

Guidelines for exporters of cut flowers to the UK market



Prepared by the Commonwealth Secretariat's
Export Market Development Division and funded by the
Commonwealth Fund for Technical Co-operation



Commonwealth Secretariat

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This is one of a series of publications providing practical
guidelines on exporting for the benefit of
Commonwealth producers



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Introduction

The market for cut flowers in the UK has grown quite markedly in recent years. Considerable potential exists for Commonwealth developing countries to supply this expanding market and it is the aim of these guidelines to provide, in an 'easy to read' format, straightforward answers to exactly how, when, where and what to send. The booklet is directed at existing Commonwealth developing country flower producers/exporters and, more particularly, at the large number of potential new entrants to the market.

Separate profiles are included for a range of cut flowers, with most emphasis being placed on the more popular varieties which are grown, or have the potential to be grown, in Commonwealth developing countries. Some flowers of lesser importance are included in 'group' profiles.

Flower profiles are included under three main headings, according to method of cultivation.

Perennials:

Roses, Carnations, Gerbera, Anthurium and tropical exotics.

Annuals:

Chrysanthemum, Gypsophyla and summer flowers.

Bulbs:

Gladiolus, Iris, Lily, Orchids and tropical exotics.

Each profile includes the following information:

- What the market wants - varieties, colours, sizes, etc;
- How to get to market - including harvesting, grading, storage, transport and distribution requirements, import legislation and customs tariffs;
- When to sell - i.e. peak periods of import demand.

Subsequent chapters cover general aspects of production and post-harvest technology; marketing channels in the UK; prices/costs involved, including investment costs, transport and selling costs and indicative wholesale prices.

Success on the UK market cannot be won easily - investment costs are high; production and post-harvest handling of flowers can be technically difficult; UK quality standards are exacting and competition from both domestic and overseas suppliers is intense during certain times of the year. However, for developing country growers/exporters capable of achieving the required high standards, together with competitive prices, the UK cut flower market offers significant opportunities.

Market Size and Competition

The UK market for imported cut flowers has expanded rapidly in recent years, reaching nearly 50,000 tons in 1989. Consumer demand tends to be conservative, however, concentrating on the 'traditional' varieties such as carnations, roses and chrysanthemums. There are also some other flower types, such as iris and lily, which are imported in moderately large quantities but, in comparison with many other European countries, demand for more unusual flowers, such as the exotic types, is very small.

The Netherlands is by far the largest exporter of cut flowers to the UK, supplying both domestically grown produce and re-exported flowers from around the world. Over 60% of total flower imports were received from the Netherlands in 1988.

Non-European suppliers, such as Israel and Colombia, have a fairly strong presence in the market during the winter season. With the exception of Kenya, which supplies mainly carnations, and Singapore, which sends small quantities of orchids, Commonwealth developing country suppliers of cut flowers are insignificant on the UK market. However, some signs of progress are apparent; for example, several large UK importers have recently brought in flowers, on a trial basis, from Zambia (gladioli) and Zimbabwe.

Timing of Supply

The main potential season of supply for Commonwealth developing countries is the period November - May. (75% of all imports are received during these months). Competition during this period of the year is significantly reduced - domestic and European production being limited to only a few types, notably chrysanthemums and roses, and climatic conditions giving rise to high production costs in Northern latitudes. In addition, the demand for most types of cut flowers peaks during several special festive/ceremonial occasions, all of which fall in this November - May period. These are:-

- Christmas Day (December 25)
- New Year (January 1)
- Valentine's Day (February 14)
- Mothers Day (not fixed, but March or April)
- Easter (not fixed, but March or April)
- Weddings (these occur all year, but the most popular period is Easter/ Spring).

Quality and Reliability

The UK market demands extremely high standards of quality and reliability of supply. Commonwealth developing countries must be able to match the exemplary standards set by established suppliers, in particular the Netherlands. For all flower varieties, quality of blooms, stems and leaves must be excellent, as must standards of grading and packaging. Shelf-life must be maximised as far as possible. Flowers which are not of top quality are heavily discounted. In addition, exporters must be able to ensure that all consignments are of a consistently high quality and are supplied on a regular and reliable basis. These requirements are becoming ever more important with the increasing significance of the supermarket/multiple sector in the UK retail flower market.

Perennials - Roses



What the Market Wants

Cultivars Specially bred 'greenhouse roses' of Rosa X hybrid are required by the market. These can be divided into four groups:-

- Large flowered Hybrid tea, of which 'Athena', 'White Success' (white); 'Jaguar', 'Ilona', 'Carambole', 'Baccara', 'Madelon' (red); 'Pink Sensation', 'Sonia' (pink); and 'Cocktail' (yellow) are popular.
- Medium flowered Hybrid tea, of which 'Gabiella', 'Cardinal', 'Mercedes' (red); 'White Success', 'Jack Frost' (white); and 'Belinda' (yellow) are popular.
- Small flowered floribunda. This is the least popular group, from which most demand is for 'Garnette', 'Carona' (red); 'Montrea' (pink); and 'Sabrina' (orange).
- Spray roses. A new development with a limited but growing market, of which 'Vanessa' (red); 'Joy' (pink); and 'White dream' (white) are popular.

Colours Dark reds are the most popular, followed by pink - particularly 'Sonia'. White and yellow are less popular and other colours least popular.

Mix All colours are required and an acceptable mix would be:-

Red	50%
Pink	30%
Yellow	10%
Others	10%

Perennials - Roses

Stem The length and condition of the stem is as important as the flower. Stem length varies according to type and in general long, straight, thick stems with perfect leaves are preferred.

