

# Industry & Trade Summary

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## Cut Flowers

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USITC Publication 2737

March 1994

OFFICE OF INDUSTRIES  
U.S. International Trade Commission  
Washington, DC 20436



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## PREFACE

In 1991 the United States International Trade Commission initiated its current *Industry and Trade Summary* series of informational reports on the thousands of products imported into and exported from the United States. Each summary addresses a different commodity/industry area and contains information on product uses, U.S. and foreign producers, and customs treatment. Also included is an analysis of the basic factors affecting trends in consumption, production, and trade of the commodity, as well as those bearing on the competitiveness of U.S. industries in domestic and foreign markets.<sup>1</sup>

This report on cut flowers covers the period 1988 through 1992 and represents one of approximately 250 to 300 individual reports to be produced in this series during the first half of the 1990s. Listed below are the individual summary reports published to date on the agricultural, animal, and forest product sectors.

<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2459	November 1991 .....	Live Sheep and Meat of Sheep
2462	November 1991 .....	Cigarettes
2477	January 1992 .....	Dairy Produce
2478	January 1992 .....	Oilseeds
2511	March 1992 .....	Live Swine and Fresh, Chilled, or Frozen Pork
2520	June 1992 .....	Poultry
2544	August 1992 .....	Fresh or Frozen Fish
2545	November 1992 .....	Natural Sweeteners
2551	November 1992 .....	Newsprint
2612	March 1993 .....	Wood Pulp and Waste Paper
2615	March 1993 .....	Citrus Fruit
2625	April 1993 .....	Live Cattle and Fresh, Chilled, or Frozen Beef and Veal
2631	May 1993 .....	Animal and Vegetable Fats and Oils
2635	May 1993 .....	Cocoa, Chocolate, and Confectionery
2636	May 1993 .....	Olives
2639	June 1993 .....	Wine and Certain Fermented Beverages
2693	November 1993 .....	Printing and Writing Paper
2726	January 1994 .....	Furskins

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<sup>1</sup> The information and analysis provided in this report are for the purposes of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under the statutory authority covering the same or similar subject matter.



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## INTRODUCTION

This summary discusses key aspects of the global cut flower industry during 1988-92. The products included in this summary are fresh cut flowers and flower buds used in bouquets or for ornamental purposes, and dried, dyed, bleached, impregnated or otherwise prepared cut flowers used in bouquets or for ornamental purposes (preserved flowers). Also included within the scope of this summary are bouquets, floral baskets, wreaths, and similar articles made wholly or partly from fresh cut and preserved flowers. Although bouquets, floral baskets, wreaths, etc., account for a significant share of final consumption of fresh cut and preserved flowers, they are not discussed further in this summary for a number of reasons. First, they are not of significance in international trade because of the difficulty in shipping such items. Second, inclusion of these items would result in double counting because fresh cut and preserved flower production are valued in this summary at their first stage of production. In addition, these items include within their final price a significant markup for the services of the floral shop.

All of the many types of fresh cut and preserved flowers and flower buds (collectively called "cut flowers") are provided for in chapter 6 of the Harmonized Tariff Schedule of the United States (HTS) and in SIC 0181 (pt) and 3999 (pt). This summary does not include foliage, branches, and other parts of plants without flowers or flower buds, grasses, mosses, and lichens, being goods of a kind suitable for bouquets or for ornamental purposes that are provided for in HTS heading 0604 nor does it include potted flowering plants and flowering bedding plants provided for in HTS heading 0602. These items are covered in other summaries.

The United States has one of the most diverse cut flower markets in the world. U.S. producers' shipments of fresh cut flowers amounted to \$458 million in 1992, and those of preserved flowers were estimated to be \$50 million. Roses (sweetheart and hybrid tea), the leading fresh cut flower produced and consumed in the United States (based on value), accounted for about 38 percent of fresh cut flower shipments; carnations (miniature and standard), about 10 percent. In recent years, fresh cut flowers have accounted for 75-80 percent of U.S. consumption of products covered by this summary. Data are not available on the principal preserved flowers produced and consumed in the United States, but baby's breath and statice are believed to be the most important.

The United States is an important market for foreign growers of cut flowers. Imports were valued at \$352 million in 1992, supplying 45 percent of U.S. consumption. Fresh cut carnations, roses, and chrysanthemums were the principal types of cut flowers imported. Colombia and the Netherlands have been the principal suppliers of imported fresh cut flowers. The Netherlands has been the principal supplier of preserved flowers.

## The Product

Cut flowers are parts of plants, characteristically including the blooms or "inflorescences" and some attached plant materials, but not including roots and soil. Fresh cut flowers 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, in times of illness, and at holidays such as Christmas and Easter; corsages and boutonnieres; and informal displays to beautify homes and public places. More than 200 different types of fresh cut flowers are probably sold in the United States.

Preserved flowers may be air-dried or oven-dried, and bleached by the sun or by chemical treatment depending on the product, the locale, and the effect desired. Preserved flowers may be used in boutonnieres, corsages, wreaths, formal and informal displays, and similar ornamental articles. Preserved flowers are not as perishable as fresh cut flowers. Baby's breath and statice are the principal flower types produced for use as preserved flowers. Roses and carnations are also used as preserved flowers along with dozens of other flower types.

The three principal types of fresh cut flowers produced in the United States and the world are roses, carnations, and chrysanthemums. Roses are members of the Rosacea family; at least 100 species and thousands of varieties are known to exist. The three most commercially important types of roses are the sweethearts, intermediates, and hybrid teas. Sweetheart roses usually have a bud length of 1/2 to 1 inch and a stem length of 8 to 15 inches. Intermediates have a bud length of 1 to 1-1/2 inches and a stem length of 9 to 24 inches. Hybrid tea roses have a bud length of 1-1/4 to 2 inches and a stem length of 12 to 30 inches. Roses may be white, pink, red, yellow, orange, lavender, or intermediate shades or tints. Cut roses are used in wreaths and bouquets for ceremonial occasions and for general decorative purposes. As fresh cut flowers, roses may last 3 to 7 days in the home without the use of floral preservatives, depending on the variety of the rose and environmental factors such as temperature and care. The vase life of a rose can be doubled when floral preservatives are used.

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. Standard carnations produce double, fragrant flowers 2 to 3 inches across, borne singly on wiry stems that are 18 to 24 inches long. Miniature carnations are bushier and more branching than standard varieties, with flowers produced in sprays. The flowers are up to 1-1/2 inches across, with 1 to 4 flowers borne on a wiry stem 12 to 18 inches long. Carnations may be white, yellow, pink, red, or multicolored. White carnations are often artificially colored with hues absent in natural cultivars. Carnations last from 7 to 10 days as cut

flowers without the use of a floral preservative and up to several weeks when a floral preservative is used.

Chrysanthemums are a genus of the Compositae family. The major groups grown commercially are the standards and the pompons. Chrysanthemums may be white, yellow, red bicolored, or tricolored; they also can be artificially colored. Standard chrysanthemums have one flower per stem (stems range from 18 to 36 inches), with the diameter of each bloom ranging from 3 to 8 inches. Pompon chrysanthemums have 4 to 6 flowers per stem (stems range from 18 to 30 inches) with a diameter of 3 to 5 inches. As fresh cut flowers, pompons last from 10 to 14 days, and standards last from 7 to 12 days, depending on variety and temperature. They are considered good for both formal and informal use, and are suitable for almost all types of floral designs.

### Production Process

Flower production occurs throughout the year in the United States, either field grown or protected by a structure of some sort. The structure may form a completely controlled environment such as a greenhouse, or just provide shade or protection from the wind, e.g., an overhead lattice work or a "saran house" (a framework covered with plastic and cloth). Production in a structure is primarily dependent on the environmental conditions of the area and quality considerations (for use as fresh cut flowers or preserved flowers and whether they are to be consumed locally or sold nationally).

Planting schedules are the basic means of production planning for market demand; propagation takes place through the use of seed, plant cuttings, and/or division. The grower prepares the soil (generally sterilizing<sup>1</sup> it at least once a year), decides on the number of plants required, the ratio of flowers for his projected market, plant spacing, and the kinds of fertilizers and pesticides needed and when to apply them. Wire or plastic mesh is often used to support certain flowers (e.g. roses and chrysanthemums) as they grow, thereby encouraging a long straight stem. Supplemental lighting is often used (especially with carnations and chrysanthemums) to control flowering and quality.

Flowers are harvested when the proper stem length and inflorescence required for sale in the wholesale market are reached. The flower stem is cut at the appropriate length by hand with a sharp knife or pruning shears. Depending on the flower type and the area and method of production, stems and blooms may be harvested from the plant over a period of years or

only once. For example, in California and Colorado, 2-year culture is common for standard carnations, with flower harvest beginning about 6 months after planting and continuing for the remaining period. However, in Florida only one stem is generally harvested in February from pompon chrysanthemums that were planted 6 months earlier. Many growers harvest by accumulating an armful of flowers as they move along the aisle, whereas others employ picking carts and/or conveyor systems.

