fragile rose is located in California and in States near the populous eastern consuming centers, and production of gladioli remains predominantly in Florida.

The trend in the number of producers of major cut flowers is shown in table 2. In general, it has been declining. Only for miniature carnations was there an increase in the number of growers from 1974 to 1976. The overall decline probably is overstated, however, because the data for 1974-76 covers growers with sales over $10,000, whereas data for earlier years covered growers with sales over $2,000.

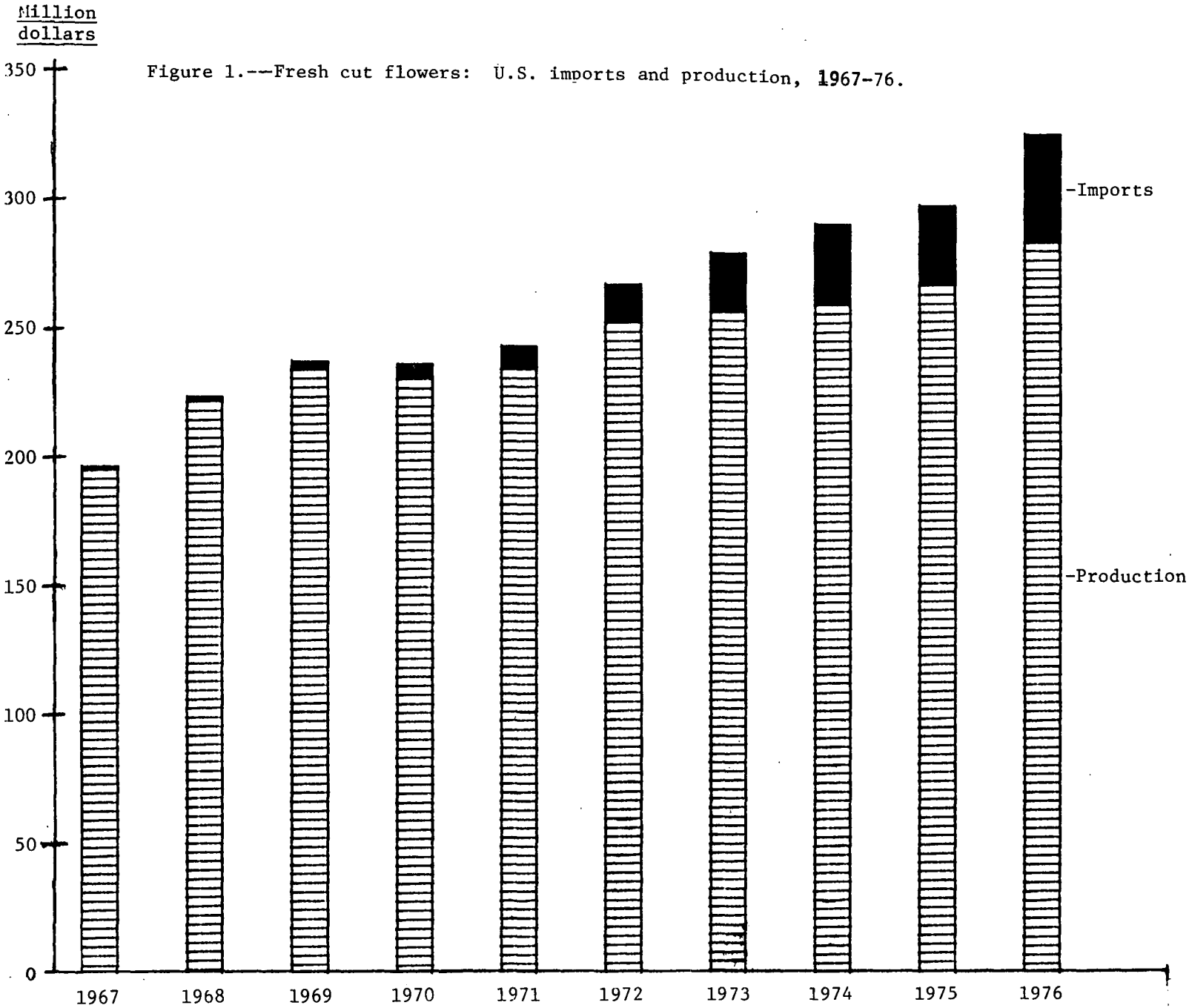
Table 1.--Fresh cut flowers: U.S. production, imports, exports, and apparent consumption, 1967-76

Year	Production	Imports	Exports	Apparent consumption	Ratio of imports to production	Ratio of imports to consumption
	1,000 dollars	1,000 dollars	1,000 dollars	1,000 dollars	Percent	Percent
1967-----	195,208	902	1,978	194,132	0.5	0.5
1968-----	221,321	1,886	1,755	221,452	.9	.9
1969-----	233,831	2,948	1,908	234,871	1.3	1.3
1970-----	229,944	5,782	2,228	233,498	2.5	2.5
1971-----	233,901	8,901	3.554	239,248	3.8	3.7
1972-----	251,754	14,908	4,258	262,404	5.9	5.7
1973-----	256,094	22,706	4,412	274,388	8.9	8.3
1974-----	258,596	31,330	5,246	284,680	12.1	11.0
1975-----	266,189	30,862	8,680	288,371	11.6	10.7
1976-----	282,863	41,711	13,982	310,592	14.7	13.4

Source: Production and imports estimated by the U.S. International Trade Commission from official statistics of the U.S. Department of Agriculture; exports estimated by the U.S. International Trade Commission from official statistics of the U.S. Department of Commerce.

Note.--See app. A for an explanation of the methodology used in the Commission's estimates of U.S. production, imports, and exports.

Figure 1.--Fresh cut flowers: U.S. imports and production, 1967-76.



Source: Estimated by the U.S. International Trade Commission from official statistics of the U.S. Department of Agriculture.

Table 2.--Fresh cut flowers: U.S. commercial growers of standard and miniature carnations, standard and pompon chrysanthemums, gladioli, and hybrid tea and miniature roses in 22 leading producing States, 1966, 1970, and 1974-76

(Number of growers)

Year	Carnation		Chrysanthemums		Gladioli	Roses	
	Standard	Miniature	Standard	Pompon		Hybrid tea	Miniature
1966	2,175		2,972	2,976	581	376	
1970	1,717	443	2,236	2,342	366	367	284
1974	958	301	1,402	1,380	176	300	231
1975	891	302	1,346	1,366	163	309	236
1976 1/	808	318	1,238	1,203	144	278	221

1/ Estimated by the U.S. International Trade Commission to adjust for a change in reporting method used by the U.S. Department of Agriculture.

Source: Compiled from official statistics of the U.S. Department of Agriculture, except as noted.

U.S. Importers

About 20 concerns import significant quantities of fresh cut flowers into the United States. Most of these firms are situated in Miami, Fla., and in general they specialize in fresh cut flower imports, the majority of which are from Colombia.

In addition to these importers, more than 100 other firms import fresh cut flowers from around the world. As a group, they account for about 40 percent of fresh cut flower imports.

U.S. Tariff Treatment

Fresh cut flowers are classified for tariff purposes under item 192.20 of the Tariff Schedules of the United States (TSUS). The rates of duty currently applicable to imports of such flowers are shown below:

TSUS item No.	Description	Col. 1 rate	Col. 2 rate
192.20	Cut flowers, fresh; bouquets, wreaths, sprays, or similar articles made from such flowers or other fresh plant parts. 1/	10% ad val.	40% ad val.

1/ Bouquets, wreaths, sprays, or similar articles made from fresh cut flowers or fresh plant parts are not part of this investigation.

The column 1 rate reflects a concession granted by the United States in the General Agreement on Tariffs and Trade effective July 1, 1963; that rate applies to fresh cut flower imports from all countries except those designated as nonmarket economy countries, imports from which are subject to the column 2 rate. Articles covered by TSUS item 192.20 are not eligible for duty-free treatment under the Generalized System of Preferences.

U.S. imports of fresh cut flowers are valued for duty-assessment purposes on the basis of their value in the principal market of the country of export. Transportation costs for imported fresh cut flowers usually account for a substantial portion of the landed value since air shipment is often required because fresh cut flowers are so perishable. Because transportation costs are not part of the dutiable value, the rate of 10 percent ad valorem on fresh cut flowers is materially less than 10 percent of the landed value.

It is difficult for the U.S. Customs Service to determine the value of fresh cut flowers in the principal markets of Latin America since very little of the commercial production is sold in the domestic markets of the countries in that area. Approximately 30 to 40 percent of the fresh cut flower imports are on consignment for sale in U.S. wholesale markets. At present, consignment shipments and related-party entries are valued monthly by the Customs Service for duty purposes and as of March 1977 are dutiable at 10 percent of the following fixed valuations:

Carnations	$0.08 per stem
Standard chrysanthemums	.15 per stem
Pompon chrysanthemums	.70 per bunch
Statice	.70 per bunch

In 1974 the U.S. Department of the Treasury conducted a countervailing-duty proceeding pursuant to section 303 of the Tariff Act of 1930, as amended (19 U.S.C. 1303), to determine whether certain payments granted by the Government of Colombia upon the exportation of cut flowers constituted a bounty or grant within the meaning of section 303. At the conclusion of the aforesaid proceeding, the Treasury Department announced 1/ that it had ascertained that payments had been made by the Government of Colombia upon the exportation of cut flowers which would have constituted a bounty or grant of 10.2 percent of the dutiable value of the flowers. However, because the Government of Colombia had taken action, effective July 17, 1974, to require that such payments not be made to cut flower producers but rather remain within the sole control of the Government of Colombia by being paid instead to an agency thereof, the Treasury Department determined that there was no present violation of U.S. countervailing duty law.

All fresh cut flowers are subject to quarantine inspection to prevent the spread of injurious plant pests (7 CFR 319.74). Inspections are made quickly and result in very few detentions. Among the types of flowers being imported in significant quantities, only roses require a permit, and this permit is readily obtained for roses shown to be free of injurious plant pests. Quarantine inspections are provided free of charge to importers during normal working hours (8:00 a.m. to 4:30 p.m.) of the Animal and Plant Health Inspection Service of the Department of Agriculture. At all other times importers are charged a fee for inspection services.

1/ See 39 F.R. 26922.

The Question of Increased Imports

U.S. imports

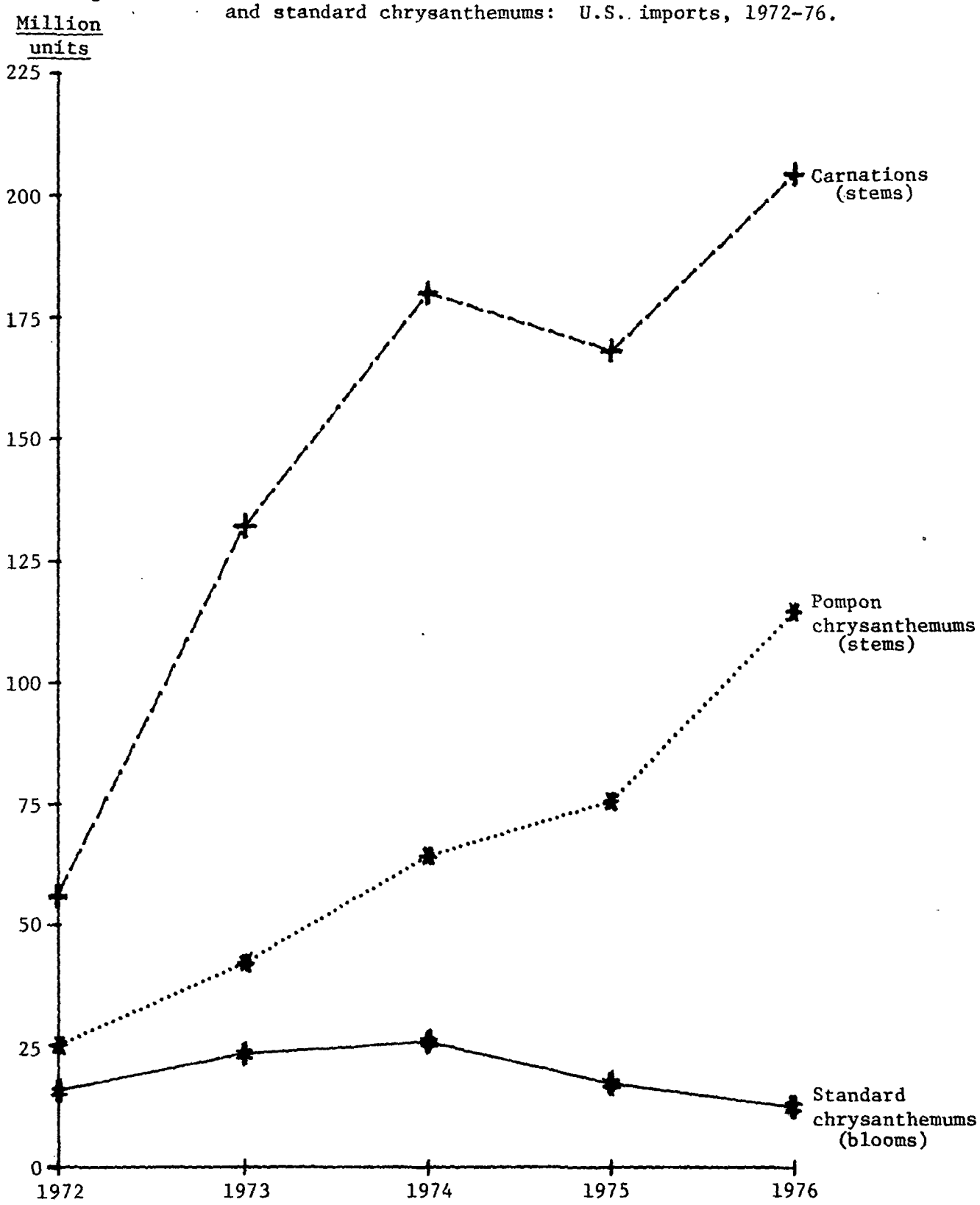
Imports of fresh cut flowers have trended sharply upward since the late 1960's. Prior to that time, imports were almost negligible, consisting primarily of border trade with Canada. Imports rose steadily from less than $1 million in 1967 to almost $42 million in 1976 (table 1, p. A-6).

Almost all the varieties of imported fresh cut flowers have domestic counterparts, and most imports are comparable in quality to their domestic counterparts. While most imported and domestic fresh cut flowers of the same type are on the market at the same seasons of the year, a significant exception is cymbidium orchids, which constitute most of the imports from Australia and New Zealand. Imports arrive primarily in the last 6 months of the year, whereas domestic cymbidium orchids are produced only during the first 6 months. Thus, the two sources complement each other.

The largest growth in imports of fresh cut flowers has been in those of carnations and pompon chrysanthemums (fig. 2). There has also been significant growth in imports of daisies and roses (fig. 3). Since 1967 these flower types have been supplied predominantly by a few large, well-financed, and technically competent firms in Latin America that produce primarily for the U.S. market. The rapid growth in imports was facilitated by the development of reliable transoceanic airline schedules and adequate terminal handling facilities in Miami for imported fresh cut flowers.