- Large flowered Hybrid tea - 60 to 80 cm preferred; 50 to 60 cm acceptable.
- Medium flowered Hybrid tea - 50 to 70 cm preferred; 40 to 50 cm acceptable.
- Small flowered floribunda - 40 to 50 cm preferred; 35 to 40 cm acceptable.

How to get to Market

Harvesting

The correct stage of bloom development is critical. Too immature and the condition “bent neck” will occur, reducing the value considerably; too developed and the bloom will be unsaleable. The ideal stage is with the calyx reflexing without the petals opening. To avoid wilting due to water loss, stems should be cut early in the morning.

Pre-Conditioning

Stems should be placed in water at 45°C for 15 minutes and stood in a solution of 200 p.p.m. citric acid and 1.5% sugar.

Cold Storage

After treatment, the cut flowers should be pre-cooled as quickly as possible to 2°C and held in store at 2-4°C in the treated solution.

Packing

After hardening in store, the leaves and thorns from the lower half of the stem are removed, the stems graded to length and bunched into 10s, secured by elastic bands. Ideally, the heads should be protected by wrapping in a soft corrugated or tissue paper or a plastic sleeve. Curved, distorted and weak stems should be discarded along with those showing blemished leaves or flowers.

Bunches should be placed in a strong corrugated telescopic carton with lid and ventilation holes. The IATA approved Dutch 'A' size carton, 120 x 46 x 25 cm, holds 600 blooms (60 x 10s) of 60 to 80 cm length and is charged by airlines on a weight/volume basis at 23kg. (See pages 50-51.)

Perennials - Roses

Distribution

Roses decompose very rapidly when packed tight if the temperature is allowed to rise. Refrigerated transport to the airport is advised and facilities should include cool storage at the airport.

Rapid clearance by specialists is needed at the receiving airport and refrigerated transport is essential to take to the markets to prevent heating in summer and freezing in winter.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 11 0 10/20):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 - May 31 (Tariff Heading 060310 51 0 11/12/31/32/41/42):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

Fairly small quantities of UK grown roses are available all year round, with supplies augmented by imports, mainly from Israel and the Netherlands. However, European production declines rapidly during the winter months. Demand for roses peaks during the festive periods and special occasions listed on page 4.

Perennials - Carnations



What the Market Wants

Cultivars Perpetual flowering types of the species *Dianthus carophyllus* are grown as cut flowers, either as single flower disbudded 'standards' or as non-disbudded 'sprays'.

A new development is the market for 'micro carnations', of which 'Gypsy' is a leading type.

With standards, the established 'Sim' types predominate, popular cultivars being 'Red', 'Salmon', 'Pink' and 'White Sim'.

Newer Mediterranean types such as the pink 'Nora Barlo', 'Sharinah', 'Lena', 'Castellaro', the red 'Scania', 'Tanga' and white 'Roma', with novelties such as 'Pallas' (yellow) and 'Charmeur' (lilac), are gaining popularity.

Popular cultivars of spray carnation include:-

- Pinks, e.g. 'Silvery Pink', 'Karina' and 'Barbara'.
- Red, e.g. 'Red Barron', 'Elsy'.
- White, e.g. 'Royalette', 'Bagatelle', 'Bianca'.
- Yellow, e.g. 'Adelfie'.

Colours Pink, white, red, yellow and salmon are the main colours, with novelties such as striped or frosted (white edged petals) becoming increasingly popular.

Perennials - Carnations

Mix **Standards:** Pinks are the most popular, closely followed by red and white. A typical mixed box of 28 bunches would contain:

- 9 pink
- 7 red
- 6 white
- 6 mixed colours and novelties.

Spray: Pinks predominate with about 50%, with the remainder as follows:

- white 25%
- red 20%
- others 5%

Stem The length and condition of the stem is as important as the flower. Leaves should be bold, bright and curled, with natural 'bloom'. Shiny leaves indicate age and tiredness.

Grading **Standards:** Three grades are accepted, determined by length and strength of stem and flower size:

- 'Select' - long 80 cm stems. 600/standard 'A' box.
- 'Fancy' - medium 70 cm stems. 700/box.
- 'Standard' - 60 cm stems. 800/box.

The market requires about 60% 'Fancy', 30% 'Select' and 10% 'Standard'.

Sprays: Two classes generally apply, with the exporter encouraged to send only Class 1, which must have a minimum of three ripe buds. The flowers should be sorted into grades of 3-5 and 5-7 sound, ripe and perfect buds per stem.

How to get to Market

Harvesting

Markets now require a very 'tight' bud, with outer petals just past the verticle. The bloom has therefore to be harvested when the bud has opened and emerging petals are extended but not open.

Perennials - Carnations

Sprays should have at least three buds showing colour with extending petals.

They should be cut early and immediately placed in a cool room and stood in water.

Pre-Conditioning

Carnations are very sensitive to ethylene and all stems should be stood in an overnight solution of silver thiosulphate (STS) which acts as an inhibitor and preservative. A premium price is paid for flowers declared so treated.

Cold Storage

Pre-cool after cutting to 2-3°C.

Packing

Standards: Should be bunched into 25 stems/bunch with 24, 28 or 32 bunches per box according to grade.

Spray: Should be bunched into 5 stems/bunch and placed in a polyethylene/plastic sleeve, 100 sleeves per box.

Bunches should be packed in a strong telescopic corrugated board carton with lid. The Dutch 'A' size carton, 120 x 46 x 25 cm, will hold between 600 and 800 standard and 500 sprays. (See pages 50-51.)

Distribution

Great care is needed with carnations to ensure that they do not become contaminated with ethylene, a natural product evolved by fruits, vegetables and flowers - the smallest quantities inhibiting flower development.

Carnations should not be mixed with any fruit or vegetable in store or during the transport chain.

