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U.S. END MARKET ANALYSIS FOR KENYAN CUT FLOWERS

December 2017

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TABLE OF CONTENTS

ACRONYMS AND ABBREVIATIONS	4
EXECUTIVE SUMMARY	5
I. TARGET PRODUCTS	6
1.1 The Kenyan Flower Industry	6
1.2 Kenyan Flower Exports to the U.S.	8
1.3 Competitiveness of the Kenyan Flower Sector Vis-à-vis the U.S. Market	10
2. U.S. MARKET STRUCTURE, CHARACTERISTICS AND TRENDS	11
2.1 Historical Perspective	11
2.2 Market Size and Composition – The U.S. Domestic Floral Market	11
2.3 Floriculture Trade Flow – U.S. Exports and Imports	14
3. U.S. TARIFF STRUCTURE	29
4. NON-TARIFF REQUIREMENTS	30
4.1 Import Regulations	30
4.2 Standards, Regulations and Certifications	30
5. U.S. DISTRIBUTION – LOGISTICS AND TRANSPORT	33
5.1 Supplier Selection	33
5.2 Contract and Payment Terms	33
5.3 Transport and Points of Entry	34
5.4 Distribution Channels	35
6. CONSUMPTION PATTERNS FOR TARGET PRODUCTS AND PRICES	39
6.1 Cut Flower Consumption Patterns in the U.S.	39
6.2 Prices	39
7. SALES PROMOTION	43
7.1 Key Trade Fairs	43
7.2 Sources of information and promotional opportunities	43
8. COMPETITION – KEY SUPPLIERS OF CUT FLOWERS TO THE U.S.	45
9. RECOMMENDATIONS – ACTION PLAN	51

ACRONYMS AND ABBREVIATIONS

AFIF	Association of Floral Importers of Florida
AGOA	African Growth and Opportunity Act
APHIS	Animal and Plant Health Inspection Service
ASOCOLFLORES	Colombian Association of Flower Exporters
ATPADEA	Andean Trade Promotion and Drug Eradication Act
CBP	Customs and Border Protection
CDN	Cushion Daisy Novelty
CIF	Cost Insurance and Freight
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COLEACP	Europe-Africa-Caribbean-Pacific Liaison Committee
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
ESA	Endangered Species Act
EU	European Union
EUREPGAP	Europe-Africa-Caribbean-Pacific Liaison Committee
EXPOFLORES	Ecuadorian Association of Flower Exporters
FOB	Free on Board
FPO	Flower Promotion Organization
FTA	Free Trade Agreement
FTD	Florist's Transworld Delivery
Ha	Hectares
HS	Harmonized System
HTS	Harmonized Tariff Schedule
IFE	International Floriculture Expo
IFTTEX	International Floriculture Trade Expo
IPM	Integrated Pest Management
ITC	International Trade Commission
KEPHIS	Kenya Plant Health Inspectorate Service
KFC	Kenya Flower Council
MNS	Market News Service
MPS	Ecological Floriculture Project
NAFTA	North American Free Trade Agreement
NASS	National Agriculture Statistics Service
PMA	Produce Marketing Association
PPQ	Plant Protection and Quarantine
SAF	The Society of American Florists
SCS	Scientific Certification Systems
SWOT	Strengths, Weaknesses, Opportunities and Threats
TIFA	Trade and Investment Framework Agreements
UAE	United Arab Emirates
UN	United Nations
U.S.	United States
USDA	U.S. Department of Agriculture
USITC	U.S. International Trade Commission
WCO	World Customs Organization
WF&FSA	Wholesale Florists & Florist Supplier Association
WTO	World Trade Organization

EXECUTIVE SUMMARY

Cut flowers are a major export industry in Kenya. Kenya presently ranks first among world exporters of roses to the European Union (EU), with a market share of 38 percent. However, the country has not yet made as deep of inroads into the cut flower market in the United States (U.S.). Kenyan cut flower exports to the U.S. have grown since 2010, but the country's market share remains small, standing at 1 percent. This report analyzes emerging opportunities to increase Kenyan flower exports to the U.S. while taking advantage of the benefits granted under the African Growth and Opportunity Act (AGOA).

In 2016, Kenya ranked as the twelfth greatest supplier of cut flowers to the U.S. Nearly 90 percent of the cut flowers imported by the U.S. come from three countries: Colombia (59 percent), Ecuador (22 percent) and the Netherlands (7 percent). Colombia and Ecuador, who make up more than 80 percent of the imported flowers, present stiff competition. The countries profit from longstanding commercial relationships with the U.S. and geographic proximity, which reduces freight and transport costs. Both countries enjoy duty-free access to the U.S. market, as does Kenya.

Nonetheless, Kenya has a strong, competitive cut flower industry that is ready to explore new markets. The industry is profitable and technically competent, it has developed efficient logistics to the European markets and it offers high-quality flowers at competitive prices. If the industry can use these strengths and adjust to the U.S. market, there is an opportunity to develop a market niche for its flowers, including roses and other breeds.

This report assesses the U.S. market and offers the following recommendations for Kenyan cut flower exporters:

- Expand and consolidate trade linkages with U.S. buyers.
- Improve Kenyan flowers' competitiveness through quality assurance, improved logistics and packaging. Factors directly contributing to the quality of flowers shipped long distances, particularly postharvest handling, packaging and an appropriate cold chain, need strengthening.
- Position Kenyan roses in a different, but not inferior, market niche from Colombian and Ecuadorian roses and consider the potential of lilies, carnations and chrysanthemums, which Kenya currently exports and the U.S. imports, but are not a large part of Kenya-U.S. trade.
- If exporters decide to access the bouquet market, Kenya has the capacity to source a wide variety of good quality products including cut foliage. This may be achieved either by elaborating bouquets at origin or liaising with a bouquet maker in Miami wishing to import specific flower types.
- A strong connection between Animal and Plant Health Inspection Service, the phytosanitary authorities in the U.S., and the Kenya Plant Health Inspectorate Service (KEPHIS) needs to be developed to increase confidence in Kenyan products at the U.S. borders. KEPHIS also needs to develop pest risk analyses on specific flower types (particularly roses), which follow U.S. guidelines.
- Strategic alliances and joint investments should be built with exporters from countries that have an advanced flower sector and can bring their technology, marketing and distribution capacities to the table.
- Supply should be leveraged with flowers from other African countries that might use Nairobi airport for shipping of their produce.
- Efforts to brand Kenyan flowers as unique are encouraged during promotion efforts, particularly for bouquets. Selling wholesale will have a lower impact as flowers will likely be mixed with those of other origins before reaching the end consumer.

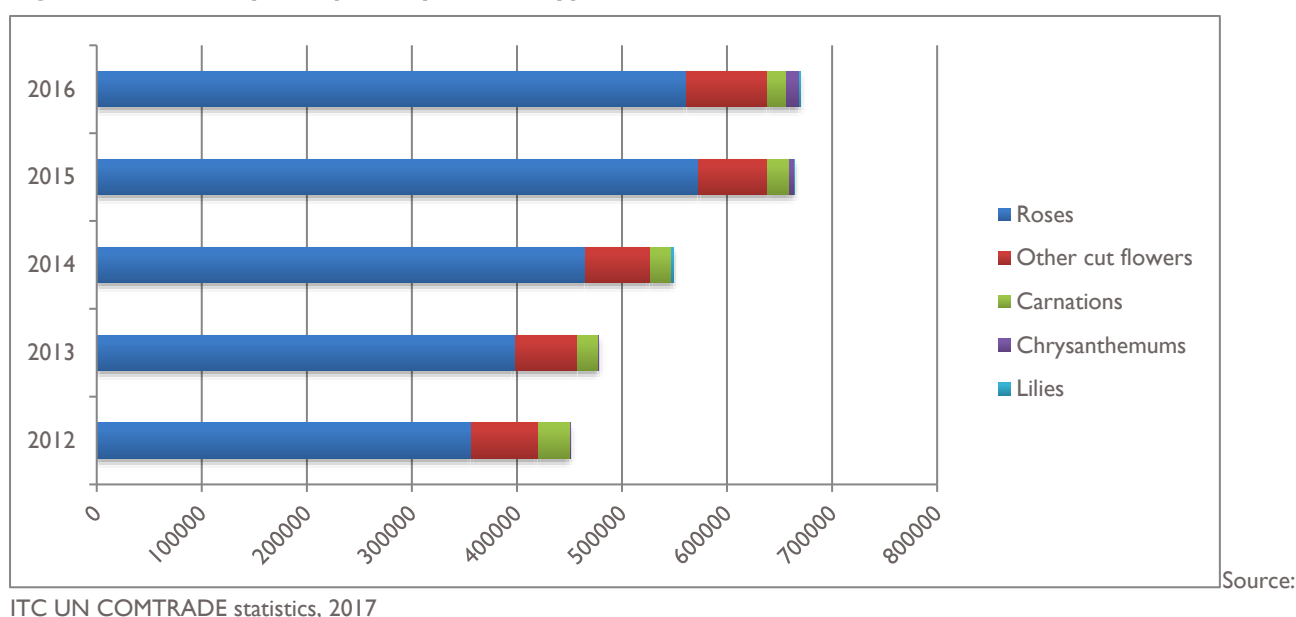
I. TARGET PRODUCTS

This report focuses on floral/ornamental products imported by the U.S. Although all segments of the ornamental sector are analyzed, an emphasis is placed on cut flowers, which is what Kenya is primarily seeking to introduce in the U.S. These include roses, carnations, alstroemerias, lilies and gypsophylas.

I.1 THE KENYAN FLOWER INDUSTRY

Flower exports from Kenya began in the 1980s and have grown steadily since. In 2016, Kenyan flower exports amounted to nearly 134,000 tons valued at \$676 million. Kenya presently ranks first among world exporters of roses to the EU with a market share of 38 percent. Roses make up the majority of exports, but there is a shift toward product diversification. Carnations, chrysanthemums, lilies and alstroemerias are becoming important, as are various other flower types and cut foliage.

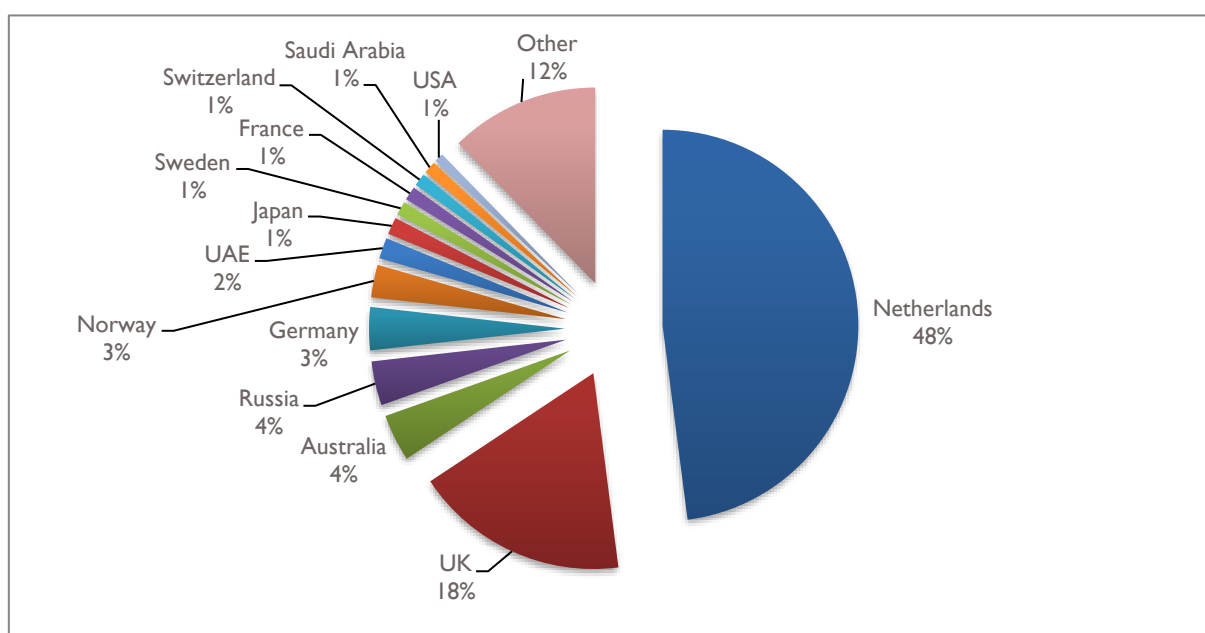
Figure 1. Total Kenyan Exports by Flower Type, 2012 -2016



About half of the exported flowers are traded via the Dutch Auctions. There is, however, a reported tendency to sell directly to customers, such as supermarkets and florist chains, specifically in countries like the United Kingdom.

Kenyan flowers are now exported to nearly 60 countries around the world, including distant markets such as Japan, China, Australia and the U.S. The U.S. makes up only 1 percent of Kenyan flower exports.

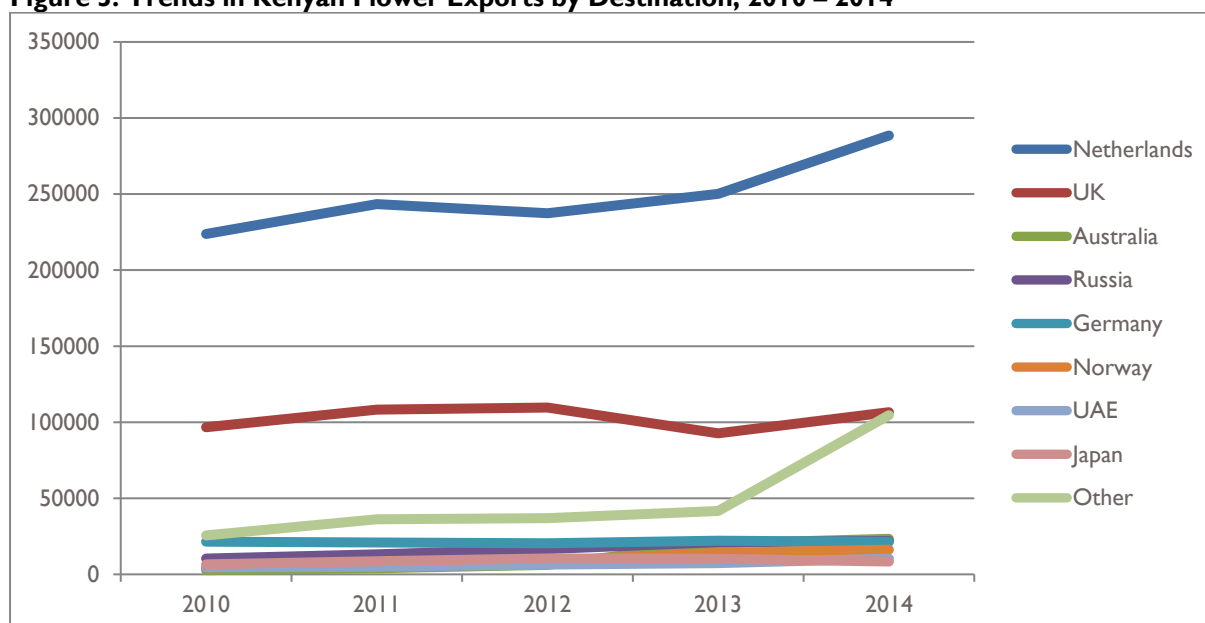
Figure 2. Destination of Kenyan Flower Exports in 2016



Source: ITC UN COMTRADE statistics, 2017

The Netherlands is a major player for trading Kenyan flowers, but in recent years there has been an effort to diversify market access. Emerging markets such as the United Arab Emirates (UAE), Japan and Russia have shown a rise in participation, and Australia are quickly gaining importance, and the U.S. is now on the map as a destination.

Figure 3. Trends in Kenyan Flower Exports by Destination, 2010 – 2014



Source:

Source: ITC UN COMTRADE statistics, 2017

I.2 KENYAN FLOWER EXPORTS TO THE U.S.

TOTAL EXPORTS OF ORNAMENTAL PRODUCTS FROM KENYA TO THE U.S.

Trade in all ornamental products from Kenya is larger with destinations other than the U.S. and takes place mainly with Europe. Trade in un-rooted cuttings (included in category 0602) has started with the U.S. and is increasing, though it remains larger for other destinations. Kenya's potential as a supplier of propagation material may be considered (see more on U.S. imports of propagation materials in section 3.3.7). A similar situation exists with respect to cut foliage (code 0604), which is more relevant when exporting bouquets. Exports of bulbs, rhizomes and corms from Kenya appear to have diminished significantly. This can be attributed to climatic conditions, as these materials often required temperate climate/seasons to be produced successfully.

Table I. Kenyan Exports of Ornamental Products to the U.S. and the World and U.S. Imports by Product¹ in USD \$'000

Product Code	Product Label	Kenyan Exports to U.S.				U.S. Imports from World				Kenyan Exports to World				
		2012	2013	2014	2015	2013	2014	2015	2016	2012	2013	2014	2015	2016
'0603	Cut flowers	2,267	3,170	4,432	1,167,469	1,193,355	1,219,296	1,257,738	1,391,529	453,038	479,998	553,453	672,843	675,871
'0601	Bulbs, tubers, corms, crowns, rhizomes	0	0	0	175,232	176,852	176,280	158,228	156,611	350	742	881	81	21
'0602	Live plants with roots, cuttings, slips	1991	1,689	1928	377,237	407,065	441,625	461,073	474,742	54,375	56,792	66,954	64,488	56,107
'0604	Foliage, branches, grasses, mosses	170	168	140	141,473	135,641	130,205	134,759	142,100	224	307	310	3,836	2,928

Source: ITC UN COMTRADE statistics, 2017

CUT FLOWER EXPORTS FROM KENYA TO THE U.S.

Kenyan cut flower interest in the U.S. has grown since 2010, but the country's market share remains very small. Only about 1 percent of Kenyan flowers reach the U.S. and the country ranks twelfth among suppliers to the U.S.

One reason is stiff competition from countries that are geographically closer to the U.S., namely Colombia and Ecuador, both of which have been exporting flowers to the U.S. for decades and have established solid commercial relationships for their flower exports. Colombia has a Free Trade Agreement (FTA) in place

¹ Reported data for exports occurring in 2015 and 2016 is not available and is included as "mirror data" in the world exports column (i.e. data based on partner reported data).

with the U.S. that allows for tariff-free access, and Ecuador is compensating tariffs due to exporters on some cut flowers (roses in particular) through government incentives.

Kenya has developed significant markets for its cut flowers around the world, particularly in the Netherlands and the EU. It can offer good quality products that show potential for the U.S. market. Access to the U.S. market is however limited by logistics, particularly shipping time and freight costs (see Chapter 6). The introduction of direct passenger flights from Kenya to the U.S. will help overcome this hurdle, but wider freight capacity may be needed.

Exports of ornamental products from Kenya to the U.S. as reported by COMTRADE are summarized in the table below. Reported data is not available for Kenyan flower exports in 2015 and 2016 and is included as “mirror data” in the world exports column (i.e. data based on partner reported data).

Although roses are the main flower exported from Kenya to the U.S., the introduction of cut chrysanthemums, lilies, carnations and even orchids has potential. The fact that these flowers are already imported by the U.S. in significant volumes may warrant their promotion (i.e. at trade shows, in catalogs and websites). Their availability is also important when considering exports of consumer-ready bouquets or working with bouquet traders.

Table 2. Kenyan Exports of Cut Flowers to the U.S. and the World and U.S. Imports* USD \$'000

Product Code	Product Label	Kenya's Exports to U.S.			U.S. Imports from World					Kenya's Exports to World				
		2012	2013	2014	2012	2013	2014	2015	2016	2012	2013	2014	2015	2016
'060312	Fresh cut carnations	2	0	4	97,986	93,902	87,888	84,380	92,818	30,145	19,756	20,006	20,768	18,227
'060314	Fresh cut chrysanthemums	0	0	0	153,431	169,144	171,386	174,295	187,959	76	171	60	4,138	11,813
'060319	Fresh cut flowers (other)	39	55	59	386,020	384,955	378,365	396,624	449,035	64,056	59,558	61,378	66,253	77,005
'060311	Fresh cut roses	2,226	3,060	4,111	458,815	474,681	513,831	522,342	569,634	4E+05	398,394	465,339	572,619	5618,02
'060313	Fresh cut orchids	0	0	0	226,88	20,752	19,761	20,723	27,063	22	10	12	449	586
'060315	Fresh cut lilies	0	0	0	40,020	41,174	40,432	44,921	52,527	0	0	2436	635	802
'060390	Dried, dyed, bleached or prepared flowers	0	55	257	8,509	8,747	7633	14,453	12,493	2,352	2,108	4,222	7,989	5,629

Source: ITC UN COMTRADE statistics, 2017

I.3 COMPETITIVENESS OF THE KENYAN FLOWER SECTOR VIS-À-VIS THE U.S. MARKET

The market analysis provided in this document, together with visits to flower farms and extensive discussions with stakeholders, including growers/exporters, government officials, service providers and technical/logistics advisers, allows for a general Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of the industry in the context of U.S. market access.