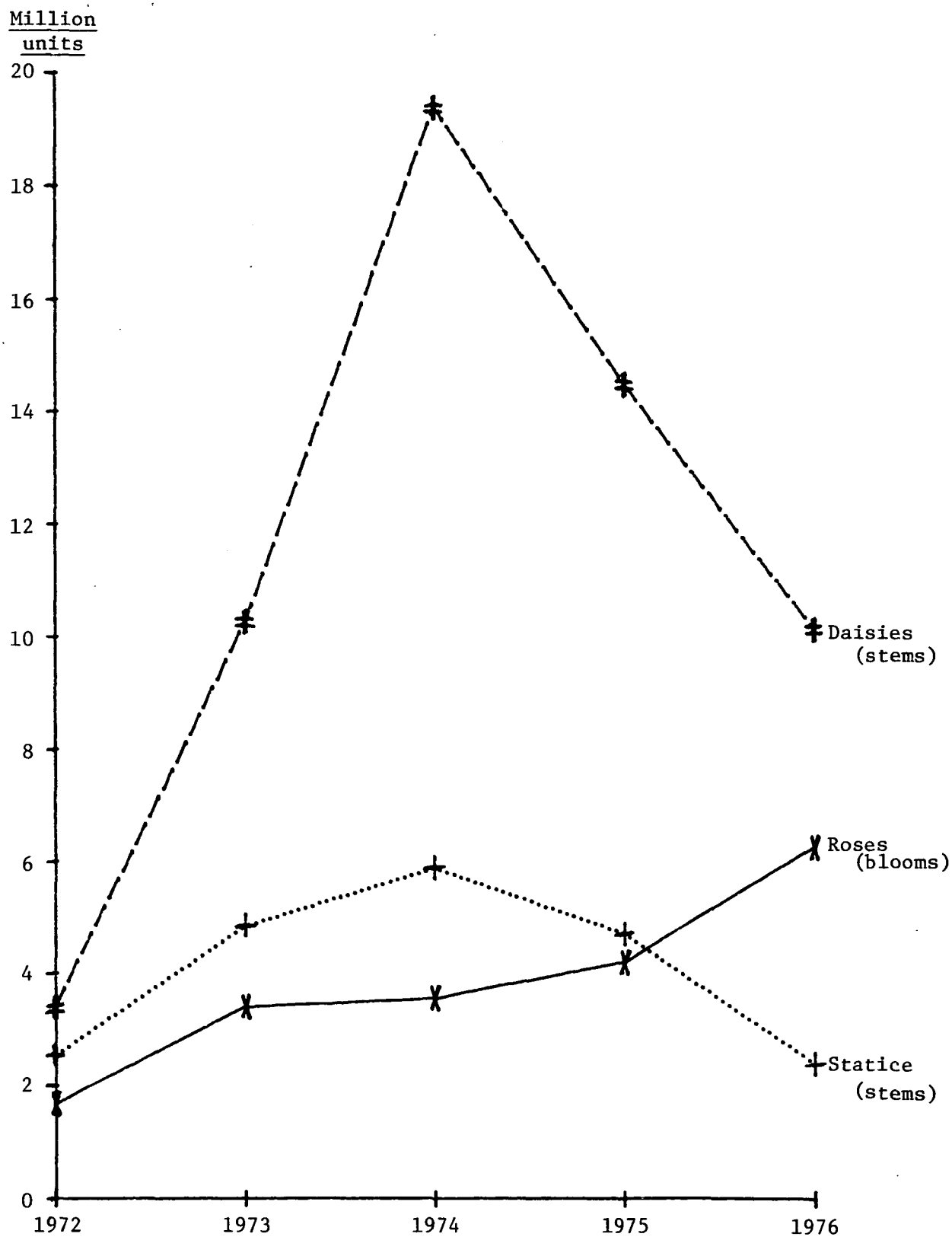
The growth in imports in the 1970's from low-cost producing areas in Latin America came after the somewhat analogous regional shifts in U.S. producing areas during the 1950's and 1960's from areas near eastern population centers to lower cost producing areas in California and Florida.

Figure 2.--Carnations, pompon chrysanthemums, and standard chrysanthemums: U.S. imports, 1972-76.



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

Figure 3.--Daisies, roses, statice: U.S. imports, 1972-76.



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

Ratio of imports to domestic production

The ratio of imports to production in terms of value increased from less than 1 percent in 1967 to 15 percent in 1976 (table 1, p. A-6). The ratio of imports to production in terms of quantity varies widely among the major types of fresh cut flowers. The highest such ratios in 1976 were for pompon chrysanthemums, carnations (standard and miniature), and standard chrysanthemums at 48 percent, 34 percent, and 8 percent, respectively (table 3). In contrast, the ratio for roses (hybrid tea and miniature) was 1 percent.

Ratio of imports to apparent consumption

The ratio of imports to apparent consumption in terms of value also increased--from less than 1 percent in 1967 to 13 percent in 1976 (table 1, p. A-6). As consumption was increasing during the 10-year period, the imports of fresh cut flowers were accounting for an increasing share of a rising demand. The highest ratios in 1976 in terms of quantity were for pompon chrysanthemums, carnations (standard and miniature), and standard chrysanthemums at 33 percent, 26 percent, and 7 percent, respectively (table 3). The ratio for roses (hybrid tea and miniature) was 1 percent.

Table 3.--Carnations, roses, pompon chrysanthemums, and standard chrysanthemums: U.S. production, imports, exports, and apparent consumption, 1967-76

(Carnations and pompon chrysanthemums in millions of stems; roses in millions of blooms)

Year	Production	Imports	Exports 1/	Apparent consumption	Ratio (percent) of imports to production	Ratio (percent) of imports to consumption
			Carnations			
1967	2/ 524.6	1.6	1.4	524.8	0.3	0.3
1968	599.9	3.0	1.3	601.6	.5	.5
1969	647.8	5.1	1.4	651.3	.8	.8
1970	656.3	16.4	1.5	671.2	2.5	2.4
1971	623.5	33.2	2.5	654.2	5.3	5.1
1972	623.0	56.2	3.0	676.2	9.0	8.3
1973	657.4	132.2	7.0	782.6	20.1	16.9
1974	646.3	180.0	11.0	815.2	27.9	22.0
1975	624.3	162.5	15.0	771.8	26.0	21.1
1976	2/ 603.6	204.5	20.0	788.1	33.9	25.9
			Roses			
1967	388.4	3/	3/	3/	3/	3/
1968	437.3	3/	3/	3/	3/	3/
1969	457.1	3/	3/	3/	3/	3/
1970	469.4	0.7	1.5	468.6	0.1	0.1
1971	458.6	1.0	1.5	458.1	.2	.2
1972	461.6	1.7	1.5	461.8	.4	.4
1973	446.8	3.4	2.0	448.2	.8	.8
1974	473.6	3.6	4.0	473.2	.8	.8
1975	463.4	4.2	8.0	459.6	.9	.9
1976	2/ 466.6	6.2	10.0	462.8	1.3	1.3
			Pompon chrysanthemums			
1967	180.6	1.2	3.6	178.2	0.7	0.6
1968	199.8	3.0	4.2	198.6	1.5	1.5
1969	215.4	4.2	4.8	214.8	1.9	2.0
1970	212.4	9.0	4.2	217.2	4.2	4.1
1971	225.6	13.2	6.0	232.8	5.9	5.7
1972	220.8	25.2	5.4	240.6	11.4	10.5
1973	237.0	42.2	6.6	272.6	17.8	15.5
1974	247.2	64.3	6.0	305.5	26.0	21.0
1975	240.6	75.8	6.0	310.4	31.5	24.4
1976	2/ 240.0	114.8	6.0	348.8	47.8	32.9

See footnotes at end of table.

Table 3.--Carnations, roses, pompon chrysanthemums, and standard chrysanthemums: U.S. production, imports, exports, and apparent consumption, 1967-76--Continued

(Standard chrysanthemums in millions of blooms)

Year	Production	Imports	Exports 1/	Apparent consumption	Ratio (percent) of imports to production	Ratio (percent) of imports to consumption
	Standard chrysanthemums					
1967	155.0	0.8	0.2	155.6	0.5	0.5
1968	152.2	1.4	.2	153.4	.9	.9
1969	159.0	1.9	.2	160.7	1.2	1.2
1970	170.9	4.2	.2	174.9	2.5	2.4
1971	168.3	11.4	.2	179.5	6.8	6.4
1972	159.5	15.9	.3	175.1	10.0	9.1
1973	160.7	23.4	.3	183.8	14.6	12.7
1974	167.5	25.9	.4	193.0	15.5	13.4
1975	162.0	17.4	.4	179.0	10.7	9.7
1976	2/ 167.6	12.6	.4	179.8	7.5	7.0

1/ Estimated from trade information and data from the Federal-State Market News Service in Florida.

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

3/ Not available.

Source: Production based on data from the Annual Survey of Flowers and Foliage Plants of the U.S. Department of Agriculture, with adjustments to include all 50 States, except as noted. Imports for 1970-76 from U.S. Department of Agriculture plant quarantine entry data; import data for prior years projected back using the trend of official import statistics of the U.S, Department of Commerce.

Note.-- Data on miniature carnations were converted from blooms to stems at a rate of 6 blooms a stem. Data on pompon chrysanthemums were converted from bunches to stems at a rate of 6 stems a bunch.

Leading suppliers of U.S. imports

In 1976 the leading suppliers of U.S. imports of fresh cut flowers were Colombia, Mexico, and Guatemala. Although 21 other countries exported fresh cut flowers to the United States in 1976, the three principal sources supplied more than 95 percent of the total (table 4).

Colombia.--Colombia accounted for about 91 percent of the carnations, pompon chrysanthemums, standard chrysanthemums, daisies, roses, and statice imported in 1976, compared with 64 percent in 1972. Colombia's share of imports in 1976 varied from a low of 31 percent for statice to a high of 96 percent for carnations.

In 1976 about 75 percent of Colombia's exports of carnations and pompon and standard chrysanthemums, 50 percent of its exports of roses, and 10 percent of its exports of daisies and statice came to the United States. U.S. imports from Colombia are expected to increase by 15 to 20 percent in 1977.

Guatemala.--Guatemala supplied approximately 4 percent of the carnations, pompon chrysanthemums, standard chrysanthemums, daisies, roses, and statice imported by the United States in 1976. Guatemala's import share ranged from less than 0.5 percent for carnations to more than 24 percent for daisies.

Mexico.--Mexico accounted for approximately 3 percent of the carnations, pompon chrysanthemums, standard chrysanthemums, daisies, roses, and statice entering the United States in 1976. Mexico's import share ranged from less than 0.5 percent for pompon chrysanthemums to 55 percent for statice.

The United States is Mexico's principal export market for fresh cut flowers. It is estimated that Mexico will increase its exports to the United States by about 5 percent in 1977.

Ecuador.--Imports from Ecuador in 1976 accounted for less than 0.5 percent of the carnations, pompon chrysanthemums, standard chrysanthemums, daisies, roses, and statice entering the United States in that year. In 1975, Ecuador accounted for approximately 2.5 percent of U.S. imports. The decline in fresh cut flower imports from Ecuador from 1975 to 1976 was caused by internal and environmental problems in that country. Imports from Ecuador in 1977 are not expected to exceed 1976 levels.

Table 4.--Fresh cut flowers: U.S. imports of carnations, pompon chrysanthemums, standard chrysanthemums, daisies, roses, and statice, by specified sources, 1972-76, 19-week period ended May 8, 1976, and 19-week period ended May 7, 1977

(In thousands of stems)

Source	1972	1973	1974	1975	1976	19-week period ended May 8, 1976	19-week period ended May 7, 1977
				Carnations			
Colombia	47,828	119,287	163,638	157,097	196,069	67,996	96,903
Mexico	2,491	3,748	5,907	6,001	6,644	3,074	2,555
Guatemala	1/	1/	1,714	366	774	305	506
Ecuador	3,867	4,594	7,755	4,023	66	34	16
All other	1,967	4,591	955	781	898	569	1,532
Total	56,153	132,220	179,969	168,268	204,451	71,978	101,512
				Pompon chrysanthemums			
Colombia	13,181	24,759	52,053	70,158	104,978	37,357	44,114
Guatemala	8,035	12,931	8,965	3,262	8,287	3,814	3,116
Ecuador	1,197	1,762	1,791	1,801	781	553	265
Costa Rica	2,612	2,509	1,356	321	634	296	695
All other	216	228	183	251	82	16	23
Total	25,241	42,189	64,348	75,793	114,762	42,036	48,213
				Standard chrysanthemums			
Colombia	4,945	9,705	13,767	12,233	9,614	3,834	6,809
Guatemala	6,716	9,137	7,456	3,375	2,387	1,003	1,528
Mexico	1/	1/	514	332	333	86	161
Netherlands	294	455	1/	1/	148	13	22
Ecuador	2,672	2,823	3,595	1,064	77	56	45
All other	1,239	1,232	560	380	0	0	7
Total	15,866	23,352	25,892	17,384	12,559	4,992	8,572

See footnote at end of table.

Table 4.--Fresh cut flowers: U.S. imports of carnations, pompon chrysanthemums, standard chrysanthemums, daisies, roses, and statice, by specified sources, 1972-76, 19-week period ended May 8, 1976, and 19-week period ended May 7, 1977--Continued

(In thousands of stems)

Source	1972	1973	1974	1975	1976	19-week period ended May 8, 1976	19-week period ended May 7, 1977
				Daisies			
Colombia	1,617	6,913	13,463	7,707	4,697	2,444	1,793
Mexico	81	535	2,427	2,859	2,696	2,060	2,844
Guatemala	1,623	2,646	3,055	3,591	2,451	1,614	3,576
All other	74	159	433	307	275	164	61
Total	3,395	10,253	19,378	14,464	10,119	6,282	8,274
				Roses			
Colombia	1/	1/	810	2,554	4,513	1,690	2,993
Netherlands	648	1,078	1,254	816	1,257	640	636
All other	1,028	2,326	1,487	822	475	256	796
Total	1,676	3,404	3,551	4,192	6,245	2,586	4,425
				Statice			
Mexico	959	731	1,176	2,201	1,307	819	1,056
Colombia	1/	1/	1/	326	750	164	1,133
All other	1,583	4,107	4,694	2,164	324	197	1,043
Total	2,542	4,838	5,870	4,691	2,381	1,180	3,232
				Total			
Colombia	67,571	160,664	243,731	250,075	320,621	113,485	153,744
All other	37,302	55,592	55,277	28,717	29,896	15,569	20,484
Total	104,873	216,256	299,008	278,792	350,517	129,054	174,228

1/ Not separately reported, but included in "All other."

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

Foreign production and trade

Fresh cut flowers are produced for local consumption throughout the world. Prior to the 1970's, most international movement of fresh cut flowers was border trade, especially in Europe, where per capita production and consumption are high. Paralleling the advent of successful air transport of large quantities of fresh cut flowers from Latin America to the United States, there has been increased movement from Latin America to Europe and Japan, and from countries such as the Netherlands, South Africa, Australia, and Israel to distant overseas markets.

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

U.S. production

As indicated in table 1 (p. A-6), the wholesale value of all fresh cut flower production increased during the period 1967-76 from $195 million to $283 million, except for a slight downturn in 1970. The overall quantity of production has also trended upward, since average fresh cut flower prices have not kept pace with the increase in the value of production.

Production trends.--For the major types of fresh cut flowers which are both produced domestically and imported in significant quantities (i.e., carnations (standard and miniature) and pompon and standard chrysanthemums), there was an upward trend in production for all three types over the period 1967-76, but the trend for all other types generally was flat or declining since at least 1973 (fig. 4). Domestic production of carnations increased from 525 million stems in 1967 to 656 million stems in 1970, and then declined to 623 million stems in 1972, as imported carnations increased their market share from 2 percent of consumption in 1970 to 8 percent in 1972. Domestic production rebounded in 1973 to 657 million stems; however, imports increased their share of consumption to 17 percent. Production declined to 604 million stems in 1976, while imports increased their share of consumption to 26 percent.

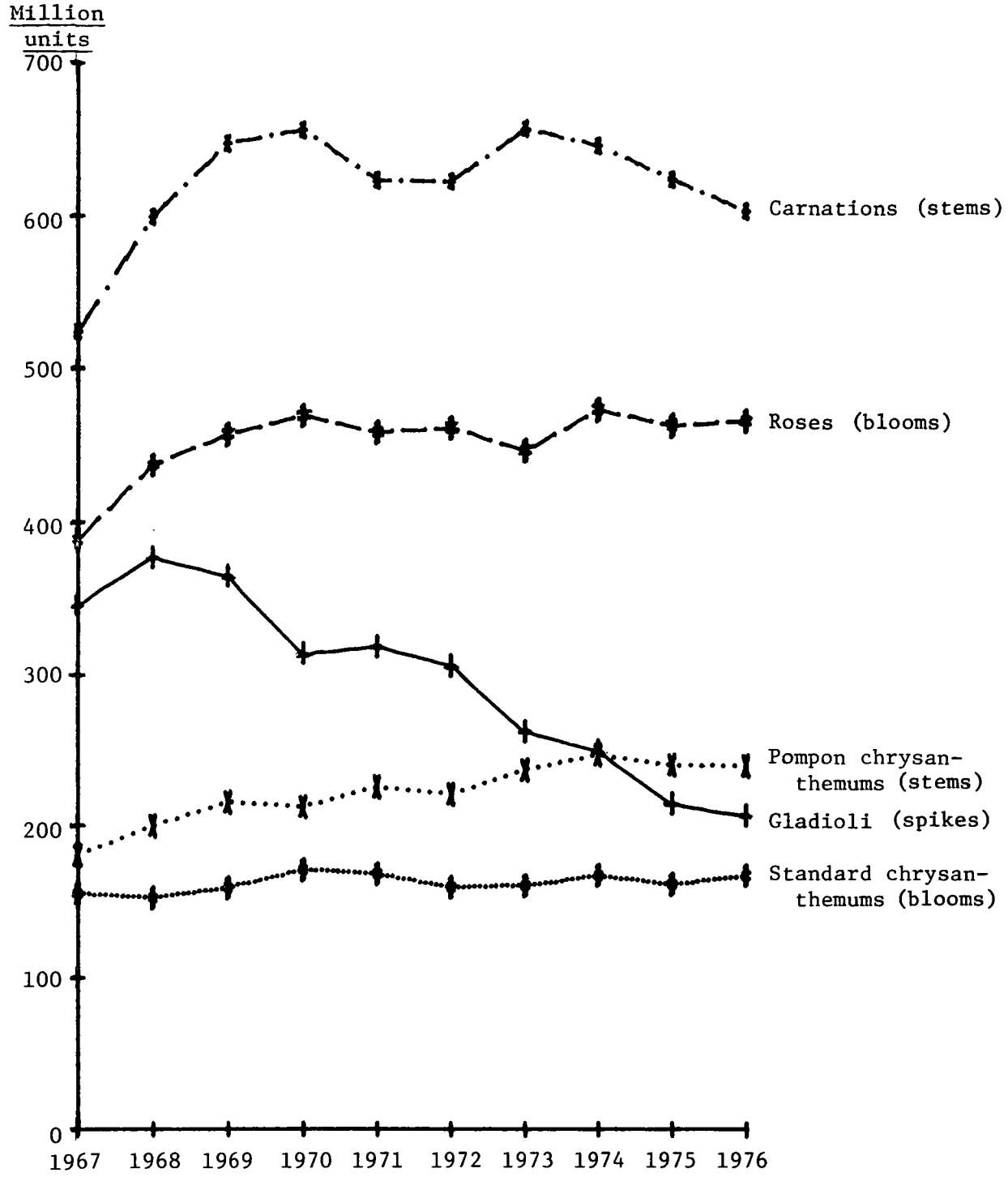
Domestic pompon chrysanthemum production rose irregularly from 181 million stems in 1967 to 247 million stems in 1974. During this period, imports steadily increased their share of U.S. consumption from less than 1 percent to 21 percent. Domestic production declined to 240 million stems in 1976, with imports increasing their share of the domestic market to 33 percent.

