International Market Trends – Tropical Flowers

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Abstract
“Tropical flowers” is a general term used to designate a group of species native to tropical and subtropical areas of the world and which are different from traditional floral products such as roses, chrysanthemums and carnations. Basically, this category of ornamentals includes birds-of-paradise (*Strelitzia* sp), gingers (*Alpinia* sp), heliconias (*Heliconia* sp), anthuriums (*Anthurium* sp) and sometimes orchids (several genera and species). Tropical flowers are perceived by many flower consumers as exotic and unusual, and should have an excellent market potential, particularly in temperate countries. However, their introduction and spread have not been as fast or simple as expected. Some problems encountered in their production and commercialization include: size and weight, which make them more expensive to ship and more difficult to arrange by the end consumer; storage temperature requirements that differ from traditional products entailing specific shipping and post-harvest handling procedures; and challenges encountered by growers mostly involving propagation, flowering control and ensuring adequate vase life, among others. This paper presents a general overview of the tropical flower market today, the most important growers/exporters around the world with special emphasis in Latin America, the main consumers/importers, as well as present and potential uses, and future perspectives and challenges.

INTRODUCTION
The term “tropical flowers” is most often used to make reference to floral products native to tropical regions of the world and which in the past decade or so have become increasingly popular among consumers in many countries around the world. These generally include several genera and species of *Anthurium, Alpinia* (ginger), *Heliconia, Strelitzia* (birds-of-paradise) and orchids, on which this paper specifically focuses. However, members of the Musaceae, Bromeliaceae and Proteaceae families also belong in this category.

Statistics in relation to international trade of these flowers are now available from several sources; often however, different flower types are grouped together as “tropicals” or at best, several genera comprise one category, e.g. “orchids”.

This paper attempts to assess the general market for these flowers as well as to analyze its present trends, the potential for further penetration, constraints to commercialization and some possible strategies to overcome them.

THE WORLD MARKET FOR TROPICAL FLOWERS
Within a worldwide context, the market for tropical flowers is small, representing approximately 4% of all cut flowers traded (Laws, 1998). Of all cut flowers imported into the United States – one of the world’s largest markets – only about 1% are tropicals (Laws, 1998; Echeverri et al., 1997). In the European Union this proportion is higher – around 5% (COLEACP, 2003) – but the fact that Hawaii is an important domestic supplier to the US must be taken into consideration when making this comparison.

Nevertheless, many marketing experts consider that tropical flowers have a potential for growth: consumers from temperate countries often regard these products as “different” and “exotic” and with proper promotion and consumer education there may well be opportunities for increasing their consumption. Research and development and
work within all steps of the production and consumption chains are however needed, as explained below.

The Main Producers/ Exporters

Tropical flowers are produced in greenhouses or in the open in tropical and subtropical countries, but there is also significant production in temperate countries under glasshouses with controlled environments.

Presently, the main producer of tropical flowers as a whole is Holland, where in addition much of the production research and breeding has traditionally been carried out. However, locations with more suitable climates where production can be more cost effective and for which shipping flowers by air is feasible are rapidly emerging as important suppliers. Large producers, most of which are also exporters include Holland, Costa Rica, Ecuador, Mauritius, the USA (Hawaii), Ivory Coast and Cameroon (ACOFLOR, 2003; EXPOFLORES, 2003; Laws, 1998; COLEACP, 2003). In a smaller scale, Jamaica, Colombia, Mexico, the Dominican Republic, Malaysia, Singapore, New Zealand and Australia also supply the world market with these flowers (ASOCOFLORES, 2003; COLEACP, 2003; Laws, 1998).

The Main Importers

The largest importers of tropical flowers in the world are European countries – particularly Germany and Italy – Japan, and the United States (Laws, 1998; COLEACP, 2003.)

More recently, as a result of increasing travel and tourism a small but nevertheless interesting market niche is developing in tropical islands and other similar locations, for example the Caribbean, where luxury hotels, resorts, restaurants and others are bringing visitors that expect and enjoy tropical products.

Records of imports of tropical flowers to the European Union are kept by COLEACP, the Liaison Committee for Europe – Africa – Caribbean – Pacific Country, an inter-professional association of exporters, importers and other stakeholders of horticultural trade, as can be seen in the graphs appearing below. Total imports did not vary significantly in the period of 1997 to 2000 and amounted on nearly 30 million Euros per year. Orchids make the largest proportion of the category (Fig. 1), followed by anthuriums. In the same period, tropical flower imports to the EU made up about 5% of total imports of fresh cut flowers to the region (Fig. 2).

This same trend is apparent in the US market, where orchids and anthuriums make up 90% of tropical flower imports into the country (Echeverri, et al., 1997; USDA/ Floriculture Crops, 2003).

TROPICAL FLORAL PRODUCTS

A brief analysis of the markets for main flower types composing the category of tropical cut flowers follows:

Anthurium

The main markets for exported anthuriums are Europe (particularly Germany and Italy), Japan and the United States (Laws, 1998; COLEACP, 2003; ITC, 2003).