Table 3. SWOT Analysis

STRENGTHS	WEAKNESSES (CHALLENGES)
<ul style="list-style-type: none"> • Representative, strong trade association, good image (Kenya Flower Council) • Competitive production costs • Good quality product, good vase life, adequate product and color range • Access to new varieties (observance of breeders' rights) • Mature, competitive industry already accessing demanding, stringent markets with great success (EU, Japan, Australia, etc.) • Strong technical capacity both at private and government level 	<ul style="list-style-type: none"> • Sustaining volumes and supply; develop trust as reliable suppliers • Postharvest – quality, plant health, cold chain • Gearing production/colors/flower types toward very specific peak dates will require adjustments • Sourcing products from other companies or countries to complete product range is difficult • Perception and use of the product by consumers (efforts should be made to avoid positioning Kenyan roses as second-grade or cheap) • Packaging and presentation need improvement, including box sizes (uniformity) • Paperwork and regulations • High airfreight cost and low capacity • Finding the clients and catering to them, offering unique products/opportunities • Phytosanitary issues, pest risk analyses
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> • Work together as an industry, exchange information, join forces for promotion • Branding to develop an “African product” • Accreditation – become known for a product with unique characteristics • Develop institutional marketing structure (i.e. a Kenya/East Africa flower hub to consolidate volumes or elaborate bouquets, joint promotion efforts and others) • Collaborate with key stakeholders in the region (i.e. Ethiopian Air, sourcing flowers or services from other countries); become an “African hub” • Identify successful entry point; develop commercial presence in the U.S. • Improve preparation for trade show participation and maximize benefits • Develop relationship with U.S. Department of Agriculture (USDA)/Animal and Plant Health Inspection Service (APHIS) • Explore government incentives 	<ul style="list-style-type: none"> • Exchange rates (U.S. dollar vs. local currency and Euro) • Freight capacity (of direct flights when they happen), freight costs, reliability, may be difficult to manage or insufficient • Phytosanitary interceptions, restrictions on African products • Very steep competition, dominance from Latin America at every step of the marketing chain

2. U.S. MARKET STRUCTURE, CHARACTERISTICS AND TRENDS

2.1 HISTORICAL PERSPECTIVE

During the second half of the 20th century, the U.S. floriculture sector underwent significant changes. In the 1950s, local family businesses operating near large market centers like New York, Chicago and Philadelphia led cut flower production. Production was kept near consumers, even if the climate was not ideal, to keep flowers from perishing during ground transportation. In these locations, year-round production was possible, but at a high cost, since greenhouses required heating and cooling and the day's length was artificially altered by supplementary lighting or shading according to the season.

With the arrival of commercial aviation, however, transportation now allowed flower and plant production to move to states with more suitable climates, such as California and Florida. It soon became evident that it was possible to source flowers from production areas as far away such as Colombia, where climatic conditions were ideal, hand labor was available and production costs were stable throughout the year, as environmental controls (i.e., heating and cooling) were not necessary. Soon other suppliers joined the scene, including Ecuador, Costa Rica and Chile. The face of U.S. floriculture changed significantly, and today over 70 percent of the cut flowers sold in the U.S. are imported. To sustain its high cut flower consumption, the U.S. has become the largest importer of cut flowers in the world.

A large number of information sources were consulted, including published studies, trade magazines and interviews. With respect to statistics, two main sources of information were used: the COMTRADE system of the United Nations World Trade Organization (UN/WTO) and the National Agriculture Statistics Service (NASS) of the USDA. Data from these two sources do not always align, possibly due to differences in measurement and reporting methods. However, general trends do match and the sources are thus complementary and useful in establishing trends.

There are some instances where data is not registered – for example, data for specific flower types, or where access to such data is restricted as is the case of certain associations (i.e. of importers or traders), where information is only available to members.

2.2 MARKET SIZE AND COMPOSITION – THE U.S. DOMESTIC FLORAL MARKET

The wholesale flower and ornamental plant sector of the U.S. was valued at \$4,370 million in 2015 by the USDA, showing an increase of 4 percent from the previous year, and of about 9 percent since 2006. An estimated 6,000 producers of flowers and ornamental farms are in operation, of which approximately 2,600 are currently concentrated in 15 states and collectively report annual sales of over \$100,000.

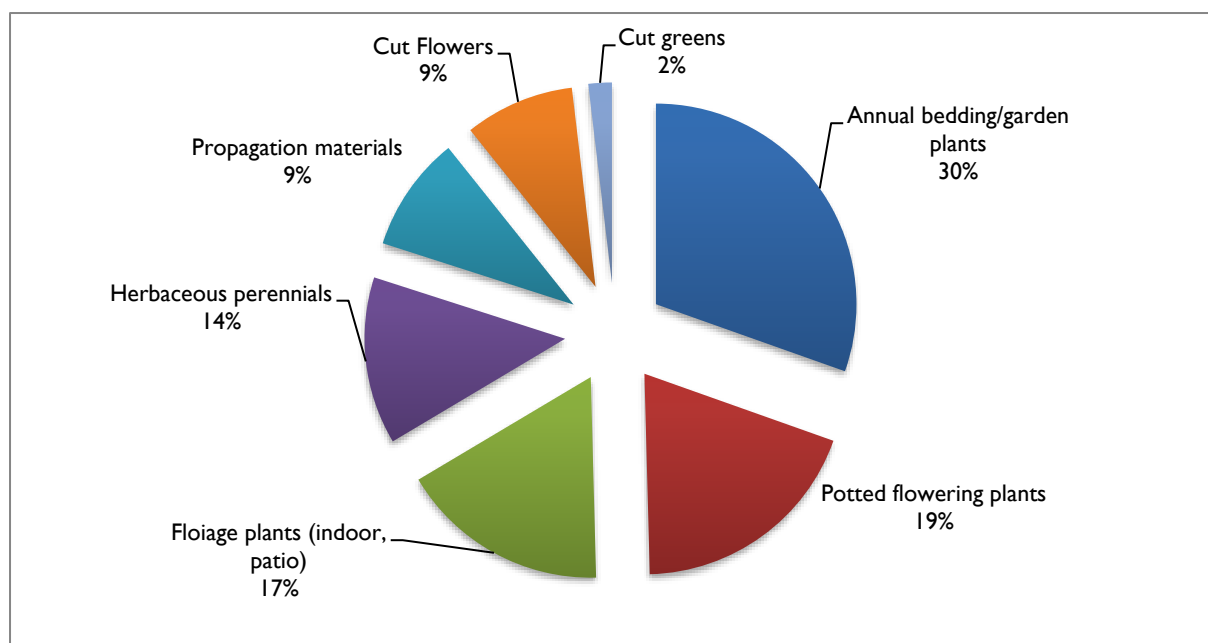
California has traditionally led production, with crop production valued at \$1,080 million in 2015. Florida is the second largest producer, with a wholesale value of \$1,030 million. Its production has increased over time, showing a 12 percent increase from 2012 to 2014. Together, these two states account for 49 percent of the total value produced in the 15 states. For 2015, the five states accounting for about 70 percent of the total value (\$3,000 million) were California, Florida, Michigan, North Carolina and Ohio. Interestingly, Texas and New York no longer belong to this group, as production in North Carolina and Ohio has overtaken them.

The ornamental sector of the U.S. can be summarized as follows:

- 3,874 hectares (ha) of greenhouses
- 3,326 ha under shade or temporary cover
- 16,200 ha of open field production.

Figure 4 provides a breakdown of the main sectors making up the U.S. domestic floral sector.

Figure 4. Composition of the Ornamental Sector of the U.S. (2015)



Source:

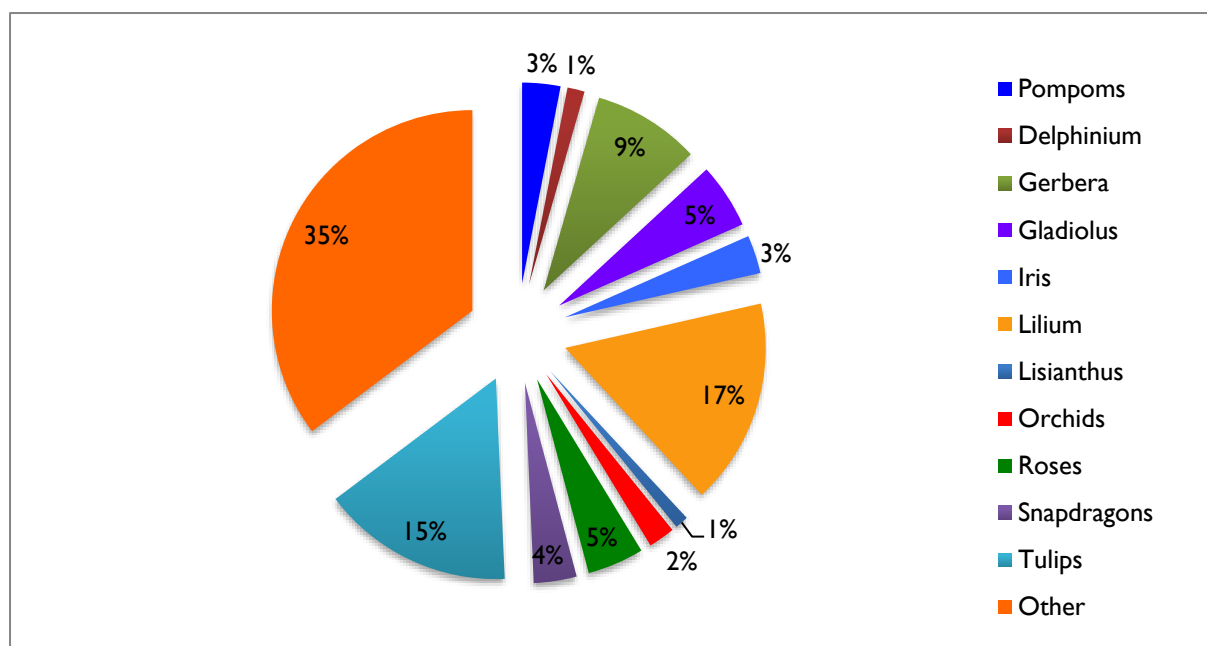
Floriculture Crops Summary 2016 Agriculture Statistics Board, National Agriculture Statistics Service (NASS), USDA

CUT FLOWERS

The domestic cut flower sector of the U.S. has shown a sustained downward trend over several decades, particularly in the 1980s and 1990s, as a result of increasing flower imports. In 2007, cut flowers represented 10.2 percent of the total ornamental sector with a wholesale value of \$416 million. In 2015, this value was reported to be \$374 million (9 percent of the total ornamental sector). This figure was 3 percent above that of the previous year, possibly as a result of active campaigns encouraging consumers to buy local flowers (see later sections in this report). Nearly 80 percent of the sales originate from California.

In response to imports, the product mix in this sector has also changed. While the main products 30 to 40 years ago were “traditional” flowers such as roses, chrysanthemums and carnations, the mix has gradually shifted toward “specialty” cut flowers such as dephinium, gladioli, gerberas, lilies, iris, orchids, tulips and peonies, which are imported in lower quantities (or not at all). Since 2006, the USDA has kept track of floriculture-related data in the 15 states where this activity is significant, and from companies reporting sales over \$100,000 per year. In 2015, there were 444 cut flower growers, up from 316 in 2010, but down from 515 in 2014 (for reference, in 1992, 900 growers were reported). Figure 5 shows the main flowers grown and sold in the U.S. in 2015 (based on wholesale value as reported to USDA).

Figure 5. Sales of Domestically Grown Cut Flowers in the U.S. in 2015



Source:

Floriculture Crops Summary 2007, 2011, 2016 Agriculture Statistics Board, NASS, USDA

For most flowers, production has picked up slightly or remained stable in the past five years, with certain flowers consolidating as main players, such as lilies, tulips, iris and gerberas. The “other flowers” segment has also increased and diversified. Flowers which are predominantly imported (i.e. roses, carnations, alstroemerias) are produced in much lower quantities. Nearly 80 percent of domestic commercial cut flower production takes place in California.

CUT FOLIAGE (CUT GREENS)

Cultivated cut greens occupy the smallest segment within the U.S. ornamental industry. After experiencing a decline ten years ago, the segment has experienced a change over the past five years. Cultivated cut greens had a wholesale value of \$80.4 million in 2015, a 10 percent increase over the previous year. Two hundred and fifty-seven producers were registered in 2015, about 15 percent less than in 2014 (but up from 166 in 2007). Florida is the leading state in this segment, with 76 percent of total category sales. Leather leaf fern *Rhumora adiantiformis* and tree fern *Asparagus virgatus* are the most important species (composing over 40 percent of the total), but in the past decade many new cut foliage types have joined the scene, including salal, *Gaultheria shallon*, *Ruscus*, bear grass, myrtles, musas, *Phyloendron* and many more. Other states with sizable cut foliage production are California (14 percent) and Oregon (5 percent). Since 2003, domestic production of leatherleaf fern has reduced, giving way to new kinds of cut foliage, but this can also be attributed to increased imports from Central America, specifically Costa Rica and Honduras.

PLANT PROPAGATION MATERIALS

Plant propagation materials or “unfinished plants” include cuttings, bulbs and grafted plants. They are used for propagating bedding and garden plants, herbaceous perennials, flowering and foliage plants, cut flowers and cut greens. This sector presently comprises 9 percent of the total ornamental sector. Its wholesale value was estimated at \$395 million in 2015, a 15 percent increase with respect to the previous year, but about the same as was reported a decade earlier in 2006.

This is an important sector since it affects the development and introduction of new cultivars. Research related to breeding and improving ornamentals is often limited in developing countries. Consequently, many developing countries depend on plant breeding efforts conducted in developed nations. The U.S. is a supplier of base material for other countries. Many breeding companies pursue cultivar selection programs in

conjunction with producers/exporters to ensure that these new varieties develop optimally under commercial production conditions. In this context, observance of breeders' rights and payment of royalties to guarantee access to new varieties is highly important.

2.3 FLORICULTURE TRADE FLOW – U.S. EXPORTS AND IMPORTS

WORLD TRADE OF FLOWERS AND PLANTS

World imports of ornamental plant products amounted to approximately \$18,435 million in 2016, an amount that has not varied widely over the past decade. Data is recorded in a single category of products, with four subcategories as follows:

- **Product 06:** Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage
 - **0601:** Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant, in growth or in flower, chicory plants and roots (excluding bulbs, tubers and tuberous roots used for human consumption and chicory roots)
 - **0602:** Live plants including their roots, cuttings and slips; mushroom spawn (excluding bulbs, tubers, tuberous roots, corms, crowns and rhizomes, chicory plants, roots)
 - **0603:** Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared
 - **0604:** Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses and lichens, of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared

The following breakdown was obtained for 2016 (total imported value \$18,435 million according to ITC UN COMTRADE statistics) when specific broad categories are considered:

- 0601: Bulbs, tubers – 39 percent (\$7,190 million)
- 0602: Live plants – 6 percent (\$1,106 million)
- 0603: Cut flowers – 46 percent (\$8,480 million)
- 0604: Foliage – 9 percent (\$1,659 million)

U.S. TRADE IN ORNAMENTAL PRODUCTS – EXPORTS

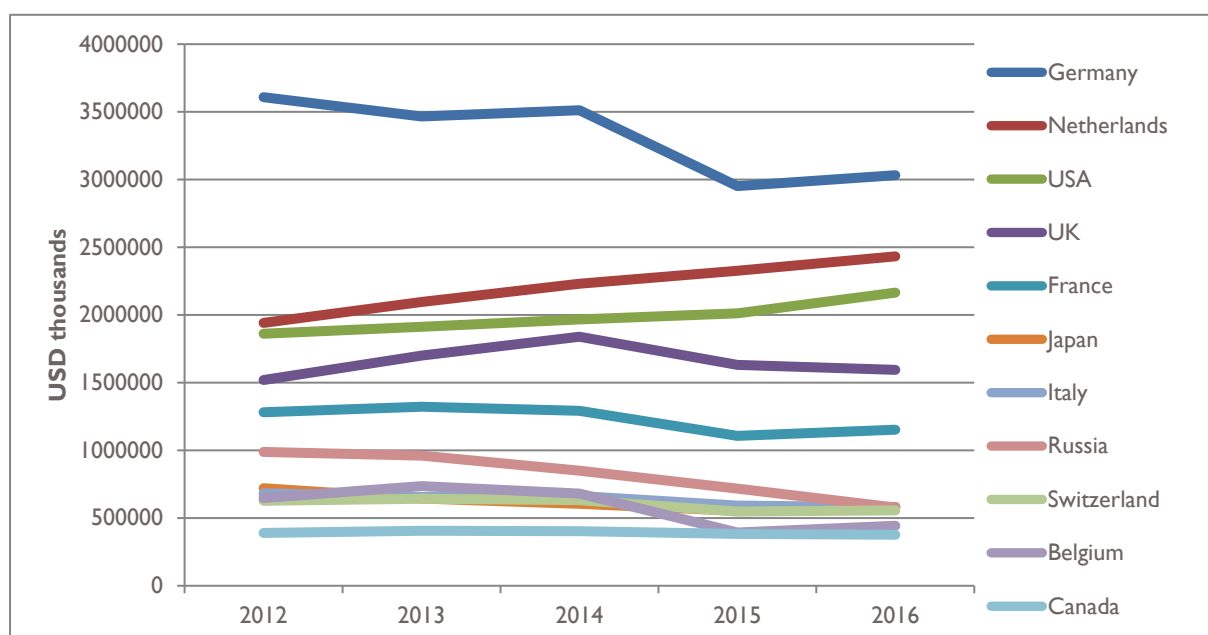
Total exports of ornamental products from the U.S. amounted to \$425 million in 2015 with about 50 percent going to Canada. They included live plants (orchids, chrysanthemums and herbaceous perennials), ornamental trees and bushes (Christmas trees, azaleas, rhododendron and roses), propagation materials (un-rooted cuttings and slips, bulbs, corms and cut flowers) and ornamental foliage.

The largest category was live plants (\$174 million) followed by fruit or nut trees and ornamental bushes (\$62 million). Cut flower exports are very small in comparison to imports, amounting to about \$9 million in 2016, a decrease since 2012 when they were valued at \$14 million. The cut flower segment is largely comprised of roses (39 percent), which also go primarily to Canada. Other important flowers in this segment are carnations (9 percent), chrysanthemums (6 percent) and lilies (4 percent), with the remaining 42 percent comprised by many different flower types.

U.S. TRADE IN ORNAMENTAL PLANT PRODUCTS – IMPORTS

Following a continuous upward trend in the last five years, the U.S. was the third largest world importer of ornamental products in 2016, after Germany and the Netherlands, with imports valued at \$2,165 million.

Figure 6. World Imports of all Ornamental Plant Products - Product 06

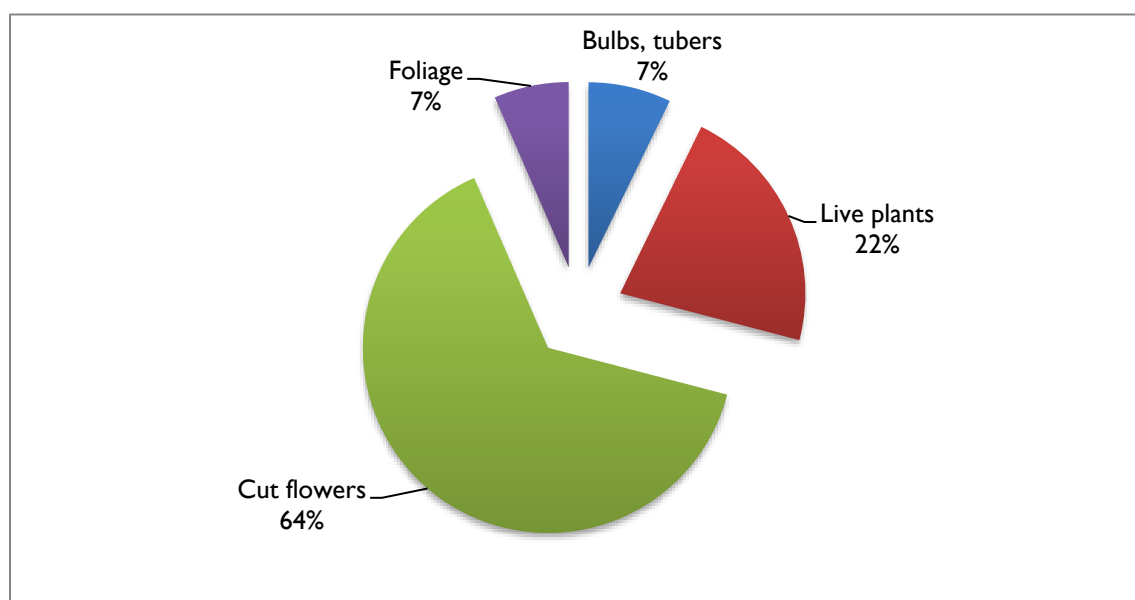


Source:

ITC UN COMTRADE statistics, 2017

The value of total U.S. imports in 2016 was \$972 million, more than twice that recorded in 1997. A breakdown of products imported by the U.S. reveals that the largest share of imports (64 percent) was taken by cut flowers in 2016 and that cut flower imports, which spiraled upwards in the 1980s and 1990s, continue to increase, albeit at a slower pace.