Flowers are graded into lots by quality. Although stem length is generally graded by machine, all other grading is by human judgment. Some quality factors taken into consideration are freedom from diseases and insects, stem crooks, split calyxes, and faded colors. Each grade is then bunched into units of stems and boxed.

## U.S. INDUSTRY PROFILE

### Industry Structure

The structure of the U.S. fresh cut flower industry is illustrated in figure 1. Most fresh cut flower production moves through the traditional market channels, from the growers to the wholesalers to retail florists, and finally to the consumer. The structure of the preserved flower industry is illustrated in figure 2. The majority of the preserved flowers go from the processors to wholesalers then to craft stores or retail florists, and finally to the consumer. The Standard Industrial Classification (SIC) categories applicable to the industry are 0181(pt), Ornamental Floriculture and Nursery Products, and 3999(pt), Manufacturing Industries, Not Elsewhere Classified.

### *Number of Firms, Concentration Among Firms, and Geographic Distribution*

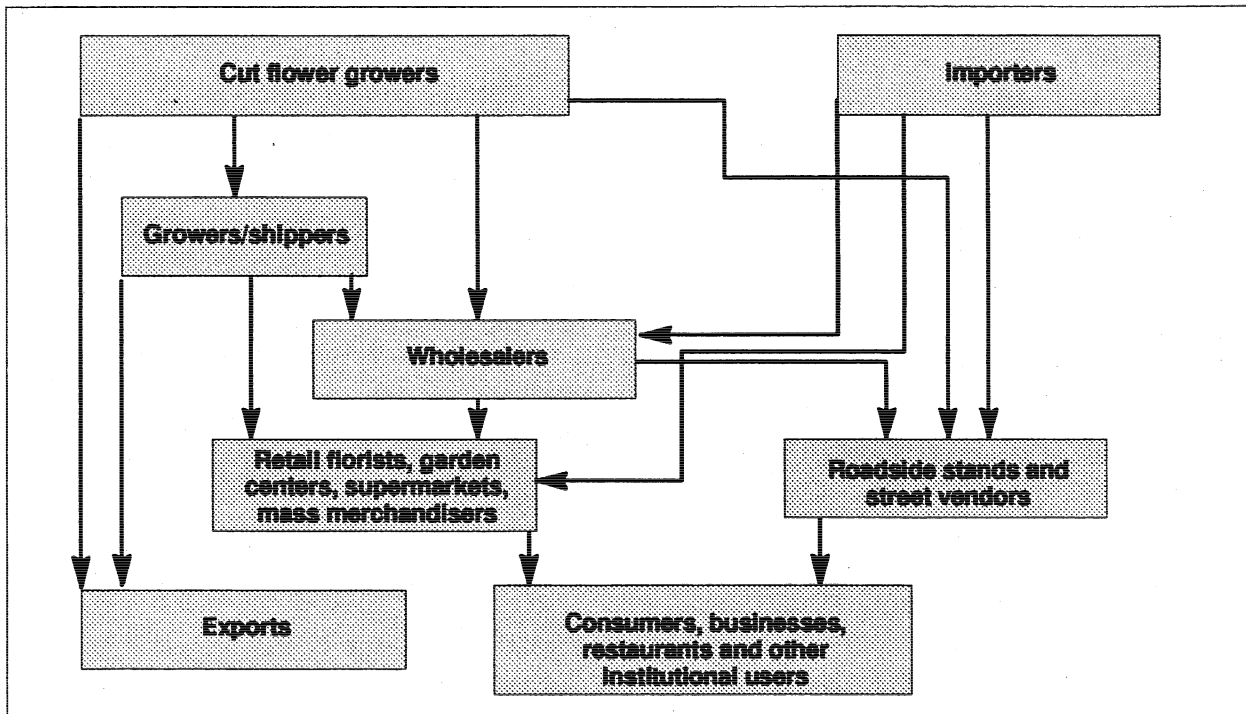
The number of U.S. fresh cut flower growers declined by 20 percent from 3,900 in 1978 to 3,120 in 1987 (the only recent years for which official statistics are available on an industry wide basis).<sup>2</sup> The U.S. fresh cut flower industry has been going through a prolonged period of contraction in the number of growers, with the remaining growers obtaining larger volumes. Most fresh cut flower-growing operations are family owned and operated, and the industry is not generally described as highly concentrated. However, a few large firms are involved in fresh cut flower growing, with some firms having several million square feet in flower production.

<sup>1</sup> Soil sterilization generally involves treating the soil with steam or with chemicals. Sterilization kills most weed seeds, soil-borne insects, and bacteria, fungi, and virus organisms that are harmful to commercial flower crops.

<sup>2</sup> U.S. Bureau of the Census, *1987 Census of Agriculture, Census of Horticultural Specialties*, Vol. 4, Aug. 1991.

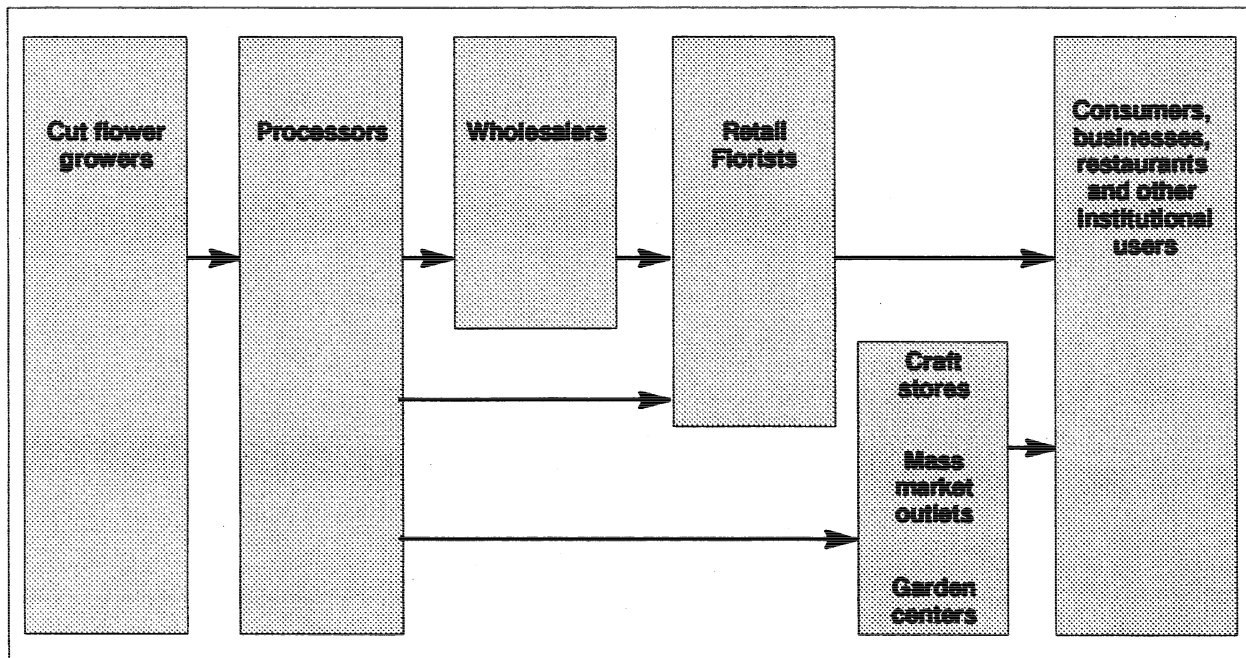


**Figure 1**  
Major distribution channels for fresh cut flowers in the United States



Source: U.S. International Trade Commission.

**Figure 2**  
Major distribution channels for preserved flowers in the United States



Source: U.S. International Trade Commission.

The tabulation at the bottom of the page shows the number of fresh cut flower growers grouped by sales, each group's production, and their share of U.S. fresh cut flower production as reported by the Bureau of the Census, U.S. Department of Commerce for 1987.

Although fresh cut flowers are commercially grown in nearly every State, California is by far the largest fresh cut flower producing State, accounting for 58 percent of annual U.S. production during 1988-92 (table 1).

Florida, Colorado, Hawaii, New York, and Pennsylvania are also important fresh cut flower producing States, together accounting for 20 percent of annual U.S. production. California, Florida, and Hawaii have climates that are conducive to flower production. Colorado, although subject to low winter temperatures, has high light levels, a prerequisite for high quality flower production. New York and Pennsylvania are able to maintain viable flower industries because of their proximity to major fresh cut flower markets in eastern population centers.

The number of manufacturers of preserved flowers is believed to range between 12 and 15 firms, although there are probably several hundred small scale ("mom and pop") producers.<sup>3</sup> Most preserved cut flower operations are family owned and operated. However, the industry is highly concentrated, with one firm dominating.