The largest producer and supplier of anthuriums in the world is the Netherlands, with 87 hectares of greenhouses in production reported for 2001; in 2000 the Dutch auctions sold over 50 million anthurium stems worth about 34 million Euro (COLEACP, 2003). The island of Mauritius is the second largest exporter, mainly accessing the Japanese market, but also sending product to Europe and more recently the United States.

Together with orchids, anthuriums make up 90% of all tropical flowers imported into the United States (Echeverri et al., 1997). The share of imported anthuriums sold in the United States has increased steadily in recent times, due to severe attacks of bacterial blight (Xanthomonas) affecting production in Hawaii, which has reduced production from this state by over 60% (Laws, 1998). Thus, the American market supply is presently
complemented mainly with flowers from Caribbean countries but also as mentioned above from Mauritius. The total annual value of anthuriums imported into the United States is slightly over $800,000 dollars (Echeverri et al., 1997; Laws, 1998, see Fig. 4.) At the wholesale level, prices for anthuriums presently range between $0.55 and $0.99 USD per stem, with prices tending to be higher in Europe than in the United States (USDA, 2003; ITC, 2003).

Orchids

The category “orchids” includes several genera and species of the Orchidiaceae, among which Dendrobium, Cymbidium, Phalaenopsis, Oncidium and Vanda are the most important.

The world export/import trade of orchid cut flowers and plants exceeds $150 million dollars. Of these, about 80% are cut orchids and the remaining 20% is composed of pot plants (Laws, 1998.) Orchids alone account for 3% of total fresh cut flower imports to the European Union, with a wholesale value of 21 million Euro (Fig. 2, COLEACP, 2003). Since Japan is the world’s largest importer of cut orchids, Asia dominates the world trade. The main producers/ suppliers are Thailand, Singapore and Malaysia; Holland however reported 240 Ha of Cymbidium in 2001 and Italy, France and New Zealand hold productive sectors valued at over one half a million US dollars (Laws, 2002; COLEACP, 2003.)

In 2001 the main exporters were (Laws, 2002):
- Thailand with exports valued at US $50 million
- Singapore US$7.7 million
- Malaysia $2.8 million
- New Zealand $830,000
- Italy $652,000

Recently, smaller developments mostly of cut Dendrobium have arisen in Costa Rica, valued at $230,000 in 2002 (ACOFLOR, 2003) Colombia and Panama, among others.

For that same year, the main importers of cut orchids were (Laws, 2002),
- Japan importing 42% of all fresh cut orchids traded around the world, valued at $54 million US
- Italy $24 million
- France $14 million
- Germany $11 million
- USA $6.7 million
- United Kingdom $2.9 million
- Holland $1.9 million

Ginger

The category of “gingers” is for the largest part composed of Alpinia purpurata red and pink, although other genera are slowly gaining participation.

The largest supplier of gingers for the US market is Costa Rica, with a 70% share of imports (USDA; Laws, 1998; Echeverri et al., 1997). Costa Rica’s ginger exports were valued at $1.6 million in 2002 (ACOFLOR, 2003). Imports to the US complement domestic supply from Hawaii, which amounted to 2 million stems in 2002 (USDA, 2003). Jamaica, Mexico and more recently Ecuador are also important suppliers (Laws, 1998; EXPOFLORES, 2003.)

The main suppliers for the European Union are Ivory Coast, with Costa Rica recently gaining share (Laws, 1998; COLEACP, 2003). Reported average prices for large in Europe average $1.47 per stem (ITC, 2003).
Heliconias

Many species of Heliconia are of commercial interest, such as H. psittacorum, H. hirsuta, H. rostrata, H. caribea, H. lathispata and others (Atehortúa and Pizano, 1999). The wide variety of inflorescences, the good array of colors and good vase life make these flowers quite attractive to many consumers. However, the weight and size of these flowers can make their marketing difficult and expensive.

Costa Rica has been steadily gaining share in US imports of these flowers as well as in European Union imports; total export value reached $571,000 in 2002 (AFOCLOR, 2003). More recently Ecuador is increasing supply, with very good quality and a wide variety of cultivars (ACOFLOR, 2003; EXPOFLORES, 2003.)

Ivory Coast, Sri Lanka and Cameroon are the main suppliers for the European Union. Prices for the larger heliconias can be high – over $4 per stem – but global consumption is not high.

Birds-of-Paradise

Strelitzia reginae or bird-of-paradise enjoys good popularity as a cut flower in many countries. They can be grown outside in higher, cooler areas in the tropics (Atehortúa and Pizano, 1998). Costa Rica is an increasingly important supplier to the United States and Europe; exports of this flower from Costa Rica amounted to $450,000 in 2002 (ACOFLOR, 2003). Mexico has entered the market supplying mainly the US with very good quality (Laws, 1998). The Canary Islands are an important supplier for Europe (COLEACP, 2003). In the US, California is now the largest producer, followed by Hawaii (USDA, 2003; Laws, 1998). Jamaica, Guatemala and other Caribbean countries export small quantities.