Figure 7. U.S. Floral Imports 2016



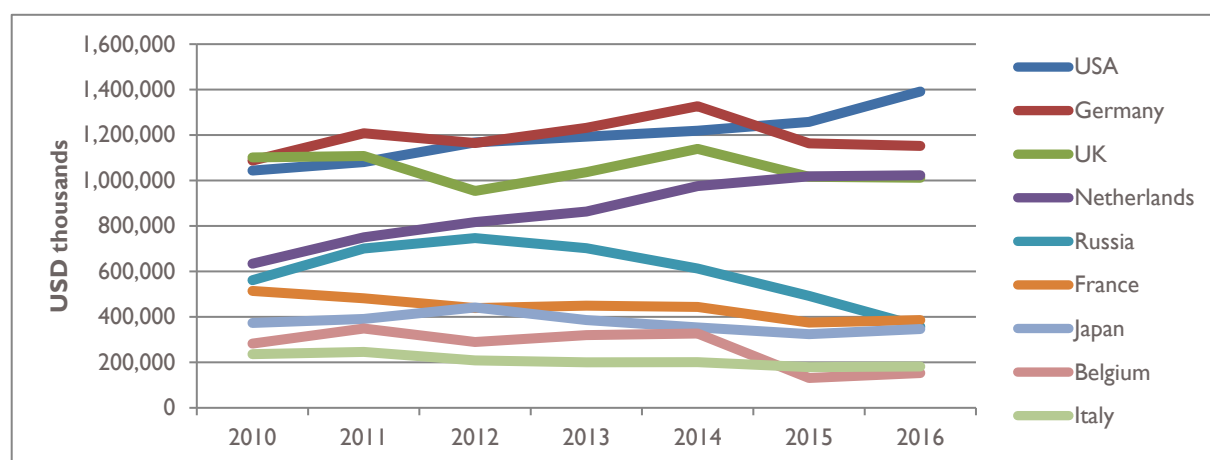
Source: ITC UN

COMTRADE statistics, 2017. The category “foliage” includes mosses and lichens, bleached or otherwise treated foliage. Cut greens for ornamental purposes make up 60 percent of this category

CUT FLOWER IMPORTS TO THE U.S.

In 2015-2016, the U.S. was the largest importer of cut flowers in the world, followed by Germany. U.S. imports have shown a sustained increase since 2010, which was especially pronounced in 2015 and 2016.

Figure 8. World's Largest Cut Flower Importers, 2010 -2016



ITC UN COMTRADE statistics, 2017

Source:

At present, an estimated 68 percent of the cut flowers sold in the U.S. are imported. This figure has grown continuously over the past four decades, rising from about 15 percent in 1976 to 40 percent in 1989 and 61 percent in 2003. Although an increasing number of countries export cut flowers to the U.S. each year, 92 percent of imports come from just three countries: Colombia, Ecuador and the Netherlands.

In 2016, the total cut flower imports to the U.S. reached \$1,392 million, 11 percent above the previous year. The main flower types imported were roses (44 percent), chrysanthemums (14 percent) and carnations (7 percent). The remaining 35 percent included multiple species such as lilies, alstroemerias, gypsophilas and snapdragons. The trend of importing consumer-ready flower bouquets (or assembling these bouquets upon import) to send directly to mass marketers has notably expanded the product mix.

Harmonized System (HS) product codes for cut flowers were reorganized in 2007 and 2012 and now include the categories appearing in Figure 9.

Figure 9. HS Product Categories for Cut Flowers

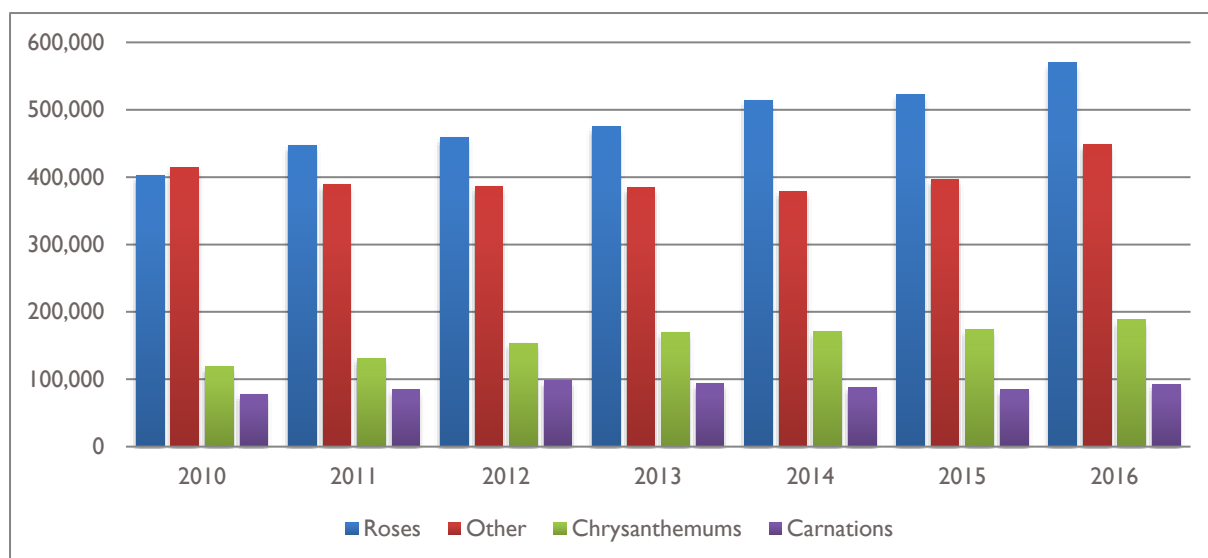
Product: 0603 Cut flowers and flower buds of a kind suitable for bouquets or for ornamental purposes, fresh, dried, dyed, bleached, impregnated or otherwise prepared

- **Product: 060311** Fresh cut roses and buds, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603110010** SWEETHEART ROSES, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
 - **Product: 0603110030** SPRAY ROSES, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
 - **Product: 0603110060** ROSES, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES, NESOI
- **Product: 060312** Fresh cut carnations and buds, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603123000** MINIATURE (SPRAY) CARNATIONS, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
 - **Product: 0603127000** STANDARD CARNATIONS, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
- **Product: 060313** Fresh cut orchids and buds, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603130050** DENDROBIUM ORCHIDS, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
 - **Product: 0603130060** ORCHIDS EXCEPT DENDROBIUM, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
- **Product: 060314** Fresh cut chrysanthemums and buds, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603140010** POM POM CHRYSANTHEMUMS, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
 - **Product: 0603140020** CHRYSANTHEMUMS EXCEPT POM POM, FRESH, SUITABLE FOR BOUQUETS OR FOR ORNAMENTAL PURPOSES
- **Product: 060315** Fresh cut lilies “*Lilium* spp.” and buds, of a kind suitable for bouquets or for ornamental purposes
- **Product: 060319** Fresh cut flowers and buds, of a kind suitable for bouquets or for ornamental purposes (excluding roses, carnations, orchids, chrysanthemums and lilies)
 - **Product: 0603190110** Alstroemeria, fresh, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603190120** Gypsophila, fresh, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603190140** Snapdragons, fresh, of a kind suitable for bouquets or for ornamental purposes
 - **Product: 0603190160** Cut flowers and flower buds, fresh, of a kind suitable for bouquets or for ornamental purposes

Source: International Trade Center, Trademaps, Geneva, 2017

Figure 10 illustrates trends in imports for the main flower types imported by the U.S. in the past five years. The following sections provide a more detailed analysis for each flower category and others warranting specific mention.

Figure 10. Main Cut Flowers Imported by the U.S., 2010 - 2016



Source:

Source: ITC UN COMTRADE statistics, 2017

1.1.1.1. Roses

The category “roses” includes three main flower types: “hybrid tea” roses, the primary category, with large heads (buds) and long stems, one bud per stem; “sweetheart” roses, smaller in size, also one head per stem and imported in decreasing amounts to the U.S.; and “spray” roses with small heads and several buds per stem.

Hybrid tea roses are generally sold with stem lengths between 40 cm and 100 cm; roses with stems less than 60 cm are considered “short” and those over 70 cm “long.” Stem length can directly influence the price per stem, as can the straightness of the stem, petal count, appropriate harvesting stage and absence of damage or discoloration. The harvesting stage (degree of bud opening) may vary with the customer and even the rose cultivar, as it can affect flower post-harvest life. Other factors influencing price are the vase life, how well flowers endure the shipping process, head shape, fragrance and thorn presence.

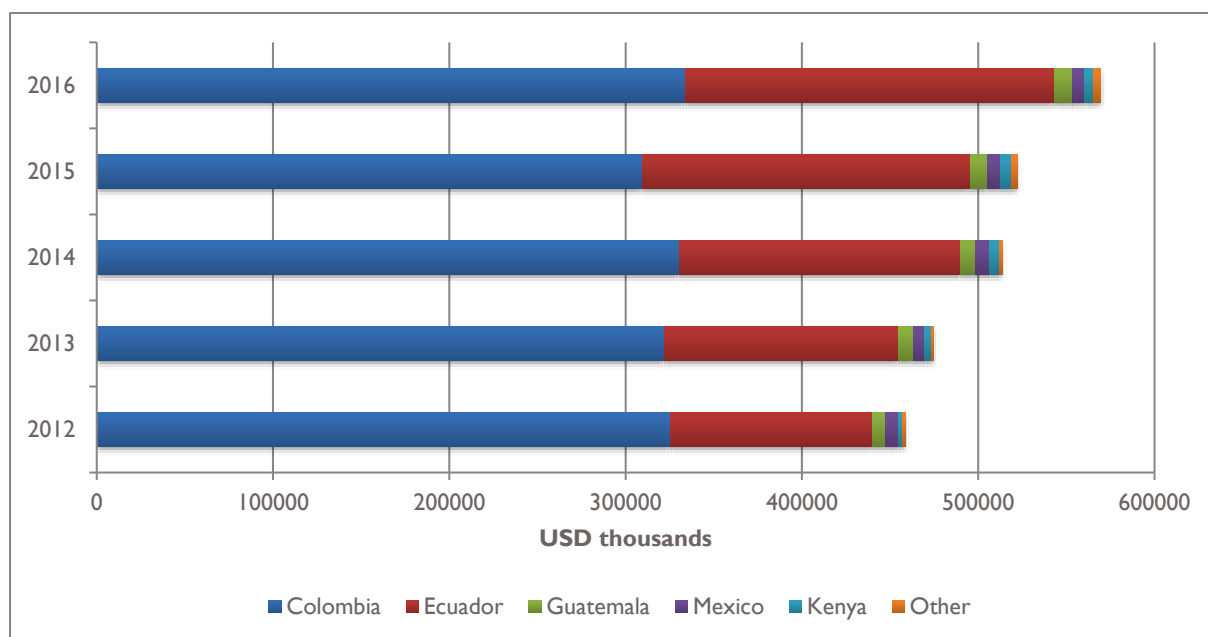
The most important date for rose sales is Valentine’s Day (particularly for red roses), followed by Mother’s Day. Seasonality of sales is discussed in more detail in later sections of this report.

Imported cut roses come mainly from Colombia (58 percent valued at \$334 million in 2016) and Ecuador (37 percent valued at \$209 million in 2016). Colombia has maintained its leading position for many years, but Ecuadorian rose exporters have increased their market penetration in the face of the reduced Russian market, which at one time absorbed a large proportion of long-stemmed roses at excellent prices.

The category “other countries,” although still small, has also grown over the past five years. Mexico, Guatemala and Kenya have achieved some degree of market penetration, with exports of \$10.5 million (2 percent), \$7 million (1 percent) and \$6.7 million (1 percent) respectively in 2016. Although Kenya’s rose exports remain small, the country has climbed from seventh position and a 0.24 percent market share in 2008, to fifth position and a 1 percent market share in 2016. The “other” category includes Ethiopia, whose exports are valued at \$3.7 million (following a 35 percent leap from 2015) and Holland with \$1 million in exports.

Cut roses production has clearly shifted to tropical and subtropical latitudes where environmental and socioeconomic conditions favor production. High altitude tropical locations are particularly suited for producing large headed, long-stemmed roses. Figure 11 below further illustrates the evolution of the cut roses market and its main suppliers over the past five years.

Figure 11. U.S. Imports of Cut Roses (all types), 2010-2016



Source:

ITC UN COMTRADE statistics, 2017

With respect to rose flower types, the COMTRADE system keeps track of spray and sweetheart roses separately. However, these categories are small. In 2016, total imports of sweetheart roses amounted to only \$128,000, and those of spray roses to \$21.3 million. Most spray roses come from Colombia and Ecuador.

Carnations

Carnations have been an important cut flower in the U.S. market for many years. Fifty years ago, commercial carnation production was mainly located in the U.S., the Netherlands and Mediterranean countries. During the 1960s, production shifted to tropical locations like Colombia, Ecuador, Mexico and Kenya. Standard carnations (large head, one flower per stem) do particularly well at high altitudes where temperatures are cooler, while miniature (spray) carnations are more tolerant of warmer temperatures.

Carnations played a critical role in Colombian floriculture. In the 1970s, when cut flower exports started flourishing in Colombia, carnations made up more than 60 percent of the produce. Their share dropped over the decades due to pest and disease management, decreasing prices, consumer trends, product diversification and the search for new markets, so that carnations today represent 16 percent of Colombia's offering. Even so, Colombia remains a leader in carnation exports, with world sales valued at \$212 million in 2016. Aside from the U.S. where they hold an almost exclusive share of the market, Colombian carnations are sent to the United Kingdom, Japan and many European countries.

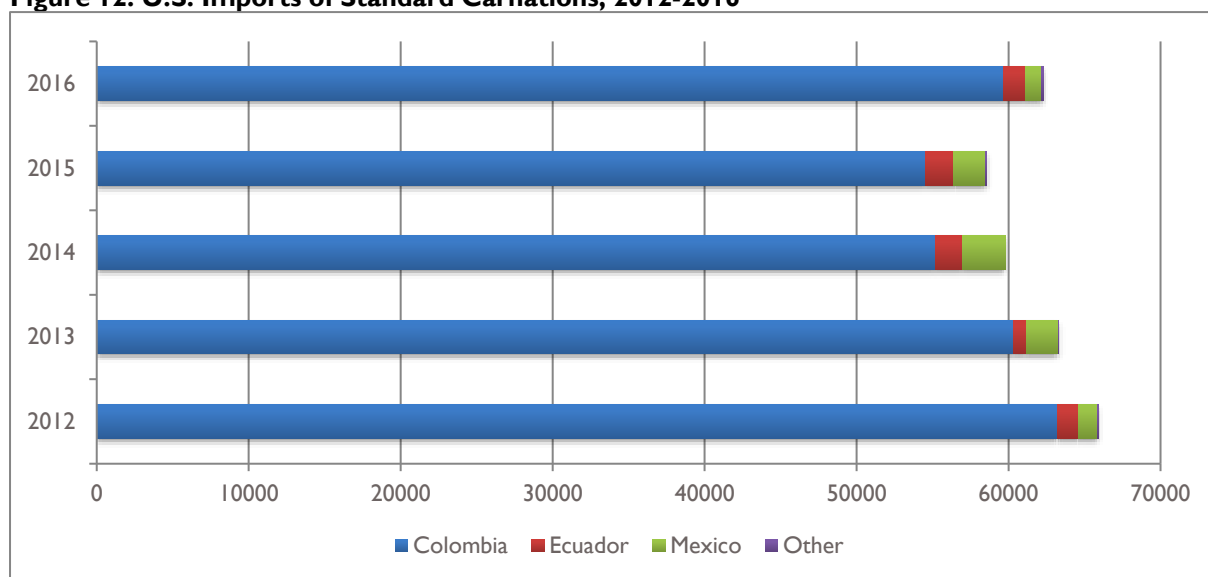
Carnation production carries specific challenges, notably Fusarium wilt, a disease caused by the fungus *Fusarium oxysporum* f. sp. *dianthi*. Extensive breeding research has been conducted to identify resistant cultivars and a thorough Integrated Pest Management (IPM) program is usually necessary to produce this crop successfully. Breeding efforts aimed at developing novel varieties are mainly carried out by companies in Italy, Spain, the Netherlands and Israel.

Carnation production has almost completely disappeared from the U.S. domestic cut flower sector. Mediterranean countries still produce carnations, particularly Spain, Italy, Turkey and Morocco. Other countries that produce carnations include China, Vietnam and Israel, but none of these export to the U.S. market. At present, 96 percent of the standard carnation demand in the U.S. is sourced from imports, and 98 percent of the imported flowers come from Colombia.

Although novelty flower types and arrangements and consumer preferences have somewhat displaced the importance of carnations in the U.S. market (and possibly worldwide), they remain prominent flowers and

are used extensively during holidays such as Christmas and Valentine’s Day, when red and white varieties of standard carnations are preferred. Spray varieties have other uses including bouquets.

Figure 12. U.S. Imports of Standard Carnations, 2012-2016

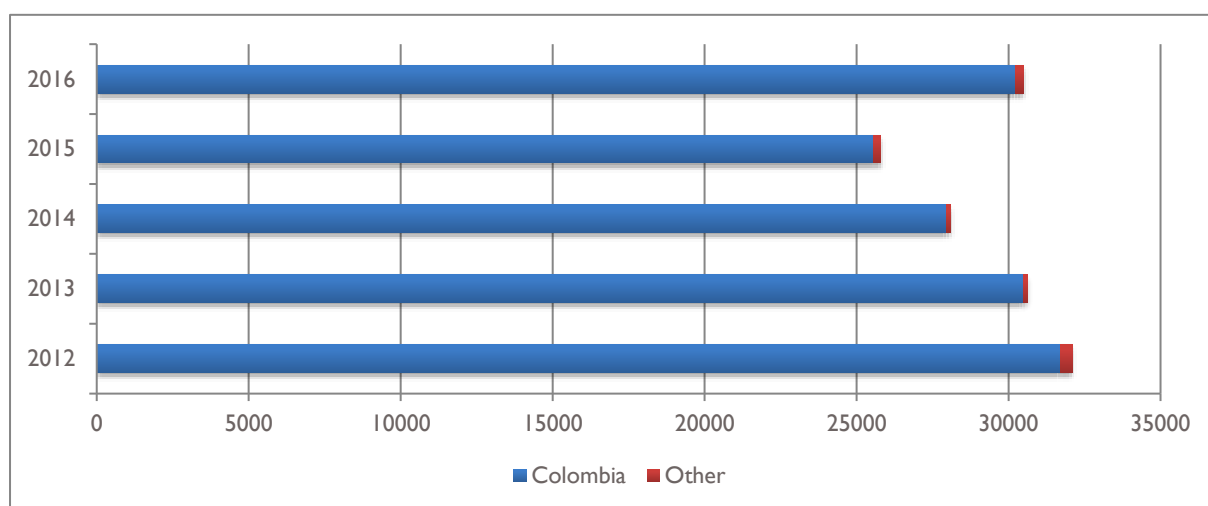


Source:

Source: ITC UN COMTRADE statistics, 2016

Spray (miniature) carnations are considered a separate category, since they are used for different purposes, for example, in bouquets and for certain celebrations such as weddings (particularly pastel colors). Colombia supplies 99 percent of spray carnations imported by the U.S. The remaining 1 percent is supplied by Ecuador and Mexico. Other past suppliers, such as Guatemala and Spain, have ceased their activity. Figure 13 shows spray carnation imports into the U.S. over the past five years. After declining between 2012 and 2015, imports picked up in 2016.

Figure 13. U.S. Imports of Miniature Carnations, 2012-2016



Source:

Source: ITC UN COMTRADE statistics, 2016

Chrysanthemums

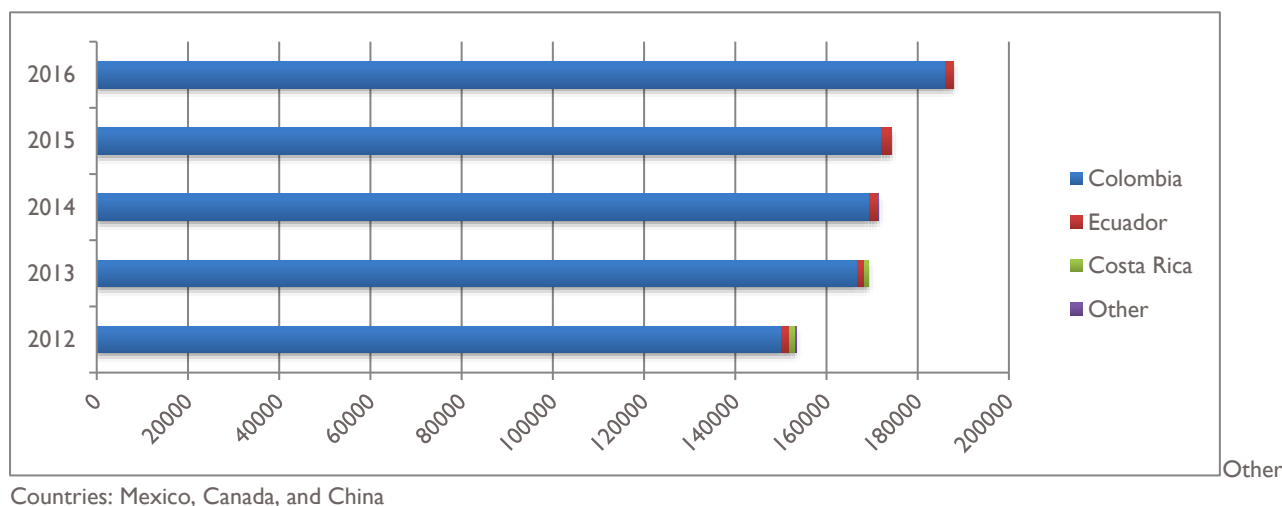
Product category “chrysanthemums” comprises pompoms (spray types, in various different sizes and presentations) and standard types (snowballs, “Fuji” and others). Pompoms are traditionally arranged in bunches of six to eleven stems that should weigh 350 grams and include 30 well-developed flowers, but they are also widely used in consumer-ready bouquets.