### Employment

Data on employment in the U.S. fresh cut flower industry are not available, since workers used to produce fresh cut flowers are used to produce a variety of other floriculture crops at the same time. A considerable amount of actual labor in the fresh cut flower sector is "unpaid" labor of the grower and other family members. It is estimated that the fresh cut flower industry employed 8,000 full time workers and 15,000 part time workers annually during 1988-92. It is estimated that the preserved flower industry employs about 1,000 workers.<sup>4</sup>

Labor is the principal input in the production of fresh cut and preserved flowers. Labor is estimated to account for 25 to 35 percent of production costs for fresh cut flowers.<sup>5</sup> Operations such as planting,

harvesting, grading, and packaging require hand labor. Capital expenditures are also high in fresh cut flower production. Capital expenditures include greenhouse facilities, computerized environmental control systems, irrigation systems, and lighting and shading systems.

### Labor Skill Levels, Level of Automation, and Productivity

The fresh cut flower production process requires careful preparation and timing by the grower. Fresh cut flowers are perishable articles that may have a shelf life of from less than 1 week for roses and some types of orchids to 2-3 weeks for carnations and chrysanthemums.

Cut flower production requires strict adherence to sanitation and handling requirements to produce quality finished products. Relatively skilled labor is required in the production of cut flowers; most of these skills are learned from on-the-job experience and not from formal education. Greenhouses have become highly automated, and technological advancements resulting from extensive applications of research and development continue to occur in the industry. These advancements have yielded greater productivity and efficiency at the grower level.

### Degree of Integration with Foreign Suppliers

Producers of cut flowers generally are not integrated with foreign firms. There is little direct foreign ownership of U.S. cut flower firms, and few U.S. cut flower producers operate abroad. Some cut flower producers are also shippers and wholesalers of cut flowers and/or have established importing subsidiaries to complement their production.<sup>6</sup> Shippers and wholesalers carry a wide assortment of cut flowers to meet the needs of intermediate handlers, retail florists, mass merchandisers, and consumers.

### Vertical and Horizontal Integration

Cut flower producers, as indicated above, are numerous and decentralized. Some producers have formed shipping companies and wholesale businesses

<sup>3</sup> Telephone interview with John Smith, President, Knud Neilsen Co. Inc.

<sup>4</sup> Ibid.

<sup>5</sup> U.S. International Trade Commission, *Competitive Conditions in the U.S. and World Markets for Fresh Cut Roses*, (Investigation No. 332-263), USITC Publication 2178, April 1989.

<sup>6</sup> Most cut flower producers specialize in the production of one or a few flower varieties because of the unique requirements of each variety. In general, a producer who grows more than one flower type will have different production facilities for each flower type.

Sales	Number of growers	Total production (Thousand dollars)	Share of U.S. fresh cut flower production (Percent)
\$2,000-99,999 .....	2,222	30,633	6
\$100,000-449,999 .....	573	113,044	22
\$500,000-999,999 .....	160	87,524	17
\$1,000,000 or more .....	165	275,476	55
Total .....	3,120	506,677	100

**Table 1**  
**Fresh cut flowers: U.S. production in major producing States,<sup>1</sup> 1988-92**  
*(1,000 dollars)*

State	1988	1989	1990	1991	1992 <sup>2</sup>
California .....	251,925	275,566	283,060	284,999	265,761
Florida .....	33,110	31,369	29,551	30,986	33,422
Colorado .....	22,897	24,755	21,383	21,043	19,785
Hawaii .....	17,462	20,055	12,962	14,207	15,106
New York .....	16,634	20,848	14,832	14,854	14,491
Pennsylvania .....	17,397	15,566	14,336	13,873	10,024
All other .....	93,054	94,596	91,596	91,594	99,683
<b>Total .....</b>	<b>457,854</b>	<b>482,531</b>	<b>467,720</b>	<b>471,556</b>	<b>458,272</b>

<sup>1</sup> Data are for production in 36 major producing States in 1992, which are estimated to account for approximately 85 percent of total U.S. production of fresh cut flowers; data for earlier years include growers in 28 major producing States.

<sup>2</sup> Data for 1992 represent only growers with sales of \$100,000 or more. Data for 1988-91 include growers with sales of \$10,000 or more.

Note.—Data for 1988 and 1989 are not comparable to data reported for 1990 and following years because of changes in the coverage reported by USDA. Data for 1988 reported by USDA are not comparable with those reported by the Bureau of the Census, U.S. Department of Commerce, because of differences in the sizes of growers surveyed.

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

to market their own production as well as market other domestic producers' and foreign producers' products. Some vertically integrated cut flower producers have established retail outlets to market cut flowers. In some cases, retail outlets have established cut flower producing operations to supplement their purchases from other domestic producers, shippers, wholesalers, and importers.

Fresh cut flower producers have also horizontally integrated by using available space to produce other horticultural products not covered in this summary, such as foliage plants and hanging flower baskets. These are grown in the space above the fresh cut flower crop.

### *Marketing Methods and Pricing Practices*

U.S. cut flower producers market cut flowers either directly, through shippers, or at auction to wholesalers, retail florists, and mass merchandisers (e.g., grocery stores). In addition, some vertically integrated producers sell directly to retail consumers and institutional users. Those producers that market fresh cut flowers directly or through a shipper have several ways of establishing prices for their products depending on the way they are sold—spot, standing order, and consignment. Spot sale prices are based on an arm's length transaction between a seller and a buyer. Purchases and payments are accomplished on the spot.

Standing order sales are, generally, based on a contract between a seller and a buyer. Sales are usually at fixed prices with quantities varying, depending on the buyer's demand. Consignment sales involve the seller shipping cut flowers to a consignee (usually a wholesaler or retail florist). The consignee sells the cut flowers and deducts a commission from the proceeds, returning to the cut flower producer the remaining proceeds from the sale.

In general, fresh cut flower sales are priced f.o.b. the grower's or grower/shipper's packing house. In many cases, the grower will arrange for the pick-up and transportation of the flowers, but the purchaser is responsible for any freight charges, including delivery charges from the grower to the airport. In addition, growers add a charge to the invoice for the shipping box in which the flowers are packed. However, in the Northeastern United States, the grower's price may include the cost of delivering the flowers in buckets of water to the wholesalers or retail florists.

Regardless of the method used to establish the price, physical characteristics and supply and demand market forces exist that influence the price. Physical characteristics refer to stem length, color, type, and appearance. Higher prices are usually received for longer stems and in the case of roses, a bright red color. Higher prices are generally obtained for locally grown cut flowers, owing to perceived superior quality compared with non-local flowers. This quality premium is a function of the time that elapses after a flower is cut until it is ready for sale in the market, i.e., the freshness of the flower.

Market prices for cut flowers are also sensitive to changes in quantities demanded. The demand for cut flowers is high around certain holidays, causing high prices during these periods.

### *Research and Development Expenditures*

Expenditures on research and development in the cut flower industry are carried on at several different levels. The Society of American Florists<sup>7</sup> through the American Florist Marketing Council (AFMC) conducts research and marketing promotions on fresh cut flowers. AFMC's annual budget ranged from \$4.7 million to \$5.5 million during 1990-92.

<sup>7</sup> The Society of American Florists is a trade association whose membership consists of growers, wholesalers, retailers, and importers of fresh cut flowers.

The American Floral Endowment supports research involving a wide range of floricultural products, including fresh cut flowers. Major research areas include pest management, breeding, new crop development, and production studies. The Endowment allocated over \$500,000 to numerous research programs in 1992.

Over a dozen other organizations provide funding for research and educational programs in floriculture, including cut flower production. Such funding totaled nearly \$500,000 in 1992.

### *U.S. Government Programs*

There are no specific U.S. Government programs designed to enhance production, shipping, or marketing of cut flowers. However, at the grower level, a number of activities supported in part by public funds (Federal and State) influence the competitiveness of flower growers. Many of the new horticultural practices, disease and insect control research, and post-harvest physiology work in the United States regarding cut flowers have been conducted at land-grant colleges and universities.

The Federal-State Market News Service also provides growers, wholesalers, and retailers and importers with timely information on shipments and prices for a wide array of flowers in major U.S. growing areas and for U.S. imports.

### **Consumer Characteristics and Factors Affecting Demand**

The principal U.S. consumers of cut flowers are households and commercial or business users, such as hotels, restaurants, and businesses. Consumers of cut flowers are located throughout the United States, but are concentrated in major metropolitan areas. Cut flowers are marketed to consumers by two principal means—either as informal bunches or bouquets to be arranged by the final consumer, or in formal arrangements (usually by a retail florist) as wreaths, bouquets for ceremonial occasions, or other formal arrangements. Supermarket sales of fresh cut flowers have grown dramatically in recent years and have accounted for a significant share of the growth in sales of cut flowers. The convenience of purchasing flowers at the supermarket is believed to be the reason for the growth. The demand for cut flowers is influenced by such factors as the price of other flowers and plants (e.g., potted flowers or artificial flowers), consumer income, and consumer attitudes. Demand for certain cut flower types is seasonal, such as the demand for roses in February for Valentine's Day, in May for Mother's Day, and in June for weddings.