PROBLEMS ASSOCIATED WITH THE MARKETING OF TROPICAL FLOWERS AND STRATEGIES TO HELP OVERCOME THEM

Tropical flowers are perceived by many flower consumers as exotic and unusual, and should have an excellent market potential, particularly in temperate countries. However, their introduction and spread have not been as fast or simple as expected. Following are some points that may help explain the reasons for this, and some possible strategies to overcome them.

Problems Associated with Production

At the production or grower level, different problems are encountered, which are encouraging research in many countries and are well worth the effort. Scheduling flowering times to match market demands is one of such problems. Certain flower types and even certain cultivars are in higher demand during specific times of the year, but it is often very difficult to induce flowering accordingly (Ospina, pers. comm. 2003; Olivares, per. Comm. 2003).

Uniformity of production and quality are also not easy to obtain. Environmental conditions definitely influence yield and flower characteristics, but the specific factors involved are not always clearly understood. Plant breeding efforts to produce more uniform, stable varieties might certainly be beneficial in this respect. Access to good quality, clean plant material and propagation may also limit expansion of areas grow with these crops (Atehortúa and Pizano, 1998, 1999).

Post-Harvest Handling and Care

Although tropical flowers generally offer a good vase life to the end consumer, post-harvest handling of these products may pose real challenges. Because of their native origin, tropicaels CANNOT be stored together with other flowers (i.e. roses, carnations) at the usual low temperatures of 0 to 2 °C, which quickly cause damage due to burning and tissue oxidation. Thus, tropical flowers need to be stored and shipped at 10 – 13 °C (Nell and Reid, 2002; Atehortúa and Pizano, 1998, 1999).
This often causes real logistic problems in the distribution chain, since shippers, wholesalers and others in the business are not prepared to provide special conditions for these products. Further, because their volumes are usually comparatively small, it is expensive for them to provide such conditions. Some solutions to the above may be found in consolidating shipments with other growers; finding shippers and/ or distributors specializing in tropical products; and working together with marketers to integrate production and selling better.

**Air Freight Costs**

The cost of airfreight is one of the key factors that may limit a flower export business. Costs vary from one country to the other and are not necessarily dependent on distance, as can be seen below, in Figure 5. For example, airfreight cost per kilo to Miami is significantly higher from Ecuador than it is from Colombia, even though the distance is not much larger. This is mainly due to existing air traffic between the two points and volumes shipped, but also to local regulations and fuel costs. Volume is clearly the main cause for freight being rather expensive from Mexico, given this country’s privileged geographical position with respect for example to the United States.

Larger tropical flowers such as heliconias, gingers and bird-of-paradise are heavy and a few stems quickly fill up a box. Thus, airfreight becomes an important consideration when evaluating profitability of the business.

**Consumer Education**

Although most people find tropical flowers attractive, many express certain reservations when it comes to buying them and arranging them in their home or office. Their large size, foreign appearance and weight, many times deter customers from buying them.

Some progressive growers are overcoming these problems by offering tropical flowers in more attractive, user-friendly presentations. Notably, they are following the strong trend for selling cut flowers in ready-made bouquets, and are offering bunches composed of tropical foliage and smaller heliconias, gingers, athuriums and others in supermarkets, retail florist shops and even street stands. Including some information about the name, origin and care of these flowers with these bouquets is also a good way of making consumers better acquainted with these “novel” products.

Participation in trade associations and trade shows, workshops, field days and others are also efficient ways or getting producers and consumers together, spreading information and learning about specific needs of the industry. Finally, all efforts to familiarize the consumer with these products are justified: growers can donate striking, pretty displays of tropical flowers to many events; they can make arrangements for hotels, resorts, clubs, offices, even hospitals to include these flowers in their decorations; an many others.

**Market Information**

Growers also need important market information that is not sufficiently available: amounts of flowers of a certain type or color that will be needed at a certain time; potential new markets and uses; expected and historical prices; amount and origin of exports (who is producing what and where!), are all pieces of information that if available, are immensely valuable. Fortunately, information on tropical flowers is being increasingly recorded and becoming available for those interested.

**CONCLUSIONS**

Commercial production of tropical flowers seems to have potential for growth and development. In fact, during the last decade the array of products contained in this category has increased, and unusual, different products seem to be in demand. Although tropical flowers will not easily replace massive consumption, popular items such as roses, it is clear that they can add an attractive note to the product offer, aimed at an audience
that is very receptive to changing and varied items. As desirable characteristics are incorporated into these flowers through research – proper stem length, flower size and color, durability, shipping ability and others – and these are made available to growers, it will take integrated efforts between producers and marketers to make expansion of the tropical flower sector a reality.

**Literature Cited**


**Figures**

Figures in 1000’s Euro  
Source: COLEACP/ EUROSTATS

Fig. 1. Imports of tropical flowers to the European Union 1997-2000.

Fig. 2. Share of tropical flowers in total cut flower. Imports on the EU 1997-2000.
Fig. 3. Anthurium imports to the United States.

Fig. 4. Volume and value of anthurium imports to the US. 1994-1997.

Fig. 5. Airfreight cost per kilo for cut flowers.