Different holidays – Thanksgiving in particular, but also Christmas, Easter and Valentine’s Day – create high demand for these flowers, often in specific colors. For example, white and lilac pompoms (“cushion” or daisy types) are preferred for Valentine’s Day, while yellow and lilac flowers are popular for Easter. There is

typically a high demand for bronze and yellow cushions for Thanksgiving Day (late November) and for white at Christmas.

The U.S. mainly imports chrysanthemums from Colombia and in a much lower proportion from Ecuador. Production has virtually ceased in Costa Rica and Mexico holds a minimal share of the market. Since 1989, Colombia has had to maintain a stringent detection and eradication campaign for chrysanthemum white rust (*Puccinia horiana*), a zero-tolerance (quarantine) disease for the U.S., which was detected that year on Colombian chrysanthemums. As such, Colombia must guarantee that exported chrysanthemums are free of this disease by observing strict control measures, using resistant varieties where possible and conducting thorough inspection and scouting of both cropping areas and flowers that are ready to ship. The program is enforced under Colombian law in cooperation with the APHIS.

Figure 14. U.S. Imports of Chrysanthemums, 2012-2016*



* Chrysanthemum imports to the U.S. are recorded separately for pompoms and other types.

Alstroemerias

Alstroemeria have become popular in the U.S. market and is entirely imported. Imports became significant around 1999 and now average \$70 million per year. They are used as a single product, and also in bouquets. These flowers thrive at high altitudes in the tropics (their natural habitat is found in the Andes mountains) and are temperature sensitive: the flowering process is impaired when they are too cold or warm. Breeding efforts to produce a wide range of alstroemeria varieties have mainly been conducted in the Netherlands.

The flowers are generally sleeved in 10-stem bunches (this may vary with the cultivar) with a stem length of 70-80 cm. Leaf yellowing during postharvest can be a problem. About 90 percent of alstroemerias imported by the U.S. comes from Colombia. Ecuador has increased its exports recently. Other countries that export alstroemeria to the U.S. are Canada, Costa Rica, the Netherlands and Mexico. Kenya reported small exports in 2015 worth \$24,000.

Gypsophylas

Baby's breath, *Gypsophila paniculate*, gained interest as a cut flower mainly for its use as a "filler" or complement in flower bouquets or arrangements. It can be grown successfully in the open field as is done in Ecuador. Ecuador, the largest exporter of baby's breath to the U.S., makes up nearly 85 percent of U.S. imports. Colombia is also an exporter, covering the remaining 15 percent of the market, through it grows this flower in greenhouses. Israel has had a leading role in breeding new varieties, mostly white flowered but also pink ones. The flowers are usually sleeved as 5-stem bunches.

The market for this flower has shown some fluctuation with an upward trend over the last five years. Total imports in 2016 amounted to \$31.2 million.

Lilies

Lilies (*Lilium* sp) grown for commercial purposes consist mainly of three types. There are Asiatic lilies with relatively small flowers and narrow leaves that generally fetch lower prices. They come in many colors and are high-yielding and fast flowering (10 to 13 weeks). Oriental lilies have larger flowers, wider leaves, longer

vase life and a longer production cycle (14 to 19 weeks). As a result, they usually fetch a higher price. Some varieties like “Siberia,” “Sorbonne” and “Casablanca” are sold by name and have been popular for many years. Hybrid types or *Longifolium* lilies are cross hybrids with trumpet-like flowers. They are relatively easy to produce, but challenging at the post-harvest stage. Other hybrids are *asiaticum x longiflorum*.

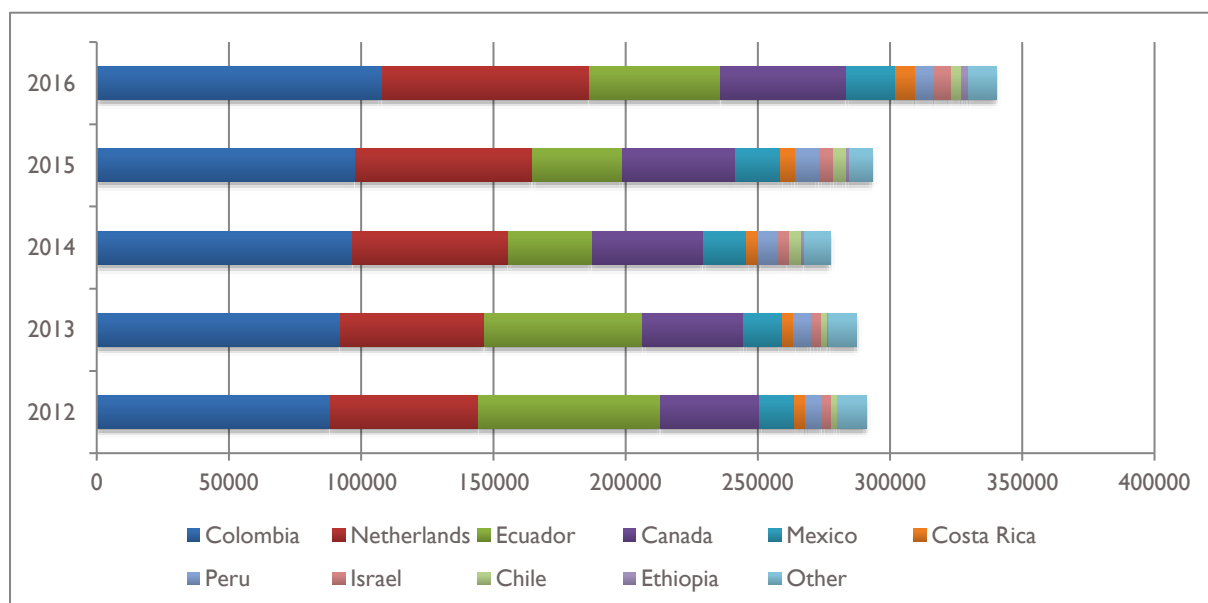
The U.S. imports lilies from several countries, notably Costa Rica, Colombia and Ecuador. The Netherlands was an important supplier in the past and still retains a 2.5 percent market share. Mexico produces high-quality *Lilium*, however internal consumption is high, so exports are low. Lilies are generally packed and shipped in sleeved bunches of five to ten stems. Lily exports have shown a sustained increase over the past 5 years, rising by 30 percent between 2012 and 2016 with total imports into the U.S. valued at \$53 million in 2016.

Other flowers

Product diversification is a clearly visible trend in U.S. cut flower imports over the past few decades. Many flower species are now imported, from asters to zantedeschias (calla lilies), to solidago, asters, lisianthus, stock, limonium, gerberas, hydrangeas and kangaroo paws. Bulbs (tulips, iris, narcissus) and tropical flowers (anthurium, orchids, proteas, ginger, strelitzia (birds of paradise), heliconias) are also imported.

Although the main suppliers are Colombia, the Netherlands and Ecuador, these species also come from Australia, New Zealand, South Africa, Vietnam, Canada, Mexico, Peru, Thailand, Taiwan, China and Malaysia. Each species may have specific packaging and post-harvest requirements. Further, prominent suppliers often determine their quality standards. Many are used in consumer-ready bouquets. Because individual quantities are small, or their numbers are difficult to discern according to their use, imports of these flowers are grouped by the ITC as “other flowers, not elsewhere specified or indicated” (nesoi). Trends in this category can be seen in Fig. 3.12 below.

Figure 15. U.S. Imports of Cut Flowers not Individually Specified, 2012-2016



Source:

Source: ITC UN COMTRADE statistics, 2017

Even though their imports are not specifically tracked, some flower species in this group deserve additional comment:

Snapdragon exports to the U.S. are small, but they have increased over the past decade (total imports reached \$7 million in 2016) and records are now kept separately. Snapdragon is mainly used for bouquets sourced from a different mix of markets, with Canada in the lead. These flowers bend easily in response to geotropism, so they should be stored and shipped in vertical position, which can be challenging.

Gerberas imports primarily come from Colombia and Costa Rica. Mexico and the Netherlands also supply the U.S. market and the important breeding companies are located in the Netherlands and Israel. Gerberas are an important product within the domestic flower sector in the U.S., with concentrated production in

California. The gerbera market is dynamic, as there is a wide selection of varieties (about 500 standard and 400 miniature) combining productivity, flower head size and color, including variations in the flower center, double or single flowers and stem length, among others. Stem lengths of 50+ cm and medium-sized heads are preferred for consumer-ready bouquets. Gerberas are often packed in special boxes and trays to protect the flower heads. Some exporters place a protective net around the head and tie them in bunches of five stems each. They need post-harvest treatment and the cold chain is a decisive factor influencing vase life.

Limonium sinuatum* (statice)** and other species and hybrids (L. altaica***, ***L. sinensis***, ***L. scabiosa***) are an important element of consumer-ready bouquets. Colombia and Ecuador are the main suppliers, with other countries such as Mexico and Peru exporting lower amounts. It is a flower with a high light intensity requirement, which can generally be grown in open fields at lower production cost. It requires a low temperature period, which may be substituted with gibberelic acid to reduce production costs.

Gladiolus was one of the most popular cut flowers among U.S. consumers during the second half of the 20th century thanks to its appearance, range of colors and long vase life (14 to 21 days). The diversity of floral products now offered in the U.S. has reduced its market share, but it is still an important product. Although it can withstand warm temperatures, it needs to be transported in vertical position to avoid the stem bending in response to its natural geotropism. The U.S. imports small quantities of gladioli from Mexico, but most of the cut flower production is domestic.

Hydrangeas are a relatively recent addition to the cut flower mix, mainly grown around Medellín, Colombia, at a lower altitude than Bogotá (capital city). White flowers and different shades of blue, pink and purple are selling well. Notably, post-harvest management and vase life can be challenging.

TROPICAL FLOWERS

This category includes cut flowers such as anthuriums, heliconias and ginger, as well as some subtropical species like *Strelitzia reginae* (birds of paradise) and proteas. Various kinds of orchids are often grouped in this segment (*Dendrobium*, *Phalaenopsis*, *Cymbidium*), and presently compose the largest proportion of imported tropicals to the U.S. Anthurium imports, which were substantial in the past, have nearly disappeared, but the Hawaiian anthurium industry has recovered after years of battling with bacterial blight. Hawaii is also a substantial producer of cut orchids.

In the global context, the tropical cut flower market is small, accounting for only about 5 percent of the total flowers traded. In the U.S., less than 2 percent of imported flowers are tropical; the fact that Hawaii is an important domestic supplier of such flowers undoubtedly influences this.

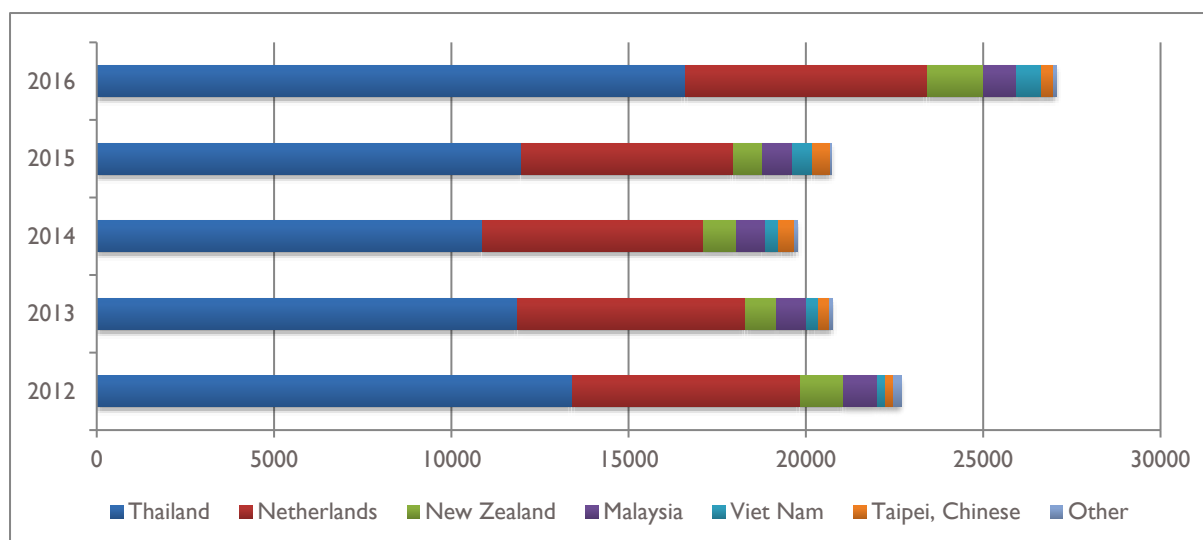
Tropical cut flowers can offer an interesting (albeit small) market niche where “different” or “exotic” products are valued. This includes, for example, hotels, resorts and specialty landscapes. In tropical latitudes, these flowers are mostly grown in open fields or shade houses; however, in temperate countries (e.g. the Netherlands and Canada), they are successfully produced in climate-controlled greenhouses. The Netherlands, for example, is an important exporter of orchids and anthurium (and also a breeder of new cultivars); the majority of *Dendrobium* orchids and cut anthurium sold in the EU are grown in the Netherlands.

Larger producers of tropical flowers include the Netherlands, Costa Rica, Ecuador, Mauritius, U.S. (Hawaii), Ivory Coast and Cameroon. Colombia has increased the cropping area of tropical flowers in regions previously dedicated to coffee and banana production. On a lower scale, Jamaica, Mexico, Dominica, Malaysia, Singapore, New Zealand and Australia are also producers. The Dominican Republic, Spain (Canary Islands) and Portugal (Madeira) also produce tropical flowers, but sell them primarily within the domestic market.

The main tropical cut flowers sold in the U.S. are discussed in the following paragraphs.

Cut orchids are the only category of internationally traded cut flowers for which separate records are kept in the ITC system. Figure 16 shows the main suppliers of these flowers to the U.S. Although the values have not been high (about \$27 million in 2016), it is evident that Asian countries, particularly Thailand, are increasing their participation. An increase of almost 20 percent can be observed in 2016 compared to 2015.

Figure 16. Origin of Imports of Cut Orchids to the U.S., 2012-2016



Source:

ITC UN COMTRADE statistics, 2017

The “**gingers**” category is primarily made up of red and pink *Alpinia purpurata*. The largest supplier of gingers to the U.S. is Costa Rica with exports valued at \$1.7 million in 2016. Jamaica, Mexico and Ecuador are also important suppliers. Their imports are complemented by domestic production in Hawaii, which was valued at \$0.7 million in 2015.

Many species of **Heliconia** are of commercial interest, particularly *H. psittacorum*, *H. hirsuta*, *H. rostrata*, *H. caribea* and *H. lathispata*. The wide variety of flowers and colors and a generally long vase life make these flowers an attractive option for many consumers. However, their weight and size can make transportation costly. Costa Rica is one of the main suppliers of heliconias to the U.S., with exports valued at \$2.5 million in 2016. Ecuador offers a wide range of varieties including smaller flowers that can easily be arranged in bouquets suitable for mass markets. Other suppliers are Mexico, Jamaica, Brazil and Suriname. Notably, production in Hawaii was valued at \$0.5 million in 2015.

Strelitzia reginae, commonly known as bird of paradise, is a popular flower in many countries including the U.S. They are grown in open fields in tropical countries and in areas with cooler temperatures (mid to high altitude, around 1,800-2,000 m above sea level). Mexico offers very good quality flowers and is the main exporter to the U.S., followed by Guatemala and Jamaica. Domestically, the largest production is in California, followed by Hawaii.

Tropical cut flowers’ introduction and marketing entails particular challenges, such as:

- Scheduling flowering seasons to meet periods of higher demand
- Achieving uniform production and quality
- Efficient propagation
- Post-harvest handling
 - Due to their tropical origin, tropical flowers cannot be kept at the usual low temperatures (0-2°C) used for storing temperate flowers. They need to be kept and handled at temperatures between 13-15°C, which cause logistical problems in the distribution chain. In addition, large tropical flowers may be heavy, so transport and handling may be expensive and inefficient.
- Arrangements
 - Consumers may experience difficulties arranging tropical flowers at home. Some producers and traders offer them in consumer-friendly presentations such as bouquets, favor smaller

sized flowers, or include specific information and suggestions on these products when marketing them.

IMPORTS OF CUT FOLIAGE

In the international cut flower trade, cut greens are increasingly important as “fillers” or complements in bouquets or flower arrangements. Their imports have grown, but they still account for only 3 percent of total imports of florals to the U.S. Statistics on their production and exports are not abundant and they are rarely broken down into different species of foliage. Breaking statistics down is made more difficult by the fact that foliage is often included in the general “bouquets” category. Nonetheless, it is an increasingly important segment with small but steady growth worldwide.

The Europe-Africa-Caribbean-Pacific Liaison Committee (COLEACP) offers the following classification for cut greens according to their place of origin:

Tropical foliage. For many years, leatherleaf fern (*Rhumora adiantiformis*) was the dominant species. It is still produced in Florida and is no longer imported in large quantities from Costa Rica where the cropping areas have been significantly reduced. This category also includes a wide variety of species such as *Chamaedora* palms, *Aspidistra*, *Anthurium*, *Monstera* and tree fern and *Asparagus virgatus*. The important producing/exporting countries are Guatemala, Israel, South Africa, Mexico, Colombia and India. Some cut greens are seasonal, making it difficult for producers to adjust production to particular times of the year.

Continental or temperate-origin foliage. These are produced mainly by Canada, the U.S., some countries in Central Europe, the United Kingdom and others, including Colombia and Ecuador. The group includes species such as salal (*Gaultheria shallon*) and Bear Grass (*Xerophyllum tenax*).

Mediterranean foliage. These include different species of *Eucalyptus*, *Ruscus* and some palms, originally produced in France, Italy and other Mediterranean regions. They are now produced in most countries where export floriculture is important.

“Proteaceous” foliage or Cape greens. Originally produced in South Africa, Australia and New Zealand, they include species such as *Leucadendron*, which are now produced in many other countries.

Market studies indicate that consumers mainly seek:

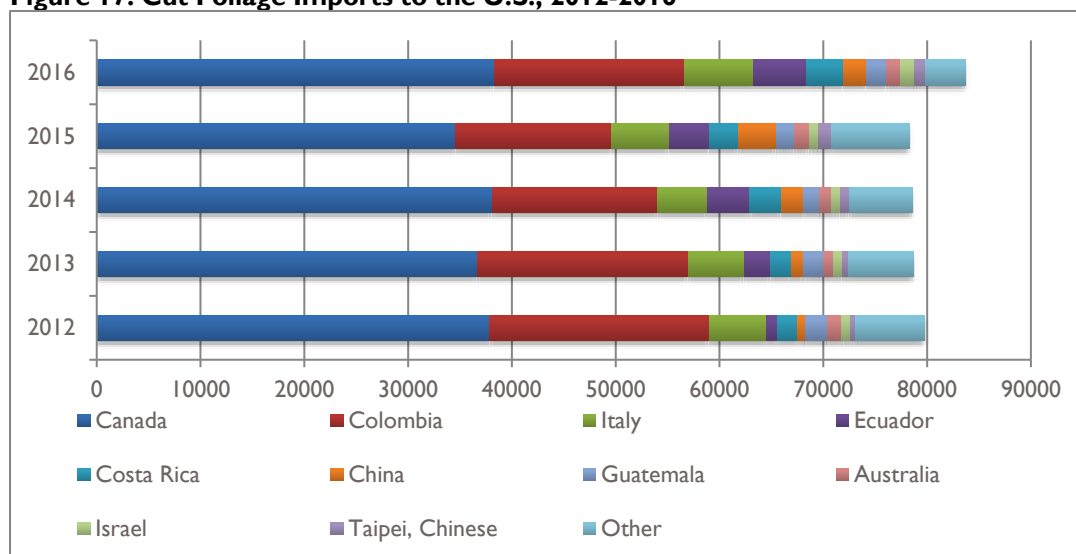
- Foliage with smaller leaves that are suitable for bouquets (however, some larger leaves like anthurium, calla and some palm leaves are becoming popular)
- Stem length of minimum 50 cm (suitable for bouquets)
- Cheap foliage that does not significantly increase the final price of a bouquet
- Good quality, long-lasting foliage
- Novel, non-traditional presentation

The segment is also undergoing changes in consumption, such as decreasing leatherleaf fern consumption and rising grasses and greens with fruit (such as *Hypericum* or tropicals) consumption.

The U.S. produces various kinds of cut greens, but information is general. The only species separately identified is leatherleaf fern. Domestic production and sales of leatherleaf fern have been relatively stable over the past five years and were reported at \$33.8 million in 2015.