They are also very sensitive to heat; the dense packing is prone to rapid internal decomposition if the box temperature exceeds 15°C. They should be kept under refrigeration at all times, including during transportation, and cleared rapidly at airports.

Perennials - Carnations

Import Legislation (see Appendix 1)

- A phytosanitary certificate is required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 13 0 10/20):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 53 0 11/12/31/32/41/42):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

UK year-round production is declining, with supplies dominated by high quality imports from Colombia and the Netherlands. Increasing supplies are now coming from Spain, Italy and Turkey.

Unlike most flowers, such as roses and chrysanthemums, carnations are not widely produced in private gardens in the UK in summer. There is thus a year-round demand for imports, although competition from other flowers in summer, at a time of peak European production, is very keen.

Demand increases during festive and special occasions (see page 4). Carnations are particularly popular for weddings and peak demand coincides with the popular wedding season in spring and early summer.

Perennials - Anthurium



What the Market Wants

Cultivars Cut flowers, occasionally with some leaves, of the species *Anthurium andraeanum*. Intensive breeding in the Netherlands has created a wide range of large flowering cultivars, which are now considered as standard trade types, such as the 'Avo' lines i.e. 'Avo Nette', 'Avo Ingrid', 'Avo Anneke' and improved standard types, such as 'Germa', 'Cuba', 'Fuego' and 'Favoriet'.

Colours Predominantly shades of orange and red. Whites and pink are less popular.

Mix	Orange	40%
	Red	20%
	Pink	20%
	White/pearl	20%

Stem Strength and straightness is important. Length is dependent on size of spathe.

How to get to Market

Harvesting

The flowers are cut when a minimum of half the 'spadex' is white and the stem immediately below the bract is hard.

Pre-Conditioning

Stems should be placed immediately in water after cutting.

Perennials - Anthurium

Cold Storage

Anthurium are sensitive to low temperature. Storage temperature should be no lower than 15°C.

Grading

By size of 'spathe' with 'spike' free from pollen. Each flower must be uniform with well developed shiny and waxy bracts. Spathe sizes are:-

- 8 - 9 cm, with minimum stem length 30 cm
- 9 - 11 cm, with minimum stem length 35 cm
- 11 - 13 cm, with minimum stem length 40 cm
- 13 - 15 cm, with minimum stem length 45 cm
- Over 50 cm

Packing

Anthurium flowers are very easily damaged and such flowers are unsaleable. To maintain freshness, a water phial needs to be placed on each stem and this should contain sufficient water to last about a week. The stalks should each be taped to the box just below the bract to prevent movement and no flower should touch another, or the sides of the box. Foam rubber cushions should be used to protect the spike from touching the bract.

Non-returnable corrugated telescopic cardboard boxes should be used. Usual sizes are 100 x 20 x 10 cm, 100 x 40 x 12 cm or 110 x 40 x 14.5 cm. Plastic sheeting can be used to separate layers and shredded paper to give added protection. (See pages 50-51.)

Distribution

Careful handling is essential to avoid the main common post-harvest problems:

- 'Blueing' due to incorrect temperature and humidity.
- 'Blackening' due to bruising and rough handling.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.

Perennials - Anthurium

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 10):

Full tariff	20%
GSP countries	15%
ACP countries	Free
LDDC countries	Free

November 1 to end February (Tariff Heading 060310 69 0 11/13/14):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

March 1 to May 31 (Tariff Heading 060310 69 0 14):

Full tariff	15%
GSP countries	15%
ACP countries	Free
LDDC countries	Free

When to Sell

There is a small specialised market all year round. Reds are popular for Valentine's Day; whites at Easter.

Perennials - Gerbera



What the Market Wants

Cultivars Modern breeding methods and tissue culture have resulted in a wide range of long lasting cultivars, which can broadly be divided into:-

- singles - such as 'Fleur', 'Apple Blossom'
- doubles - such as 'Marleen', 'Hildegard'
- black centre - such as 'Fabio', 'Rosetta'

New introductions from specialists, such as the 'Terra' selections, are continuously appearing on the market and are generally vastly superior to the mixed seedling types.

Colours Pinks, salmons and orange are by far the most popular, closely followed by red and yellow.

Mix Singles - 60%; doubles - 30%;
black centre - 10%

Colour preferences are:-

- pinks 40%
- salmon 20%
- orange 20%
- red 15%
- yellow 5%

(yellow is considered to be increasing in importance).

Stem A minimum size of 40 cm. All stems should be firm and very straight. Plastic wrapping to firm and straighten the stem is used but not recommended for export markets, as a premium is paid for natural stems.

Perennials - Gerbera

Grading Flowers must be uniform in size with an acceptable deviation in size of bloom of not more than 10%. A minimum of two stamens need to be developed, as fully opened flowers are only acceptable at point of sale. Flower size should be:-

- 7 to 8 cm
- 8 to 9 cm
- 9 to 10 cm
- 10 to 11 cm
- Over 12 cm.

How to get to Market

Harvesting

Fully opened flowers should be pulled and placed immediately in deep water. Stems twist and distort readily and special carriers have been developed to hold stems by the bloom, allowing the stems to stand freely in water.

Pre-Conditioning

All flowers must be pre-watered before packing and stood in a nutrient solution containing a biocide such as chlorine to prevent bacterial decay of the base of the stem. Dirty water must be avoided at all costs.

Cold Storage

Pre-cooling and holding at between 2-5°C will give the longest shelf life.

Packing

Gerbera are usually packed in special "gerbera" boxes with the bloom mounted on hanging cards containing about 15 blooms. More recently, pre-formed plastic cups have been developed to support the individual blooms. In either case a support is necessary to prevent the stems from moving. Telescopic cardboard boxes, 100 x 30 x 10 cm, hold 50 stems. (See pages 50-51.)