Standard chrysanthemum production rose irregularly from 155 million blooms in 1967 to 168 million blooms in 1976 and ranged from a low of 152 million blooms in 1968 to a high of 171 million blooms in 1970.

Production of roses, which are the most important domestic flower crop in terms of value, also increased in terms of quantity; imports of roses are relatively small, accounting for less than 2 percent of U.S. consumption in 1976. Rose production in the period 1967-76 increased irregularly from 388 million blooms to 467 million blooms and ranged from a low of 388 million blooms in 1967 to a high of 474 million blooms in 1974.

Gladioli are another major type of fresh cut flower produced domestically. Production of gladioli decreased irregularly from 345 million spikes in 1967 to 207 million spikes in 1976 (fig. 4).

Figure 4.--U.S. production of carnations, roses, pompon chrysanthemums, gladioli, and standard chrysanthemums, 1967-76.



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

Gladioli growers face very little direct import competition because of the relatively high per unit freight rates for this bulky commodity compared with freight rates for other types of fresh cut flowers and because of climatic and geographic restraints in the major foreign fresh-cut-flower-growing areas (i.e., holding of gladioli bulbs in cold storage until they are ready to be planted, temperature requirements for ideal growth, and the availability of enough growing area to maximize returns). Most imports of gladioli are the result of border trade with Mexico and Canada. Gladioli are generally not grown in greenhouses and require a much greater area of land per flower than the other principal fresh cut flowers. The primary reasons for the decline in gladioli production have been the much higher cost of producing gladioli in relationship to other fresh cut flowers and the reduced popularity of gladioli because of their reputation among consumers as funeral flowers.

Sales in major producing States.--The U.S. Department of Agriculture reports sales of fresh cut flowers for selected floral types only for major producing States. Table 5 shows the quantity, wholesale value, and wholesale prices of these sales for 1972-76.

The quantity of sales of miniature carnations, standard and pompon chrysanthemums, and hybrid tea roses increased over the period. Miniature carnations were the only flower showing a steady increase, rising from 18 million stems in 1972 to 30 million in 1976. Sales of the other types, while generally rising, tended to fluctuate. Standard chrysanthemum sales rose from 137 million blooms in 1972 to 145 million in 1976. Pompon chrysanthemum sales increased from 202 million stems in 1972 to a peak of 227 million in 1974, and then fell to 220 million in 1976. Sales of hybrid tea roses increased overall from 310 million to 320 million blooms.

The quantity of sales of standard carnations, miniature roses, and gladioli declined over the period 1972-76. Standard carnation sales increased from 584 million blooms in 1972 to a peak of 616 million in 1973, then declined steadily to a low of 524 million in 1976. Miniature rose sales declined irregularly from 122 million blooms in 1972 to 118 million in 1976. Gladioli sales declined steadily from 273 million to 185 million spikes.

The wholesale value of sales decreased over the period 1972-76 only for standard carnations and gladioli. Standard carnation sales amounted to $48 million in 1972 and $47 million in 1976. Gladioli sales amounted to $20 million in 1972 and $18 million in 1976. The increases in value of sales for pompon chrysanthemums, hybrid tea roses, and miniature roses were due as much to increasing wholesale prices as to increasing production.

Table 5.--Fresh cut flowers: Sales of selected fresh cut flowers in selected major producing States, 1/ by types, 1972-76

Flower type	1972	1973	1974	1975	1976 2/
	Quantity (millions)				
Standard carnations (blooms)	584.4	616.1	601.8	578.9	523.9
Miniature carnations (stems) 3/	18.0	19.7	23.2	24.8	29.6
Standard chrysanthemums (blooms)	137.1	138.2	144.0	139.3	144.7
Pompon chrysanthemums (stems) 3/	201.9	216.8	227.2	220.2	220.2
Hybrid tea roses (blooms)	309.6	297.4	319.2	317.8	319.5
Miniature roses (blooms)	122.0	120.4	123.7	115.5	118.2
Gladioli	273.2	234.8	223.4	192.0	185.4
	Value (millions of dollars)				
Standard carnations	48.1	46.0	44.0	45.2	47.0
Miniature carnations	3.6	3.6	4.6	4.9	5.9
Standard chrysanthemums	29.1	29.8	29.6	30.9	30.3
Pompon chrysanthemums	29.8	33.0	30.6	32.3	35.2
Hybrid tea roses	47.4	48.9	53.6	56.7	61.0
Miniature roses	12.2	13.0	14.3	14.2	16.1
Gladioli	20.3	19.5	18.8	17.6	17.6
	Unit price (cents) 4/				
Standard carnations (blooms)	8.2	7.5	7.3	7.8	8.8
Miniature carnations (stems)	20.0	18.5	19.7	20.0	19.8
Standard chrysanthemums (blooms)	21.2	21.6	20.5	21.9	20.9
Pompon chrysanthemums (stems)	14.8	15.1	13.7	14.7	16.0
Hybrid tea roses (blooms)	15.3	16.4	16.8	17.9	19.1
Miniature roses (blooms)	10.0	10.8	11.5	12.3	13.7
Gladioli (spikes)	7.4	8.3	8.4	9.2	9.5

1/ States covered are California, Colorado, Connecticut, Delaware, Florida, Illinois, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New York, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Washington, and Wisconsin.

2/ Estimated by the U.S. International Trade Commission because of a change in reporting method used by the U.S. Department of Agriculture.

3/ Converted from bunches to stems at a rate of 6 stems a bunch.

4/ Calculated from the unrounded data.

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

Note: For years prior to 1974, data include statistics on growers who produced and sold 2,000 or more dollars' worth of fresh cut flowers, flowering and foliage plants, bedding plants, and cultivated florist greens in 1 year. For 1974 and following years, data include statistics on growers who produced and sold 10,000 or more dollars' worth of fresh cut flowers, flowering and foliage plants, bedding plants, and cultivated florist greens in 1 year. In 1973, producers with sales of less than $10,000 accounted for less than 0.7 percent of sales in that year.

Production data from responses to Commission questionnaires.--The responses to Commission questionnaires indicated that the area in production of fresh cut flowers rose from 84 million square feet in 1972 to 93 million in 1973, fell to a low of 82 million in 1975, and rose to 84 million in 1976 (table 6). 1/ Other products of cut flower producers include potted plants, foliage plants, and bedding plants. The area in production for these products increased over the period from 3 million square feet to 4 million square feet. Overall, while there were declines in the quantity sold for some products, all the products show an increase in the value of sales over the period.

Dollar sales per square foot were calculated for the various products to give an indication of the efficiency of production. Over the period 1972-76, such sales rose for each type of fresh cut flower. However, the most dramatic increases in sales per square foot were found for "Other products," particularly foliage plants, which rose from $0.51 to $1.98, and bedding plants, which rose from $1.97 to $3.37 over the period.

U.S. exports

Exports of fresh cut flowers, at an estimated 5 percent of U.S. production in 1976, are trending upward; they amounted to an estimated $14.0 million in 1976 (table 1, p. A-6). 2/ About two-thirds of these exports go to Canada, which has a less favorable climate for growing flowers than the United States. The United States has a transportation-cost advantage in the Canadian market compared with more distant suppliers. Gladioli from Florida and pompon chrysanthemums from California and Florida make up a substantial part of these exports. Exports are also believed to include significant quantities of carnations from Colorado and California, anthuriums from Hawaii, and roses from various U.S. producing areas. Other principal markets for U.S. fresh cut flowers are Italy, West Germany, and Japan. It is estimated that these countries accounted for about 25 percent of U.S. exports in 1976. The remainder of U.S. exports go to the Netherlands, Bermuda, the Bahamas, and various other markets.

1/ The U.S. International Trade Commission requested data on production from 160 U.S. producers on their operations involving fresh cut flowers. Responses were received from 105 producers, of which 77 provided usable data on production and sales by flower types for 1972-76, as shown in table 6.

2/ See app. A for explanation of methodology used in the Commission's estimates of U.S. exports.

Table 6.--Operations of 77 fresh cut flower growers: Area in production and sales, 1972-76

Item	1972	1973	1974	1975	1976
Fresh cut flowers:					
32 standard carnation growers:					
Number of firms reporting production--	30	30	30	27	27
Area in production-------million ft^2--	2.19	2.40	2.61	2.45	2.35
Quantity of sales-----million blooms--	41.66	44.52	47.53	48.75	45.96
Value of sales-------million dollars--	3.44	3.52	3.62	4.09	4.52
Unit value of sales--cents per bloom--	8.26	7.90	7.62	8.39	9.84
Sales per ft^2----------	$1.57	$1.47	$1.39	$1.67	$1.93
20 miniature carnation growers:					
Number of firms reporting production--	16	15	17	18	18
Area in production-------million ft^2--	.29	.33	.40	.39	.39
Quantity of sales------million stems--	1.97	2.37	3.20	3.28	3.40
Value of sales-------million dollars--	.37	.46	.56	.55	.61
Unit value of sales---cents per stem--	18.58	19.56	17.39	16.74	17.85
Sales per ft^2----------	$1.25	$1.40	$1.39	$1.41	$1.54
40 pompon chrysanthemum growers:					
Number of firms reporting production--	31	31	34	35	39
Area in production-------million ft^2--	4.16	4.96	5.05	4.80	4.98
Quantity of sales------million stems--	17.87	18.70	20.81	21.42	24.30
Value of sales-------million dollars--	2.48	2.75	3.08	3.12	3.64
Unit value of sales---cents per stem--	13.86	14.73	14.80	14.55	14.98
Sales per ft^2----------	$0.60	$0.56	$0.61	$0.65	$0.73
34 standard chrysanthemum growers:					
Number of firms reporting production--	30	29	32	32	33
Area in production-------million ft^2--	1.12	1.08	.79	.80	.76
Quantity of sales-----million blooms--	5.01	5.00	5.06	5.54	5.21
Value of sales-------million dollars--	1.18	1.27	1.43	1.69	1.76
Unit value of sales--cents per bloom--	23.63	25.43	28.24	30.52	33.71
Sales per ft^2----------	$1.06	$1.18	$1.81	$2.12	$2.31
22 hybrid tea rose growers:					
Number of firms reporting production--	21	22	22	22	22
Area in production-------million ft^2--	2.62	2.72	2.91	3.33	3.47
Quantity of sales-----million blooms--	35.93	40.35	38.66	37.47	46.90
Value of sales-------million dollars--	5.37	6.36	6.82	6.99	7.80
Unit value of sales--cents per bloom--	14.95	15.76	17.65	18.66	16.64
Sales per ft^2----------	$2.05	$2.34	$2.34	$2.10	$2.25
19 miniature rose growers:					
Number of firms reporting production--	19	19	19	19	19
Area in production-------million ft^2--	.40	.42	.47	.51	.55
Quantity of sales------million stems--	11.59	11.22	10.94	10.60	11.45
Value of sales-------million dollars--	1.08	1.18	1.26	1.31	1.54
Unit value of sales---cents per stem--	9.31	10.56	11.51	12.36	13.42
Sales per ft^2----------	$2.71	$2.83	$2.69	$2.59	$2.80

Table 6.--Operations of 77 fresh cut flowers growers: Area in production and sales, 1972-76--Continued

Item	1972	1973	1974	1975	1976
Fresh cut flowers--Continued					
23 growers of other fresh cut flowers:					
Number of firms reporting production--	21	21	23	22	22
Area in production-------million ft^2--	78.68	81.04	78.54	69.54	71.04
Value of sales-------million dollars--	4.28	4.76	4.50	4.79	4.97
Sales per ft^2----------	$0.06	$0.06	$0.06	$0.07	$0.07
Total, all fresh cut flower growers:					
Number of firms reporting production--	71	72	74	75	77
Area in production-------million ft^2--	84.47	92.94	90.77	81.81	83.53
Value of sales-------million dollars--	18.20	20.31	21.26	22.54	24.84
Sales per ft^2----------	$0.22	$0.22	$0.23	$0.28	$0.30
Other products:					
13 potted plant growers:					
Number of firms reporting production--	8	8	8	11	13
Area in production-------million ft^2--	2.72	2.77	2.51	2.51	2.22
Value of sales-------million dollars--	2.39	2.50	2.55	3.13	3.41
Sales per ft^2----------	$0.88	$0.90	$1.02	$1.24	$1.54
15 foliage plant growers:					
Number of firms reporting production--	6	7	10	13	15
Area in production-------million ft^2--	.12	.14	.40	.84	1.20
Value of sales-------million dollars--	.06	.10	.32	1.07	2.37
Sales per ft^2----------	$0.51	$0.73	$0.81	$1.28	$1.98
8 bedding plant growers:					
Number of firms reporting production--	8	8	8	8	8
Area in production-------million ft^2--	.09	.11	.12	.12	.12
Value of sales-------million dollars--	.18	.24	.30	.32	.40
Sales per ft^2----------	$1.97	$2.20	$2.64	$2.71	$3.37
24 other product growers:					
Number of firms reporting production--	15	16	18	23	24
Area in production-------million ft^2--	2.93	3.02	3.03	3.47	3.54
Value of sales-------million dollars--	2.62	2.85	3.18	4.52	6.18
Sales per ft^2----------	$0.89	$0.94	$1.05	$1.30	$1.75
Total, all products:					
Number of firms reporting production--	71	72	74	75	77
Area in production-------million ft^2--	87.40	95.96	93.79	85.28	87.07
Value of sales-------million dollars--	20.83	23.15	24.44	27.06	31.02
Sales per ft^2----------	$0.24	$0.24	$0.26	$0.32	$0.36

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of fresh cut flowers.

Employment

Employment data for commercial flower growers are not developed by the Department of Agriculture or by industry associations. The information in this section was obtained from questionnaires sent by the U.S. International Trade Commission to a random sample of fresh cut flower producers in operation from 1972 through 1976.

The data obtained from the 65 firms providing usable employment and wage information are probably representative of overall trends in employment and wages among fresh cut flower producers. The statistical breakdown for each individual flower type, however, is based upon such a small number of firms that the data cannot be considered representative. The figures by flower type are presented in table 7 for illustrative purpose only.

Although total industry employment data are not available, the information obtained from the questionnaires suggests that nearly 100,000 persons were employed by the approximately 5,000 firms in the industry during 1976. 1/ The number of employees in cut flower firms varies widely. The firms covered in the sample ranged from one-man operations to businesses employing nearly 300 workers. For small- and medium-size firms, family labor is a major contributor to total employment. Employment in the flower industry is seasonal, with firms hiring extra workers at planting and harvesting times.

The average annual number of employees in cut flower growing operations increased in the years 1972-74 and then declined in 1975 and 1976, as shown in table 7. The number of man-hours worked peaked in 1973 and fell in each of the following 3 years.

It is likely that recent efforts among growers toward automation and more intensive use of growing space have adversely affected employment. While output for firms in the sample appears to have increased in the years 1973-76, the area in production (measured in square feet) declined steadily each year, apart from a slight rise in 1976. This trend toward increasingly intensive cultivation--presumably with associated increase in efficiency--may account for the relatively small overall increase in employment during the period.

The fresh cut flower industry is characterized by high labor costs in relation to value of sales. Wages averaged 36 percent of the value of cut flower sales during 1972-76 and wages per man-hour averaged $3.08 in 1976. Fresh cut flower growers employ a large percentage of semiskilled labor, but average hourly wages in the industry are higher than hourly wages paid to hired farm workers

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1/ Industry employment was estimated by multiplying the average employment of firms in the sample by 5,000.