Figure 17 shows cut foliage imports to the U.S. between 2012 and 2016, based on the statistics corresponding to HS product code 060420: *Foliage, branches and other parts of plants, without flowers or flower buds, and grasses, mosses and lichens, being goods of a kind suitable for bouquets or for ornamental purposes, fresh.*

Figure 17. Cut Foliage Imports to the U.S., 2012-2016



Source: ITC UN COMTRADE statistics, 2017

IMPORTS OF PROPAGATION MATERIALS

The importance of plant propagation material in a cut flower production operation cannot be overstated. Not only does the overall health of cropping areas depend to a large extent on its quality (many pests and diseases disseminate on plant material), but this is also how new varieties with demand in the market are made available to growers.

Developing new varieties requires great economic, scientific and technical effort. Consequently, it largely remains in the hands of industrialized countries with access to the latest technology, resources, well-trained staff and investment capacity. New varieties or cultivars are generally protected by the developers through breeder's rights that demand payment of royalties. These rights are legally recognized in many countries, so much that flowers produced with no royalty payments have been confiscated when entering the importing market.

In response to certain production advantages, such as climate, geographical location or availability of hand labor, plant propagation materials are often selected and then multiplied with the necessary license in new countries. This is the case in Kenya, Uganda, Guatemala, Mexico, Colombia and Ecuador. Propagation materials are analyzed in three main categories according to HS product codes:

- **Product: 0601** Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant, in growth or in flower, chicory plants and roots (excluding bulbs, tubers and tuberous roots used for human consumption and chicory roots of the variety *cichorium intybus sativum*)
 - **Product: 060110** Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant (excluding those used for human consumption and chicory plants and roots)
 - Tulips, hyacinths, lily, narcissus, lily of the valley, iris, gladiolus, begonia

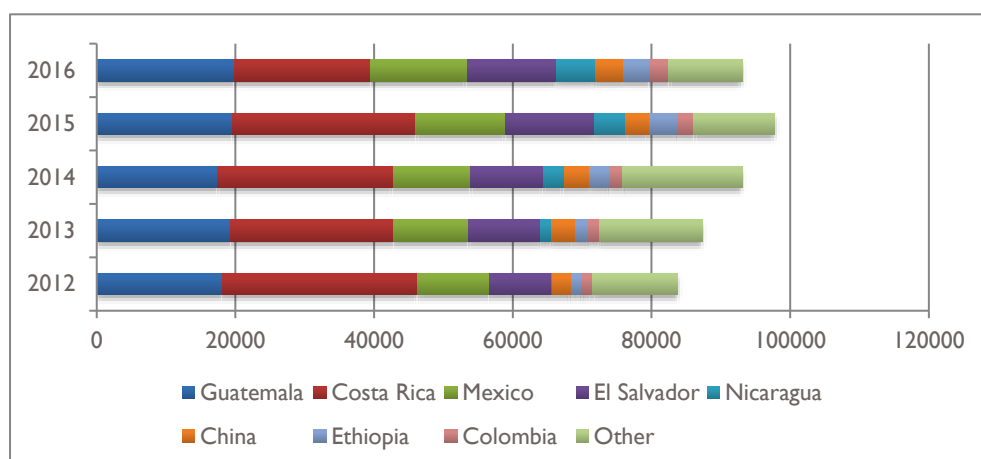
- **Product: 0602** Live plants incl. their roots, cuttings and slips; mushroom spawn (excluding bulbs, tubers, tuberous roots, corms, crowns and rhizomes, and chicory plants and roots)
 - **Product: 060210** Un-rooted cuttings and slips
 - **Product: 0602400000** Roses, grafted or not
 - **Product: 060290** Live plants, incl. their roots, and mushroom spawn (excluding bulbs, tubers, tuberous roots, corms, crowns and rhizomes, incl. chicory plants and roots, un-rooted cuttings and slips, fruit and nut trees, rhododendrons, azaleas and roses)

Un-rooted cuttings and slips

These comprise plant parts that can be used to vegetatively propagate a particular flower, such as carnation or chrysanthemum cuttings. It also involves cuttings to propagate garden and bedding or pot plants. Mainly due to cost issues, licensed propagators (and even flower growers with the required license) often import only enough cuttings to establish a mother plant nucleus, which is maintained under strict plant health and hygiene growing conditions. The mother plant nucleus is then used to produce production cuttings for rooting in production areas.

U.S. imports of plant materials are rising, and they are increasingly involving new countries, though domestic production remains important. Produce is even exported to other countries since there are several important breeders in the U.S., but some breeders are moving their cutting production offshore and then importing the plant material back into the U.S. The plant material in question is often for bedding, pot plant and garden plant production, not cut flowers. Figure 18 presents imports of un-rooted cuttings to the U.S. over the past five years.

Figure 18. Imports of Un-rooted Cuttings and Slips (Product HS060210), 2012-2016



Source: ITC UN COMTRADE statistics, 2017

Rose plants

The U.S. is the second largest world importer of rose plants after Germany, but the size of imports is relatively small, amounting to \$13.4 million in 2016. Imported plants are mainly used for the garden rose market as cut rose production in the U.S. is significantly lower. Canada is currently the largest supplier, while the Netherlands and Colombia make small contributions. Canadian exports picked up again after a ban in 2001 due to the presence of *Phytophthora ramorum*, a causal agent of oak sudden wilt, which can attack roses and be distributed along with rose plants. Special measures and a phytosanitary certificate are now a requirement to export rose plants from Canada to the U.S.

Bulbs

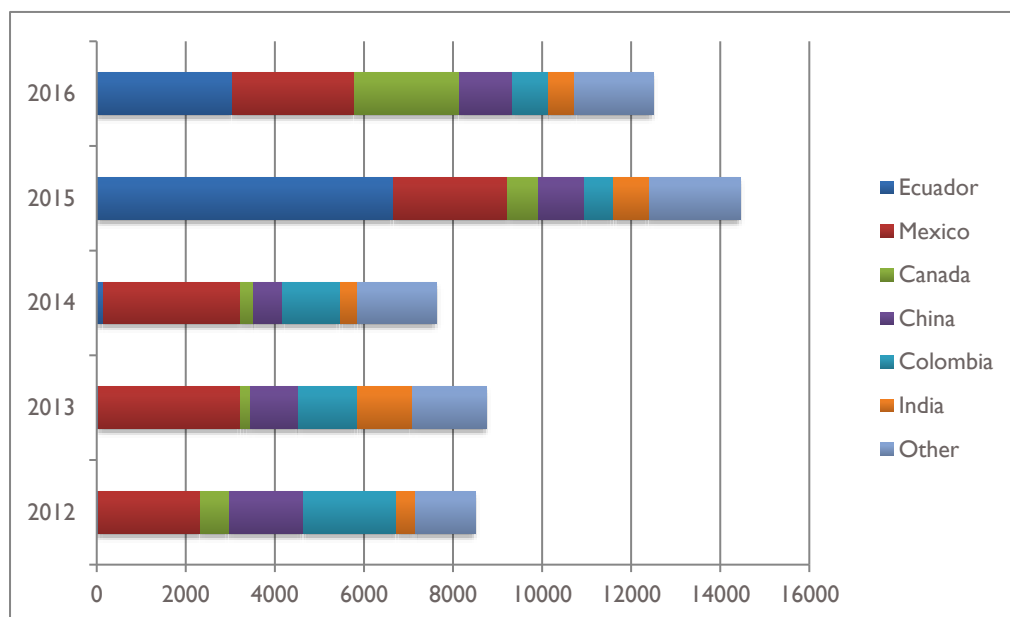
The bulb sector is important in the U.S. as dormant bulbs are used to initiate production. Total bulb imports have decreased over the past five years, reaching about \$138 million in 2016. The Netherlands is the main supplier of these products but other countries have joined the scene in recent years, notably South Africa, Chile and Brazil.

DRIED OR PREPARED FLOWERS AND FOLIAGE

Dried or prepared flowers and foliage is a small category of U.S. imports, amounting to about \$12.5 million in 2016. It has grown substantially over the past five years, particularly in 2015 when it reached \$14.5 million. There are various processes by which flowers can be dried or preserved, including air drying and preserving by placing in a glycerine solution. The latter works well with roses and the end product is a natural-looking flower that remains soft and in good condition for several months, sometimes years.

In the past, Kenya has exported small quantities of these products to the U.S. (\$55,000 in 2013 and \$224,000 in 2014). Exports to the Netherlands, Australia and Russia have also been reported.

Figure 19. U.S. Imports of Dried, Bleached, Preserved or Otherwise Prepared Cut Flowers, 2012-2016



Source: ITC UN COMTRADE statistics, 2017

3. U.S. TARIFF STRUCTURE

The U.S. International Trade Commission (USITC) is the entity in charge of establishing tariff positions and taxes imposed on all products imported into the country. To this end, the Harmonized Tariff Schedule (HTS) program was put together, containing a list of tariffs that should be paid for imported products. These are classified according to the Harmonized System of Codification and Classification of Goods (Harmonized System) as developed by the World Customs Organization (WCO). Virtually all countries around the world use this system to facilitate world trade.

Current information on the U.S. HTS can be found on the following web page:

<http://www.usitc.gov/tata/hts/bychapter/index.htm>.

Chapter 6 Section II (<https://hts.usitc.gov/current>) relates to vegetable products including ornamental plant materials such as cut flowers and foliage, live plants, bulbs and others. Information is updated to 2017.

Many countries enjoy a zero tariff status for the cut flowers they export to the U.S. It is estimated that about 85 percent of flowers entering the U.S. do not pay tariffs, as agreed under various preferential trade programs.

In the case of Kenya, AGOA grants zero tariff status for cut flowers. Further, the U.S. signed Trade and Investment Framework Agreements (TIFA) with the East African Community (EAC) in 2008, and with the Common Market for Eastern and Southern Africa (COMESA) in 2001. Kenya is a member of both regional organizations.

4. NON-TARIFF REQUIREMENTS

In the U.S., trade channels and clear rules are in place for flower imports.

4.1 IMPORT REGULATIONS

Currently, import permits are only granted to legal U.S. residents. In other words, U.S. citizens in the importing country must be part of the importing company. This has led to many joint ventures between importing and exporting companies over the years.

4.2 STANDARDS, REGULATIONS AND CERTIFICATIONS

CUT FLOWER STANDARDS

There are no state requirements with respect to quality and grading. Standards adopted by the industry are normally communicated to the foreign producer by importers/distributors and are adjusted to market requirements. In general, different quality standards (e.g., select, fancy or standard grades) are agreed upon and help determine the price for flowers. Such standards relate to characteristics such as stem length, size of the flower head and flower appearance/condition (freshness, absence of damage, color of blossoms and leaves). The grower/exporter is therefore required to grade flowers as strictly as possible before packing to ensure consistent standards. This is especially important when assembling consumer bunches or bouquets.

Post-harvest handling and treatments – in particular flower food or preservatives and the cold chain – are essential to ensure appropriate flower longevity and vase life for the end consumer. While this topic is extensive and lies beyond the scope of this report, a wealth of information is available to assist growers/exporters.

PACKAGING AND LABELING

As with grading, there are no set specifications in the U.S. for flower packaging, which has led to many different options. Packaging influences the post-harvest life of flowers, making it a critical component of the distribution chain. There are several measures that can be used to protect flowers, maintain their presentation and support a high market value, including cold treatments and refrigerated transport, sleeves to protect flower bunches and bouquets, bud nets and paper or plastic sheets of different types according to flower type. Packaging and labeling are particularly important when selling consumer-ready bouquets, and when the exporter brands his/her product.

Bar codes are widely used, and are printed on sleeves protecting bunches or bouquets. This allows tracking of their origin, date of harvest, price and other marketing details.

ECO-LABELS AND CERTIFICATION

Environmental awareness continues to grow worldwide, and floriculture is no exception. Flower growers all over the world are ensuring that production processes are sustainable and environment-friendly. This is often in response to government restrictions and regulations, and to pressure from importing countries where consumers increasingly prefer – and often demand – flowers produced within such parameters.

Environmental awareness started to be addressed more than 25 years ago. In the late 1990s, “Eco-labels” or certification schemes began considering the flower sector. In 2001, Fairtrade International started certifying flowers in East Africa. Today they work all over the world and are well known among consumers, including in the U.S. Since 2014, they also certify propagation materials.

GLOBALG.A.P., has its roots in the European Supermarkets Good Agricultural Practice (EUREPGAP), a common standard for farm management, founded in 1997. EUREPGAP became GLOBALG.A.P in September 2007 to reflect its expanding international role in establishing Good Agricultural Practices between multiple retailers and their suppliers, and now has a dedicated chapter for flowers and plants and recently launched

the GLOBALG.A.P. To improve transparency, GLOBALG.A.P. established a 13-digit seal called the GGN that allows consumers to track the origin of flowers and plants and check that they come from certified farms.

Dutch growers launched the Ecological Floriculture Project - MPS, in 1995. It is a benchmarking accreditation program that now has members in various countries around the world, including the U.S.

The Rainforest Alliance started working on sustainability in various agricultural sectors, including flowers and plants, in the 1990s. Since 2012, it offers Rainforest Alliance Certified Ferns and Cut Flowers. The green frog logo is well known in many countries and sectors, including among U.S. floral consumers, particularly in supermarkets.

In 2007, a group of flower growers from the state of California launched the Veriflora initiative, a label open to wholesalers, distributors and florists aside from producers of all ornamental products around the world. Compliance is verified by Scientific Certification Systems (SCS).

The Colombian Association of Flower Exporters (ASOCOLFLORES) launched its social and environmental program FLORVERDE Sustainable Flowers in 1996. The Ecuadorian Association of Flower Exporters (EXPOFLORES) has its own FlorEcuador program.

Developments also took place on the consumer side. Although importers/marketers trust and often prefer an accreditation scheme (for example Fairtrade is popular with supermarkets in the U.S.), some mass marketers have developed their own labels. For example, Whole Foods Market in the U.S., a countrywide supermarket chain selling sustainable products, developed its own WholeTrade label. All these schemes include similar components: flower growers must comply with a series of parameters including the safe and rational use of pesticides; IPM, soil and water management to avoid contamination; occupational health programs that reduce health hazards to a minimum; appropriate worker protection standards; and waste management, recycling and adequate disposal, including postharvest treatments. Verification bodies regularly supervise compliance with such parameters directly on-site.

There have been efforts by stakeholders to align the schemes and labels as the variety confused producers and consumers. FLORVERDE, for example, reached equivalency and mutual acceptance with GLOBALG.A.P. in 2008. The WholeTrade label partners with Fairtrade and Rainforest Alliance for accreditation. U.S. supermarket giants Walmart and Costco also partner in similar ways.

Most importantly, the Floriculture Sustainable Initiative was launched in 2012. It is a market-driven effort to bring together stakeholders of the global floriculture industry with a common goal. Its members include trade associations such as ASOCOLFLORES, the Kenya Flower Council (KFC), as well as breeders, individual growers and suppliers. It brings together 14 sustainability standards and schemes in the social and environmental fronts including Rainforest Alliance, MPS, Fairtrade, FLORVERDE, KFC assurance and GLOBALG.A.P.

The recent launch of the “American Grown” campaign by the California Cut Flower Commission, which promotes consumption of locally grown cut flowers among U.S. consumers, is also worth mentioning. Campaign advocates are reaching out to the U.S. Congress, donating flowers for official and public events, hosting dinners and other social occasions and holding shows and flower arrangement contests to showcase locally grown flowers. The campaign seeks to increase consumption of domestic flowers and is reportedly receiving good results.

CUSTOMS PROCEDURES – PHYTOSANITARY BARRIERS

Phytosanitary regulations are the only non-tariff measure currently affecting exports of cut flowers, cut foliage and plant propagation materials, all of which are inspected on arrival by APHIS, in conjunction with Customs and Border Protection (CBP) officials. They are inspected to avoid introducing and/or disseminating noxious pests, diseases and weeds. In general, inspectors will open one box of flowers per variety in each shipment, which can be a considerable job in ports of entry such as Miami. Flowers are inspected to determine the presence of restricted pests. If they are found, an inspector can order their treatment (often with methyl bromide) and even their destruction, at the exporter’s expense. It is also possible to return the product to origin at the exporter’s expense.

In 2008, APHIS renovated its facilities for plant health inspection at the Miami Airport, doubling their capacity. An estimated 88 percent of all cut flowers and 74 percent of all fruits and vegetables imported into the U.S. enter the country via Miami. The amount of work associated with flower inspection is monumental. During the 2016 Valentine's Day season alone, CBP agriculture specialists processed about 525 million cut flower stems and intercepted 1,806 pests (about 82 per day). During regular operations, interceptions can average 58 per day. Commonly intercepted pests are *Noctuidae* (Moths), *Aphididae* (Aphids), *Frankliniella* sp. (Thrips), and *Tetranychus* sp. (Mites).

Manuals used by APHIS inspectors are publicly available and can be downloaded by any person.

- Cut flowers and greens:
https://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/cut_flower_imports.pdf
- Plant propagation materials:
https://www.aphis.usda.gov/import_export/plants/manuals/ports/downloads/plants_for_planting.pdf

In these manuals, the main import products are classified according to their risk level, which may vary according to origin. For example, alstroemerias, gypsophylas and chrysanthemums coming from Africa are labeled as high risk and will require more thorough inspection.

As of September 25, 1997, the Plant Protection and Quarantine (PPQ) division of APHIS eliminated written import permits for cut flowers and foliage. Unless they have berries attached, they are regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or are transiting through the U.S. The U.S. Code of Federal Regulations is often updated and contains specific information on flower types and their origin: <https://www.gpo.gov/fdsys/pkg/CFR-2017-title7-vol5/xml/CFR-2017-title7-vol5-part319.xml>.

OTHER REGULATIONS: BIOTERRORISM LAW AND CITES

The Agricultural Bioterrorism Protection Act of 2002 is contained within the Public Health Security and Bioterrorism Preparedness Response Act. These treaties require that private, statutory and federal entities (including laboratories, research centers, universities and companies manufacturing vaccines) who possess, use or transfer agents or toxins that may constitute a threat to public health (or animal or plant health) register such agents with the corresponding federal department. The law was designed to improve U.S. capacity to prevent, prepare and eventually respond to bioterrorism and other public health emergencies that could threaten the U.S. population or its agriculture. Complete and updated texts of these treaties can be found on the APHIS website.

Ralstonia solanacearum, race 3, biovar 2 is probably the only agent of importance for plant material exporters. This bacterium causes geranium blight and was the cause of stringent and expansive eradications in geranium plantations in Costa Rica and Guatemala, where large numbers of geranium cuttings are produced for export to the U.S. None of the agents above are associated to cut flowers.

CITES and the Endangered Species Act (ESA) apply to cut flower exports to the U.S. if the exports involved species that are protected under them. Updated information on protected species can be found at <https://www.aphis.usda.gov/aphis/ourfocus/planthealth/import-information/permits/plants-and-plant-products-permits/cites>. Kenya has been a signatory and member of the CITES convention since 1978.

5. U.S. DISTRIBUTION – LOGISTICS AND TRANSPORT

Over the years, various negotiation schemes have been used in the U.S. floral market. The most advantageous system may vary for different companies and will depend on a series of factors.

5.1 SUPPLIER SELECTION

Marketing flowers in the U.S. is a highly personalized business. The main exporters of cut flowers to the U.S. rely on business relationships with wholesalers, importers, distributors and even mass marketers that go back years, sometimes even generations.

Even with instant, modern communications, the U.S. floral market is still based on personalized, direct relationships. It is essential to build trust, an image and a reputation as a reliable supplier. Sales staff must be quick and effectively respond to clients, and the company must maintain strong internal communication (for example between technical and commercial areas). Punctuality is vital when delivering shipments, sending samples, replying to calls and emails and attending meetings. Exporters should also organize a system to respond to supplier complaints, which can help build their reputation as a reliable, professional supplier.

5.2 CONTRACT AND PAYMENT TERMS

Different kinds of business options can be agreed with clients including Cost, Insurance and Freight (CIF), Free on Board (FOB) consignment, standing orders and others. Selection of the best option will depend on negotiations between clients and suppliers, products, peak seasons, etc.

CONSIGNMENT SALES

When flowers are sent on consignment to an importer/seller/distributor in Miami (or another port of entry), the latter is often a subsidiary of the exporting company, which guarantees transparency and security of the transaction. The company in Miami receives the flowers, sells them, deducts a commission (usually 15 percent) and charges a handling fee or "box charge" per box. In addition, import and shipping costs (air freight), and customs clearance (tariff) costs, if applicable, are deducted. The consignatory usually sends the net remaining amount to the exporting company 30, 60 or even 90 days later, with no interest or late payment penalty. Financing costs associated to this "dead" period need to be considered.

This modality, which in the past was used by some exporters because they were able to benefit from high prices associated to peak seasons, is not widely used today. Importers find it more profitable to adjust purchased quantities more closely – only what they are certain they can sell – and they prefer to buy from several farms rather than just one or a few. In addition, exporters find clear benefits in selling directly when possible. Mass marketer sales, known as "farm direct," are dealt directly with the client, bypassing the importer/vendor/distributor in Miami.

FOB OR CIF SALES

FOB sales (at point of export) are an alternative to consignment sales. This generally means the flowers are delivered to the cold room of the cargo agency selected by the importer in the country of origin. Another modality is CIF or Cost and Freight at Miami, or in the case of some large supermarkets, CIF at their shops or regional distribution centers. In FOB purchases, if flowers are spoiled or lost before arriving at their final destination, the importer or client will incur heavy losses, including freight and import costs. In a CIF sale, if flower losses occur before they arrive to their final destination, associated costs including freight will be at the expense of the exporter.