## **FOREIGN INDUSTRY PROFILE**

### **Major World Producers**

The European Union (EU), Japan, the United States, and Colombia are believed to be the leading world producers of cut flowers in recent years. Within

the EU, the Netherlands by far is the major producing country.

### **The Netherlands**

The Netherlands is the world's largest producer of floriculture products, including cut flowers. In 1992, Dutch production of cut flowers was valued at \$1,759 million<sup>8</sup>, up from \$1,697 million in 1991.<sup>9</sup> In 1992, the Dutch had 3,617 hectares of cut flower production in greenhouses and outdoor growing production. Roses were the principal cut flowers produced (23 percent), followed by chrysanthemums (16 percent), carnations (8 percent), and tulips (8 percent).

The Netherlands is the world's largest exporter of cut flowers, accounting for nearly 60 percent of world exports.<sup>10</sup> Intra-EU trade accounts for 80 percent or more of Dutch exports, with Germany accounting for nearly one-half of such exports. The Netherlands is also a major point of entry for cut flowers that are destined for other EU and European countries. The Dutch infrastructure allows for the efficient processing and handling of large quantities of fresh cut flowers. The Dutch also import cut flowers so that they can offer a year-round assortment for buyers at the Dutch flower and plant auctions. There are several thousand buyers at the Dutch flower and plant auctions serving consumers around the world.

### **Colombia**

Colombia's fresh cut flower production totaled 102,500 metric tons in 1990 and was estimated to reach 115,000 metric tons in 1991.<sup>11</sup> Fresh cut flowers were produced in 3,900 hectares of greenhouse in 1990 (the last year data are available) on about 400 farms. Most of Colombia's fresh cut flower production is located around Bogota, with smaller production areas around Medellin and Cali. Carnations, pompon chrysanthemums, and roses account for 85 percent of Colombia's cut flower production and exports. Colombia has ideal growing conditions for cut flowers, abundant labor and land, and high light levels, giving it a production cost advantage over U.S. producers. U.S. producers have an advantage over Colombian producers with respect to shelf life and transportation costs.

Colombia exports about 85 percent of its cut flower production, primarily to the United States and the EU. Exports were estimated at \$280 million (USD) in 1991. The United States has been the destination for about 85 percent of Colombian exports in recent years and the EU was the destination for about 9 percent of such exports.

<sup>8</sup> Based on sales of cut flowers at auctions in the Netherlands.

<sup>9</sup> *Facts and Figures About the Dutch Horticulture Industry*, Flower Council of Holland, 1993.

<sup>10</sup> Data published by the Flower Council of Holland indicate that the Netherlands accounted for 59 percent of world exports in 1990.

<sup>11</sup> USDA, Foreign Agricultural Service, *Horticultural Products Review*, April 1991, pp. 12-14.

Although cut flower exports are eligible to receive income tax rebate certificates (CERTS) equal to 5 percent of the F.O.B. value, Colombian exporters have refused CERTS for their exports to the U.S. market to avoid countervailing duty actions. However, Colombian exporters are able to take advantage of CERTS for cut flower exports to other markets.

### Japan

The Japanese cut flower market is one of the largest in the world. Japan produces a wide range of flowers owing to variations in climate from the temperate to the tropical. Japan's production of cut flowers<sup>12</sup> was \$1.7 billion in 1990 (the last year data are available), up from \$1.5 billion in 1988<sup>13</sup>. Virtually all of Japan's cut flower production is consumed internally. It is estimated that about two-thirds of the 16,600 hectares in production in 1988 was open-air production. There were over 81,000 farms producing cut flowers in 1990. The major cut flowers produced and consumed in Japan are chrysanthemums, carnations, and roses.<sup>14</sup> Nearly 60 percent of Japanese cut flower production is accounted for by these three flower types.

## U.S. TRADE MEASURES

### Tariff Measures

Table 2 shows the column 1 rates of duty as of January 1, 1993, for the articles included in this summary, and U.S. exports and imports for 1992. An explanation of tariff and trade agreement terms is shown in appendix A. The aggregate trade-weight, average rate of duty for all products covered in this summary, based on 1992 trade data, was less than 5 percent ad valorem.<sup>15</sup>

### Nontariff Measures

Phytosanitary regulations are the only nontariff measures (NTMs) that affect trade in cut flowers. All imported fresh cut flowers are subject to quarantine inspection by the Animal and Plant Health Inspection Service (APHIS) of the U.S. Department of Agriculture to prevent the spread of injurious plant pests, as provided for in 7 CFR 319.74. Generally, inspectors require that one box of each variety from each grower within a shipment be opened. The inspectors remove the flowers and examine them for any restricted plant pests. Cut flowers found to have any injurious pests are subject to seizure and must be destroyed if they cannot be effectively treated. Such plant material may also be reexported. Imported

camellia, gardenia, rhododendron, rose, and lilac require a permit issued by APHIS.

### U.S. Government Trade-Related Investigations

Over the past several years, U.S. imports of fresh cut flowers have been the subject of various investigations by the U.S. International Trade Commission (ITC) and the International Trade Administration (ITA) of the U.S. Department of Commerce under the U.S. antidumping<sup>16</sup> and countervailing duty laws<sup>17</sup> (table 3). Each of these investigations involved imports of fresh cut flowers. In 1989, the Commission also conducted a fact finding investigation as required under section 4509 of the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-148, 102 Stat. 1107) with respect to fresh cut roses.

### Trade-Related Environmental Issues

A primary concern for all horticultural producers, including cut flower producers, is the reregistration of herbicides, fungicides, insecticides, and other pesticides. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136) requires that new toxicity data on all pesticides<sup>18</sup> be gathered before they can be reregistered. The cost of collecting these data by the manufacturer of minor pesticides is often greater than the potential profit, which has led pesticide producers to discontinue the registration of some of the products used on cut flowers. The domestic industry contends that if these pesticides are not permitted in the United States while they are licensed and used in foreign countries, U.S. growers will be placed at a disadvantage.

<sup>16</sup> U.S. Antidumping Law, sec. 731 et seq. of the Tariff Act of 1930, 19 U.S.C. 1673 et seq. Petitions are filed simultaneously at the U.S. Department of Commerce and the U.S. International Trade Commission. If Commerce finds that the merchandise in question is being or is likely to be sold in the United States at less than its fair value (LTFV)(dumped) and the Commission finds that a domestic industry is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of such merchandise, Commerce issues an antidumping duty order, and an antidumping duty in an amount equal to the margin of dumping is imposed on such merchandise.

<sup>17</sup> U.S. Countervailing Duty Law., sec. 701 et seq. of the Tariff Act of 1930, 19 U.S.C. 1671 et seq. In general, petitions are filed simultaneously at the U.S. Department of Commerce and the U.S. International Trade Commission. If Commerce finds that the merchandise in question is being subsidized and the Commission finds that a domestic industry is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of that merchandise, Commerce issues a countervailing duty order, and a countervailing duty equal to the amount of the subsidy is imposed on such merchandise.

<sup>18</sup> Pesticide is a general term for chemicals or biological products used to destroy or control unwanted insects, weeds, fungi, mites, rodents, bacteria, or other organisms.

<sup>12</sup> Includes production of cut leaves and branches.

<sup>13</sup> Japan, Ministry of Agriculture, Forestry, and Fisheries.

<sup>14</sup> International Trade Center UNCTAD/GATT, *Fresh Cut Flowers, A Study of the Market in Japan*, 1988, p. 2.

<sup>15</sup> The aggregate trade-weight, average rate of duty will be substantially lower in future years as a result of the extension of duty-free treatment to Colombian cut flowers under the Andean Trade Preference Act.

Table 2

Cut flowers: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1993; U.S. exports, 1992; and U.S. imports, 1992

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1993		U.S. exports, 1992	U.S. imports, 1992
		General	Special <sup>1</sup>		
<hr/>					
				<hr/> Million dollars <hr/>	
	Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared:				
	Fresh:				
0603.10.30	Miniature (spray) carnations .....	4%	Free (A,E,IL,J) 2% (CA)	<sup>2</sup> 22	23
0603.10.60	Roses .....	8%	Free (E,J) 4% (CA)	( <sup>2</sup> )	90
0603.10.70	Chrysanthemums, standard carnations, anthuriums, and orchids .....	8%	Free (A,E,IL,J) 4% (CA)	( <sup>2</sup> )	130
0603.10.80	Other .....	8%	Free (A,E,IL,J) 4% (CA)	( <sup>2</sup> )	96
0603.90.00	Other .....	5%	Free (A,E,IL,J) 2.5% (CA)	11	12

<sup>1</sup> Programs under which special tariff treatment may be provided, and the corresponding symbols for such programs as they are indicated in the "Special" subcolumn, are as follows: Generalized System of Preferences (A); United States-Canada Free-Trade Act (CA); Caribbean Basin Economic Recovery Act (E); United States-Israel Free Trade Act (IL); and the Andean Trade Preference Act (J).