Distribution The condition of the stalks and bruising of the flowers is affected by careless handling and botrytis can develop in both the stem and flower if humidity and temperature fluctuates.

Perennials - Gerbera

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 90):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

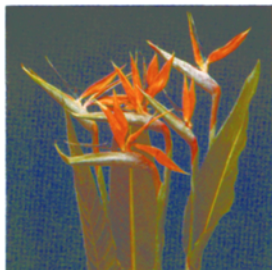
November 1 to May 31 (Tariff Heading 060310 69 0 91/93/94):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

Gerbera are available all year round, with supplies for most of the year originating mainly from the Netherlands. There appears to be a shortfall in supply during winter months. Demand peaks during holidays and special occasions.

Perennials - Tropical Exotics



Strelitzia



Heliconia

What the Market Wants

Varieties Limited supplies of well selected varieties of Strelitzia and Heliconia, in most cases complete with some leaves.

Grading Long stems of over 90 cm with uniform well developed bright flowers along with blemish-free bright leaves.

How to get to Market

Harvesting

Flowers and bracts should be developed but slightly immature. Well developed colour is important. Stems should be cut in the early morning and stood in water in a shady position, prior to packing. Being tropical plants, they are sensitive to low temperature damage and should never be cooled to below 15°C.

Packing

These flowers are very costly to airfreight and must be handled with the greatest of care. The standard Dutch 'A' telescopic cardboard carton will hold just 45 stems, packed in three layers of 15 stems. (See pages 50-51.)

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.

Perennials - Tropical Exotics

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 20):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 69 0 21/23/24):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

These are 'novelty' flowers, required all year round, but in very small quantities.

Annuals - Chrysanthemum



What the Market Wants

Cultivars Bloom of the group Chrysanthemum morifolium, which are grown as a solitary flower by disbudding the stems (called 'standards') - or by removing the terminal bud and allowing the side shoots to develop (known as 'sprays').

Both types are further divided into:

- 'Singles' - a daisy like flower with yellow disc florets surrounded by a few rows of coloured ray florets.
- 'Anemone' - with tubular disc florets.
- 'Spider' and 'feather' - with long thin petals.
- 'Decorative' - incurved or reflexed petals with no centre disc.
- 'Pompom' - small spray decorative flowers.
- 'Spoon' - spoonshaped petals.

There are many hundreds of cultivars classified by their response to day length and temperature.

Colours **Spray.** Whites are the most popular, followed by yellow.

Standard. Yellow and white are equally popular.

Mix

Spray:	White	45%
	Yellow	25%
	Pink	15%
	Red	10%
	Bronze	5%

of which mix of cultivar types should be:-

Decoratives	80%
Singles	10%
Spiders	5%
Anemone	5%

Annuals - Chrysanthemum

Standard:	Yellow	40%
	White	40%
	Red/bronze	20%

Stem The length and condition of the stem is as important as the flower and should not be less than 66 cm.

Grading Consistent and good grading is essential. There are three grades for spray:

- First or 'Gold' - each stem having 6 or more flowers in bloom, plus buds.
- Second or 'Silver' - 4-5 flowers in bloom, plus buds.
- Third or 'Bronze' - 3 flowers in bloom, plus buds.

Standards are graded by size of bloom as 24, 30 and 36 per box.

How to get to Market

Harvesting

Flowers should be mature and well developed, with the outer petals expanded and inner petals enlarging, cut in the early morning and immediately placed in buckets of water.

Pre-Conditioning

The base of the stems should be placed in boiling water for 30 seconds and then transferred to deep water buckets, containing 1,000 ppm household bleach.

Cold Storage

After treatment the bloom should be rapidly cooled to 2-3°C in deep water.

Packing

5 stems should be placed in a polyethylene sleeve and packed as bunches. Weak, bent stems, along with those showing poor leaf development and colour, should be discarded. A strong telescopic corrugated board carton with lid and ventilation holes should be used. 'A' size, 120 x 46 x 25 cm, will hold 200 Class 1 spray blooms and 120 standard blooms and weigh 23 kg on an IATA agreed weight/volume basis. (See pages 50-51.)

Annuals - Chrysanthemum

Distribution

As chrysanthemum have a bulky leaf area, they are prone to rapid decomposition if the temperature is allowed to rise. They should, therefore, be transported in refrigerated trucks and kept under refrigeration at the airport. Rapid clearance at the receiving airport is essential, along with distribution in refrigerated vehicles to the markets to prevent heating in summer and freezing in the winter.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 25 0 00):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 65 0 10/30/40):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

Chrysanthemum are grown extensively under controlled conditions all year round in the UK and Europe, particularly the Netherlands. Natural season flowers are also produced locally during the summer and autumn and through to Christmas. Demand peaks during the special occasions listed on page 4.

The period of potential for supply from Commonwealth developing countries therefore is from Christmas to Easter, when a fairly high level of demand coincides with the availability of lower quantities of locally produced blooms.

Annuals - Gypsophila



What the Market wants

Cultivars The Gypsophyla paniculate, particularly 'Bristol Fairy'. A free flowering clone is necessary and double flowering strains are becoming popular.

Colours Typically white.

Stem As the crop is marketed in bunches, a well branched and profuse flowering stem is essential.

How to get to Market

Pre-Conditioning

Gypsophila is very sensitive to ethylene and silver thiosulphate (STS) treatment is necessary for long shelf life.

Cold Storage

Pre-cooling to 2-3°C is essential.