Table 7.--Operations of 65 fresh cut flowers growers: Average number of employees, man-hours worked, wages paid, and sales, by types of growers, 1972-76

Item	1972	1973	1974	1975	1976
14 carnation growers:					
Annual average number of employees	104	105	92	88	98
Man-hours worked 1,000 man-hours	218	208	189	180	212
Wages paid 1,000 dollars	489	487	440	459	580
Sales----1,000 dollars	1,371	1,208	1,203	1,274	1,614
Wages as a percent of sales--------percent	37	40	37	36	36
Wages per man-hours	$2.42	$2.33	$2.32	$2.55	$2.74
8 chrysanthemum growers :					
Annual average number of employees	30	34	36	38	40
Man-hours worked 1,000 man-hours	62	76	76	79	88
Wages paid 1,000 dollars	131	176	181	204	252
Sales----1,000 dollars	572	725	767	900	1,057
Wages as a percent of sales--------percent	23	24	24	23	24
Wages per man-hour	$2.10	$2.31	$2.39	$2.58	$2.87
9 rose growers:					
Annual average number of employees	78	79	77	75	82
Man-hours worked 1,000 man-hours	148	151	150	149	156
Wages paid 1,000 dollars	373	384	418	430	477
Sales----1,000 dollars	1,496	1,641	1,748	1,794	1,980
Wages as a percent of sales--------percent	25	23	24	24	24
Wages per man-hour	$2.52	$2.55	$2.78	$2.89	$3.05

Table 7.-- Operations of 65 fresh flower growers: Average number of employees, man-hours work, wages paid, and sales, by types of growers, 1972-76-- Continued

Item	1972	1973	1974	1975	1976
34 diversified flower growers:					
Annual average number of employees	1,106	1,176	1,264	1,209	1,176
Man-hours worked 1,000 man-hours	2,332	2,528	2,478	2,386	2,178
Wages paid 1,000 dollars	5,417	6,076	6,520	6,677	6,810
Sales------1,000 dollars	14,826	16,389	16,357	16,960	18,024
Wages as a percent of sales----------percent	37	37	40	39	38
Wages per man-hour	$2.32	$2.40	$2.63	$2.80	$3.13
65 flower growers:					
Annual average number of employees	1,317	1,394	1,469	1,409	1,395
Man-hours worked 1,000 man-hours	2,760	2,963	2,894	2,795	2,634
Wages paid 1,000 dollars	6,410	7,123	7,559	7,771	8,120
Sales------1,000 dollars	18,265	19,963	20,076	20,928	22,675
Wages as a percent of sales----------percent	35	36	38	37	36
Wages per man-hour	$2.32	$2.40	$2.61	$2.78	$3.08

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of fresh cut flowers.

as a group. Wage increases roughly paralleled the increases obtained by other agricultural workers throughout 1972-76. On the basis of 1974=100, an index of hourly wage rates for flower workers measured 118.0 in 1976. This compares with indexes of 118.2 for all hired farm workers and 118.1 for nonagricultural workers, as shown in table 8.

The 34 diversified flower growers producing more than one line of flowers constitute the largest percentage of growers. It is not possible to allocate employment data by flower types for these producers. Diversified growers accounted for over half the growers in the sample, and their employment data follows the trend of all growers. The average annual number of employees in diversified firms remained nearly constant throughout 1972-76, although the number of man-hours declined during the period.

The sample provided information on only a small number of firms that were engaged exclusively in the production of carnations, chrysanthemums, or roses. Table 7 shows that employment among chrysanthemum and carnation growers increased between 1975 and 1976. However, in view of the small size of the sample, this finding should be regarded with caution.

Table 8.--Hourly wage rates for all hired farm workers, farm workers paid by other than piece rate, and cut flower workers, and indexes of such wages, 1974-76

Year	Hourly wages		
	All hired farm workers	Farm workers paid by other then piece rate	Cut flower workers
1974	$2.25	$2.21	$2.61
1975	2.43	2.38	2.78
1976	2.66	2.61	3.08
	Index (1974=100)		
1974	100.0	100.0	100.0
1975	108.0	107.7	106.5
1976	118.2	118.1	118.0

Source: Compiled from official statistics of the U.S. Department of Agriculture and from data submitted in response to questionnaires of the U.S. International Trade Commission.

Profit-and-loss experience of U.S. growers of fresh cut flowers

For the reporting U.S. growers of fresh cut flowers and plants, the 1972-76 period was one in which growing and operating expenses increased at a faster pace than total sales. This was especially true in the years 1974 and 1975. Overall, yearly sales of fresh cut flowers and total sales of all flowers and plants increased during 1972-76. On the other hand, aggregate profit declined sharply in 1974 and 1975 to about one-third the 1972-73 average. Aggregate profit increased substantially in 1976, but only to about 75 percent of the 1972-73 average.

The Commission mailed a total of 160 questionnaires to growers, requesting profit-and-loss information. Of these, 52 usable returns were received, with an estimated coverage of the entire industry as follows: 1/

Item	Percent of total U.S. sales
Carnations	7.8
Chrysanthemums	6.2
Roses	10.0
All fresh cut flowers	7.9

Profit-and-loss experience of the 52 U.S. growers on their fresh-cut-flower-and plant-growing operations is presented in table 9. The table denotes that the only really significant change in sales mix occurred in potted foliage plants. Sales of such plants increased from $18,000 in 1972 to $2.6 million in 1976. A comparison of the

1/ Of the 52, 5 are partnerships, 19 are single proprietorships, and 28 are incorporated, mostly as owner-operated family businesses. For the incorporated respondents, presentations in this section omit officers' salaries as operating expenses (these ranged from $1.0 million to $1.2 million annually during 1972-76) to obtain conformity with data from unincorporated respondents. In the data discussed here, profit-or-loss calculations are based on sales figures variously reported at gross value (with commissions to wholesalers expensed) or net value (less wholesalers' commissions); these different methods of reporting by respondents, while they do not affect the values of profit or loss, do affect computation of profit margins, depending on the sales figure used in the denominator. All profit-and-loss data presented in this section are on a cash basis, in conformity with the accepted practice within the industry.

Table 9.--Profit-and-loss experience of 52 U.S. growers on their fresh-cut-flower- and plant-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales: 1/					
Fresh cut flowers:					
Carnations	3,795	3,846	3,894	4,066	4,433
Chrysanthemums	3,381	3,913	3,889	4,042	4,528
Roses	5,688	6,707	6,841	6,933	8,171
Other fresh cut flowers 2/	4,222	4,344	4,450	4,876	5,127
Subtotal	17,086	18,810	19,074	19,917	22,259
Potted chrysanthemums	1,006	1,124	989	1,163	1,226
Decorative greens	14	7	15	15	11
Potted foliage plants	18	24	171	997	2,553
Sales of other flowers and plants 3/	2,842	2,647	2,727	3,403	3,794
Total sales	20,966	22,612	22,976	25,495	29,843
Other income	755	1,059	872	1,024	800
Total sales and other income	21,721	23,671	23,848	26,519	30,643
Growing and operating expenses:					
Hired labor and wages	6,771	7,307	7,916	8,525	9,025
Plants, bulbs, and seed purchased	1,713	2,060	2,401	2,820	3,553
Fertilizers, lime, and chemicals	777	849	1,016	1,275	1,387
Supplies purchased	860	970	1,234	1,286	1,669
Repairs and maintenance	776	799	816	802	855
Depreciation	1,066	1,169	1,276	1,317	1,318
Taxes and insurance	1,086	1,223	1,357	1,388	1,774
Gas, oil, and fuel	937	1,231	1,569	2,069	2,379
Water and electricity	438	500	584	750	812
Other expenses 4/	4,154	4,267	4,559	4,989	5,574
Total growing and operating expenses	18,578	20,375	22,728	25,221	28,346
Net profit before income taxes and officers' salaries	3,143	3,296	1,120	1,298	2,297
Ratio of net profit (before income taxes and officers' salaries) to total sales--percent	15.0	14.6	4.9	5.1	7.7

1/ Some growers reported gross sales and other growers reported net sales (less commissions paid).

2/ Gladioli sales account for a major share of this item.

3/ Consists mainly of sales of purchased flowers and plants. A small number of growers have retail outlets or are also wholesalers of fresh cut flowers or plants. Also includes sales of citrus fruit.

4/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commisison by U.S. growers of flowers.

sales mix for 1972 and 1976, expressed in percentages of total sales of all flowers and plants, is shown below:

Item	1972	1976
Fresh cut carnations	18	15
Fresh cut chrysanthemums	16	15
Fresh cut roses	27	27
Other fresh cut flowers	20	17
Total sales of fresh cut flowers	81	74
Potted foliage plants	0	9
Other flowers and plants	19	17
Total sales of all flowers and plants	100	100

A comparison of individual growing and operating expenses for 1972 and 1976, expressed in percentages of total growing and operating expenses, is shown below:

Item	1972	1973
Hired labor and wages	37	32
Plants, bulbs, and seed purchased	9	12
Fertilizers, lime, and chemicals	4	5
Supplies purchased	5	6
Repairs and maintenance	4	3
Depreciation	6	5
Taxes and insurance	6	6
Gas, oil, and fuel	5	8
Water and electricity	2	3
Other expenses	22	20
Total growing and operating expenses	100	100

Overall, total sales of all flowers and plants increased 42 percent from 1972 to 1976, and total growing and operating expenses increased 53 percent. Aggregate net profit (before income taxes and officers' salaries) declined from $3.1 million and $3.3 million in 1972 and 1973, respectively, to $1.1 million and $1.3 million in 1974 and 1975, respectively. Net profit increased to $2.3 million in 1976--$846,000 or 27 percent less than that in 1972.

Average profit margins declined from 15.0 percent and 14.6 percent in 1972 and 1973, respectively, to 4.9 percent and 5.1 percent in 1974 and 1975, respectively. Average profit margins increased to 7.7 percent in 1976.

Three producers had a significant influence on the aggregate profit reported by the 52 growers in each of the years 1972-76. The three growers accounted for most of the "Other income" shown in table 9. It consisted of interest and dividend income, rose patent royalties, and gains on sales of securities and other assets. The other income added about 4 percentage points to the 52 growers' profit margins in each of the years 1972-75 and nearly 3 percentage points in 1976.

Seven growers of fresh cut flowers reported a substantially higher volume of sales than any of the other growers during 1972-76. Combined, the seven growers accounted for almost two-thirds of the total sales of flowers and plants and for 88 percent or more of the other income reported by the 52 growers in each of the years 1972-76. On the other hand, average profit margins were slightly smaller for the seven growers when compared with those of the other 45 growers in each of the years 1972 and 1973 and substantially smaller in each of the years 1974-76. Data for the two groups of growers are summarized below for 1972-76:

Number of growers and year	Total sales	Net profit	Average profit margins	Ratio of labor and wage expense to sales
	1,000 dollars	1,000 dollars	Percent	Percent
7 growers:				
1972	13,466	1,940	14.4	35
1973	14,516	1,978	13.6	36
1974	14,569	296	2.0	39
1975	16,497	295	1.8	37
1976	19,304	972	5.0	33
45 growers:				
1972	7,500	1,203	16.0	27
1973	8,096	1,318	16.3	26
1974	8,407	824	9.8	27
1975	8,998	1,003	11.1	27
1976	10,539	1,325	12.6	25

The 7 large growers paid more out of each sales dollar for labor and wage expense than did the other 45 growers. The smaller growers utilized a higher proportion of owner and family labor.

A distribution of the 52 growers of fresh cut flowers by various sales and profit-or-loss size ranges is presented in table 10. More than half the growers reported total sales of less than $150,000 in

Table 10.--Distribution of sales and profit or loss for the 52 U.S. growers which reported data on their fresh-cut-flower- and plant-growing operations, by ranges, accounting year 1972-76

(In number of growers)

Item	1972	1973	1974	1975	1976
Sales ranges:					
$49,999 and under	7	6	6	7	6
$50,000 to $99,999	14	11	11	7	5
$100,000 to $149,999	8	12	11	14	13
$150,000 to $199,999	3	4	2	2	5
$200,000 to $299,999	6	4	5	4	3
$300,000 to $399,999	2	3	5	5	4
$400,000 to $499,999	3	0	3	3	3
$500,000 to $749,999	2	5	2	3	5
$750,000 to $999,999	1	0	0	0	1
$1,000,000 to $1,999,999	3	3	3	3	3
$2,000,000 and over	3	4	4	4	4
Loss ranges:					
$100,000 and over	0	0	3	2	0
$50,000 to $99,999	0	0	1	0	2
$25,000 to $49,999	1	0	1	0	0
$15,000 to $24,999	1	0	2	1	0
$14,999 and under	3	2	5	5	7
Profit ranges:					
$14,999 and under	13	13	14	12	10
$15,000 to $24,999	10	5	8	7	9
$25,000 to $49,999	9	19	9	14	10
$50,000 to $74,999	6	4	3	6	6
$75,000 to $99,999	2	1	2	1	0
$100,000 to $149,999	2	3	2	3	4
$150,000 to $199,999	2	1	1	1	1
$200,000 to $299,999	1	2	0	0	3
$300,000 and over	2	2	1	0	0
Medians:					
Sales	$131,500	$130,500	$126,000	$145,500	$179,000
Profit	25,500	31,000	15,000	23,000	22,500

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

each of the years 1972-75 and less than $200,000 in 1976. With the exception of 1973, fewer than half the growers earned more than $25,000 on their fresh-cut-flower and plant-growing operations in any 1 year during 1972-76. Median profit ranged from a low of $15,000 in 1974 to a high of $31,000 in 1973. The numbers of firms reporting losses among the 52 growers during 1972-76 are summarized below:

	Number of firms reporting losses
1972	5
1973	2
1974	12
1975	8
1976	9

California growers of fresh cut flowers.--Usable profit-and-loss data were received from 13 California growers of fresh cut flowers. California is a carnation- and rose-growing area. The data presented in table 11 for the California growers are dominated by one large grower which accounted for more than half the reported total sales of fresh cut carnations and for all the reported sales of fresh cut roses in each of the years 1972-76.

Overall, during 1972-76 total sales of all flowers and plants increased 32 percent, compared with a 41-percent increase in growing and operating expenses. Net profit declined 68 percent from 1972 to 1976. In the aggregate, the 13 growers sustained a loss of $178,000 in 1974--equal to 4.7 percent of total sales--and in the other 4 years earned profits ranging from a high of $542,000 in 1973 to a low $100,000 in 1976. Profit margins ranged from 2.0 percent in 1976 to 13.0 percent in 1973.

Colorado growers of fresh cut flowers.--From Colorado, a major carnation-growing area, the Commission obtained six usable responses to its questionnaire. The data presented in table 12 for the Colorado growers also are dominated by one large grower which accounted for more than half the reported sales of fresh cut carnations and for all the sales of fresh cut roses in each of the years 1972-76.1/

Total sales of all flowers and plants increased 61 percent from 1972 to 1976, and growing and operating expenses increased 73 percent. On the other hand, net profit declined 26 percent during 1972-76.

The Colorado growers sustained a loss of $79,000 in 1975, equal to 2.3 percent of total sales. In all other years, profit ranged from a high of $351,000 in 1972 to a low of $258,000 in 1976. Profit margins ranged downward from 12.3 percent in 1972 to 5.6 percent in 1976.

1/ * * * * *

Table 11.--Profit-and-loss experience of 13 California growers on their fresh-cut-flower- and plant-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales: 1/					
Fresh cut flowers:					
Carnations	*	*	*	*	*
Chrysanthemums	*	*	*	*	*
Roses	*	*	*	*	*
Other fresh cut flowers	*	*	*	*	*
Subtotal	*	*	*	*	*
Potted foliage plants	*	*	*	*	*
Sales of other flowers and plants	*	*	*	*	*
Total sales	3,787	4,160	3,814	4,247	5,009
Other income	6	39	9	5	9
Total sales and other income	3,793	4,199	3,823	4,252	5,018
Growing and operating expenses:					
Hired labor and wages	1,551	1,593	1,666	1,738	1,910
Plants, bulbs, and seed purchased	357	403	572	522	654
Fertilizers, lime, and chemicals	114	98	142	145	144
Supplies purchased	160	168	185	224	246
Repairs and maintenance	96	105	130	124	181
Depreciation	222	245	235	231	209
Taxes and insurance	332	360	400	352	601
Gas, oil, and fuel	166	176	231	299	425
Water and electricity	95	110	107	149	168
Other expenses 2/	388	399	333	320	380
Total growing and operating expenses	3,481	3,657	4,001	4,104	4,918
Net profit or (loss) before income taxes and officers' salaries	312	542	(178)	148	100
Ratio of net profit or (loss) (before income taxes and officers' salaries) to total sales--percent	8.2	13.0	(4.7)	3.5	2.0

1/ Some growers reported gross sales and other growers reported net sales (less commissions paid).