<sup>2</sup> Separate export data are not available on an 8-digit level.

Source: U.S. exports and imports compiled from official statistics of the U.S. Department of Commerce.

**Table 3**  
**U.S. International Trade Commission Investigations related to trade in cut flowers, 1986-89**

Date	Type of Investigation	Product	Petitioner	Respondent/ source country	Final outcome
1986	Antidumping (731-TA-327 thru 334)	Cut flowers	Floral Trade Council	Canada	Standard carnations, affirmative
					Miniature carnations, negative
				Chile	Standard carnations, affirmative
				Colombia	Standard carnations, miniature carnations, standard chrysanthemums, pompom chrysanthemums, affirmative Alstroemeria, gerberas, gypsophila, negative
				Costa Rica	Standard carnations, pompom chrysanthemums, affirmative Miniature carnations, negative
				Ecuador	Standard carnations, standard chrysanthemums, pompom chrysanthemums, affirmative Miniature carnations, negative
				Kenya	Standard carnations, affirmative Miniature carnations, negative
				Mexico	Standard carnations, standard chrysanthemums, pompom chrysanthemums, affirmative
1986	Countervailing duty (701-TA-275, 276, 277; 303- TA-17, 18; 701-TA-278)	Cut flowers	Floral Trade Council	Canada	Standard carnations, affirmative
					Miniature carnations, negative

Table 3—Continued

U.S. International Trade Commission investigations related to trade in cut flowers, 1986-89

Date	Type of investigation	Product	Petitioner	Respondent/ source country	Final outcome
				Chile	Standard carnations, affirmative
				Israel	Miniature carnations, gerberas, negative
				Netherlands	Standard chrysanthemums, affirmative, Miniature carnations, gerberas, alstroemeria, negative
				Peru	Pompom chrysanthemums, affirmative Miniature carnations, gypsophyllia, negative
1989	General fact finding (332-263)	Fresh cut roses	Roses, Inc.	Not applicable	The report found that the U.S. industry lost market share during 1985-88. The financial performance of the U.S. industry declined since 1985. World trade in fresh cut roses is affected by the EC's tariff structure. There are few impediments to trade in fresh cut roses.

## FOREIGN TRADE MEASURES

### Tariff Measures

Canada, the EU, and Japan are by far the leading foreign markets for U.S. cut flowers, together purchasing 78 percent of U.S. exports in 1992. The Canadian duty on imported cut flowers from the United States is gradually being reduced under the U.S.-Canada Free-Trade Agreement and will be eliminated on January 1, 1998. The following tabulation shows the Canadian rates of duty as of January 1, 1993, for cut flowers from the United States:

Description	Percent ad valorem
Cut flowers and flower buds of a kind suitable for bouquets or ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared:	
Fresh:	
Orchids .....	12.5
Other .....	6.2
Other:	
Dyed, bleached, impregnated .....	5.1
Other .....	6.2



U.S. exports of fresh cut flowers to the EU are subject to a dual tariff of 24 percent ad valorem during the summer growing season (June 1 to October 31) and 17 percent ad valorem during the winter growing season (November 1 to May 31). Imports of cut flowers into Japan are free of duty.

### Nontariff Measures

Shipments of fresh cut flowers to the EU and Japan must be accompanied by a phytosanitary certificate issued by the APHIS. In addition, imported cut flowers, in particular fresh cut roses, may require an import license.

## U.S. MARKET

### Consumption and Import Penetration

The United States is a major world market for cut flowers, particularly for fresh cut flowers. Apparent U.S. consumption of all cut flowers was estimated to be \$828 million in 1992. Apparent U.S. consumption of fresh cut flowers (the major component of the U.S. cut flower market) varied over the period, from a low of \$733 million in 1988 to a high of \$777 million in 1992 (table 4).

Imports as a percentage of apparent domestic consumption of fresh cut flowers have increased irregularly from 38.7 percent in 1988 and 1989 to 43.8 percent in 1992. The import penetration levels for individual flower types are very divergent. For example, in 1992, the import penetration level for anthuriums was 15 percent while that for standard carnations was 67 percent. The volatility in the import-penetration level and apparent U.S. consumption of fresh cut flowers from 1989 to 1991 is indicative of the general economic conditions during that period. Fresh cut flowers are usually considered a nonessential good and highly responsive to changes in income.

During 1988-92, apparent U.S. consumption of preserved flowers is estimated to have increased from \$40 million to \$50 million. The import penetration level for preserved flowers was estimated to be 20 percent in 1992. Imported preserved flowers consist primarily of items that are not readily available to U.S. preserved flower producers and hence, they are not considered to compete directly with preserved flowers produced by the U.S. industry.

The demand for preserved flowers has increased in recent years as consumers have tried to obtain more value from their purchases. Preserved flowers are longer lasting and more durable than fresh cut flowers.

### Production

Domestic production of fresh cut flowers varied during 1988-92 (table 5). This variation from year to year is due to changes in growing conditions (weather and light conditions), timing of holidays,<sup>19</sup> product mix, and competition from imports.<sup>20</sup>

U.S. production levels varied during 1988 to 1992 for individual cut flower types (table 5 and figure 3). Rising production of gladioli and specialty flowers<sup>21</sup> offset declining carnation, chrysanthemum, and rose output. U.S. output of gladioli increased by \$3 million during 1988-92 and specialty flowers by \$52 million. U.S. output of carnations fell by \$16 million, chrysanthemums by \$27 million, and roses by \$11 million. These latter three flower types have faced the greatest competition from imports over the last 5 years.

### Imports

The composition and sources of cut flower imports during 1988-92 are shown in tables 6, 7, and 8. About 26 percent of the value of imports in 1992 consisted of roses other than sweetheart roses; 18 percent, standard carnations; 15 percent, pompon chrysanthemums; 7 percent, miniature carnations; 3 percent, preserved flowers; and the remaining 31 percent, a wide variety of other fresh cut flowers.

During 1988-92, U.S. imports of cut flowers increased from \$295 million to \$352 million, a 4.5 percent average annual increase. All of the growth in imports over the period was accounted for by fresh cut flowers (table 8). A large increase in U.S. imports occurred in 1992 when imports rose \$30 million over those in 1991, a 9 percent increase. Rising imports of standard and miniature carnations, pompon and other chrysanthemums, roses other than sweetheart roses, and specialty flowers more than offset declines in sweetheart roses and preserved flowers.

In 1992, 44 percent of U.S. imports of cut flowers entered duty-free under special provisions of the Generalized System of Preferences, the Caribbean Basin Economic Recovery Act, the Andean Trade Preference Act, and/or the U.S.-Israel Free-Trade Area Implementation Act of 1985. The Canadian products (which accounted for 1 percent of total cut flower imports) entered at reduced rates of duty in 1992 under the United States-Canada Free Trade Agreement. The rate of duty on dutiable imports averaged 7.8 percent ad valorem equivalent.

<sup>19</sup> In order for a grower to have harvestable blooms available for a particular holiday, a grower has to remove ("pinch") the growing tips of the plant a specified number of days prior to the desired harvest date in order to initiate the development of a flower bud. For example, a plant that is pinched in order to have a harvestable bloom for Valentine's Day may not have sufficient time to produce a new bloom for Easter. Therefore, this process must be carefully coordinated to maximize productivity.

<sup>20</sup> Some of the drop in production from 1991 to 1992 is attributable to 1992 data covering growers with sales of \$100,000 or more, while data for earlier years covered growers with sales of \$10,000 or more.

<sup>21</sup> Specialty flowers in this report cover all fresh cut flowers except carnations, chrysanthemums, gladioli, and roses.

**Table 4**  
**Fresh cut flowers: U.S. production, exports of domestic merchandise, imports for consumption, and apparent consumption, 1988-92**

Year	U.S. Production <sup>1</sup>	U.S. Exports	U.S. Imports	Apparent U.S. consumption	Ratio of Imports to apparent consumption
	1,000 dollars				Percent
1988 .....	457,854	8,022	283,505	733,337	38.7
1989 .....	482,531	6,494	299,970	776,007	38.7
1990 .....	467,720	23,617	312,028	756,131	41.3
1991 .....	471,556	21,792	310,410	760,174	40.8
1992 .....	<sup>2</sup> 458,272	21,839	340,580	777,013	43.8

<sup>1</sup> Data are for production in 36 major producing States in 1992, which are estimated to account for approximately 85 percent of total U.S. production of fresh cut flowers; data for earlier years include growers in 28 major producing States.

<sup>2</sup> Data for 1992 represent only growers with sales of \$100,000 or more. Data for 1988-91 include growers with sales of \$10,000 or more.

Note.—Production data for 1988 and 1989 are not comparable to data reported for 1990 and following years because of changes in the coverage reported by USDA. Data for 1988 reported by USDA are not comparable with those reported by the Bureau of the Census because of differences in the size of growers surveyed.

Source: Production compiled from official statistics of the U.S. Department of Agriculture; exports and imports compiled from official statistics of the U.S. Department of Commerce.