Packing

Stems are bunched into 5s or 10s and occasionally 20s, rarely sleeved and placed directly into the market box. A cardboard telescopic box holding 30 bunches, measuring 120 x 46 x 25 cm, is ideal. (See pages 50-51.)

Distribution

Dropping flowers and desiccation can result from variable temperatures and ethylene damage can occur if mixed with high ethylene producing crops, such as ripening fruit.

Annuals - Gypsophila

Import Legislation (see Appendix 1)

- A phytosanitary certificate is required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 90):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 69 0 91/93/94):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

North European grown gypsophila is available during the spring-autumn period, and competition is consequently keen at this time. Demand for high quality imports increases in the winter.

Gypsophila is used as a background for bouquets and so has a small, but regular demand. Demand peaks over festivals and holidays (see page 4).

Annuals - Summer Flowers



Antirrhinum

- Includes:**
- Antirrhinum
 - Aster - particularly 'novi belgii'
 - Dianthus barbatus
 - Achillia
 - Campanula
 - Scabiosa
 - Limonium (statice)
 - Delphinium
 - Helechrysum.



Delphinium

What the Market wants

Varieties Limited supplies of a wide range of summer flowers are required for variation and change, particularly out of season.

Grading The length and condition of the stem and the uniformity of the flower is important. Most are bunched into 5s or 10s. Occasionally, some are sleeved. Different varieties should not be mixed.

How to get to Market

Harvesting

Flowers should be well developed and slightly immature. A full flowering head is important with an abundance of florets. Most are very tender and delicate and need to be speedily pre-cooled and shipped.

Packing

A minimum of handling is essential. Bunching into 5s or 10s and sleeving enhances presentation and protects the delicate flowers. The standard Dutch "A" telescopic cardboard box measuring 120 x 46 x 25 cm will hold about 400-600 blooms. (See pages 50-51.) The stems need to be held fast to prevent movement and bruising.

Annuals - Summer Flowers

Import Legislation (see Appendix 1)

- A phytosanitary certificate is needed for imports of limonium from non-EC countries.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 90):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 69 0 91/93/94):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

Many are typical European-grown 'summer' flowers and consequently are in abundance on the market during the summer months. Their appeal lies in being unusual during the winter and spring. There are indications that demand may increase as supermarkets develop the bouquet trade.

Bulbs and Corms - Gladiolus



What the Market Wants

Cultivars Large flower species in all colours are popular, although there is a limited market for the small flowered cultivars. The large flowering types can be divided into three distinct groups:

- True large flowering types, of which there are many varieties. 'Novo lux', 'Peter Pears'; 'White Friendship', 'Teach In' and the popular 'Hunting Song' are important commercial cultivars.
- Butterfly forms such as 'Pussy Cat', 'Antoinette' and 'Melody'.
- Primulus gladioli such as 'Atom', 'Columbine' and 'Cornet'.

Less popular, though increasingly important, are the small flowering species such as *Gladioli colvillii* 'Albus' and 'The Bride' and *gladioli nanus* 'Nymph', 'Elvira', 'Prins Claus' and *gladioli tubergenii* 'Charm'.

Colours Orange, reds and yellows are very popular, followed by whites.

Stem Stem length is very important, 60 cm being the minimum. Each stem should be cut with a number of good healthy leaves.

Grading Stems should be graded according to the number of flowers on each stem and there should be little variation within a box.

Bulbs and Corms - Gladiolus

How to get to Market

Harvesting

Cut when lowest flower on stem splits and shows true colour. Cut early morning and place immediately in water.

Pre-Conditioning

Silver thiosulphate (STS) treatment is beneficial for long shelf life.

Cold Storage

Cool rapidly to 3°C after cutting and stem treatment.

Packing

Graded blooms are bunched into 5s and securely placed in a box, which should hold 16 bunches. Boxes should be stood end on to minimise stem bending. A non-returnable fibreboard telescopic box, 100 x 35 x 25 cm, holds 80 good quality blooms and foliage. (See pages 50-51.)

Distribution

Fluctuating temperature has to be avoided and a cool chain distribution system, maintaining a temperature of 3 to 5°C, is ideal. Lower temperatures and frost must be avoided.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is required.
- Imports are prohibited between the period from May 1 to October 31 from countries outside the EC, in which gladiolus rusts are known to occur.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 21 0 00):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

Bulbs and Corms - Gladiolus

November 1 to May 31 (Tariff Heading 060310 61 0 10/30/40):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

UK production dominates the market in the summer. Demand for imported blooms increases from autumn to spring.

There is particularly strong demand during holiday periods and on Valentine's Day (February 14).



What the Market Wants

Cultivars Cut flowers from the hybrid bulbous Iris x hollandica; Iris latifolia and Spanish iris; Iris xiphium. Relatively little demand for flowers of the English iris.

Blue cultivars, such as 'Ideal', 'Prof Blaauw', 'Sensation', are by far the most popular. However, there is also demand for:

- Whites - 'Wedgewood', 'Apollo'
- Purples - 'Blue Magic'
- Yellows - 'Yellow Queen'.

Mix

- Blue (most popular) 70%
- Purple 15%
- White 10%
- Yellow 5%

Stem Ideally, 40 to 50 cm long with no more than 10% variation in length within a box.

Grading The bunches must be uniform in firmness, stem length and flower development, showing at least 2 cm of colour measured from the bract, but not open.

How to get to Market

Harvesting

Flowers should be cut in the early morning. They should be just showing colour. There is no immediate need to pre-water.

Pre-Conditioning

No effective pre-conditioning has yet been developed.

Bulbs and Corms - Iris

Cold Storage

Bloom should be rapidly cooled to 2-3°C and packed immediately.