2/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Table 12.--Profit-and-loss experience of 6 Colorado growers on their fresh-cut-flower- and plant-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales: 1/					
Fresh cut flowers:					
Carnations	*	*	*	*	*
Chrysanthemums	*	*	*	*	*
Roses	*	*	*	*	*
Other fresh cut flowers	*	*	*	*	*
Subtotal	*	*	*	*	*
Potted chrysanthemums	*	*	*	*	*
Decorative greens	*	*	*	*	*
Potted foliage plants	*	*	*	*	*
Sales of other flowers and plants	*	*	*	*	*
Total sales	2,848	3,137	3,535	3,511	4,580
Other income	24	54	33	40	28
Total sales and other income	2,872	3,191	3,568	3,551	4,608
Growing and operating expenses:					
Hired labor and wages	825	1,059	1,186	1,295	1,247
Plants, bulbs, and seed purchased	75	61	78	258	305
Fertilizers, lime, and chemicals	44	60	61	105	90
Supplies purchased	88	168	238	225	501
Repairs and maintenance	48	42	70	59	61
Depreciation	171	196	199	199	195
Taxes and insurance	147	207	211	228	244
Gas, oil, and fuel	170	361	248	260	369
Water and electricity	95	107	111	146	153
Other expenses 2/	858	600	866	855	1,185
Total growing and operating expenses	2,521	2,861	3,268	3,630	4,350
Net profit or (loss) before income taxes and officers' salaries	351	330	300	(79)	258
Ratio of net profit or (loss) before income taxes and officers' salaries to total sales--percent	12.3	10.5	8.5	(2.3)	5.6

1/ Some growers reported gross sales and other growers reported net sales (less commissions paid).

2/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Florida growers of fresh cut flowers.--Florida is a major growing area for chrysanthemums and gladioli. Profit-and-loss data for seven Florida growers are shown in table 13. During 1972-76, total sales of all flowers and plants increased 34 percent, total growing and operating expenses increased 41 percent, and net profit declined 18 percent.

The Florida growers sustained a loss of $247,000 in 1974, equal to 3.2 percent of total sales, and earned profits in all other years ranging from a low of $265,000 in 1975 to a high of $1.0 million in 1972. Profit margins ranged from a low of 2.9 percent in 1975 to a high of 13.0 percent in 1972.

The profit position of this group of growers was influenced somewhat during 1972-76 by two growers which accounted for the bulk of the item "Other income" shown in table 13. The income consisted of investment income and gains on the sale of securities and other assets. The Florida growers reported a significant increase in sales of potted foliage plants in 1974-76.

The item "Sales of other flowers and plants" shown in table 13 consists mainly of retail sales of flowers and plants reported by one grower and sales of citrus fruit reported by another grower. The citrus fruit sales were substantially smaller than the retail flower and plant sales.

North Carolina growers of fresh cut flowers.--Profit-and-loss data for the four reporting North Carolina growers of fresh cut flowers are shown in table 14 for 1972-76. Total sales of all flowers and plants increased 36 percent from 1972 to 1976, total growing and operating expenses increased 43 percent, and net profit declined 10 percent. Profit margins ranged from a low of 6.9 percent in 1974 to 14.5 percent in 1973.

Midwestern growers of fresh cut flowers.--Eleven fresh cut flower growers from the States of Indiana, Ohio, and Missouri constitute the midwestern group of growers. This group of growers reported higher profits than those of any other area during 1972-76. The 11 growers accounted for about 33 percent of the profit and only 17 percent of the total sales reported by the 52 reporting U.S. growers during this period. The profits shown in table 15 are greatly influenced by one grower which reported substantial income from rose royalties, interest, and dividends.

Table 13.--Profit-and-loss experience of 7 Florida growers on their fresh-cut-flower- and plant-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales: 1/					
Fresh cut flowers:					
Carnations	75	80	113	98	109
Chrysanthemums	1,770	2,125	2,039	2,063	2,224
Roses	21	26	26	29	29
Other fresh cut flowers 2/	3,557	3,890	3,679	4,008	4,249
Subtotal	5,423	6,121	5,857	6,198	6,611
Potted chrysanthemums	*	*	*	*	*
Decorative greens	*	*	*	*	*
Potted foliage plants	*	*	*	*	*
Sales of other flowers and plants 3/	*	*	*	*	*
Total sales	*	*	*	*	*
Other income	*	*	*	*	*
Total sales and other income	7,957	8,422	7,967	9,435	10,641
Growing and operating expenses:					
Hired labor and wages	2,814	2,976	3,199	3,408	3,595
Plants, bulbs, and seed purchased	498	677	668	798	1,022
Fertilizers, lime, and chemicals	481	539	623	822	917
Supplies purchased	439	452	601	606	595
Repairs and maintenance	393	419	396	405	360
Depreciation	374	400	447	462	496
Taxes and insurance	291	312	369	413	474
Gas, oil, and fuel	106	116	170	231	256
Water and electricity	95	119	153	179	180
Other expenses 4/	1,448	1,453	1,588	1,846	1,911
Total growing and operating expenses	6,939	7,463	8,214	9,170	9,806
Net profit or (loss) before income taxes and officers' salaries	1,018	959	(247)	265	835
Ratio of net profit or (loss)(before income taxes and officers' salaries) to total sales--percent	13.0	11.7	(3.2)	2.9	8.0

1/ Some growers reported gross sales and other growers reported net sales (less commissions paid).

2/ Gladioli sales account for a major share of this item.

3/ Consists mainly of sales of purchased flowers and plants. Also includes sales of citrus fruit.

4/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Table 14.--Profit-and-loss experience of 4 North Carolina growers on their fresh-cut-flower-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Fresh cut flower sales: 1/					
Carnations	*	*	*	*	*
Chrysanthemums	*	*	*	*	*
Roses	*	*	*	*	*
Other fresh cut flowers	*	*	*	*	*
Total fresh cut flower sales	*	*	*	*	*
Other income	*	*	*	*	*
Total sales and other income	715	792	831	896	972
Growing and operating expenses:					
Hired labor and wages	211	223	240	267	288
Plants, bulbs, and seed purchased	80	90	100	83	124
Fertilizers, lime, and chemicals	8	11	7	16	12
Supplies purchased	23	23	23	23	18
Repairs and maintenance	45	25	37	16	20
Depreciation	65	75	67	65	53
Taxes and insurance	21	25	29	33	36
Gas, oil, and fuel	74	108	146	163	183
Water and electricity	15	17	17	20	28
Other expenses 2/	81	80	108	117	127
Total growing and operating expenses	623	677	774	803	889
Net profit before income taxes and officers' salaries	92	115	57	93	83
Ratio of net profit (before income taxes and officers' salaries) to total sales--percent	12.9	14.5	6.9	11.0	8.5

1/ Some growers reported gross sales and other growers reported net sales (less commissions paid).

2/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data sumbitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Table 15.--Profit-and-loss experience of 11 midwestern growers on their fresh-cut-flower- and plant-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales: 1/					
Fresh cut flowers:					
Carnations	64	58	44	30	31
Chrysanthemums	407	493	509	491	542
Roses	1,959	2,425	2,389	2,598	2,786
Other fresh cut flowers	396	136	465	506	566
Subtotal	2,826	3,112	3,407	3,625	3,925
Potted chrysanthemums	*	*	*	*	*
Potted foliage plants	*	*	*	*	*
Sales of other flowers and plants	*	*	*	*	*
Total sales	*	*	*	*	*
Other income	*	*	*	*	*
Total sales and other income	3,816	4,263	4,475	5,020	5,633
Growing and operating expenses:					
Hired labor and wages	793	853	963	1,128	1,244
Plants, bulbs, and seed purchased	228	273	309	385	557
Fertilizers, lime, and chemicals	68	75	102	95	139
Supplies purchased	97	95	128	143	220
Repairs and maintenance	117	97	85	116	128
Depreciation	136	152	188	210	210
Taxes and insurance	169	200	212	230	257
Gas, oil, and fuel	255	292	484	747	751
Water and electricity	98	103	138	183	202
Other expenses 2/	903	1,259	1,079	1,270	1,332
Total growing and operating expenses	2,864	3,399	3,688	4,507	5,040
Net profit before income taxes and officers' salaries	952	864	787	513	593
Ratio of net profit (before income taxes and officers' salaries) to total sales--percent	29.4	24.4	19.8	11.5	11.7

1/ Some growers reported gross sales and other growers reported net sales (less commissions).

2/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Total sales of all flowers and plants and total growing and operating expenses increased 57 percent and 76 percent, respectively, for this group of growers from 1972 to 1976, while net profit declined 38 percent, as the midwestern growers experienced a substantial increase in gas, oil, and fuel expense during 1972-76. Profit margins ranged from a high of 29.4 percent in 1972 to 11.5 percent and 11.7 percent in 1975 and 1976, respectively.

Northeastern growers of fresh cut flowers.--Profit-and-loss data for 11 northeastern growers of fresh cut flowers are shown in table 16 for 1972-76. 1/ Total sales of all flowers and plants and total growing and operating expenses increased 45 percent and 55 percent, respectively, for the northeastern growers from 1972-76, and net profit increased 3 percent.

Profit margins averaged about 17 percent in 1972 and 1973 and about 11 percent in the period 1974-76. One producer's retail operation accounted for almost all the reported sales of other flowers and plants during 1972-76. The costs of flowers purchased for resale in this grower's retail stores are included in the expense item "Plants, bulbs, and seed purchased."

Growers of fresh cut carnations.--The profit-and-loss experience of 13 U.S. growers on their fresh-cut-carnation-growing operations for 1972-76 is presented in table 17. The 13 growers accounted for about 2.5 percent of total U.S. sales of fresh cut carnations and for about one-third of fresh cut carnation sales reported by the 52 U.S. growers in 1976. Most of the 13 carnation growers are small (median sales amounted to $104,000 in 1976), and they utilize family labor extensively. Median net profit for the 13 carnation growers declined from $18,000 and $20,000 in 1972 and 1973, respectively, to $7,000 and $9,000 in 1974 and 1975, respectively, and then increased to $16,000 in 1976.

Growers of fresh cut chrysanthemums.--The profit-and-loss experience of 12 U.S. growers on their fresh-cut-chrysanthemum-growing operations for 1972-76 is shown in table 18. The 12 growers accounted for about 2.5 percent of total U.S. sales of fresh cut chrysanthemums and for about 41 percent of the fresh cut chrysanthemums sold by the reporting 52 U.S. growers in 1976. Median profit was about $31,000 for the 12 chrysanthemum growers in each of the years 1973, 1975, and 1976. The median profit for 1972 and 1974 was $20,000 and $15,000, respectively.

Growers of fresh cut roses.--Profit-and-loss experience of 12 U.S. growers on their fresh-cut-rose-growing operations is shown in table 19 for 1972-76. Unlike the data for carnation and chrysanthemum growers, the data on roses include a sizable amount of other flower

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1/ Includes growers from Maryland, Massachusetts, New Jersey, New York, and Pennsylvania.

Table 16.--Profit-and-loss experience of 11 northeastern growers on their fresh-cut-flower- and plant-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales: 1/					
Fresh cut flowers:					
Carnations	219	217	178	179	156
Chrysanthemums	362	366	412	465	475
Roses	1,249	1,387	1,496	1,459	1,635
Other fresh cut flowers	27	22	16	31	23
Subtotal	1,857	1,992	2,102	2,134	2,289
Potted chrysanthemums	*	*	*	*	*
Potted foliage plants	*	*	*	*	*
Sales of other flowers and plants 2/	*	*	*	*	*
Total sales	*	*	*	*	*
Other income	*	*	*	*	*
Total sales and other income	2,568	2,804	3,184	3,365	3,771
Growing and operating expenses:					
Hired labor and wages	577	603	662	689	741
Plants, bulbs, and seed purchased	475	556	674	774	891
Fertilizers, lime, and chemicals	62	66	81	92	85
Supplies purchased	53	64	59	65	89
Repairs and maintenance	77	111	98	82	105
Depreciation	98	101	140	150	155
Taxes and insurance	126	119	136	132	162
Gas, oil, and fuel	166	178	290	369	395
Water and electricity	40	44	58	73	81
Other expenses 3/	478	476	585	581	639
Total growing and operating expenses	2,152	2,318	2,783	3,007	3,343
Net profit before income taxes and officers' salaries	416	486	401	358	428
Ratio of net profit (before income taxes and officers' salaries) to total sales--percent	16.3	17.4	12.7	10.8	11.6

1/ Some growers reported gross sales and other growers reported net sales (less commissions paid).

2/ Includes sales of purchased fresh cut flowers and plants sold in grower-owned retail outlets.

3/ Consists mainly of shipping, selling (including commissions paid), and general overhead expenses.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Table 17.--Profit-and-loss experience of 13 U.S. growers on their fresh-cut-carnation-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales:					
Fresh cut carnations	1,312	1,225	1,255	1,273	1,469
Fresh cut chrysanthemums	1	3	5	4	8
Sales of other flowers and plants	28	30	47	62	117
Total sales	1,341	1,258	1,307	1,339	1,594
Other income	27	38	14	20	13
Total sales and other income	1,368	1,296	1,321	1,359	1,607
Total growing and operating expenses	1,035	1,050	1,060	1,082	1,228
Net profit before income taxes and officers' salaries	333	246	261	277	379
Ratio of net profit (before income taxes and officers' salaries) to total sales---percent	24.8	19.6	20.0	20.7	23.8
Ratio of fresh-cut-carnation sales to total sales---percent	97.8	97.4	96.0	95.1	92.2
Range of individual growers' total sales:					
Low	29	23	22	32	25
High	222	192	242	217	306
Median	87	106	99	101	104
Range of individual growers' total profit or (loss):					
Low	(24)	(7)	(22)	(17)	(7)
High	78	47	142	110	189
Median	18	20	7	9	16
Number of growers reporting losses	2	2	4	2	2

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Table 18.--Profit-and-loss experience of 12 U.S. growers on their fresh-cut-chrysanthemum-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales:					
Fresh cut chrysanthemums	1,179	1,343	1,370	1,565	1,881
Sales of other flowers and plants	70	83	100	170	193
Total sales	1,249	1,426	1,470	1,735	2,074
Other income	4	3	6	7	11
Total sales and other income	1,253	1,429	1,476	1,742	2,085
Total growing and operating expenses	895	1,112	1,245	1,398	1,660
Net profit before income taxes and officers' salaries	358	317	231	344	425
Ratio of net profit (before income taxes and officers' salaries) to total sales---percent--	28.7	22.2	15.7	19.8	20.5
Ratio of fresh-cut-chrysanthemum sales to total sales---percent--	94.4	94.2	93.2	90.2	90.7
Range of individual growers' total sales:					
Low	25	34	27	37	36
High	306	292	316	377	455
Median	91	107	109	120	141
Range of individual growers' profit or (loss):					
Low	1	3	2	(8)	(2)
High	52	42	65	67	102
Median	20	31	15	31	30
Number of growers reporting losses	0	0	0	2	1

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

Table 19.--Profit-and-loss experience of 12 U.S. growers on their fresh-cut-rose-growing operations, accounting years 1972-76

(Money figures in thousands of dollars)

Item	1972	1973	1974	1975	1976
Sales:					
Fresh cut carnations	*	*	*	*	*
Fresh cut chrysanthemums	206	267	312	334	361
Fresh cut roses	5,132	5,767	6,213	6,306	7,471
Sales of other flowers and plants	225	238	268	485	1,064
Total sales	*	*	*	*	*
Other income	*	*	*	*	*
Total sales and other income	7,990	9,010	9,415	9,968	11,744
Total growing and operating expenses	6,717	7,609	8,567	9,617	11,253
Net profit before income taxes and officers' salaries	1,273	1,401	848	351	491
Ratio of net profit (before income taxes and officers' salaries) to total sales----percent	17.2	17.0	9.5	3.7	4.4
Ratio of fresh-cut-rose sales to total sales----------percent	69.4	69.9	70.0	67.3	67.2
Range of individual growers' total sales:					
Low	52	56	62	74	71
High	*	*	*	*	*
Median	302	307	331	361	429
Range of individual growers' profit or (loss):					
Low	*	*	*	*	*
High	*	*	*	*	*
Median	52	66	26	28	25
Number of growers reporting losses	1	0	2	2	3

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission by U.S. growers of flowers.

sales. However, fresh-cut-rose sales accounted for one-half or more of each of the 12 growers' total sales during 1972-76. In the aggregate, fresh-cut-rose sales accounted for 67 to 70 percent of the 12 growers' total sales in each of the years 1972-76. The 12 growers accounted for about 9 percent of total U.S. sales of fresh cut roses and for about 91 percent of fresh-cut-rose sales reported by the 52 U.S. growers in 1976.

Median sales for this group of growers trended upward from $302,000 in 1972 to $429,000 in 1976. Median profit, on the other hand, ranged from a high of $66,000 in 1973 to a low of $25,000 in 1976. Aggregate profit figures are influenced by the large amount of other income reported by one midwestern grower.