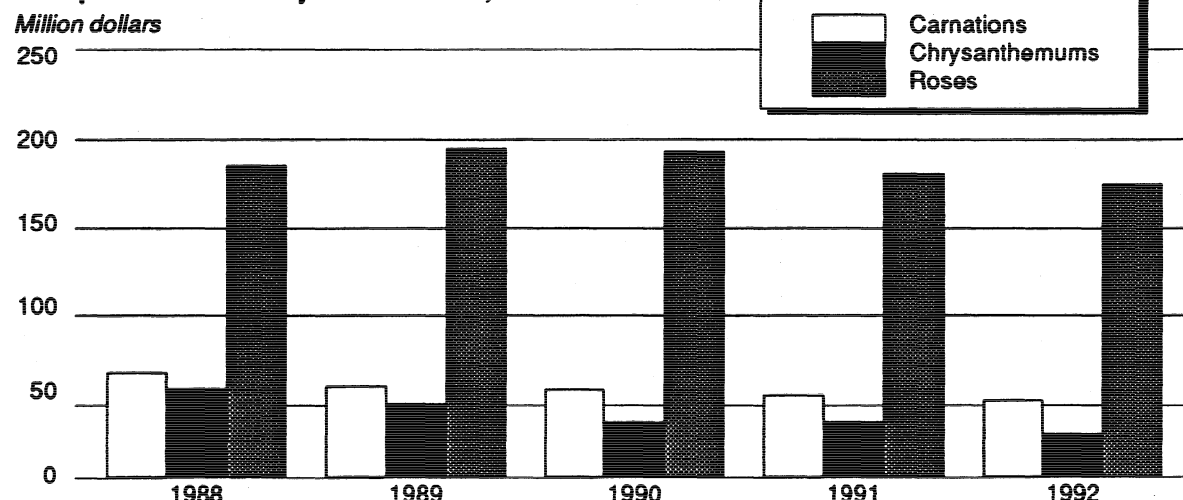
**Table 5**  
**Fresh cut flowers: U.S. production, by major flower types, 1988-92**  
 (1,000 dollars)

Flower type	1988	1989	1990	1991	1992
Hybrid tea roses .....	155,385	169,002	167,457	157,551	155,768
Gladioli .....	33,935	34,061	33,101	34,941	37,262
Standard carnations .....	42,154	36,223	34,943	32,536	30,777
Sweetheart roses .....	30,370	26,775	26,449	23,199	18,780
Pompon chrysanthemums .....	38,274	29,295	25,296	24,788	17,985
Miniature carnations .....	20,001	17,748	17,186	16,120	14,700
Standard chrysanthemums .....	14,505	14,214	7,559	8,053	7,769
Other cut flowers .....	123,230	155,213	155,729	174,368	175,231
Total .....	457,854	482,531	467,720	471,556	458,272

Note.—Data are for production in 36 major producing States in 1992; data for earlier years include growers in 28 States. Data for 1992 represent only growers with sales of \$100,000 or more. Data for 1988-91 include growers with sales of \$10,000 or more.

Source: Compiled from *Floriculture Crops*, National Agricultural Statistics Service, U.S. Department of Agriculture.

**Figure 3**  
**U.S. production of major cut flowers, 1988-92**



Source: Compiled from *Floriculture Crops*, National Agricultural Statistics Service, U.S. Department of Agriculture.

**Table 6**  
**Fresh cut flowers: U.S. Imports for consumption, by principal sources, 1988-92**  
*(1,000 dollars)*

Source	1988	1989	1990	1991	1992
Colombia .....	175,572	184,256	195,771	202,408	231,344
Netherlands .....	63,571	63,103	58,354	45,018	46,593
Ecuador .....	3,885	7,220	9,597	12,442	15,244
Costa Rica .....	5,936	8,803	8,806	9,768	10,029
Mexico .....	7,275	9,329	12,387	13,116	9,536
Guatemala .....	2,111	2,590	3,314	3,694	5,305
Thailand .....	2,798	3,068	3,328	3,751	3,722
Canada .....	6,110	3,229	3,511	3,314	3,545
Australia .....	778	773	1,320	1,648	2,364
Peru .....	2,762	4,181	3,624	3,648	2,316
All other .....	12,707	13,421	11,956	11,603	10,582
<b>Total .....</b>	<b>283,505</b>	<b>299,970</b>	<b>312,028</b>	<b>310,410</b>	<b>340,580</b>

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

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

**Table 7**  
**Preserved flowers: U.S. Imports for consumption, by principal sources, 1988-92**  
*(1,000 dollars)*

Source	1988	1989	1990	1991	1992
Netherlands .....	2,983	4,558	5,016	4,422	4,486
Mexico .....	14	652	1,051	2,274	2,361
India .....	470	646	161	665	885
Thailand .....	312	949	788	755	656
Canada .....	159	530	260	469	587
Israel .....	366	200	287	345	548
Australia .....	179	169	229	430	534
Taiwan .....	3,853	2,409	824	172	214
China .....	214	524	205	254	210
Brazil .....	383	386	435	216	173
All other .....	2,910	4,662	4,960	1,604	1,131
<b>Total .....</b>	<b>11,841</b>	<b>15,684</b>	<b>14,217</b>	<b>11,606</b>	<b>11,786</b>

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

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

**Table 8**  
**Cut flowers: U.S. Imports for consumption, by major types, 1989-92**  
*(1,000 dollars)*

Flower type	1989	1990	1991	1992
Standard carnations .....	56,592	50,811	48,726	62,660
Pompon chrysanthemums .....	42,716	46,337	46,331	54,336
Miniature carnations .....	16,312	16,120	23,121	23,448
Preserved flowers .....	15,684	14,217	11,606	11,786
Other chrysanthemums .....	5,387	7,524	8,878	7,962
Sweetheart roses .....	6,472	3,386	2,218	560
Other roses .....	68,840	82,652	89,476	89,882
Other fresh cut flowers .....	103,651	105,199	91,660	101,732
<b>Total .....</b>	<b>315,654</b>	<b>326,246</b>	<b>322,016</b>	<b>352,366</b>

Note.—Data for 1988 are not available at this level of detail.

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

The recently completed (December 1993) GATT Uruguay Round of trade negotiations may result in further reductions in U.S. and foreign duties on the articles covered by this summary. The Uruguay Round schedule of U.S. concessions was not available when this summary was prepared.

The North American Free Trade Agreement (NAFTA), as implemented by the North American Free Trade Agreement Implementation Act (Public Law 103-182, approved Dec. 8, 1993), provides for the elimination of U.S. duties on January 1, 1994, on the cut flower items included in this summary except for fresh cut roses which are imported from Mexico. NAFTA provides for the phase out of the U.S. duty on fresh cut roses from Mexico over a 5-year period beginning January 1, 1994. Mexico was obligated to eliminate its duties on imports of cut flowers from the United States on January 1, 1994. The NAFTA became effective for both the United States and Mexico on January 1, 1994.

Colombia, the Netherlands, Ecuador, Mexico, and Costa Rica have been the leading foreign suppliers of fresh cut flowers to the United States, together accounting for nearly 92 percent of U.S. imports in 1992. Colombia is by far the most important supplier, accounting for 66 percent of U.S. imports in 1992. Colombia is the principal supplier of carnations, hybrid tea roses, and chrysanthemums (figure 4); Canada is the principal supplier of sweetheart roses; Trinidad and Tobago, of anthuriums; Thailand, of orchids; and the Netherlands, of other fresh cut flowers and preserved flowers.

The Netherlands is the principal source of U.S. imports of preserved cut flowers, accounting for 38 percent of such imports in 1992. Mexico is the second leading supplier of preserved cut flowers, accounting for 20 percent of U.S. imports in 1992. Preserved cut flower imports consist of a wide range of materials that generally are not available in significant quantities in the United States or are not produced commercially in the United States.

Most imported cut flowers enter the United States by air, either by commercial passenger airlines or chartered cargo airlines. The majority of U.S. importers are located in Miami, Florida, where efficient receiving and handling facilities have been built to expedite the clearance through Customs and the breakdown of cargos for distribution by air or refrigerated trucks to brokers, wholesalers, retail florists, and mass merchandisers throughout the United States, Canada, and Europe. There are several different types of importers of fresh cut flowers operating in the Miami area: (1) "Branch connections," "which are the American sales divisions of off-shore flower farms. They sell product exclusively grown by their own farms."<sup>22</sup>; (2) "branch and brokers," who are sales divisions of foreign growers, but who also purchase product from other growers in order to offer a wider selection of products; and (3) import brokers,

who have no ownership connections with off-shore growers, but who obtain product for resale and usually work for a commission. Some cut flower wholesalers and retail florists act as their own import brokers.