Packing

Bunches of 10 stems with 5 bunches bundled and sleeved in polythelene sleeves. Bunches should be placed in strong telescopic corrugated board carton with lid and ventilation holes. The Dutch 'A' size, 120 x 46 x 25 cm, will hold 600 stems. (See pages 50-51.)

Distribution

As with all bulb crops, deterioration is rapid if temperatures fluctuate. Iris are sensitive to frost damage and therefore even in winter should be transported in refrigerated trucks and kept under refrigeration at the airport at 2-3°C. Rapid clearance at the receiving airport is essential, along with distribution in refrigerated vehicles to the market.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 90):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 69 0 91/93/94):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

Iris are grown extensively under protection, mainly in the Netherlands, from November to May. Natural season blooms are cultivated during the summer in the UK and Europe when demand and prices tend to be low.

Demand peaks from December to January and at Easter.

Bulbs and Corms - Lily



What the Market Wants

Cultivars Two main groups of lily are required by the market:-

- Stem Lilies, grouped as:

Asiatic - 'Enchantment', 'Connecticut King', 'Sunray', 'Prominance', 'Harmony', 'Sterling Star', 'Yellow Blaze'.

Oriental - 'Star Gazer', 'Journey's End', 'Laura Lee'.

Speciosum - 'Uchida', 'Rubrum 10'.

- Liliun Longiflorum - 'White Europe'.

Mix Variety is very important, with 'Enchantment' and 'Connecticut King' accounting for 60% of the market.

Orange and yellow predominate, with limited demand for cream and reds. Liliun longiflorum are all white.

Grading Stems should be firm and long with no more than 10% variation in length. Longiflorum group should be graded by the number of flowers per stem;

- singles
- 2-5 flowers
- 3-6 flowers

Each bunch, of no less than 4 stems, should have a minimum of 20 good buds. In the Longiflorum group the calyx should be fully developed to show colour, but not open.

How to get to Market

Harvesting

Stems are cut when the first bud is just opening and the others are showing colour. Buds will not open if cut prematurely. The lower leaves should be stripped off but the stems must appear well covered in clean green foliage. Cutting in early morning is essential.

Pre-Conditioning

Treatment by standing in a solution of silver thiosulphate (STS) is essential, along with the removal of stamens to prevent discolouration of petals by pollen.

Cool Storage

Pre-cooling, especially in hot weather, to 3°C increases storage life. A temperature of 3-5°C should be maintained for storage and distribution.

Packing

Asiatics - sleeved bunches of 10 buds. Longiflorum - paper wrapped bunches of 20 buds. The standard Dutch 'AA' box, 23 kg, will hold 300 Asiatics or 150 longiflorum. (See pages 50-51.)

Distribution

Lilies develop quickly and, if unchecked, the prominent anthers can stain and spoil the flower appearance. Speedy distribution is therefore essential. Refrigerated transport from airport to market at 5°C is required in winter as well as summer, to avoid freezing.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 90):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

Bulbs and Corms - Lily

November 1 to May 31 (Tariff Heading 060310 69 0 91/93/94):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

Most lilies are grown under protection in the UK and the Netherlands, the main season being from March to November, although they are available all the year round. Peak UK production occurs in May.

Demand is highest during the months of low domestic production, November to March. Peak demand coincides with the festive seasons and special occasions listed on page 4.



What the Market Wants

Cultivars Predominately large flowered cymbidium such as:-

- 'Princess Caroline'; 'Princess Anna Paulonna'; 'Mieke'. (Pink)
- 'Princess Charlotte'; 'Princess Frederika'. (Red).
- 'Trigo Royale'; 'Holly'; 'Cascade'. (White).
- 'Alice Anderson'; 'Forest King'; 'St. Francis'. (Green).
- 'Aradian Sunrise'. (Yellow).

Small flowered cymbidium such as:-

- 'Merah'; 'Dorchester'; 'Sultan'; 'Princess Rose'. (Red).
- 'St. Capella'; 'Galahad'. (Pink).
- 'Kate Hepburn'; 'Sabrina'. (Pale pink/cream).
- 'Mary Pinchess'. (Yellow).
- 'Green Perfection'; 'Willow'. (Green).

Dendrobium types are required to a lesser extent. These include:-

- 'Madam Pompadour'. (Pink).
- 'Madam Pompadour'. (White).
- 'Rena Vapahoo'. (Pink/white).

Also small quantities of paphiopedilum, cattleya and phalaenopsis types.

Mix

Cymbidium account for over 60% of the market, with the small flowered types, sold as mixed samples, being the most popular. Some orchids, particularly dendrodium, are stained to give a wider colour range.

Bulbs and Corms - Orchids

Grading Large flowered cymbidium are frequently sold as single flowers. The majority are sold on the stem. They are graded according to length of stem and number of blooms per stem - each box should contain stems of equal length. Malformed, pollinated and dirty flowers should be discarded.

How to get to Market

Harvesting

Stems should be cut early in the day and selected with a minimum of one closed bud on each stem. Stems should be stood in deep water.

Cool Storage

Orchids are generally sensitive to low temperatures and very sensitive to ethylene damage. They should be stored at 8-10°C.

Packing

All orchids should be packed with a water phial - content 12, 20 or 30 cc, depending on stem length - or a wad of water-soaked cotton wool fixed firmly to the base of the stems.

Each stem should ideally be placed in a plastic sleeve.

Large flowered cymbidium may be packed in a telescopic cardboard box, 100 x 40 x 14 cm, with 4, 5 or 6/box.

Small flowered cymbidium are packed in a box, 100 x 30 x 10 cm, according to stem length:

- 20 cm - 30/box
- 30 cm - 25/box
- 40 cm - 20/box
- 50 cm - 15/box
- 60 cm - 10/box
- 70 cm - 8/box.