U.S. producers' efforts to compete

U.S. producers of fresh cut flowers have worked to improve the quality of their products, to improve their marketing efforts, and to lower their production costs. An example of industry quality improvement is the voluntary grading system for carnations adopted by many producers in the last 2 years. Officials of the Agricultural Research Service of the Department of Agriculture report that grower acceptance of new floral varieties is rapid and nearly universal. Acceptance of new carnation and chrysanthemum varieties is especially rapid because of the constant replanting of these flower types. However, the commercial life of a rose plant is 3 to 4 years and its relatively high expense makes acceptance of new varieties slower, although Agriculture officials report that almost no floral varieties currently in use are more than 10 years old.

The "Chain of Life," a quality improvement program of the Society of American Florists, is designed to educate industry members and encourage adoptation of new techniques such as the use of preservatives for fresh cut flowers, deionized water, night lighting of chrysanthemums stored in the cooler, precooling of flowers before shipping, and the use of refrigerated trucks. Recent improvements in preservatives have extended the useful life of fresh cut flowers and allowed shipment to distant markets by refrigerated trucks rather than the more expensive air transport. New pesticides and soil sterilization techniques are also rapidly accepted by the industry for maintaining and improving floral quality. Efforts to reduce costs include the adoption of automatic means to control environmental factors by ventilation, watering, fertilizing, heating, and cooling. Many fresh cut flower producers have diversified into other products such as green foliage plants and potted flower plants, thus attempting to utilize their production facilities year round and hence lower their average cost of production.

Marketing improvements include increased expenditures for advertising and promotion. The American Florists Marketing Council, established in 1969, spent $600,000 in 1976 for advertising and promotion of fresh cut flowers. Other segments of the industry have also reported increased promotional expenditures. The Department of Agriculture and the fresh cut flower industry have cooperated to improve marketing information by conferring on preparation of data collection systems and speeding the collection and distribution of data.

A change in floral marketing from retail florist shops to mass-market outlets has occurred in recent years. Statistics are not available, but it is established that sales through mass-market outlets may account for 10 percent of total fresh cut flower sales.

The Question of Imports as a Substantial Cause of Serious Injury

U.S. consumption

U.S. apparent consumption of all fresh cut flowers (based on indicated wholesale value) increased from $194 million in 1967 to $311 million in 1976. The increase in the value of consumption indicates an increase in quantity consumed since wholesale prices for fresh cut flowers have not increased at as fast a rate as the value of consumption.

Mass marketing with lower prices and the increasing interest in natural products is expected to encourage a continued growth in the demand for fresh cut flowers. However, the trend towards memorial gifts in lieu of flowers at funerals is working against increased flower consumption. There has been a marked upward trend in consumption of carnations, pompom chrysanthemums, and cymbidium orchids, while the popularity of gladioli, gardenias, snapdragons, and cattleya orchids has declined.

Per capita consumption of the leading types of fresh cut flowers is shown in table 20. Carnations increased from less than 2 stems per capita in 1950 to nearly 4 stems in 1976. Pompon chrysanthemums have increased from 0.6 stem to 1.6 stems per capita over the same period. Per capita consumption of gladioli, a leading flower for funerals, has fallen from nearly 2 spikes in 1950 to 1 spike in 1976.

In explaining these trends, it should be noted that chrysanthemums and carnations typically last longer than roses or gladioli. Great strides in the technology for producing, marketing, and breeding of carnations and chrysanthemums are permitting cost reductions and greater variety.

Table 20.--Fresh cut flowers: U.S. per capita consumption of carnations, roses, pompon chrysanthemums, standard chrysanthemums, and gladioli, 1950, 1959, 1970, and 1972-76

Year	Carnations	Roses	Chrysanthemums		Gladioli
			Pompon	Standard	
	Stems	Blooms	Stems	Blooms	Spikes
1950	1.7	2.6	0.6	0.3	1.9
1959	2.4	2.0	.6	.5	1.9
1970	3.3	2.3	1.1	.9	1.5
1972	3.2	2.2	1.2	.8	1.5
1973	3.7	2.1	1.3	.9	1.2
1974	3.9	2.2	1.4	.9	1.2
1975	3.6	2.1	1.5	.8	1.0
1976	3.7	2.2	1.6	.8	1.0

Source: Estimated by the U.S. International Trade Commission.

Prices

Long-term domestic price movements.--The average unit values of grower shipments for the major types of fresh cut flowers for the period 1967-76, presented in table 21, serve as an indicator of annual movements in prices received by growers during this period. Gladioli, which increased from 5.7 cents to 9.5 cents per spike, and roses, which climbed from 11.7 to 17.6 cents per bloom, showed the steadiest and largest price increases among the leading types of fresh cut flowers. While rose prices increased at a 4.6-percent annual rate and gladioli prices advanced a rate of 5.8 percent, other fresh cut flower prices rose slowly and erratically. Standard chrysanthemums, carnations, and pompon chrysanthemums showed annual growth rates of only 1.5 percent, 1.7 percent, and 2.0 percent, respectively, for the period.

Roses and gladioli, which had the strongest price advances, faced far less competition from imports than the other major types of fresh cut flowers. Gladioli imports were negligible throughout the period 1967-76, while imports of roses amounted to only 1.3 percent of U.S. production at their highest level in 1976. On the other hand, the ratio of imports to production for carnations advanced from 0.3 percent in 1967 to 33.9 percent in 1976; the ratio for pompon chrysanthemums surged from 0.7 percent to 47.8 percent during this period, and the ratio for standard chrysanthemums rose from 0.5 percent in 1967 to 15.5 percent in 1974 before dropping to 7.5 percent in 1976.

Table 21.--Fresh cut flowers: Average wholesale prices received by U.S. growers for carnations, standard chrysanthemums, pompon chrysanthemums, gladioli, and roses, 1967-76

Year	Carnations	Chrysanthemums		Gladioli	Roses
		Standard	Pompon		
	Cents per stem	Cents per bloom	Cents per stem	Cents per spike	Cents per bloom
1967	1/ 7.9	18.3	13.8	5.7	11.7
1968	7.7	20.2	14.0	6.3	12.0
1969	7.6	19.6	13.8	6.6	12.6
1970	7.5	18.3	13.7	6.7	12.3
1971	7.6	19.0	14.2	6.7	12.7
1972	8.6	21.2	14.8	7.4	13.8
1973	7.8	21.6	15.2	8.3	14.8
1974	7.8	20.5	13.7	8.4	15.3
1975	8.2	21.9	14.7	9.2	16.4
1976	9.4	20.9	16.0	9.5	17.6

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

Source: Compiled from official statistics of the U.S. Department of Agriculture, except as noted.

Note.--Minature carnations converted from blooms to stems at a rate of 6 blooms a stem. Pompon chrysanthemums converted from bunches to stems at a rate of 6 stems a bunch.

Short-term domestic and import price movements.--The price series for the major fresh cut flowers were developed by computing the mid-points of the ranges of weekly leading market prices quoted by the USDA. Monthly averages of those values were then calculated. The domestic series for carnations, roses, and standard chrysanthemums came from quotes for the California central coast market because published data from this market are abundant and because California is the leading U.S. producer of these types of flowers. For pompons, separate domestic series were developed for California and for Florida because Florida ranks close to California as a major U.S. grower of pompons. Florida has a short growing season and, therefore, the pompon price data for this major producing area were available only for the months of November through June, as shown in table 22. Since carnations, roses, and standard chrysanthemums are broad categories of fresh cut flowers, it was necessary to choose a representative subtype for

each. Hybrid tea roses 14 to 18 inches long, large standard chrysanthemums, and standard carnations were selected. No price series was constructed for gladioli, since growers of these flowers do not face import competition.

Quarterly and monthly import prices are included in tables 22 through 24 and in figures 5 through 8 for comparison with domestic prices during the periods for which data were available. The import price series for carnations and for pompon chrysanthemums are complete for the period from early 1974 through February of 1977, but the standard chrysanthemum series contains frequent gaps. Import price data for roses were not available.

The data gathered show that fresh cut flower prices fluctuate widely from month to month and from quarter to quarter, largely because inventories cannot be maintained to soften the impact of occasional sharp shifts in demand and supply. Prices tend to be high during the first two quarters of the year because of large seasonal demands created by Valentine's Day, Easter, Mother's Day, and Memorial Day. They decline during the summer when local growers are in peak production and then rise again during the final months of the year with the onset of the Christmas and Jewish holidays. The amplitude of these seasonal price fluctuations is often strengthened or weakened by other factors. For example, the sharp jump in the price of Florida-grown pompons from January to February of 1977 indicated in table 23 was probably due to real or anticipated shortages of these flowers resulting from the frost that occurred in Florida during that time.

Although the data show that prices of domestic and imported flowers generally move in the same direction over time, it is apparent in figure 5 that prices of imported carnations are consistently higher than those for domestically produced carnations. Pompon chrysanthemums show a similar pattern as indicated in figures 7 and 8. According to some wholesalers and retailers, this occurs because imported carnations and pompon chrysanthemums are generally superior in quality to domestic varieties owing to superior climatic conditions prevailing in Colombia, which is the main foreign supplier.

Ratios of import prices to domestic prices were calculated for each of the major types of fresh cut flowers to determine whether import prices have been rising or falling in relation to domestic prices over time. The ratios calculated for carnations, standard chrysanthemums, and for California and Florida pompon chrysanthemums are shown in figures 9 through 12.

The ratios show a cyclical pattern in the movement of import prices in relation to domestic prices--a peak in the third quarter and declines in the first and last quarters in each year. The trend lines for these ratios suggest that prices of imported carnations and standard chrysanthemums have tended to fall in relation to domestic prices of these flowers from 1974 through 1976. Import prices of pompons have

Table 22.--Pompon chrysanthemums: U.S. grower prices in California and Florida and import prices, by months, January 1973-February 1977

(In cents per bunch)

Period	California grower price 1/	Florida grower price 2/	Import price 3/
1973:			
January	101.3	78.8	4/
February	106.9	81.8	4/
March	97.0	81.5	4/
April	88.8	81.9	4/
May	94.4	82.5	4/
June	88.0	80.0	4/
July	81.9	4/	4/
August	82.5	4/	4/
September	78.8	4/	4/
October	81.3	4/	4/
November	81.5	80.0	4/
December	85.0	81.0	4/
1974:			
January	88.8	78.1	4/
February	95.6	83.8	4/
March	85.1	73.5	70.0
April	89.4	85.0	90.7
May	100.0	85.0	100.7
June	87.5	85.0	95.0
July	78.8	4/	95.0
August	80.5	4/	95.0
September	82.5	4/	95.0
October	76.9	4/	95.0
November	78.5	85.8	89.0
December	82.5	78.1	75.6
1975:			
January	84.0	82.5	85.0
February	98.6	89.4	94.4
March	94.4	89.0	95.5
April	91.9	86.2	89.4
May	91.5	86.5	97.5
June	88.1	85.0	101.5
July	86.2	4/	103.5
August	80.5	4/	93.6
September	77.5	4/	99.4
October	79.0	4/	101.2
November	81.2	91.7	99.5
December	91.2	88.8	97.5

See footnotes at end of table.

Table 22.--Pompon chrysanthemums: U.S. grower prices in California and Florida and import prices, by months, January 1973-February 1977--Cont.

(In cents per bunch)

Period	California grower price 1/	Florida grower price 2/	Import price 3/
1976:			
January	90.6	90.0	89.0
February	114.5	91.9	106.9
March	103.3	92.5	100.6
April	109.8	92.5	100.0
May	110.0	92.5	104.5
June	99.3	90.0	107.5
July	95.0	4/	100.5
August	98.1	4/	106.5
September	86.7	4/	106.7
October	84.0	4/	103.5
November	88.8	95.0	107.5
December	104.0	95.0	106.5
1977:			
January	112.5	109.3	109.4
February	133.8	138.0	119.0

1/ Price in California central coast area.
2/ Price in Miami, Fla.
3/ Price in Miami, Fla., of imports from Colombia.
4/ Not available.

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

Table 23.--Fresh cut flowers: U.S. grower prices and import prices for carnations and standard chrysanthemums and U.S. grower prices for roses, by quarters, 1973-76

(In cents per bloom)

Period	Carnations		Standard chrysanthemums		Roses
	Grower price 1/	Import price 2/	Grower price 1/	Import price 2/	Grower price 1/
1973:					
Jan.-Mar-----	7.7	3/	26.0	3/	14.2
Apr.-June----	5.9	3/	19.7	3/	13.8
July-Sept----	3.7	3/	18.6	3/	8.9
Oct.-Dec-----	4.6	3/	21.7	3/	11.8
1974:					
Jan.-Mar-----	6.4	10.3	23.0	3/	16.2
Apr.-June----	6.3	8.2	20.1	21.3	14.3
July-Sept----	3.4	5.2	16.8	19.6	8.3
Oct.-Dec-----	6.2	8.5	20.5	20.3	11.0
1975:					
Jan.-Mar-----	8.4	10.8	24.2	22.8	16.5
Apr.-June----	7.0	8.3	21.2	20.0	11.3
July-Sept----	5.1	7.4	20.8	3/	9.8
Oct.-Dec-----	8.6	9.7	25.9	3/	12.7
1976:					
Jan.-Mar-----	10.3	11.1	27.7	25.3	18.8
Apr.-June----	11.4	11.8	24.5	25.0	15.9
July-Sept----	4.8	8.9	21.8	24.0	10.4
Oct.-Dec-----	7.2	8.9	26.3	24.2	13.4

1/ Grower price in California central coast area.

2/ Price of imports from Colombia, Guatemala, and Costa Rica in Miami, Fla.

3/ Not available.

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

Table 24.--Fresh cut flowers: U.S. grower and import prices of carnations and standard chrysanthemums and U.S. grower prices of roses, by months, January 1976-February 1977

(In cents per bloom)

Period	Carnations		Standard chrysanthemums		Roses
	Grower price 1/	Import price 2/	Grower price 1/	Import price 2/	Grower price 1/
1976:					
January	10.3	10.3	27.3	3/	17.8
February	13.2	13.5	28.0	25.3	23.0
March	7.5	9.4	27.7	25.3	15.7
April	12.6	12.4	25.5	25.5	20.2
May	12.5	12.5	24.0	25.0	19.0
June	9.0	10.6	24.0	24.5	8.5
July	3.5	8.1	22.6	24.0	10.6
August	5.2	9.1	22.5	24.0	10.2
September	5.7	9.5	20.3	24.0	10.3
October	5.9	8.8	23.8	23.9	10.2
November	5.8	7.8	27.2	24.3	12.5
December	9.9	10.1	27.8	24.3	17.6
1977:					
January	8.5	9.3	28.8	25.0	18.5
February	12.5	15.5	30.0	26.1	26.0

1/ Prices received by growers in the California central coast area.
2/ Prices of imports from Colombia, Costa Rica, and Guatemala in Miami, Fla.
3/ Not available.