## FOREIGN MARKETS

### Foreign Market Profile

Prior to the 1970s, cut flower consumption was primarily supplied by local production. Any international trade in cut flowers was primarily limited to cross border trade. The expanded use of commercial jet aircraft, establishment of frequent and reliable transoceanic airline service, and development of sophisticated receiving, handling, and shipping facilities in many countries has allowed for a world market in fresh cut flowers, although most of the world consumption of cut flowers is still supplied at the local market level. Data are not available for either world production or consumption. However, data on world imports of cut flowers are available and are an indicator of the magnitude of the world market.

World imports of cut flowers increased steadily from \$2.5 billion in 1989 to \$3.4 billion in 1991.<sup>23</sup> In 1991, Germany accounted for 37 percent of world imports; the United States, 12 percent; France, 10 percent; and the United Kingdom, 9 percent. Fresh cut flowers, particularly roses and carnations, are the major cut flowers produced and traded throughout the world; in recent years, however, preserved flowers have increased in importance.

### U.S. Export Products, Levels, and Trends

About two-thirds of U.S. exports of cut flowers consist of fresh cut flowers, believed to be primarily anthuriums and roses; the remainder are preserved flowers (tables 9 and 10). During 1988-92, U.S. exports of cut flowers irregularly increased from \$11 million in 1988 to \$34 million in 1991, then declined slightly to \$33 million in 1992.<sup>24</sup>

The value of U.S. exports of cut flowers was approximately 7 percent of the value of U.S. cut flower production in 1992. In recent years, the principal U.S. export markets have been Canada and Japan, with Canada by far the largest (figure 5). U.S. exports to Canada consist of traditional fresh cut flowers such as carnations, chrysanthemums, gladioli, and roses. Exports to Japan are primarily exotic fresh cut flowers such as anthuriums and orchids.

<sup>23</sup> United Nations Statistical Office, Comtrade Data Base System.

<sup>24</sup> A significant portion of the increase in U.S. exports beginning in 1990 is believed to be attributable to Canada import data being used in place of U.S. export data.

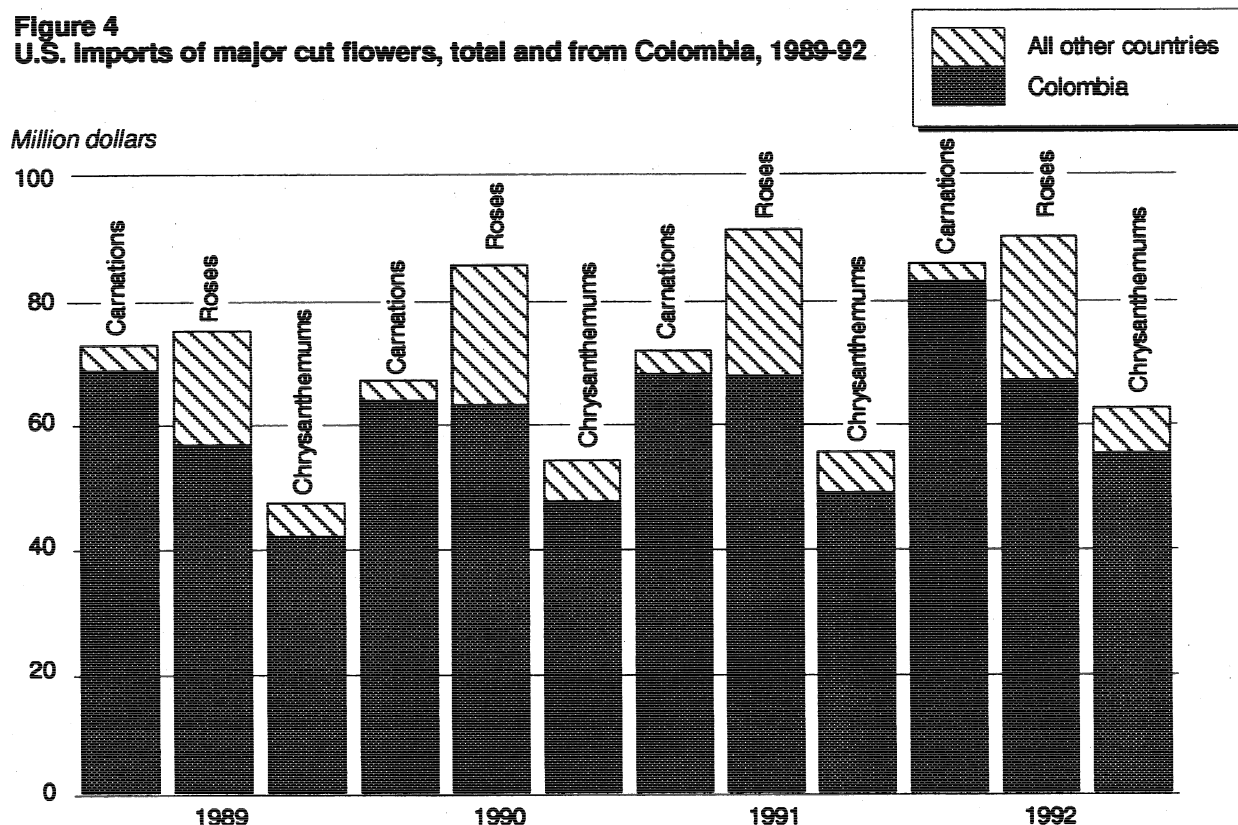
<sup>22</sup> Florist Review, *Miami Connection*, October 1986, pp. 4-9.

## U.S. TRADE BALANCE

The U.S. trade deficit in cut flowers ranged from \$285 million in 1988 to \$319 million in 1992, increasing by \$34 million (table 11). The United States has been a net importer of cut flowers for many years largely because it cannot compete on price with Colombia and other Latin American producers. Latin

America, in particular Colombia, has a favorable climate for flower production and abundant low cost labor. U.S. exports of cut flowers have remained relatively stable in recent years. Preferential duties for cut flowers from certain Latin American and Mediterranean suppliers in the EU have given these suppliers an advantage in the EU market over U.S. exporters.

**Figure 4**  
U.S. imports of major cut flowers, total and from Colombia, 1989-92



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

**Table 9**  
Fresh cut flowers: U.S. exports of domestic merchandise, by principal markets, 1988-92  
(1,000 dollars)

Market	1988	1989	1990	1991	1992
Canada .....	935	1,333	16,568	14,395	15,617
Japan .....	1,256	1,941	2,939	3,962	3,840
Switzerland .....	43	490	512	541	600
Netherlands .....	1,606	74	1,422	659	499
United Kingdom .....	89	7	3	309	266
Germany .....	3,450	1,177	1,855	1,236	245
Mexico .....	109	175	7	188	173
Italy .....	201	107	53	157	98
Colombia .....	6	52	55	63	90
Singapore .....	0	0	0	3	72
All other .....	326	1,138	202	280	339
<b>Total .....</b>	<b>8,022</b>	<b>6,494</b>	<b>23,617</b>	<b>21,792</b>	<b>21,839</b>

Note.—Because of rounding, figures may not add totals shown.

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

**Table 10****Preserved flowers: U.S. exports of domestic merchandise, by principal markets, 1988-92**  
(1,000 dollars)

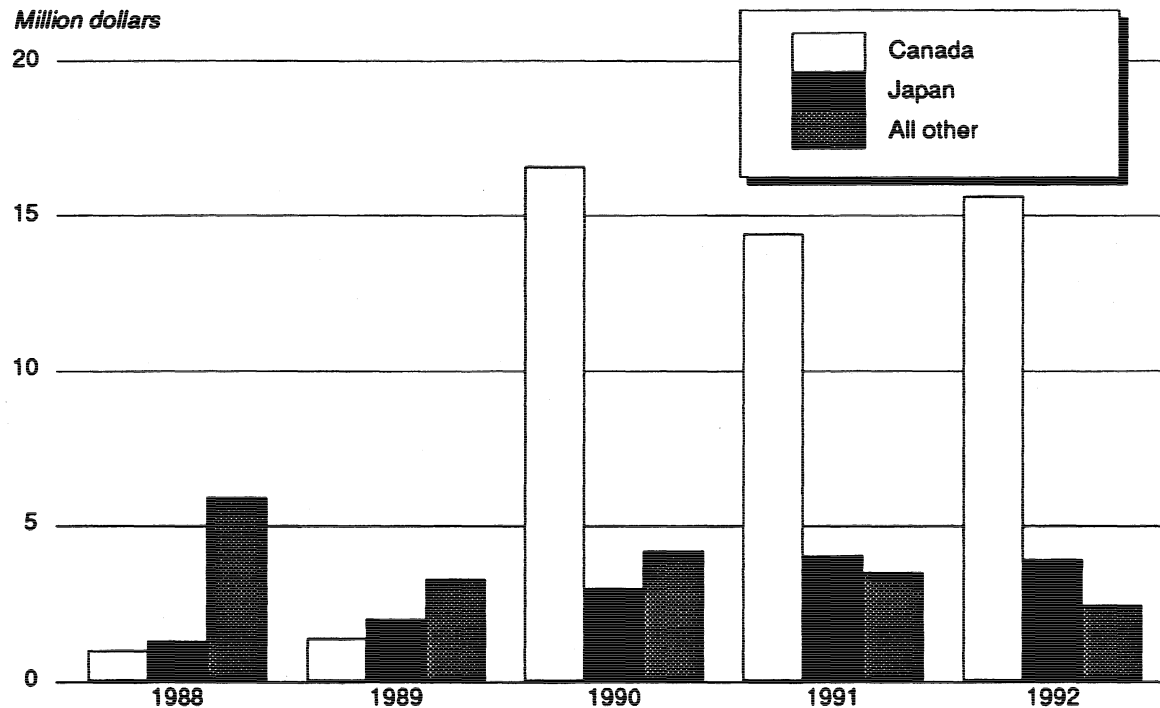
Item	1988	1989	1990	1991	1992
Mexico .....	97	381	899	4,047	2,724
Canada .....	525	867	870	1,362	1,862
Germany .....	168	409	507	854	1,467
Netherlands .....	448	536	1,031	2,734	1,363
Japan .....	774	731	1,41	912	1,134
United Kingdom .....	306	326	338	278	380
Venezuela .....	0	0	37	71	342
France .....	80	51	118	338	163
Italy .....	146	74	36	170	162
Guatemala .....	0	9	0	62	162
All other .....	442	895	682	1,080	905
<b>Total .....</b>	<b>2,986</b>	<b>4,279</b>	<b>5,928</b>	<b>11,907</b>	<b>10,665</b>