It is always important to agree and be aware of who conducts inspections to determine if flowers are of marketable quality. Notably, air cargo companies will normally provide compensation for damaged flowers. This applies only to delays of over 48 hours and shorter periods, otherwise more beneficial conditions may be difficult to negotiate.

FIXED PRICE SALES (STANDING ORDERS)

This is a modality where the exporter agrees on a fixed price with the importer for the year. In some cases, it can be revised biannually or quarterly. A contract is drawn where flowers are supplied for the duration of the agreed period at a fixed price; price adjustments may be included, most often for peak holidays such as Christmas, Valentine's Day and Mother's Day. This adjustment can be substantial and has been known to go up to 150 percent over the fixed price.

In some cases, prices are fixed weekly and daily, the latter being an instance where the importer/buyer informs the exporter of the new price (higher when more flowers are needed and lower if there are too many flowers in stock). The risk is that there may be an irreconcilable disagreement between what the importer wishes to pay and what the exporter expects to receive.

DIRECT SALES

Direct sales are conducted without intermediaries. They are mainly performed between exporters and mass marketers such as supermarkets, florist chains and garden or home centers. Direct sales are growing as a marketing option because net returns to the exporter are much higher. It is estimated that 65 percent of Colombia's flower sales are now direct.

Direct sales can be extremely sophisticated and exporters must have the capacity to supply flowers directly to subsidiary shops or specific sales points of supermarkets. For example, a grower/marketing group (which can comprise 50 different farms) is able to export about 10,000 boxes of flowers per day, consolidated under the same Airway bill, then divided into 5,000 sub-bills in Miami, so that two boxes are delivered to each shop or sales point. This requires extremely fast communication capacity (generally satellite) and very detailed packaging capacity and skills at the farm. A general program is usually agreed upon, but sales may be modified daily via email or social media. These modifications usually concern stem (or bouquet) quantities, colors, combinations and stem length.

Direct sales may involve e-business, where a customer orders flower arrangements directly from a farm on the internet. Intricate logistics are involved and require a "brick and mortar" approach where orders are filled by a local business, such as ProFlowers or Florist's Transworld Delivery (FTD). Shipping also becomes local and is done by FedEx, UPS or a similar courier. This approach – where the client requires a local buyer or representative – is also present when dealing with supermarkets, like Costco.

With direct sales, net returns to the farm are much higher than when importers, wholesalers and distributors are involved. However, they are not always easy to achieve, and competition is very high. It is estimated that five marketing groups (including growers/exporters) now conduct 70 percent of direct sales in the U.S. mass market. Consequently, a balance should be sought among different types of clients (wholesalers, retail chains, mass marketers), as well as a good yearly price average that fluctuates between peak season highs and lower prices at other times.

5.3 TRANSPORT AND POINTS OF ENTRY

Given the vast distances to be covered in the U.S., shipping flowers from the farm to the port of entry (mostly Miami but also Los Angeles and other cities) to the consumer is a critical factor in the cost of the final product. The freight and transport cost will depend on flight availability, internal regulations in the country of origin and volumes of flowers shipped, among other considerations.

Airfreight costs can limit the success of cut flower exports. They can vary greatly from one country to another and may not necessarily depend on the distance traveled. As of April 2018, airfreight cost for cut flowers from Bogotá, Colombia to Miami, U.S. was quoted at \$1.10/kg, and \$1.60/kg from Quito, Ecuador to Miami. In Kenya, freight forwarders quoted costs between \$3.60 and \$3.80/kg from Nairobi to Miami.

Travel times also vary. A direct flight from Bogotá to Miami is 3.5 hours, and 4.5 hours from Quito to Miami. Current shipping times from Nairobi to Miami (with a stopover in Amsterdam or London, or even involving ground transport from Amsterdam to London) are 19 hours minimum. Even with direct flights, a significantly

longer shipping time can affect flower quality and vase life. This makes post-harvest handling, packaging and an appropriate cold chain even more important.

About 88 percent of the 190,000 tons of cut flowers imported to the U.S. every year enter the country via Miami. The next two ports in importance are New York which receives 3 percent of imports and Los Angeles which receives 5 percent. The most important group of flower importers is located around Miami. Although some 75 importers are in operation, ten companies, many of which work in association with growers/exporters, purchase about 80 percent of the flowers. The sustained growth of flower imports over the years has generated a robust business and logistics center on which thousands of people depend.

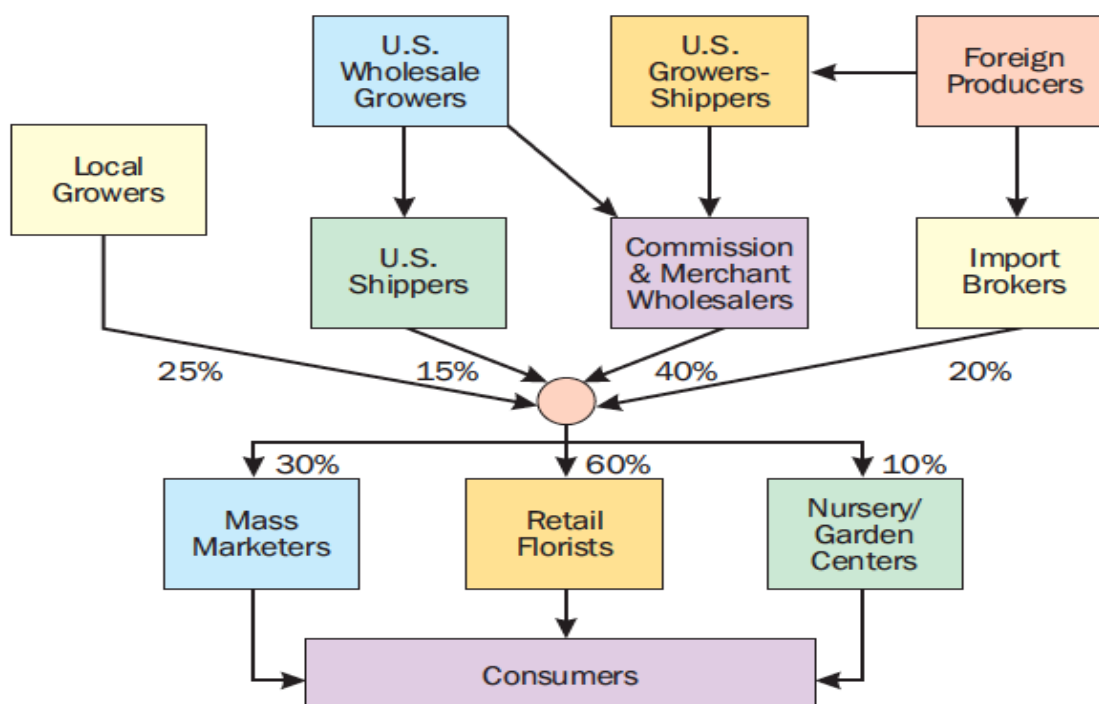
In addition, sea freight has recently developed as a convenient shipping option. Flowers are placed in containers under vacuum (modified atmosphere, high in carbon dioxide) and kept refrigerated throughout the trip, which can take up to two weeks. Containers must be filled with flowers – if possible of the same type – to ensure the best, most uniform environmental conditions inside them. This may require consolidating shipments from several exporters – a service already being provided by some companies. Many kinds of flowers can be shipped successfully using this method and there are several associated benefits. Primarily, there is a substantial cost reduction and a much lower carbon footprint. This option cannot accommodate last-minute orders, and not all flowers perform well. However, it is an interesting option to explore for African countries like Kenya seeking to open new markets.

Inside the U.S., the majority of flowers and plants are transported by ground, in refrigerated trucks.

5.4 DISTRIBUTION CHANNELS

Distribution channels for cut flowers imported to the U.S. have significantly changed over the past 15 years. Traditionally, importers sold flowers to wholesalers who in turn offered them to florist shops, florist chains, supermarkets and retailers. Exporters now try to work directly with mass marketers and offer consumer-ready products, such as bouquets with different types of flowers that can be customized for special occasions or holidays. Even so, an estimated 35 percent of imported flowers are still traded through traditional channels. Some variations have appeared, such as wholesalers that sell to supermarkets.

Figure 20. Distribution of Floral Products in the U.S. Market



Source: http://www.nmffa.org/uploads/4/1/0/7/41075673/b2_I_exploring_the_international_flower_market.pdf

The Society of American Florists (SAF) records the following segments in relation to marketing of floral products in the U.S.:

- Retail florists
- Supermarkets selling flowers
- Nurseries and garden centers
- Floral wholesalers

Since 2005, there has been a reduction in the number of retail florists. However, those that have remained in the business have reported increases in sales.

TRADITIONAL FLORISTS

Although traditional florist numbers have reduced, some traditional florists remain active and make large annual sales in the millions of dollars. They rarely import flowers directly, but instead purchase from wholesalers. These businesses still sell high-value flower arrangements which set them apart from other retailers selling consumer-ready bouquets and flower bunches. To many consumers, flowers purchased from a florist are “more sophisticated, of better quality and fresher” than those offered by supermarkets. Consumers most often purchase at florist shops for special occasions and holidays such as Valentine’s Day and Mother’s Day.

Even so, florist shops have lost participation to retail mass marketers and e-commerce, which are often favored by consumers, especially in the younger generations.

MASS MARKETERS

An estimated 36,000 supermarket chain stores operate in the U.S. and Canada and about 60 percent have dedicated floral departments. These include chain and independent supermarkets, grocery wholesalers and other mass marketers. In a recent study (2015), the Product Marketing Association and Produce Marketing Association (PMA) analyzed percentages of total floral sales in supermarkets, and found that most sales were in-store and regular purchases (68 percent), while holiday purchases only reached 31 percent. Wedding, sympathy (i.e. funeral) and website sales were very low, between 2-4 percent.²

Most floral departments offer cut flowers, live plants, floral art, dried flower arrangements, accessories and delivery services. Increasingly, supermarket chains purchase flowers directly from large importers in Miami who have bouquet divisions, and to some extent, directly from exporters. The tendency among these companies is to request ready-made bouquets shipped directly from the farms so that all that is required in

² <https://www.pma.com/~media/pma-files/research-and-development/floral-trends-report.pdf?la=en>

Miami is sticking a bar code on the bouquet sleeve (if this hasn't been already done by the exporter), placing it in water and delivering the bouquet.

Examples of supermarkets/mass marketers buying large amounts of flowers are:

- Wholefoods
- Walmart
- Giant
- Costco
- Trader Joe's
- Target

Cut flower arrangements and bouquets are offered via the internet by sellers such as Amazon, ProFlowers, FTD, 1-800-Flowers, Teleflora and Sam's Club. According to the PMA study, consumers still prefer in-person purchases, but internet purchases are clearly on the rise.

Bouquet suppliers are increasingly consolidating, with no more than ten companies handling over 80 percent of the trade. Noted bouquet suppliers are:

- The Queen's Flowers
- Elite Flowers
- Sunshine Bouquet
- Passion Growers
- Nature's Flowers
- Falcon Farms

OTHER RETAILERS

Although a very high share of all flowers and plants marketed in the U.S. are sold by supermarkets and florists, there is another segment of sales that includes street vendors, garden centers, toll-free phone orders (also included in the previous section), catalog sales, department stores, decoration and home centers and others.

WHOLESALE

SAF reports that there are between 500 to 700 wholesalers in different cities in the U.S. Some are associated through groups, but may buy individually or have a central purchasing office. Only larger wholesalers usually buy from Latin American suppliers, mostly at fixed price and selecting from prices reported on a daily basis by large Miami importers.

This sector, on average, operates under low operational profit. Smaller wholesalers often demand payment terms of 45 to 60 days. It is important to carefully analyze finances before offering credit to floral wholesalers.

The Wholesale Florists and Floral Services Association (WF&FSA), a commercial organization with more than 500 members, has changed over the years, but still offers many services including networking meetings, flower marketing training courses, marketing studies and price information.

Wholesalers can also be importers, selling flowers to other wholesalers and florist shops. Many have a large zone of influence and some (often called shippers or producers-shippers), particularly in California, Texas and Florida, serve both retailers and wholesalers around the U.S. Some use cold rooms to store and market flowers while others provide refrigerated trucks to their clients.

MAIN IMPORTERS

Until the 1990s, the only ports of entry in the U.S. equipped by APHIS and USDA to conduct plant product inspections were Miami and New York. This is the main reason why the most important flower importers are established around Miami. Even though importers can also be found in Atlanta, Boston, Chicago, Houston, Los Angeles, San Francisco and New York, Miami continues to be by far the main flower trade hub.

Many of these Miami companies are partially owned by Colombian entrepreneurs who purchase a large proportion of their product directly from Colombian farms, although they also handle produce from other countries. Some have investments in Ecuador or other countries. Several companies have installed facilities for manufacturing bouquets. However, this is more frequently done on-site at the farm because costs are lower, hand labor is more available and the vase life of flowers is extended through less handling.

Brokers and importers are often known as importers-distributors. Their facilities have cold rooms and complete distribution services, with the capacity to deliver products in refrigerated trucks to ground transportation companies or airlines. Armellini Express Lines is one example that has been in operation for many decades. It has a fleet of 250 refrigerated trucks reaching all corners of the U.S. and Canada.

Importers-distributors sell mainly to wholesalers throughout the country. A small number supplies supermarkets, often using different commercial names. They may buy at fixed prices and receive orders on consignment on which a commission or fixed price may be agreed. They are in charge of clearing orders and paying import fees, very often requesting a box fee or box charge that is transferred to the wholesaler or the grower.

The majority of importers is affiliated to an association through which it receives important support in the form of market studies, sector news and client contacts. The most important associations are:

- Wholesale Florists & Florist Supplier Association (WF&FSA) www.wffsa.org
- Association of Floral Importers of Florida (AFIF) www.afifnet.org
- The Society of American Florists (SAF) www.safnow.org

IMPORTANT FLORAL MARKETS ACROSS THE U.S.

Some large cities in the U.S. operate wholesale flower markets, which can be an interesting resource for flower sellers initiating business relationships. The following are important examples:

- Los Angeles Flower District Association www.laflowerdistrict.com
- San Diego International Floral Trade Center www.sdfloaltradecenter.com
- The Boston Flower Exchange (now the New England Flower Exchange) www.newenglandflowerexchange.com
- Chicago Flower Exchange www.chicagoflowerexchange.com

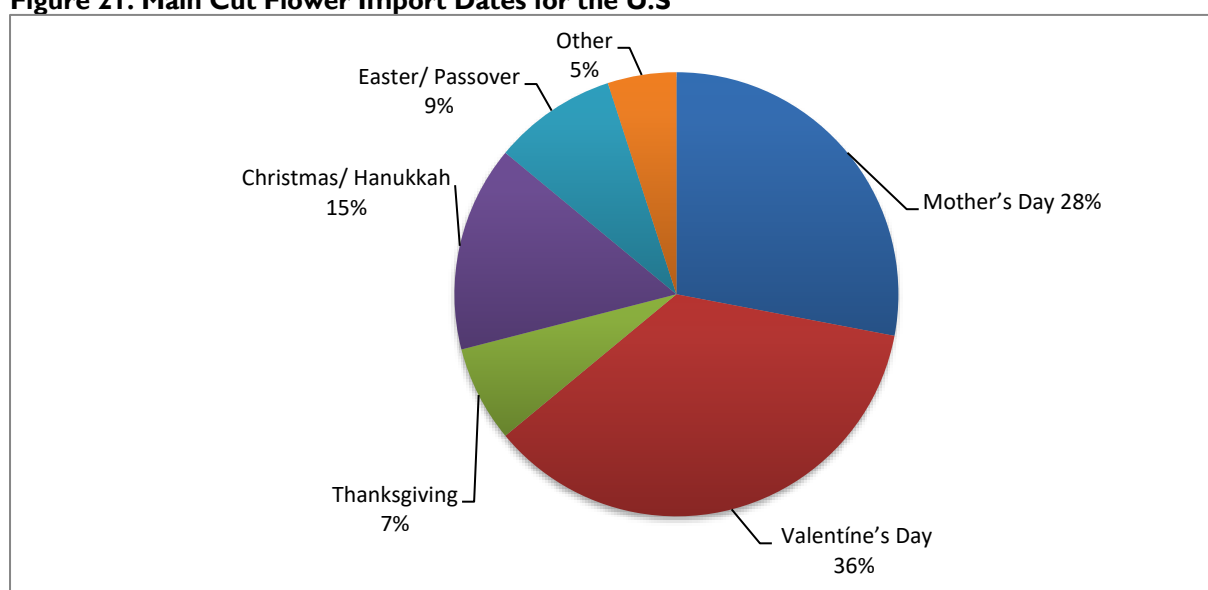
6. CONSUMPTION PATTERNS FOR TARGET PRODUCTS AND PRICES

6.1 CUT FLOWER CONSUMPTION PATTERNS IN THE U.S.

Flower consumption per capita is low in comparison to most European countries. In contrast to most European consumers (who purchase flowers on a routine basis without a special motive), the average U.S. consumer tends to buy flowers in connection to a specific holiday or occasion. The Dutch Floral Council reports that while the average American spends about \$31 on flowers and plants per year, the Dutch spend about \$72. However, the U.S. is a large country with many consumers. These consumers spend an average of \$15 per purchase, which is high compared to other countries.

The Miami Airport, where nearly 90 percent of imported cut flowers arrive, cites the following as peak cut flower consumption holidays during the year:

Figure 21. Main Cut Flower Import Dates for the U.S



Source:

Miami International Airport

Other important dates are Labor Day (September), Halloween (October 31, bronze and orange colors), St. Patrick's Day (March 17, green colors), Secretaries Day (April 21), Father's Day (June) and Independence Day (July 4, red, blue and white colors). Blue and green flowers are often dyed to match consumption for a particular occasion. Flower purchases not associated to a particular occasion have increased with the introduction of consumer-ready bouquets to the mass marketing segment, such as supermarkets.

6.2 PRICES

As expected, prices paid for imported cut flowers are sensitive to demand and supply and will typically vary around peak consumption dates e.g., Valentine's Day, Christmas and Mothers' Day. Growers will do everything possible to ensure peak production in the right color and product mix for such dates. This is often done by adjusting production practices, but various factors can affect flower availability including weather and services.

The large purchasing capacity of mass marketers and big importers directly influences flower prices. They tend to remain at the low end, since these enterprises are able to negotiate volume discounts with freighters and transporters. This has led to consolidation and mergers.

Recording and analyzing prices on a daily basis can be time-consuming and complex. However, there are information sources that allow one to establish general trends. These include the USDA's Market News

Service (MNS) and the COMTRADE system of the UN/WTO. The latter does not keep detailed price information for flowers.

The MNS keeps records of imports, shipping of cut flowers and flower sales in several important U.S. markets (including domestic production). Prices are reported per unit (stems or sometimes bunch) by country of origin and in some cases by variety or color. This is a free service that anyone can access. A recent example from Miami is given below:

MIAMI Ornamental Shipping Point Trends for 12 October 2017

Provided by: Specialty Crop Market News
Federal State Market News Service, USDA
Phone (305)373-2955 Fax (305)373-3562

MH_FV25I

PRICES FOR THURSDAY, OCTOBER 12, 2017

Trends from Colombia, Ecuador, Costa Rica and Guatemala, mostly Colombia.

Shipments for weeks ending September 23, 30, and October 07, 2017

SALES FOB. SOUTH FLORIDA. DUTY PAID. PACKING CHARGES INCLUDED.

---**ALSTROEMERIA**...Imports in 1,000 Stems 5584-5188-6560 Volume expected to increase. Trading moderate. Prices lower. Bunched 10s Assorted Colors, Super Select mostly 2.45-3.00, Select mostly 2.20-2.43 and Fancy mostly 1.75-2.16.

---**ASTER**...Imports in 1,000 stems 565-590-583 Volume expected to increase. Trading moderate. Prices Assorted slightly higher; white lower; Purple generally unchanged. Per bunch Assorted 2.60- 3.00, Purple 2.45-3.00 and white 2.30-2.50.

---**CALLA (ZANTEDESCHIA)**...Imports in 1,000 stems 406-551-568 Volume expected to increase. Trading moderate. Prices lower. Per stem .80-1.00.

---**CARNATIONS**...Imports in 1,000 stems 7544-7970-8655 Volume expected to increase. Trading moderate. Prices slightly higher. Per stem Assorted colors; Select mostly.20-.25, Fancy 19-.24 and Standard.17-.21.

---**CARNATIONS, MINIATURE**...Imports in 1,000 stems 4461-4842-5521 Volume expected to increase. Trading moderate. Prices generally unchanged. Per stem Assorted colors 1.95-2.45.

---**CHRYSANthemUMS**...Imports in 1,000 stems 2881-4417-3590 Volume expected to increase. Trading moderate. Prices generally unchanged. Bunched 10s Disbud Spider Assorted colors 2.95-3.60.

---**GERBERA**...Imports in 1,000 stems 695-575-652 Volume expected to increase. Prices generally unchanged. Per stem.40-.55.