Mixed supplies should contain at least three distinct varieties.

Dendrobium are packed 30/box, 100 x 30 x 10 cm. (See pages 50-51.)

Bulbs and Corms - Orchids

Presentation is very important and most orchids are packed in attractive, telescopic cardboard boxes. Presentation packs, particularly of single blooms, are marketed during the festive seasons, although such packing is generally undertaken by specialist importers.

Distribution

Orchids have a naturally long shelf life, but quickly deteriorate if they are badly handled and subjected to fluctuating temperatures.

Controlled environment transport, dedicated solely to flowers, is essential to avoid risk of ethylene damage.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.
- CITES license required.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 15 0 00):

Full tariff	20%
GSP countries	15%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 55 0 10/30/40):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

The Netherlands is the major producer of cymbidium, the season being from December to May. Dendrodium are mainly produced in Thailand and available all the year round, with peak supplies from September to March.

Christmas, Valentine's Day and Easter are periods of peak demand, although there appears to be an increasing demand from supermarkets for reasonably priced, well presented samples, all the year round.



Ornithogalum arabica



Nerine bowdenii

What the Market Wants

Varieties These flowers are almost exclusively imported and include:

- *Liatris spicata*
- *Ornithogalum arabica*
- Amarine hybrid
- *Nerine bowdenii*.

Grading All varieties need to be uniform in stem length, flower development and weight of the stem. Stem length is important, a premium being given for long stems.

How to get to Market

Harvesting

As all these flowers have a very short shelf life, it is important that the stage of flower development is minimal, yet sufficiently advanced to ensure full opening at point of sale. Generally this will be at the stage when 1/3 to 1/4 of the flowers are open at harvest.

Blooms should be pulled and packed dry.

They are all low temperature sensitive and should be pre-cooled to no less than 6-8°C.

Packing

All these flowers are delicate and blooms require protection, with tissue wraps or plastic sleeves. They are bunched in 5s or 10s. The standard Dutch 'AA' flower box, 120 x 46 x 25 cm, holds:

- 400-600 Nerine
- 500-700 Ornithogalum
- 300-400 Liatris
- 45-60 Amarine.

Exotic Bulbs, Corms and Rhizomes

Further information on packing is given on pages 50-51.

Import Legislation (see Appendix 1)

- A phytosanitary certificate is not required.
- Quality standards apply.

Customs Tariffs (see Appendix 2)

June 1 to October 31 (Tariff Heading 060310 29 0 90):

Full tariff	20%
ACP countries	Free
LDDC countries	Free

November 1 to May 31 (Tariff Heading 060310 69 0 91/93/94):

Full tariff	15%
ACP countries	Free
LDDC countries	Free

When to Sell

There is a small yet increasing demand for 'unusual' bulb flowers. This market has been developed mainly in the Netherlands to augment the range of summer flowers. There is an opportunity for developing countries to extend the season during the winter months.

Import and Wholesale Distribution

An important feature of the market is the major influence of the Netherlands as a re-exporter of cut flowers to the UK. The largest flower auction market in the world is situated in the Netherlands, at Aalsmeer, which is only minutes away from Amsterdam Schipol airport. Exporters from around the world send flowers to Aalsmeer, where most are rapidly and efficiently re-exported, either by refrigerated road transport to Europe and the UK, or by air to more distant markets.

The Netherlands market is characterised by entrepreneurial traders - nicknamed 'Flying Dutchmen' - who buy speculatively on the auction, generally when prices are low, and then transport by ferry and truck to the UK where they sell direct to retailers throughout the country. With minimal overheads, these opportunistic traders can generally undercut the prices of flowers traded through normal market channels.

Cut flowers are also imported directly into the UK by:

- **Sea** - cut flowers, mainly from continental Europe, Spain, Italy and Turkey, are transported by refrigerated containers via the Channel ports.
- **Air** - from distant destinations such as Colombia. The principal airports are London Heathrow and Gatwick.

Specialist clearing agents are engaged by importers to receive consignments at the airport and deal with all the necessary documentation and formalities in order to facilitate speedy clearance through customs. Clearing agents may also provide handling (e.g. breaking bulk), storage and delivery services.

Traditionally, imports are received by importers/wholesalers operating mainly from the UK's only specialist wholesale flower market at New Covent Garden in West London, where bulk loads are broken down and redistributed to the provincial wholesale markets. Importers may also supply direct to retail outlets.

Although the bulk of imports are still handled in this way, recent developments have seen specialist importers receiving mixed loads away from the main wholesale market, repacking into own brand or customer branded bouquets or boxes and distributing to wholesale markets and retail outlets.

Who Will Buy?

A number of factors have influenced these developments:

- The increasing influence of the supermarkets, which demand a standard, specified product, usually a bouquet, mixed bunch or arrangement, coupled with programmed deliveries. This operation requires packing, pre-conditioning and floristry specialisation outside the general buying and selling activities of most market traders.
- The increasing popularity of 'aqua packs', i.e. flowers stood in buckets of water and packed in special cartons. This operation again requires specialised repacking facilities.

Secondary wholesalers/distributors buy mainly from the major importer/wholesalers and offer regular van delivery services to retailers.

In recent years there has been a significant growth in the activity of van salesmen. These traders are frequently small, one man businesses, buying direct from producers and wholesale markets or from the auctions in the Netherlands, and supplying retail outlets.

Retail

Cut flowers are sold in the UK through a number of retail outlets, including:

Florists

The retail market is still dominated by the small, and mainly independent, florist shops, which obtain their supplies direct from the wholesale markets. It is estimated that there are about 5,000 specialist florist shops in the UK, accounting for about 40% of retail sales.