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

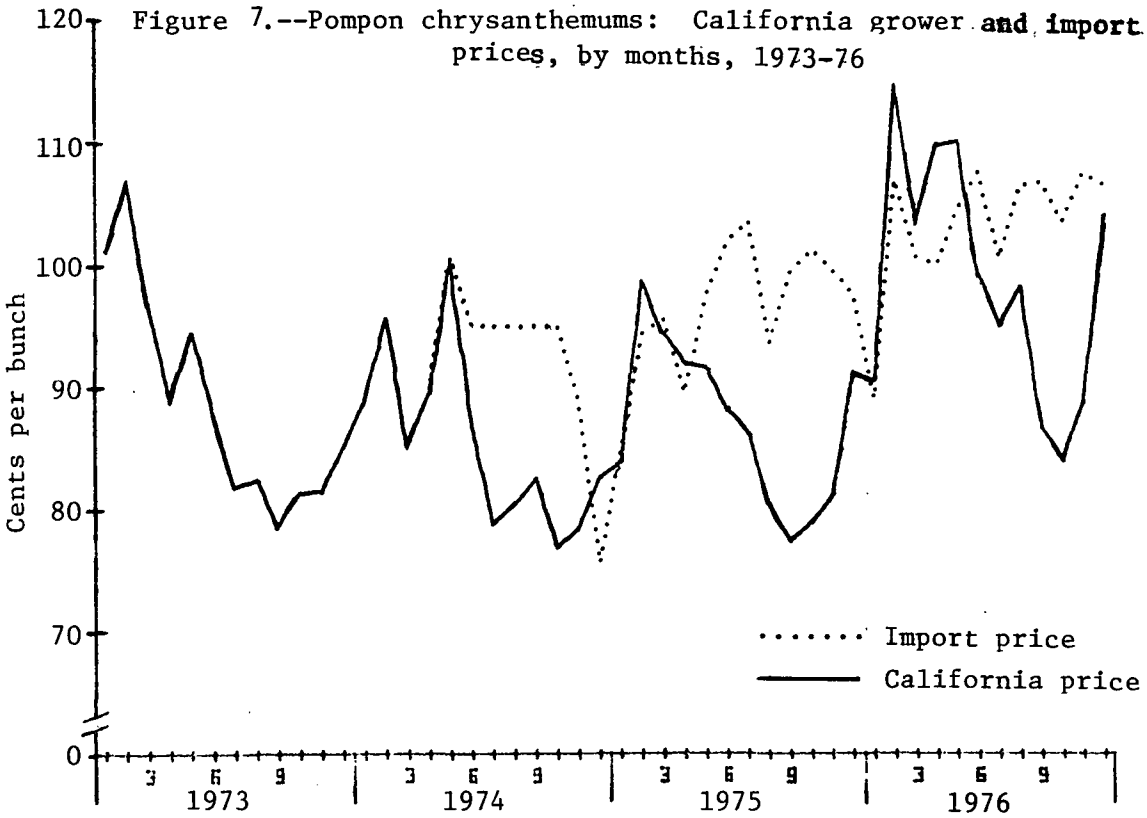
Figure 5.--Carnations: California grower and import prices, by quarters, 1973-76

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

Figure 6.--Standard chrysanthemums: California grower and import prices, by quarters, 1973-76

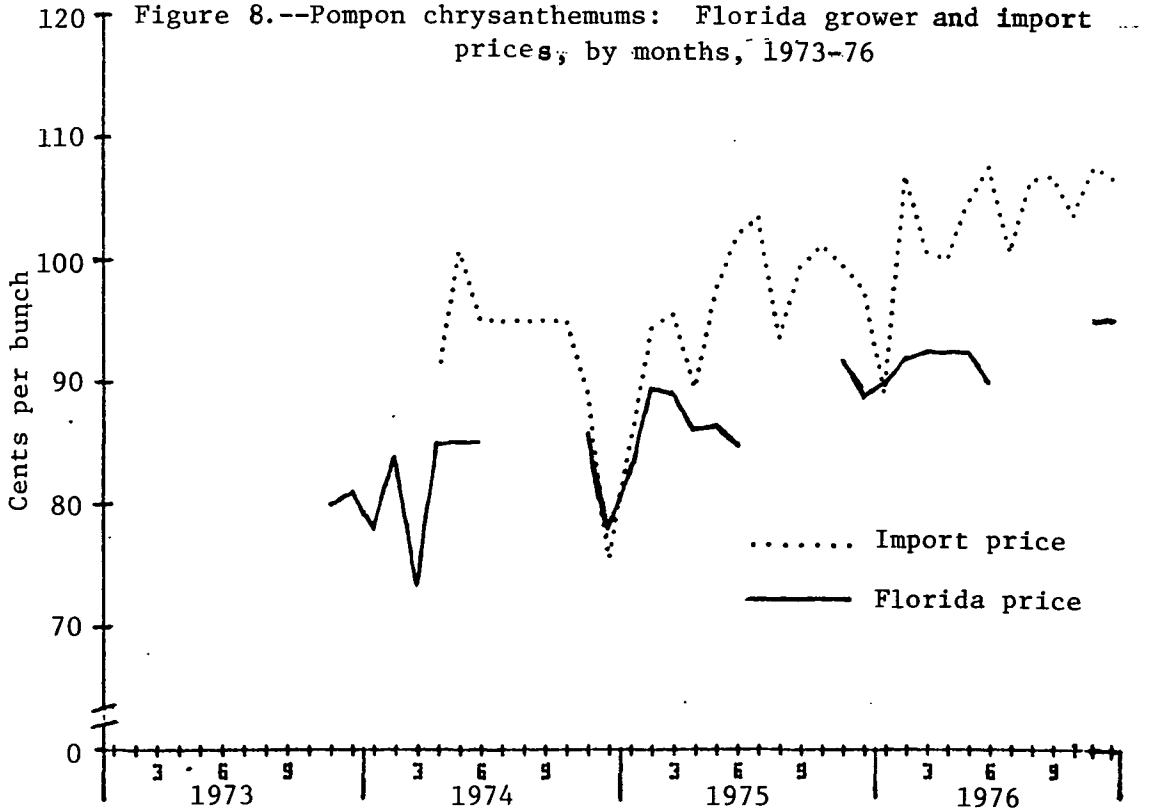
Source: Compiled from official statistics of the U.S. Department of Agriculture.

Figure 7.--Pompon chrysanthemums: California grower and import prices, by months, 1973-76



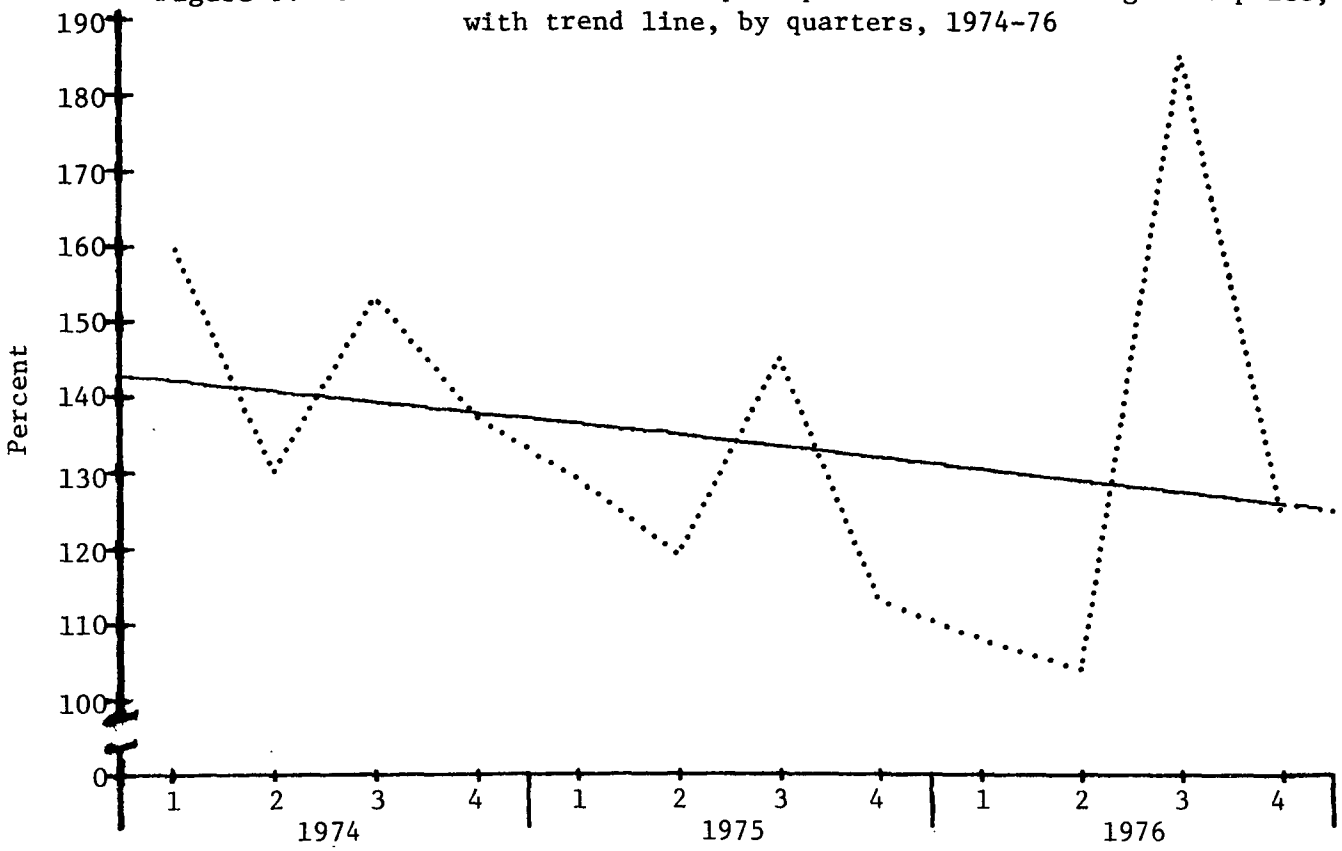
Source: Compiled from official statistics of the U.S. Department of Agriculture.

Figure 8.--Pompon chrysanthemums: Florida grower and import prices, by months, 1973-76



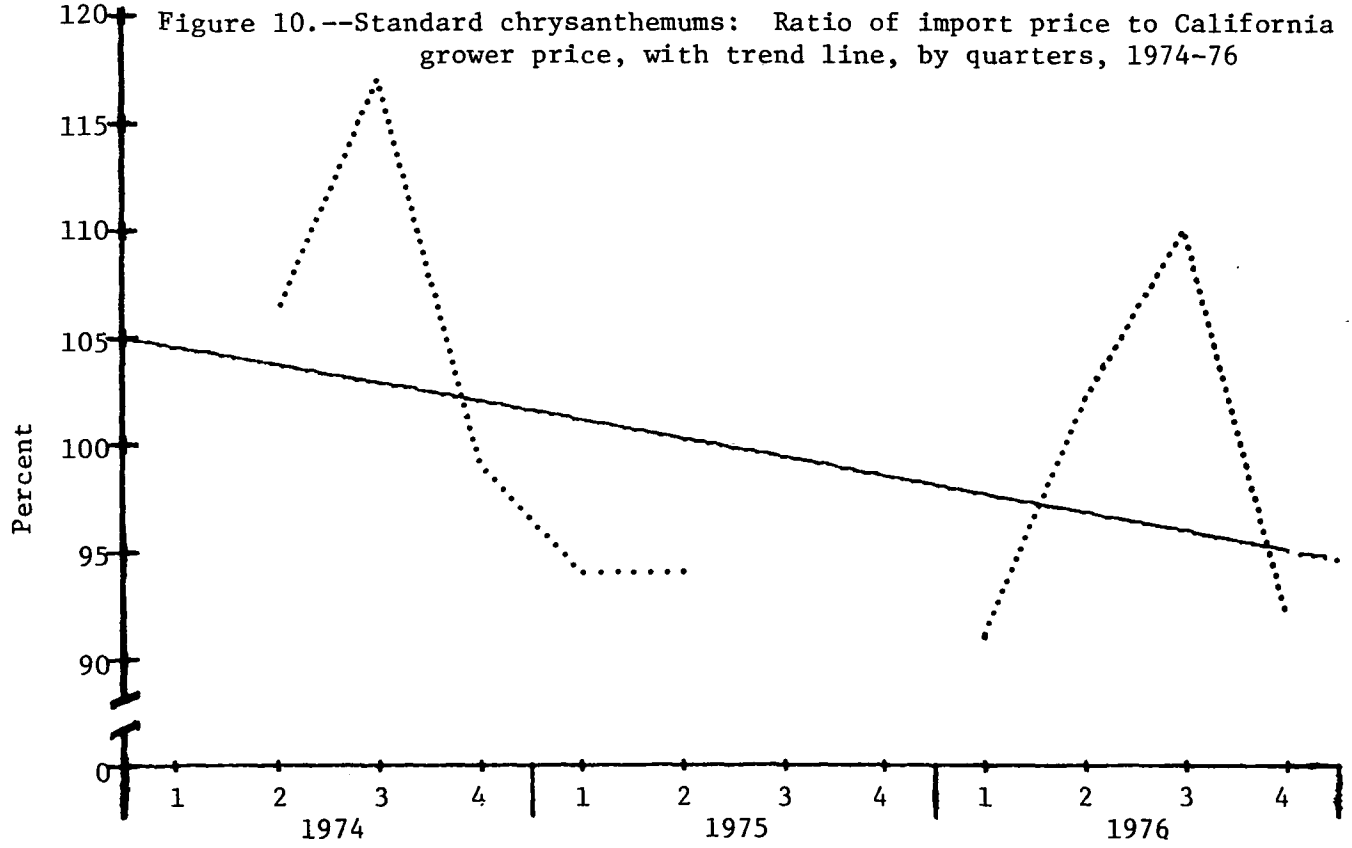
Source: Compiled from official statistics of the U.S. Department of Agriculture.

Figure 9.--Carnations: Ratio of import price to California grower price, with trend line, by quarters, 1974-76



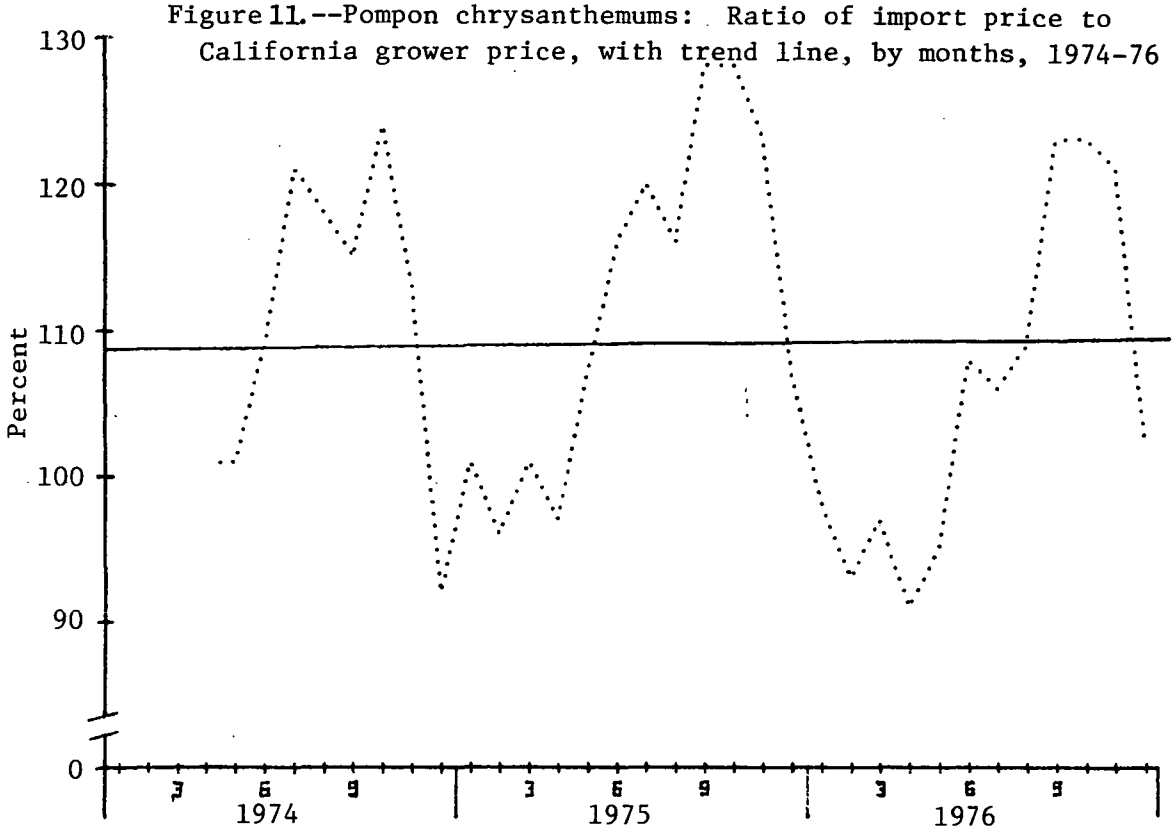
Source: Compiled from official statistics of the U.S. Department of Agriculture.

Figure 10.--Standard chrysanthemums: Ratio of import price to California grower price, with trend line, by quarters, 1974-76



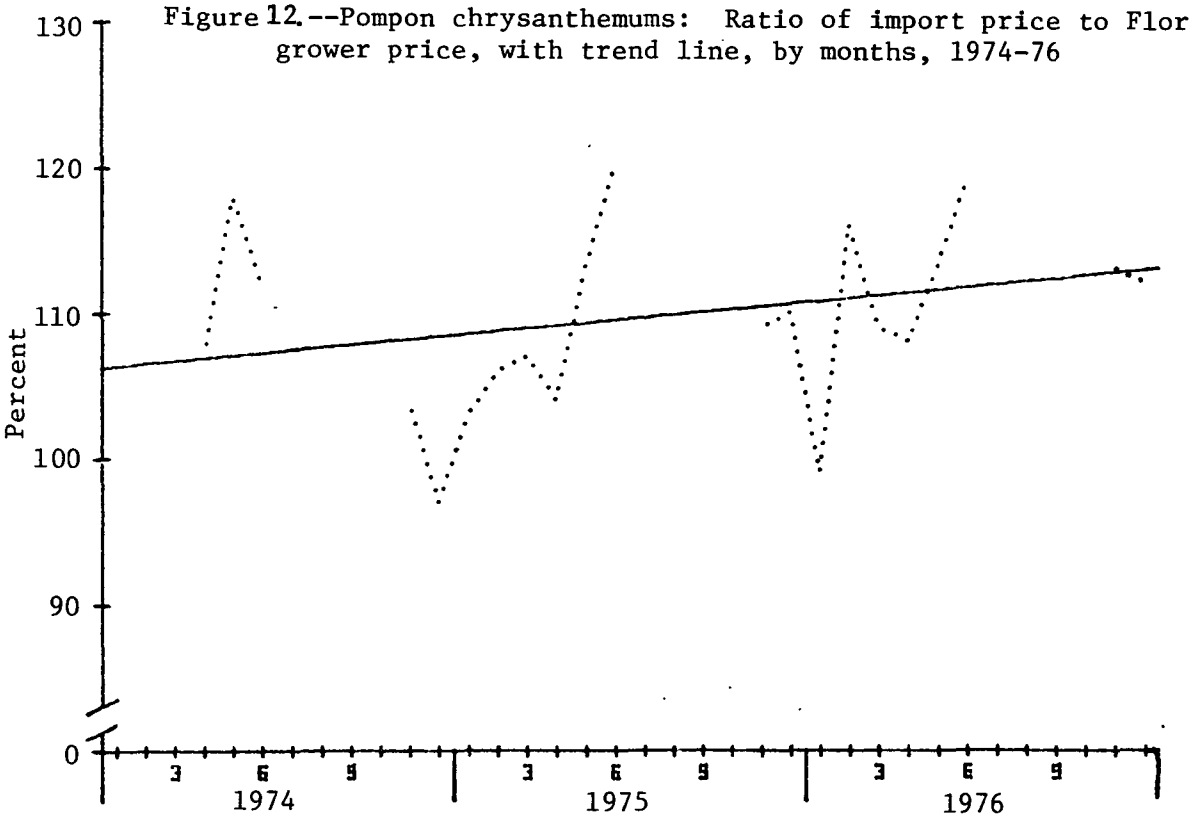
Source: Compiled from official statistics of the U.S. Department of Agriculture.