---**GYPsOPHILA**...Imports in 1,000 stems 2697-2736-2665 Volume expected to increase. Trading moderate. Prices generally unchanged. Per bunch Million Stars 3.45-4.25, Xlence 3.45-4.25 and Merablea few 4.25.

---**HYDRANGEA**...Imports in 1,000 stems 2453-2781-2875
Volume expected to increase. Trading moderate. Prices Assorted and White slightly lower; Blue generally unchanged. Per stem Assorted.74-.79, White.72-.84 and Blue.75-.84.

---**LIATRIS**...Imports in 1,000 stems 225-201-188 Volume expected to increase. Trading moderate. Prices lower. Per bunch 90cm few 4.05, 80cm 2.95-3.95 and 70 cm 2.55-3.55.

---**POMPON CHRYsANTHEMUMS**...Imports in 1,000 stems 11,121-15,280-12,927
Volume expected to increase. Trading moderate. Prices generally unchanged. Per bunch Cushion Daisy Novelty Assorted (CDN) Colors 1.65-1.95, Cushion Type Assorted colors1.95-2.00, Novelty Type Assorted colors 1.75-2.00, and Daisy Type Assorted colors 1.65-2.00.

---ROSES, HYBRID TEA...Imports in 1,000 stems 28,217-30,317-34,710

Trading moderate. Prices slightly higher. Per stem 60 cm,,40-.45, 50 cm,,34-.41 and 40 cm,,25-.30.

---SNAPDRAGON...Imports in 1,000 stems 198-196-202 Volume expected to increase. Trading moderate. Prices generally unchanged. Per bunch 3.70-4.10.

---SOLIDAGO...Imports in 1,000 stems 839-795-933 Volume expected to increase. Trading moderate. Prices slightly lower. Per bunch 2.10-3.00.

--STATICE (LIMONIUM)...Imports in 1,000 stems 969-946-1106 Volume expected to increase. Trading moderate. Prices Purple higher; Misty White and Maine Blue lower; others generally unchanged. Per Bunch Limonium Hybrids Assorted few 2.45, Purple 2.75-3.45, Misty White 3.25- 4.52, Misty Blue 4.20-4.62 and Maine Blue 3.25-3.95.

Additionally, prices are recorded at terminal markets, for example Boston (Boston Flower Exchange). The following is a recent example relating to roses, detailing prices per stem for red roses or assorted colors, stem length and import origin. These reports are available for over 30 product types and can also be accessed free of charge through USDA's MNS.

Table 4. Prices by Commodity, Origin and Size

Commodity Name	City Name	Package	Variety	Date	Low Price	High Price	Mostly Low	Mostly High	Origin	Item Size
Rose, Hybrid Tea	Boston	per stem	Assorted (asstd) colors	10/24/17	0.85	0.85			Ethiopia	60cm
Rose, Hybrid Tea	Boston	per stem	Red varieties	10/24/17	1	1.25	1	1	Colombia	60cm
Rose, Hybrid Tea	Boston	per stem	Red varieties	10/24/17	1	1.25	1	1	Colombia	50cm
Rose, Hybrid Tea	Boston	per stem	Red varieties	10/24/17	1	1			Colombia	40cm
Rose, Hybrid Tea	Boston	per stem	Red varieties	10/24/17	0.9	0.95			Ecuador	70cm
Rose, Hybrid Tea	Boston	per stem	Red varieties	10/24/17	0.8	0.85			Ecuador	60cm
Rose, Hybrid Tea	Boston	per stem	Red varieties	10/24/17	0.7	0.75			Ecuador	50cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1.25	1.35	1.25	1.25	Colombia	80cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1.25	1.35	1.25	1.25	Colombia	70cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1	1.35	1	1	Colombia	60cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1	1.35	1	1	Colombia	50cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	0.85	0.85			Colombia	40cm

Commodity Name	City Name	Packa ge	Variety	Date	Low Price	High Price	Mostly Low	Mostly High	Origin	Item Size
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1.25	1.35	1.25	1.25	Ecuador	80cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1.25	1.35	1.25	1.25	Ecuador	70cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1	1.35	1	1	Ecuador	60cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	1	1.35	1	1	Ecuador	50cm
Rose, Hybrid Tea	Boston	per stem	Asstd colors w/o red	10/24/17	0.85	0.85			Ecuador	40cm

7. SALES PROMOTION

7.1 KEY TRADE FAIRS

Several trade fairs take place in the U.S. every year that bring together flower exporters and buyers. They offer excellent opportunities to showcase products and start, strengthen or expand floral businesses. In addition, it may be worth considering attending tradeshow in countries that supply the U.S. market, particularly Colombia and Ecuador. The following is a list of key events taking place in 2018/2019:

World Floral Expo – HPP Exhibitions

March 22-24, 2018

Chicago, Illinois, U.S.

www.hppexhibitions.com/floriculture/2018/wfe/

International Floriculture Expo

June 25-27, 2018

McCormick Place

Chicago, Illinois, U.S.

www.floriexpo.com

Expoflor Ecuador – EXPOFLORES

September 19-21, 2018

Quito, Ecuador

www.expoflores.com

Agriflor Ecuador 2018 – HPP Exhibitions

October 3-5, 2018

Quito, Ecuador

www.hppexhibitions.com/floriculture/2018/ecuador/

PMA Fresh Summit, Convention and Expo

October 18-20, 2018

Orlando, Florida, U.S.

www.pma.com/events/freshsummit

Wholesale Florist & Florist Supplier Association – Floral Distribution Company

October 17-19, 2018

Miami Airport Convention Center

Miami, Florida, U.S.

www.wffsa.org/aws/WFFSA/pt/sp/conference_home

7.2 SOURCES OF INFORMATION AND PROMOTIONAL OPPORTUNITIES

TRADE MAGAZINES AND BLOGS

Trade magazines and websites/blogs are important sources of information. They also provide promotion opportunities in the form of advertisements, interviews with players in Kenyan floriculture, articles showcasing the flower sector, key events, etc. These opportunities can be arranged through direct contact with editors and visits. These visits can be held in conjunction with the annual tradeshow held in Nairobi. Some of these magazines maintain a printed version while others only have digital presence. Publications with a good presence in the U.S. floral industry include:

- **FloraCulture International.** Monthly, international magazine owned by FloraHolland with worldwide circulation. www.floraculture.eu
- **Grower Talks.** Directed at growers and circulates mainly in North America. www.growertalks.com

- **Green Profit.** Directed to the flower consumer (wholesalers, mass marketers, retailers, florists). Circulates mainly in the U.S. and is a sister publication to Grower Talks.
- **Greenhouse Grower.** Directed to growers mainly in the U.S. www.greenhousegrower.com
- **Florists' Review.** Monthly magazine specializing in the retail market. www.floristsreview.com
- **SuperFloral Retailing.** Directed at mass marketers and retailers. www.superfloralretailing.com
- **Hortibiz.** International news on the horticulture and floriculture industries. www.hortibiz.com

Additionally, there are many blogs and websites that provide promotion and networking opportunities, as well as relevant information on events, trends and news. They usually require registration, but membership is mostly free. Some examples include:

- **Flowers and Cents.** www.flowersandcents.com
- **Flowers Supergroup.** A LinkedIn group. www.linkedin.com
- **American Floral Endowment.** www.endowment.org

PROMOTIONAL MATERIALS AND OPTIONS

Flower exporters around the world continue to invest in high-quality, professionally made catalogs showcasing their products. These materials are important when attending tradeshow and meeting prospective buyers.

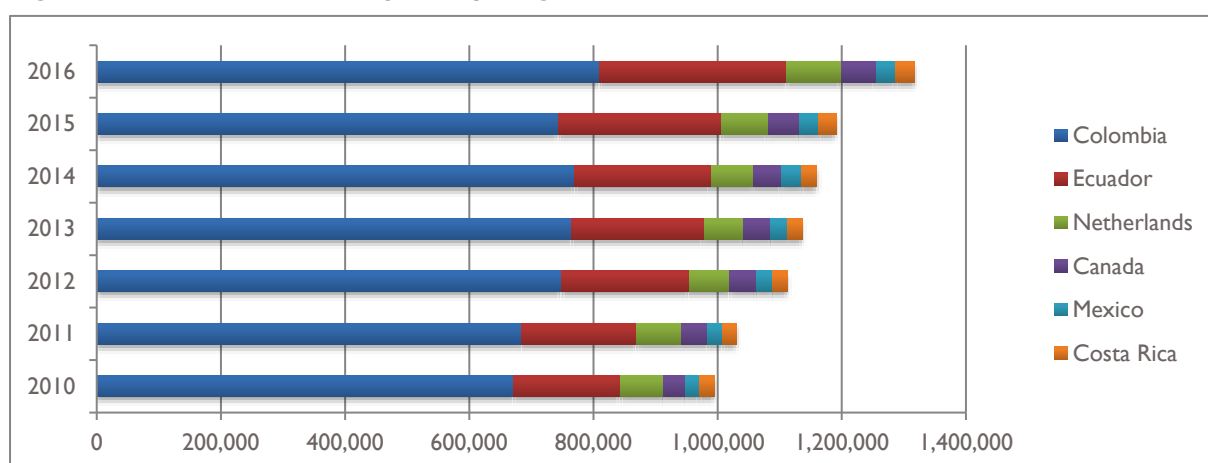
The value of a good website cannot be underestimated. For many years, flower companies have used the internet (websites and social media) to deliver information on their farms, production processes, company history and social and environmental programs. They are increasingly using it as a sales tool (e-commerce) to promote products, support their participation in trade shows and make direct sales. Companies can check on what the competition is doing to inform their internet activity and presence.

8. COMPETITION – KEY SUPPLIERS OF CUT FLOWERS TO THE U.S.

International suppliers to the U.S. floral market are largely regional, but some flowers are sourced from distant origins (e.g., orchids from Thailand or Taiwan). This is affected by freight costs and shipping time, which can be high when no direct flights are available. Increasing flight options, higher volumes of flowers transported and the recent introduction of sea transport may introduce changes.

Currently, three countries supply 92 percent of all floral products imported to the U.S.: Colombia (62 percent), Ecuador (23 percent) and the Netherlands (7 percent). Canada, Mexico and Costa Rica have decreased in participation but still hold small shares of the market (4 percent, 2 percent and 2 percent respectively).

Figure 22. U.S. Cut Flower Imports by Origin, 2012-2016



Source:

ITC UN COMTRADE statistics 2017. Figures in thousands of U.S. dollars

COLOMBIA

In its fifth decade as a cut flower exporter, Colombia has become a mature and experienced flower exporter, second in the world after Holland with a global market share of 17 percent.

Commercial cut flower production in Colombia started in the mid-1960s. Visionary entrepreneurs found clear advantages in its geographical location, climatic conditions, land availability, socioeconomic factors (i.e. hand labor) and geographical location (3.5 hours by plane to Miami with access to Europe and even to more distant markets such as Japan). Colombia is served by a good number of cargo and passenger airlines. From the onset, floriculture was developed as an export business, growing dramatically in the first 20 years. The total cut flower exports in 2016 were valued at \$1,312 million. The sector is still growing but at a much lower pace. There are about 400 flower farms in this sector, spanning over 7,000 ha, mostly under plastic greenhouses. Floriculture originally concentrated on temperate flowers such as carnations, roses and chrysanthemums. Although these remain relevant, diversification has occurred over the past two decades and Colombia now exports more than 30 flower types including tropical flowers.

About 75 percent of flower farms are concentrated around Bogotá, the capital, at 2,600 m above sea level. A second growing area is found around Medellín, with about 23 percent of farms, at slightly lower altitude. The remaining 2 percent is located in warmer climates, specializing in tropical flowers and foliage.

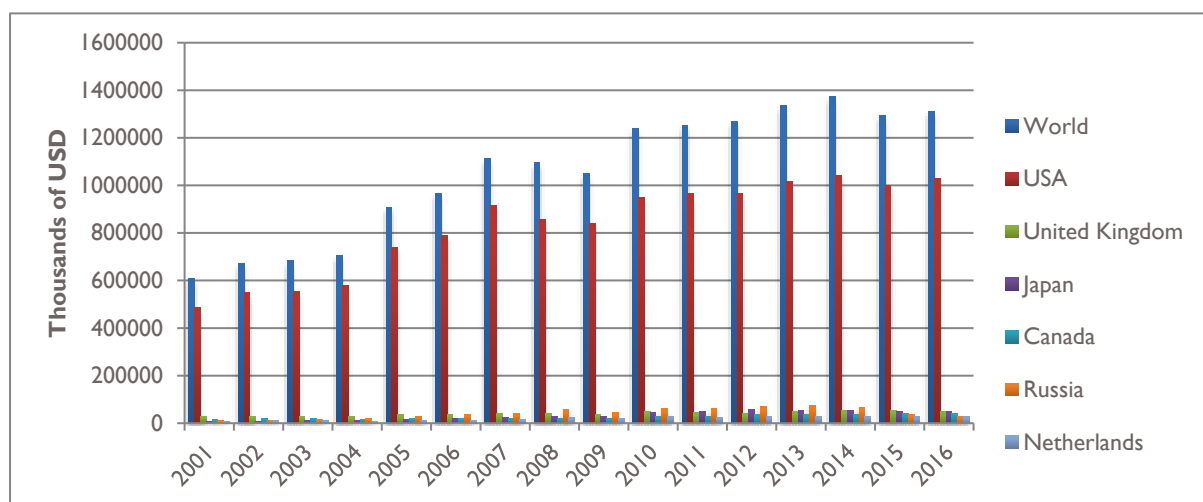
Production technologies were initially imported from developed countries. Sometimes it was necessary to adapt processes to local conditions and develop others that were completely new. In this respect, Colombia soon became a reference and example for other Latin American countries where commercial floriculture for export developed such as Ecuador, Costa Rica, Mexico and Peru.

From a national perspective, floriculture is a critical sector, the second most important agricultural export product after coffee. The sector provides about 130,000 direct and indirect jobs, and an estimated 600,000 Colombians depend on this activity. A large proportion of Colombian flower exporters belong to

ASOCOLFLORES, the Colombian Association of Flower Exporters, which was founded in 1973. It has been active on many fronts including international market defense and promotion, a virtual research center (CENIFLORES), continued education and support of research, information diffusion, trade show organization (PROFLORA) and, in general, sector representation both domestically and abroad. In 1996, ASOCOLFLORES launched the FLORVERDE Sustainable Flowers program previously mentioned in this report, which enjoys international recognition and has achieved equivalency with other such programs.

Colombian flower exports have maintained a general upward trend, as seen in Figure 23, albeit with some difficult times. Colombia's primary market for flowers is undoubtedly the U.S. where about 75 percent of the flowers are sent. Approximately 5 percent of flowers reach the UK and 3 percent is sent to Japan, Russia, the Netherlands and Canada each. The remaining 8 percent is received by other countries. Colombia constantly searches for new markets and has made great efforts to penetrate markets such as Japan and Russia. Other important markets include Panama, Poland and Brazil.

Figure 23. Evolution of Colombian Cut Flower Exports by Value, 2001-2016



ITC UN COMTRADE statistics 2017.

Source:

Traditionally, Colombia has been an exporter of carnations (standard and miniature), roses and chrysanthemums (standard and pompom). These flowers still compose the lion share of exports with roses accounting for 22 percent, carnations accounting for 18 percent and chrysanthemums accounting for 16 percent. Other flowers make up 44 percent of the product mix, namely alstroemerias, lilies, asters, statice and other limonium types, gerbera, tropical flowers, gypsophyla, calla lilies and a series of “summer flowers” (e.g., sunflowers, ammi majus, snapdragons, stock and delphinium).

Colombian flower exporters have had to overcome complex hurdles such as anti-dumping demands raised by U.S. flower growers. For many years they fought to defend the renewal and extension of the Andean Trade Promotion and Drug Eradication Act (ATPADEA) treaty and they were later instrumental in achieving the FTA with the U.S. that now guarantees a zero tariff position for cut flowers. In 2008–2010 a very weak dollar and strong Colombian peso also caused profits to shrink for exporters who paid production costs in local currency.

Colombian exporters, through ASOCOLFLORES, have led various successful promotion efforts starting with the Colombia Flower Council in the 1980s and the Flower Promotion Organization (FPO) in the 1990s. The FPO began in 1999 when an agreement was reached with U.S. growers to transfer money spent in anti-dumping suits to joint promotion efforts to increase flower consumption in the U.S. The FPO continued its activity until 2010 with excellent results. PROFLORA, the international Colombian flower show, has been held every two years since its first edition in 1991. It is organized by ASOCOLFLORES and recognized as one of the leading tradeshows in the region.

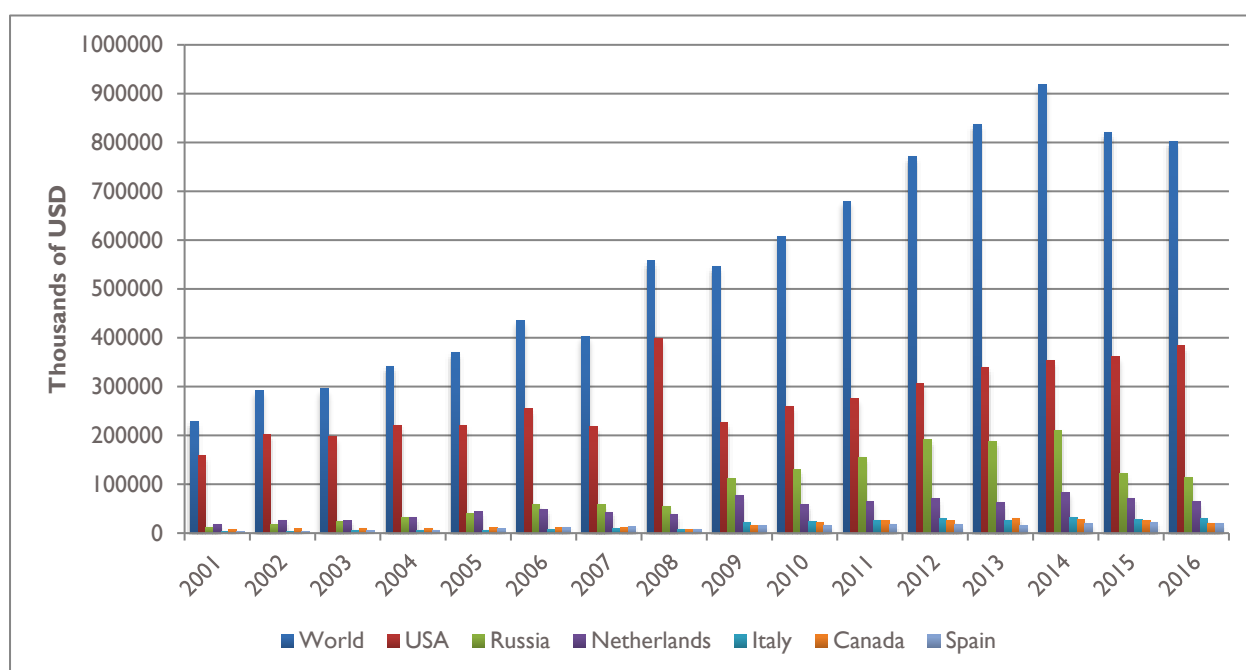
ECUADOR

The development of Ecuadorian floriculture was encouraged by a crisis affecting Colombian floriculture between 1992 and 1997. The crisis was caused by a strong revaluation and a fall in flower prices resulting from increased competition and reduced competitiveness. Floriculture developed rapidly in Ecuador during these years using the Colombian model. International suppliers took advantage of this situation, seeing a clear opportunity to recover dwindling sales in Colombia. The introduction of new rose varieties in Ecuadorian floriculture turned into an advantage for exporters who, during this period, were able to offer the latest novelties to their clients while their competitors in Colombia could not afford to renew their varieties. Rose production increased rapidly and soon became the main segment of Ecuadorian flower exports. It still represents 75 percent of Ecuador's products, followed by "summer flowers," which make up 18 percent. Ecuador is a noted supplier of high-quality gypsophyla.

Flower exports from Ecuador increased from \$1.7 million in 1986 to more than \$100 million in 1996, to \$440 million in 2006 and \$803 million in 2016. Despite the impressive growth over the last thirty years, economic difficulties have created challenging periods. Dolarization, adopted by Ecuador in 2000, led to increases of up to 70 percent in hand labor costs, 60 percent in fuel costs and 40 percent in energy. The crisis affecting Russia and the subsequent reduction of Ecuador's market share also strongly hit the rose sector, forcing exporters to look for other markets. As a result, rose exports to the U.S., which represented 30 percent of the total in 1995, rose to 73 percent in 1999. Ecuador also faced anti-dumping suits from the U.S.

Ecuadorian flower exporters pay tariffs in the U.S. because the Ecuadorian government did not seek an extension of the ATPADEA treaty or undertake negotiations to reach a FTA. The rates are currently 6.8 percent for roses; 3.2 percent for carnations; 6.4 percent for chrysanthemums and 6.4 percent for lilies. In spite of this, Ecuador is the third highest world exporter of cut flowers after the Netherlands and Colombia, with exports of \$803 million in 2016 (see Figure 24). Cut flowers are the main non-traditional export product of Ecuador, providing over 45,000 direct jobs. Ecuadorian roses enjoy an excellent reputation for their flower size, stem length and overall quality.