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

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

**Figure 5****Fresh cut flowers: U.S. exports of domestic merchandise, by principal markets, 1988-92**

Million dollars



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

Table 11

Cut flowers: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, by selected countries, 1988-92

(Million dollars)

Item	1988	1989	1990	1991	1992
U.S. exports of domestic merchandise:					
Colombia .....	(2)	(2)	(2)	(2)	(2)
Netherlands .....	2	1	2	3	2
Ecuador .....	(2)	(2)	(2)	(2)	(2)
Mexico .....	1	1	1	4	3
Costa Rica .....	(2)	(2)	(2)	(2)	(2)
Guatemala .....	(2)	(2)	(2)	(2)	(2)
Japan .....	2	3	4	5	5
Thailand .....	(2)	(2)	(2)	(2)	(2)
Canada .....	1	2	17	16	17
Australia .....	(2)	(2)	(2)	(2)	(2)
All other .....	5	4	6	6	6
Total .....	11	11	30	34	33
U.S. imports for consumption:					
Colombia .....	175	187	199	203	231
Netherlands .....	67	68	63	49	51
Ecuador .....	4	7	10	12	15
Mexico .....	7	10	13	15	12
Costa Rica .....	6	9	9	10	10
Guatemala .....	2	3	3	4	5
Japan .....	(2)	(2)	(2)	(2)	(2)
Thailand .....	3	4	4	5	4
Canada .....	6	4	4	4	4
Australia .....	1	1	2	2	3
All other .....	24	23	19	18	17
Total .....	295	316	326	322	352
U.S. merchandise trade balance:					
Colombia .....	-175	-187	-199	-203	-231
Netherlands .....	-65	-67	-61	-46	-49
Ecuador .....	-4	-7	-10	-12	-15
Mexico .....	-7	-9	-12	-11	-9
Costa Rica .....	-6	-9	-9	-10	-10
Guatemala .....	-2	-3	-3	-4	-5
Japan .....	2	3	4	5	5
Thailand .....	-3	-4	-4	-5	-4
Canada .....	-5	-2	-	-1	-13
Australia .....	-1	-1	-2	-2	-11
All other .....	-19	-19	-13	-12	-13
Total .....	-285	-305	-296	-288	-319

<sup>1</sup> Import values are based on customs value; export values are based on f.a.s. value, U.S. port of export.

<sup>2</sup> Less than \$50,000.

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

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





**APPENDIX A**  
**EXPLANATION OF TARIFF AND TRADE AGREEMENT TERMS**

## APPENDIX A

### TARIFF AND TRADE AGREEMENT TERMS

The *Harmonized Tariff Schedule of the United States* (HTS) replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989. Chapters 1 through 97 are based upon the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description, with additional U.S. product subdivisions at the 8-digit level. Chapters 98 and 99 contain special U.S. classification provisions and temporary rate provisions, respectively.

Rates of duty in the *general* subcolumn of HTS column 1 are most-favored-nation (MFN) rates; for the most part, they represent the final concession rate from the Tokyo Round of Multilateral Trade Negotiations. Column 1-general duty rates are applicable to imported goods from all countries except (1) those enumerated in general note 3(b) to the HTS plus Serbia and Montenegro, whose products are dutied at the rates set forth in *column 2*, and (2) countries whose goods are subject to embargo. Goods from Albania, Armenia, Belarus, Bulgaria, the People's Republic of China, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Poland, Romania, Russia, Slovakia, Turkmenistan, and the Ukraine are currently eligible for MFN treatment, as are the other republics of the former Socialist Federal Republic of Yugoslavia. Among articles dutiable at column 1-general rates, particular products of enumerated countries may be eligible for reduced rates of duty or for duty-free entry under one or more preferential tariff programs. Such tariff treatment is set forth in the *special* subcolumn of HTS column 1. Where eligibility for special tariff treatment is not claimed or established, goods are dutiable at column 1-general rates.

The *Generalized System of Preferences* (GSP) affords nonreciprocal tariff preferences to developing countries to aid their economic development and to diversify and expand their production and exports. The U.S. GSP, enacted in title V of the Trade Act of 1974 and renewed in the Trade and Tariff Act of 1984, applies to merchandise imported on or after January 1, 1976 and before September 30, 1994. Indicated by the symbol "A" or "A\*" in the special subcolumn of column 1, the GSP provides duty-free entry to eligible articles the product of and imported

directly from designated beneficiary developing countries, as set forth in general note 3(c)(ii) to the HTS.

The *Caribbean Basin Economic Recovery Act* (CBERA) affords nonreciprocal tariff preferences to developing countries in the Caribbean Basin area to aid their economic development and to diversify and expand their production and exports. The CBERA, enacted in title II of Public Law 98-67, implemented by Presidential Proclamation 5133 of November 30, 1983, and amended by the Customs and Trade Act of 1990, applies to merchandise entered, or withdrawn from warehouse for consumption, on or after January 1, 1984; this tariff preference program has no expiration date. Indicated by the symbol "E" or "E\*" in the special subcolumn of column 1, the CBERA provides duty-free entry to eligible articles, and reduced-duty treatment to certain other articles, which are the product of and imported directly from designated countries, as set forth in general note 3(c)(v) to the HTS.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "IL" are applicable to products of Israel under the *United States-Israel Free Trade Area Implementation Act* of 1985 (IFTA), as provided in general note 3(c)(vi) of the HTS. Where no rate of duty is provided for products of Israel in the special subcolumn for a particular provision, the rate of duty in the general subcolumn of column 1 applies.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "CA" are applicable to eligible goods originating in the territory of Canada under the *United States-Canada Free-Trade Agreement* (CFTA), as provided in general note 3(c)(vii) to the HTS.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn of column 1 followed by the symbol "J" or "J\*" in parentheses is afforded to eligible articles the product of designated beneficiary countries under the *Andean Trade Preference Act* (ATPA), enacted in title II of Public Law 102-182 and implemented by Presidential Proclamation 6455 of July 2, 1992 (effective July 22, 1992), as set forth in general note 3(c)(ix) to the HTS.

Other special tariff treatment applies to particular *products of insular possessions* (general note

3(a)(iv)), goods covered by the *Automotive Products Trade Act* (APTA) (general note 3(c)(iii)) and the *Agreement on Trade in Civil Aircraft* (ATCA) (general note 3(c)(iv)), and *articles imported from freely associated states* (general note 3(c)(viii)).

The *General Agreement on Tariffs and Trade* (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) is the multilateral agreement setting forth basic principles governing international trade among its 111 signatories. The GATT's main obligations relate to most-favored-nation treatment, the maintenance of scheduled concession rates of duty, and national (nondiscriminatory) treatment for imported products; the GATT also provides the legal framework for customs valuation standards, "escape clause" (emergency) actions, antidumping and countervailing duties, and other measures. Results of GATT-sponsored multilateral tariff negotiations are set forth by

way of separate schedules of concessions for each participating contracting party, with the U.S. schedule designated as Schedule XX.

Officially known as "The Arrangement Regarding International Trade in Textiles," the *Multifiber Arrangement* (MFA) provides a framework for the negotiation of bilateral agreements between importing and producing countries, or for unilateral action by importing countries in the absence of an agreement. These bilateral agreements establish quantitative limits on imports of textiles and apparel, of cotton and other vegetable fibers, wool, man-made fibers and silk blends, in order to prevent market disruption in the importing countries—restrictions that would otherwise be a departure from GATT provisions. The United States has bilateral agreements with many supplying countries, including the four largest suppliers: China, Hong Kong, the Republic of Korea, and Taiwan.