Figure 11.--Pompon chrysanthemums: Ratio of import price to California grower price, with trend line, by months, 1974-76



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

Figure 12.--Pompon chrysanthemums: Ratio of import price to Florida grower price, with trend line, by months, 1974-76



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

risen in relation to prices of Florida pompons. The ratio of import prices to domestic prices for California pompon chrysanthemums has remained fairly constant. However, in view of the wide fluctuations in all of the price ratios, very little significance can be attached to these trend lines.

Elasticity estimates for carnations and pompons.--Several regression estimates of the elasticities of demand for imported carnations and pompons with respect to changes in the import and domestic prices of these flowers and changes in the aggregate level of economic activity were attempted. Seasonally adjusted quarterly data for the 1974-76 period were used in the analysis, which is discussed in detail in appendix B.

Changes in the import prices of carnations and in the level of economic activity as measured by aggregate personal consumption expenditures in constant 1972 dollars were found to be significant in explaining 64 percent of the quarterly variation in carnation imports. The estimates suggest that a 1-percent rise in the import price of carnations would lead to a decline of approximately 0.6 percent in the volume of imports with all other factors remaining the same. The estimates also show that a 1-percent increase in personal consumption expenditures would lead to a 5.3-percent rise in imports with all other factors remaining the same.

Domestic carnation prices were not found to be significant in explaining the volume of imports. However, the domestic price series used in the regression was highly correlated with the import price series. This made it difficult to measure the separate influences of the two prices on imports. Therefore, this finding should be regarded with caution.

The prices of neither the foreign nor the domestic pompons were significant in explaining pompon imports. Personal consumption expenditures alone accounted for about 80 percent of the quarterly variation in these imports. The estimates indicate that a 1-percent rise in personal consumption expenditures would result in a 7.4-percent increase in imports if all other factors remain the same.

Thus, pompon and carnation imports both seem to be highly sensitive to fluctuations in the aggregate level of economic activity. They tend to rise sharply during expansionary periods when consumer purchasing power is increasing and then to fall sharply during contractionary phases when purchasing power is declining. Although high correlations between domestic and import prices posed some problems in the analysis, the overall results clearly suggest that prices are not a major determinant of either pompon or carnation imports. A consideration of factors that may account for the high correlations between the domestic and foreign prices of all of the major cut flowers is provided in appendix C.

Other possible causes of serious injury to the domestic industry

Rising costs.--The major costs of producing fresh cut flowers, including labor, electricity, fuel, and fertilizer, have all risen faster than prices in recent years. The outlays required to meet U.S. Occupational Safety and Health Administration safety requirements and the added expense occasioned by U.S. Environmental Protection Agency restrictions on certain pesticides formerly used by growers have further increased costs. The inability of domestic growers to pass on these increasing costs to consumers is a possible cause of serious injury to the domestic industry. This inability may be caused by imports, competition from other domestic growers, or a combination of the two factors.

Competition from other crops for available land.--Other crops, notably green foliage plants, potted flowers, and bedding plants, compete with fresh cut flowers for the same agricultural land. In some instances such competition has resulted in smaller production of fresh cut flowers than would otherwise have been the case.

Suburban and urban expansion also compete for land devoted to fresh cut flower production, especially in the populous Northeast. Many greenhouses in the Northeast that were once situated on the city fringe are now in prime commercial and residential locations and therefore must compete with the returns available from such uses.

APPENDIX A

METHODOLOGY USED TO ESTIMATE U.S. PRODUCTION, IMPORTS, AND EXPORTS OF FRESH CUT FLOWERS

Official statistics are not available on a comparable basis for quantity or value of fresh cut flower production, imports, and exports. U.S. production is available in terms of quantity and value on an annual basis for seven types of fresh cut flowers (eight in 1976) from selected producing States. Annual imports for major types of fresh cut flowers are available in terms of quantity, and annual U.S. exports of fresh cut flowers are available in terms of value.

In order to have comparable data available on U.S. production, imports, and exports, a series was developed for 1967-76 for the wholesale value of U.S. production, imports, and exports using the following methodology:

Production

The wholesale values of U.S. production of fresh cut flowers for 1967-69 and 1971-76 are based on the wholesale value reported to the United States Department of Agriculture (USDA) by commercial floriculture producers for seven specified fresh cut flowers in major producing States. For 1970 the wholesale value of U.S. fresh cut flower production is from the 1970 Census of Agriculture: Horticultural Specialties of the U.S. Department of Commerce.

The wholesale values of U.S. sales for all fresh cut flowers in 1967-69 and 1971-76 were derived by extrapolating the data from the seven specified fresh cut flowers in major producing States to the seven specified flowers in all States, and then extrapolating those data to all flowers in all States. The first extrapolation was made using the ratio of the sales of the seven specified flowers in the major producing States as reported by the USDA in 1970 to the sales of those flowers in all States as reported by the 1969 Census of Horticultural Specialties (except for gladioli, where the value of sales was used to calculate the ratio). The second extrapolation used the ratio of the sales value of the seven specified flowers in all States to the sales value for all flowers in all States as reported in the 1969 Census of Horticultural Specialties.

Imports

Imports of fresh cut flowers are valued at their estimated landed costs in the United States. The landed values of fresh cut flower imports for 1970-76 are derived by using quantity data as reported by the Plant Protection and Quarantine Program of the USDA for carnations, standard chrysanthemums, pompon chrysanthemums, roses, daisies, orchids, and statice, and applying the unit value data for domestic production to those quantity data. The estimated value of imports from Canada and the Netherlands, the principal sources of other fresh cut flower imports, were adjusted to reflect the value of imports of

other fresh cut flowers from all sources. It is estimated that Canada and the Netherlands account for one-half the value of other fresh cut flower imports. For 1967-69, value data are extrapolated from 1970 official statistics of the U.S. Department of Commerce.

Along with data on fresh cut flowers, official import statistics as reported by the U.S. Department of Commerce for Tariff Schedules of the United States (TSUS) item 192.20 include data on bouquets, wreaths, sprays, or similar articles made from fresh cut flowers or plant parts. Imports of articles other than fresh cut flowers in this item are estimated at about 1 percent of the total value of imports under this TSUS item. However, the values of fresh cut flower imports under this item are understated. First, they do not include transportation costs, which represent a substantial portion of the delivered value of imports from overseas. Second, they do not include many shipments valued at less than $250. Imports of fresh cut flowers arrive in numerous small shipments, many of which are valued at less than $250.

Exports

Data on exports for 1967-69 are from official statistics of the U.S. Department of Commerce. Data for 1970-76 are estimated. Such estimates are necessary because of a change in the reporting of the official statistics beginning in October 1969 to exclude from the official statistics shipments valued at $250 or less. The estimated data are based on the change in the relationship between the official U.S. Department of Commerce data and Canadian import data for shipments from the United States for class 213-99 (cut flowers and other decorative plant material) from 1967-69 to 1970-76. Also, evidence from Florida shipments data indicates that in recent years shipments of gladioli and pompon chrysanthemums from Florida are about as large as those shown in official U.S. Department of Commerce export statistics.

APPENDIX B

THE INFLUENCE OF DOMESTIC AND IMPORT PRICES AND THE AGGREGATE LEVEL OF ECONOMIC ACTIVITY ON STANDARD CARNATION AND POMPON CHRYSANTHEMUM IMPORTS

Regressions were used to measure the influence of domestic and import prices and the aggregate level of economic activity on standard carnation and pompon chrysanthemum imports. The major results of this effort are presented in the price section. This appendix provides some additional technical details.

The quarterly price data for standard carnations for the 1974-76 period provided 12 observations for use in the regression analysis. Only 11 observations were available for pompons since price data for the first quarter of 1974 were not available. Before performing the regressions, the import volume series and the domestic and import price series were deseasonalized by the ratio-to-moving-average method to eliminate fluctuations in these series resulting from peak holiday demands for fresh cut flowers.

The regressions were expected to show that a rise in the level of economic activity as measured by personal consumption expenditures in constant 1972 dollars and increased domestic prices of fresh cut flowers lead to increased imports while higher import prices lead to a decline in imports.

The results of several regressions suggest that the level of aggregate economic activity is far more important than prices in determining the volume of carnation and pompon imports. The best regression estimate obtained for carnations included only the import price and personal consumption expenditures as explanatory variables. The best result for pompons included the ratio of the import price to the domestic price and to personal consumption expenditures.

The R^2 value for the carnation regression in table B-1 indicates that 64.4 percent of the quarterly variation in carnation imports was explained by the regression analysis. The regession explained 80.5 percent of this variation for pompons.

The import price coefficient for carnations and the personal consumption expenditures coefficient for both carnations and pompons were all statistically significant at the 95-percent level of confidence or higher. Since log-linear regressions were performed, the estimated coefficients can be regarded as crude elasticity measures to be used in gaging the responsiveness of imports to changes in values of the explanatory variables. Thus, the import price coefficient of -0.640 for carnations suggests that a 10-percent rise in the import price would cause imports to decline by 6.4 percent. Similarly, the personal consumption expenditures coefficient of 5.281 implies that a 1-percent rise in personal consumption expenditures would lead to an increase of approximately 5.3 percent in carnation imports.

Table B-1.--Estimated regression coefficients for standard carnation and pompon imports, based on quarterly data, 1974-76

Flower type	Import price	Personal consumption expenditures	R^2
Standard carnations	-0.640	5.281	0.644
	(-2.751)	(3.984)	
Pompons	1/	7.379	.805
		(5.745)	

1/ The ratio of the import price to the domestic price was used in place of the import price for pompons. The estimated coefficient had a negative sign but it was not statistically significant.

Note.--The numbers in parenthesis below the coefficients are the t statistics. All coefficients shown in the table were significant at the 95-percent confidence level or higher.

Source: Compiled by the U.S. International Trade Commission

APPENDIX C

CORRELATIONS BETWEEN PRICES OF MAJOR FRESH CUT FLOWERS

It was found that the quarterly price series of major fresh cut flowers tended to be highly correlated with each other during the 1974-76 period. Before considering this finding, correlation coefficients will be briefly discussed.

The correlation coefficient is a standard statistical measure that is used to gage the direction and magnitude of related movements between two variables. A minus sign for the coefficient shows that the variables are moving in opposite directions while a plus sign shows that they are moving in the same direction. Only positive correlations were found among the fresh cut flower price series. Values of positive coefficients can range between zero and one with values near one indicating a strong association between variables and values near zero indicating a weak association.

Before computing correlations the domestic price series for standard carnations, standard chrysanthemums, pompons, and roses and the import prices of standard carnations and pompons were deseasonalized by the ratio-to-moving-average method to eliminate the sharp price fluctuations resulting from peak holiday demands. The correlation coefficients which were then calculated for each pair of price variables are shown in table C-1.

The coefficient of 0.64 in the first column and the sixth row of the table shows a fairly strong direct association between domestic and import prices of pompons. However, the table also shows that domestic pompon prices are more highly correlated with prices of domestic carnations, domestic roses, and imported carnations than with those of imported pompons. Overall, 10 of the 15 coefficients in the table had values greater than 0.50.

Table C-1.--Correlations between prices of major fresh cut flowers, based on quarterly data, 1974-76

Flowers	1	2	3	4	5	6
Domestic pompon chrysanthemums----------1--	1					
Domestic carnations---------2--	.84	1				
Domestic standard chrysanthemums----------3--	.34	.44	1			
Domestic roses----------4--	.83	.80	.52	1		
Imported carnations---------5--	.72	.71	.39	.74	1	
Imported pompon chrysanthemums----------6--	.64	.83	.24	.65	.44	1

Source: The imported carnation price data used in these correlations were compiled from data submitted by importers in response to questionnaires of the U.S. International Trade Commission. All other data were obtained from official statistics of the U.S. Department of Agriculture.

The high correlations between these prices could indicate that the flowers are close substitutes for one another. Thus, a rise in the price of pompons resulting from a temporary scarcity of these flowers may cause the demand for roses and carnations to rise, leading, in turn to higher prices for these flowers.

On the other hand, the correlations may simply indicate that all of these major fresh cut flowers were faced with similar inflationary cost pressures during the 1974-76 period that caused their prices to rise in a roughly parallel fashion.

APPENDIX D

DEPARTMENT OF STATE TELEGRAM REGARDING THE COLOMBIAN GOVERNMENT'S DISCUSSION OF POSSIBLE RESTRAINTS' BEING PLACED ON FRESH CUT FLOWER EXPORTS

A-76

Department of State TELEGRAM

UNCLASSIFIED 7229

PAGE 01 BOGOTA 02668 221709Z
ACTION EB-08

INFO OCT-01 ARA-10 ISO-00 CEA-01 CIAE-00 COME-00
DODE-00 FRB-01 H-02 INR-07 INT-05 L-03 LAB-04
NSAE-00 NSC-05 PA-02 AID-05 SS-15 STR-04 ITC-01
TRSE-00 USIA-15 PRS-01 SP-02 FEAE-00 OMB-01 /093 W
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P 221027Z MAR 77
FM AMEMBASSY BOGOTA
TO SECSTATE WASHDC PRIORITY 592
INFO USDA WASHDC

UNCLAS BOGOTA 2668

E.O. 11652: N/A
TAGS: ETRD, FAGR, CO
SUBJ: GOC DISCUSSES RESTRAINTS ON FLOWER EXPORTS TO THE US

REF: STATE 040704

1. ACCORDING TO PRESS REPORTS, MINISTER OF AGRICULTURE ALVARO ARAUJO HAS SUGGESTED TO COLOMBIAN FLOWER GROWERS THAT THEY LIMIT EXPORTS OF CUT FLOWERS TO THE US AND WESTERN EUROPE. CITING THE ITC INVESTIGATION IN THE US, ARAUJO PROPOSED THAT THE FOLLOWING MEASURES BE ADOPTED:

AGREEMENT AMONG FLOWER GROWERS/EXPORTERS TO SUSPEND ANY FURTHER EXPANSION IN PLANTINGS OF CARNATIONS AND POMPONS, AND TO LIMIT EXPORTS OF THESE FLOWERS TO LEVELS CONSISTENT WITH THE ABSORPTIVE CAPACITY OF THE MAJOR MARKETS.

SUSPEND CREDIT CURRNTLY AVAILABLE FOR NEW OR EXPANDED PLANTINGS OF CARNATIONS AND POMPOMS, AND GRADUALLY REDUCE CREDIT PLANS IN THIS AREA.

SEEK TO DIVERSITY TYPES OF FLOWERS PLANTED THROUGH THE ESTABLISHMENT OF A NEW LINE OF CREDIT.

Department of State TELEGRAM

UNCLASSIFIED

WITH GOVERNMENT SUPPORT, SEEK TO DEVELOP NEW MARKETS.

2. ARJAJO SAID THAT THE RESTRICTIONS PROPOSED IN THE US AND EUROPE WERE THE DIRECT RESULT OF THE EFFICIENCY OF COLOMBIAN FLOWER GROWERS AND THE QUALITY OF THEIR PRODUCT. HE ADDED, HOWEVER, THAT MEASURES ALONG THE LINES OF THOSE OUTLINED ABOVE ARE ESSENTIAL IF THE INDUSTRY AND THE GOVERNMENT ARE TO MAINTAIN CURRENT LEVELS OF EXPOET AND EMPLOYMENT.
SANCHEZ

Library Cataloging Data

U.S. International Trade Commission.
Fresh cut flowers. Report to the President on investigation no. TA-201-22 under section 201(b) of the Trade act of 1974. Washington, 1977.

"USITC Publication 827"

1. Cut flowers. I Title

UNITED STATES
INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C. 20436

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