Figure 24. Evolution of Ecuador's Total Exports, 1989-2006



Source: ITC UN COMTRADE statistics, 2017.

Ecuador has made strides toward recovering its share of the Russian market (14 percent of the share) and has diversified its market destinations. Forty-eight percent of Ecuadorian flowers reach the U.S. and of these 74 percent are cut roses. This has created competition with Colombia and resulted in a stalling of prices, at best, but often a reduction. The remaining 52 percent is sent to European countries, namely the

Netherlands, Italy and Spain. Russia still represents an interesting destination with peak consumption periods associated with, for example, Women's Day (March 8) when large, long-stemmed Ecuadorian roses fetch high prices. New market destinations include Japan and Ukraine.

Ecuadorian floriculture's success is partially attributed to an exceptional climate that is present year-round; the combination of cold nights and warm days, very high light intensity and high-quality production make Ecuador an ideal location to grow cut roses.

In an effort to obtain better prices, Ecuadorian exporters try to reduce the number of intermediate steps between the farm and the final consumer and have launched various schemes including e-commerce, business-to-business programs and direct sales. Freight is a recurring problem since airfreight from Ecuador to the U.S. market has traditionally been more expensive than that from Colombia. Problems with cargo/flight capacity, which was not always sufficient in the past, have mostly been solved with the new airport now in operation.

Ecuadorian exporters work together under the Association of Ecuadorian Flower Exporters (EXPOFLORES), where approximately 80 percent of exporters are members. EXPOFLORES plays an active role in promoting Ecuadorian flowers, opening new markets, providing training and developing necessary legislation to legally observe breeders' rights on protected flower varieties. Ecuador has launched its own sustainability certification program, FlorEcuador Certified.

THE NETHERLANDS

The Dutch are the pioneer commercial flower growers in the world and have been in the business since the beginning of the 19th century. The Netherlands is currently the largest flower producer in the EU, accounting for almost half of total production. Cut flower production in glasshouses has decreased (in 2015 about 2,200 ha were reported, down from 3,100 in 2007), while open field production has increased (2,900 ha), with about 3,000 ha of cut flowers and foliage grown outdoors. Specifically, the production of roses, carnations and freesias has fallen substantially, with smaller reductions in other flowers (chrysanthemums, alstroemeria, anthurium). This is possibly a consequence of increasing imports from Africa and Latin America over the past two decades. Flower bulbs, mainly tulips but also many other kinds (iris, hyacinths, lilies, etc.), have remained relatively stable in the last five years at 18,600 ha.

The Netherlands is the largest cut flower exporter in the world with a 46 percent market share, which has fallen from 56 percent in 2007. Only 7 percent of the cut flowers exported by the Netherlands go to the U.S. market, down from 10 percent in 2007. Exports of dormant bulbs, rhizomes and similar propagation materials are much higher. The Netherlands is also a large importer since high volumes of flowers and plants are marketed into Europe through its auctions.

Cut flower exports from the Netherlands to the U.S. have fluctuated over the years. A decrease of nearly 40 percent was recorded in the period between 2012 and 2016, with total exports of cut flowers valued at \$80 million. Imports from South American countries have no doubt influenced this.

Unlike flowers from other countries, over 60 percent of flowers imported from the Netherlands enter the U.S. via cities on the east coast such as Boston, New York and Newark (New Jersey), and Chicago. There is an import peak between January and May for flowering bulbs, mainly tulips. Highly traded flowers such as roses and carnations are no longer exported in large quantities from the Netherlands. Rather, the segment labeled "other flowers" is now the largest, comprising 89 percent of the flowers exported.

MEXICO

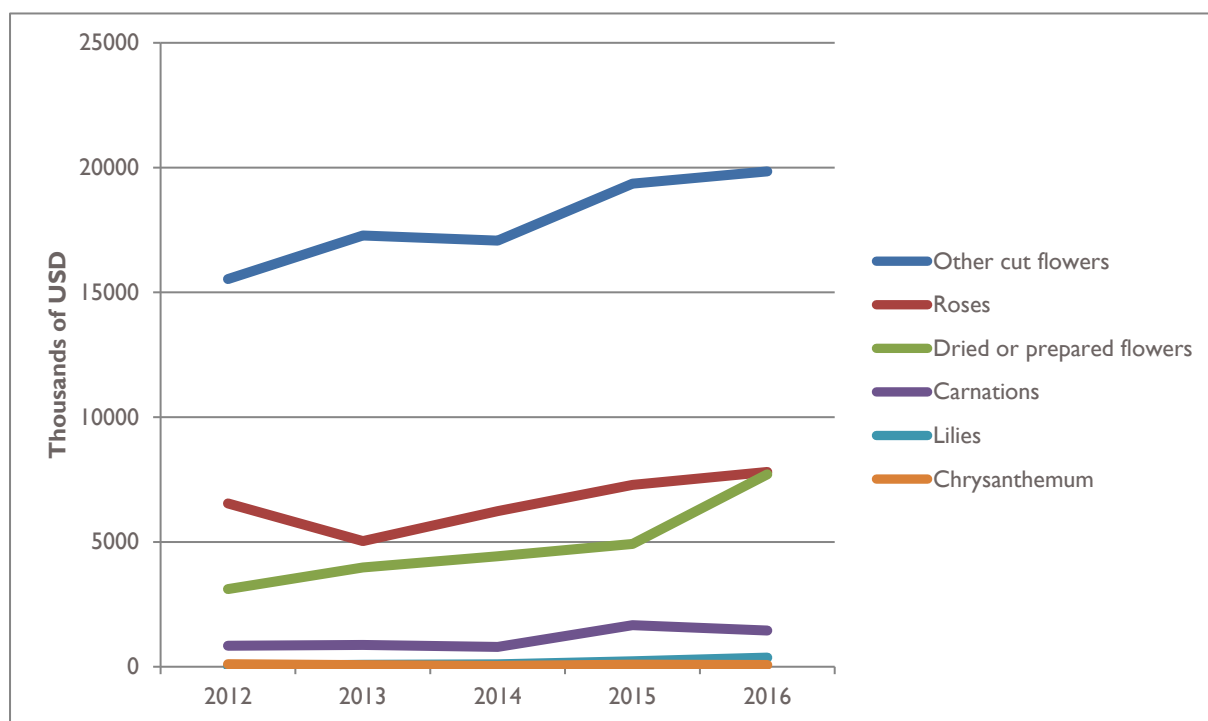
In contrast with other developing countries exporting flowers to the U.S., Mexico has a large domestic flower market and high internal consumption of cut flowers and other ornamental products. This is possibly the main reason why, in spite of enormous advantages and a large potential for exporting to the U.S., exports remain low. About 90 percent of cut flowers produced in Mexico are sold locally. Additionally, because only a small proportion of the flowers are produced under controlled conditions in greenhouses, quality parameters needed for export are often not obtained or achieved. In 2008, Mexico opened a large

flower market close to Mexico City where significant volumes of flowers are traded every day in the domestic market.

As a subtropical country, Mexico enjoys a variety of climates suitable for producing many flower types, including bulbs, species needing temperate conditions (e.g. large headed roses, best produced at high altitude) and tropical flowers in warmer areas. About 15,000 ha are dedicated to ornamentals, of which approximately 6,000 ha are dedicated to cut flowers. The main producing areas are the states of Mexico, Baja, California and Chiapas.

Mexico has additional advantages for exporting cut flowers to the U.S. This includes its shared border, which allows for ground shipping; the North American Free Trade Agreement (NAFTA) agreement, which, since 1994, allows tariff-free market access; and ample hand labor. Mexican exports have traditionally remained low. They have, however, exhibited an upward trend over the past five years. Cut flower exports in 2016 amounted to \$38.4 million. The main export market is the U.S. where nearly 99 percent of the exported flowers are sent. The remaining 2 percent is currently sent to Canada. The main flower types exported appear in Figure 25.

Figure 25. Destination of Mexican Flower Exports, 2012-2016



Source:

ITC UN COMTRADE statistics, 2017.

COSTA RICA

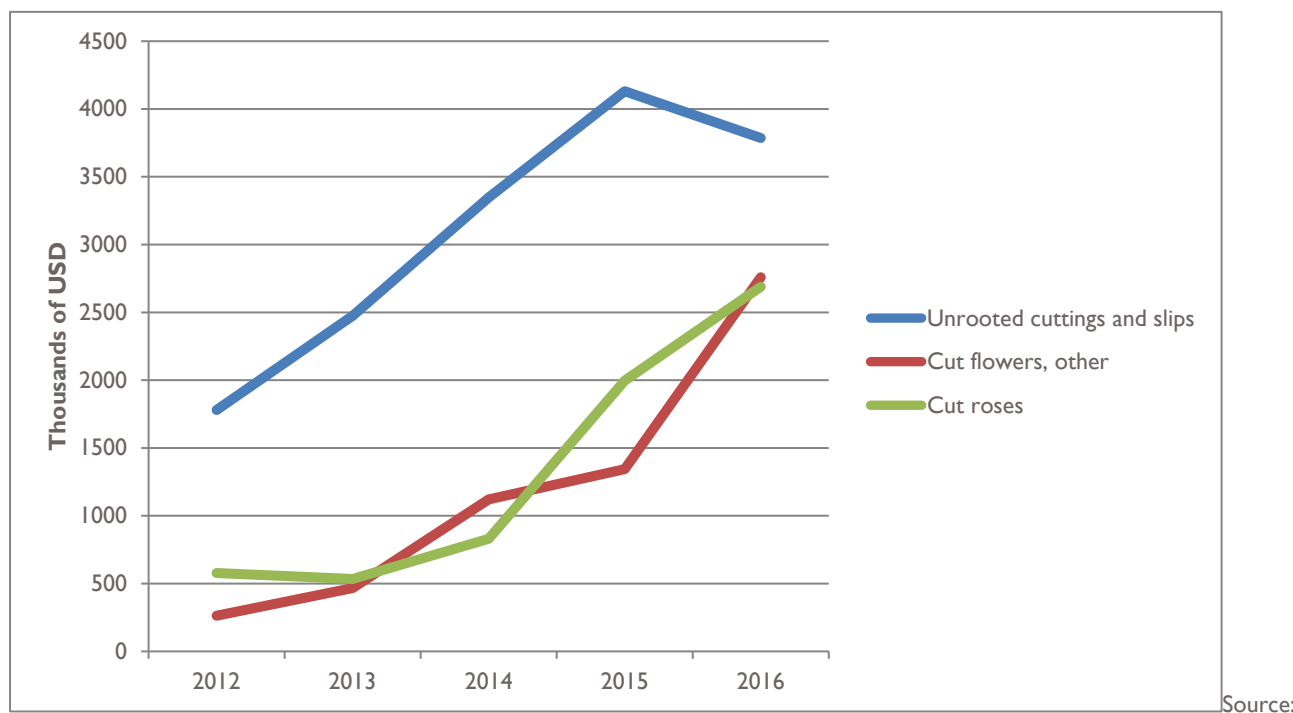
Although export floriculture is by no means a new activity in Costa Rica – the first exports date back to the 1960s – the flower sector has changed during the last decade. Costa Rica was, for years, an important supplier of chrysanthemums and cut foliage (specifically leatherleaf fern) both to the U.S. and Europe. However, production of this flower has all but disappeared and been largely replaced by tropical flowers (heliconias, gingers, anthurium, birds of paradise) and lilies (*Lilium* sp). The total cut flower exports from Costa Rica were \$38.5 million, and about 90 percent were exported to the U.S. Other markets include Canada, Nicaragua, the UK and Panama.

Costa Rican exports of propagation plant materials, mainly un-rooted cuttings, have increased substantially over the past years, again mostly to the U.S. These are mainly used to propagate ornamental plants (bedding and garden plants, pot plants, both flowering and foliage).

ETHIOPIA

Exports of ornamental products from Ethiopia to the U.S. have shown a steady increase over the past five years for three categories: propagation materials (un-rooted cuttings), cut roses and a group of cut flowers (product code 060319) comprising unspecified flower types, not including chrysanthemums, carnations, lilies, roses or orchids (Figure 26).

Figure 26. Exports of Ornamental Products from Ethiopia to the U.S., 2012-2016



Total exports are still small at \$9.2 million, but the steady increase in flower exports may be a result of direct flights operated by Ethiopian Airlines between Addis Ababa and several cities in the U.S. as well as trade promotion and development efforts.

OTHER COUNTRIES

Canada exports ornamental products to the U.S. taking advantage of an almost exclusive permit to send live plants with soil or substrate attached. Few countries are able to do this. The main ornamentals exported from Canada to the U.S. are Christmas trees. However, rose plants (mainly garden varieties), potted chrysanthemums and some bulbs are also important.

Thailand has shown increased exports of cut orchids, mostly of the genus *Dendrobium*, which amounted to \$15.8 million in 2016.

Taiwan and **South Korea** are successfully developing exports of orchid plants, for which special permits have been obtained to export rooted in an artificial medium.

China is exporting cut foliage, mostly in dried or prepared form, but also fresh, totaling about \$35 million.

9. RECOMMENDATIONS – ACTION PLAN

The reasons why Kenya has achieved prominence among suppliers of cut roses to Europe are clear: the sector is profitable and technically competent, it has developed efficient logistics and it offers high-quality flowers – not only roses – at competitive prices. These factors make for a strong, competitive product, ready to explore new markets.

The U.S. market, however, has distinct characteristics that will require adjustments to Kenyan production processes, product mix offerings and choice of varieties. For example, consumption is heavily influenced by peak holidays. Packaging and presentation (including harvesting stage) often differ from those for Europe and are very important as suppliers attempt to direct sales to mass marketers. Kenyan producers interested in the U.S. market need to become closely acquainted with U.S. consumer preferences and marketing options and will need to capture the interest of prospective buyers. They must be prepared to send high-quality samples that quickly reach prospective clients and participate in trade shows.

Import requirements, particularly phytosanitary issues, can also be quite specific in the U.S. While there is a wealth of publicly available information in this respect, it will be important to develop a strong relationship with USDA/APHIS and conduct pest risk analyses for the main flower types to be exported (initially roses). Currently, phytosanitary authorities are using guidelines set for the EU. These should be specified for the U.S. Exporters should also be familiar and compliant with required U.S. export paperwork (export permits, certificate of origin to confirm tariff-free status, phytosanitary inspection if needed, and others).

These factors, together with the relatively long distance between Kenya and the U.S. (compared to Colombia and Ecuador), pose challenges. The prospect of direct flights between Kenya and the U.S. is encouraging, however, sufficient cargo capacity at a reasonable freight cost will need to be developed (a few passenger flights per week may not be enough).

Suggestions were made to attempt cooperation with neighboring countries, particularly Ethiopia, which already has a good number of direct flights in operation, to achieve reliable, shorter and more economically feasible shipping options. African countries would likely benefit more from cooperation than competition, even though this may not be a simple endeavor.

Promotion efforts should be geared toward branding Kenyan flowers to make them stand out as unique, distinct and special products; they should not be placed in direct competition with products from other suppliers. This is especially true if Kenyan producers decide to export consumer-ready bouquets where flowers will reach consumers as shipped (not unpacked and reassembled together with flowers from other origins) and packaging becomes the means to identify flowers.

Table 5 provides a general action plan for Kenyan flowers, together with challenges and possible opportunities, which can be incorporated into the general AGOA strategy and action plan for Kenya.

Table 5. Action Plan for Cut Flowers

Objectives	Proposed Key Actions	Outputs	Key Stake-Holders	Comments
Expand trade linkages/awareness and knowledge of U.S. market. Further assess Kenya's potential as flower exporter to U.S., identifying specific opportunities	Engage key sector players to help identify buyers and get them interested in Kenyan flowers. Take wider advantage of the International Floriculture Trade Expo (IFTEX) show in 2018	Buyers identified and attend next IFTEX show in Nairobi to learn more about Kenyan flowers and create trade relationships	KFC East Africa Trade and Investment Hub (the Hub)	Sector players can be invited to educational sessions in conjunction with show. Buyers should be taken on farm visits in addition to the show. Business rounds can be organized with exporters
	Develop promotion in the U.S. through diplomatic representatives	Information that is updated and readily available and can be used to showcase the Kenyan flower industry whenever the opportunity arises	KFC Kenyan Embassy in U.S., consulates in key cities Kenya Trade Promotion Office	Provide information on Kenyan flower industry, flower types, colors, quality, and variety. Participate in social or public events with Kenyan flowers. Include information on websites. Photos, videos and links with tourism efforts. Should highlight social benefits, sustainability and welfare associated to floriculture in Kenya
	Organize "study tour" of Kenyan flower exporters to U.S.	Further market intelligence gained. First-hand knowledge on inspection/ phytosanitary issues, paperwork, and customs obtained. Logistics obtained, key stakeholders met, linkages with possible Kenyan partners living in U.S. established	KFC The Hub Kenyan Trade Promotion Office	To maximize efficiency, visits may be organized (beforehand) in conjunction with a tradeshow where Kenya is exhibiting i.e. International Floriculture Expo (IFE)
Improve market competitiveness, particularly logistics, packaging and quality assurance	Conduct training sessions on post-harvest management, packaging and cold chain	Awareness raised on market requirements and compliance, extending quality and vase life, avoiding complaints and interceptions	KFC The Hub	Preferably in-person workshops or seminars, with information then posted on website. Alternatively, a webinar works
	Conduct detailed study on quality standards and average prices during high and low consumption	Knowledge gained on specific standards per flower type, grading requirements, colors and other characteristics associated with peak consumption dates	KFC The Hub	Preferably in-person, hands-on workshops or seminars, with information then posted on website. Alternatively, a webinar works
	Create branding/image or special name for Kenyan flowers	Market niche created for Kenyan flowers, not in direct competition with products currently imported by U.S. (i.e., from Colombia and Ecuador)	KFC Advertising/ media company	This effort is worthwhile as long as Kenyan exporters decide to sell consumer-ready bouquets in the U.S. market. If flowers are sent to wholesale markets and thus re-packaged or reassembled, this effort will lose impact

Address, plant health issues and how they can impact U.S. market access	Develop pest risk analysis for main flowers exported by Kenya Liaise with local USDA/APHIS office	USDA/APHIS provided with information on the incidence of pests and diseases affecting Kenyan flowers to generate trust and help establish the risk of introduction of pests to the U.S. Clearance of Kenyan flowers facilitated by APHIS upon entrance to the U.S. Help reduce interceptions	KFC KEPHIS APHIS	
	Provide information and/or conduct training sessions on phytosanitary issues when exporting to U.S. Follow-up with APHIS on occurring interceptions	Exporters gain knowledge on main problems and acquire tools to prevent or solve such problems before flowers are shipped	KFC KEPHIS	KFC and KEPHIS can request that APHIS /CPB officials share information on interceptions, which can be the basis for work with flower exporters aimed at reducing such interceptions through prevention and control before shipping
Assess freight capacity/cost, identify port of entry	Discuss with freight forwarders and airlines Give careful consideration to port of entry with Kenya Airways Discuss options with Ethiopian Airlines if possible Identify partners in U.S. (Kenyan or with ties to Kenya)	Expected cost, capacity and frequency of freight addressed, at least initially. This will clarify volumes of flowers that Kenya can initially supply and help with integrated export cost assessment vs. expected prices	KFC Kenyan Airways Ethiopian Airways Freight/cargo companies	Although a “non-traditional” port of entry may have advantages, it is essential that key logistics services are in place (APHIS inspection, ground transportation, cold rooms, cargo facilities) and that importers/clients are happy to move flowers from that point. Miami is a highly competitive scenario, but has all the facilities at hand
Expand/promote presence of Kenyan flowers	Attend/exhibit in tradeshow	Information disseminated on Kenyan flower industry. Showcase Kenyan flowers. Establish contacts with prospective buyers	KFC The Hub	IFE and either PMA or WWF&FSA. Detailed pre-show preparation is strongly encouraged
	Analyze benefits of membership in U.S. associations	Presence of Kenyan flower companies in U.S. market increased, potential sales and contacts established	KFC The Hub	Suggested: SAF, WWFSA, AFIF. This may need to be done in a stepwise manner
	Improve/enhance promotional materials	Enhanced web/internet presence. Develop top-quality catalogs and brochures. Conduct promotional efforts with magazines and media	KFC	Take advantage of benefits deriving from the internet presence (improved websites, both at the KFC and individual company levels). Contact editors, journalists, bloggers than can further promote the Kenyan flower industry
Explore and promote government incentives for flower exporters	Analyze possible incentives to boost exports to U.S., including facilitating the sourcing flowers from	Boosting and firming up Kenyan flower exports to U.S. Promoting image and importance of	KFC Ministry of Trade	Many incentives are in place around the world (and in Kenya) to promote exports. These can be further

	other countries and establishing a “flower trade hub”	Kenyan floriculture internationally. Securing long-term sustainability and taking full advantage of AGOA benefits Strategic alliances and joint investments	The Hub	streamlined to benefit the Kenyan flower industry.
Expand export supply	Targeted investment promotion efforts to attract investors from countries that have advanced flower sector and can bring technology, marketing and distribution capacities. Leverage supply with flowers from other African countries that might use Nairobi airport for shipping their products	Joint exports with other countries	Kenyan embassies and specialized consultants	Target potential flower sector investors from Colombia, Netherlands, Ecuador and others. Leverage IFTEX June 2018 not only to promote trade, but investments too