Many florists are members of the main flower agencies, "Interflora" and "Teleflorist", which provide worldwide deliveries of flower bouquets and arrangements.

Greengrocers

Cut flowers have traditionally been sold by greengrocers, along with their usual range of fresh fruits and vegetables, particularly during periods of peak demand, such as Christmas and Valentine's Day. Greengrocers are estimated to have about a 15% market share for cut flowers.

Who Will Buy?

Market Stalls/Street Traders

These are located in towns and cities throughout the UK. They tend to purchase direct from local wholesale markets and are a traditional outlet for lower quality flowers. Market stalls are estimated to account for about 15% of UK flower sales.

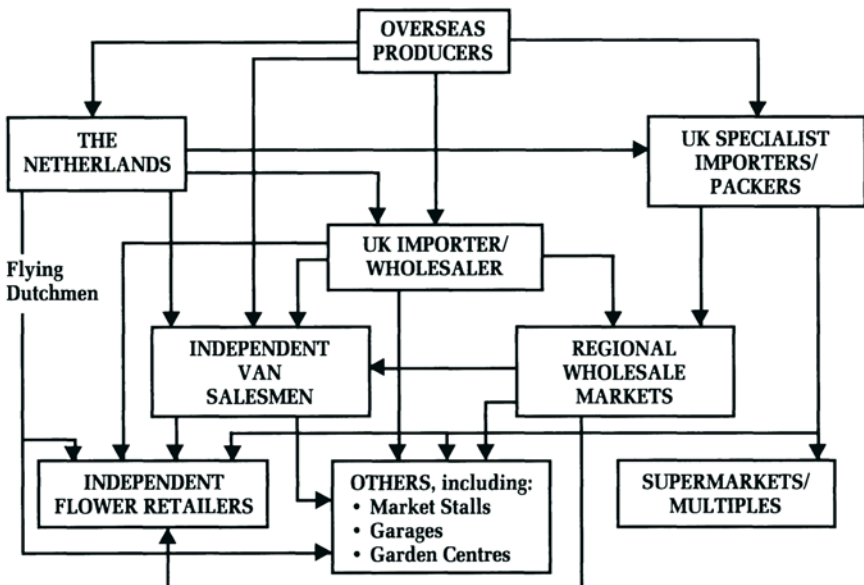
Supermarkets/Multiples

Currently, sales through this type of outlet amount to only about 10% of the total, but it is expected that the supermarket/multiple share will increase substantially in future. Supplies are generally pre-packed and obtained directly from specialist importer/packers.

Others, including:

- Garage forecourts. These are almost exclusively supplied on a 'sale or return' basis by specialist wholesalers.
- Mail order. This is a recent development, mainly initiated by UK producers trying to develop new market outlets.
- Farm shops.
- Garden centres and nurseries.

The diagram below shows the channels of distribution within the UK cut flower market.



UK Prices

Wholesale Prices

The table on page 45 shows UK wholesale prices for cut flowers for the six month period between November 1989 and May 1990. The price range, in pence, is for average to top prices for Class 1 quality blooms.

The table gives the average wholesale prices obtained between November and May and also prices obtained in the periods of peak demand for cut flowers, i.e. Christmas, Valentine's Day, Mothers Day and Easter.

In many cases, the figures indicate price increases during periods of peak demand. (For example, wholesale prices obtained for roses in the week before Christmas 1989 were considerably higher than the average prices obtained between November 1989 and May 1990.) However, because periods of peak demand for flowers are pre-determined, importers cater for this by ordering extra supplies. Consequently, where increased demand for particular flowers is matched by adequate supplies, prices do not show any significant increase.

Wholesale prices can also be held down in the winter period as a result of mild temperatures, giving rise to the availability of increased supplies of domestically grown flowers.

Flower exporters in developing countries seeking information on prices in a number of European countries may seek assistance from the Market News Service of the International Trade Centre in Geneva. Contact details are given in Appendix 4. A regular service is provided, which reports on prices of a range of cut flowers in ten European markets.

Retail Prices

Retail margins vary widely - a prestigious city centre florist may operate with a 300% mark up, although between 100% and 200% is more usual. Street traders normally make a mark up of approximately 100%. For supermarkets and retail multiples the mark up is between 60% and 100%. Compared to their European counterparts, UK consumers tend to be unwilling to pay high prices for cut flowers, even for top quality blooms.

At What Price?

Cut Flowers: Wholesale Prices, November 1989 - May 1990 (Pence)

PEAK PRICES

	Week Before Christmas (Dec 25)	Week Before Valentine's Day (Feb 14)	Week Before Mothers Day (March 25)	Week Before Easter (April 15)	Average Prices Nov - May
Roses (red - bunch of 10, 60 - 80 cm stems)	400 - 500	250 - 400	250 - 400	200 - 300	220 - 354
Carnations • Colombian - each • Imported spray, bunch of 5	15 - 16 55 - 70	13 - 16 70 - 80	10 - 15 60 - 70	10 - 15 60 - 80	10 - 14 43 - 61
Gerbera (Imported - each)	40 - 50	40 - 50	10 - 15	15 - 20	20 - 26
Chrysanthemum • Doubles all year round bunches of 5 • Blooms, box	100 - 175 700 - 1,000	150 600	100 - 150 700	100 - 175 N/A	98 - 148 506 - 731
Gypsophila (Imported - bundle)	800 - 1,000	500 - 1,000	400 - 800	600 - 1,000	433 - 706
Statice (Imported - bunch)	100	80 - 100	N/A	60 - 100	75 - 92
Stock (Single, bunch of 5)	N/A	N/A	60 - 70	80	43 - 55*
Gladiolus (Imported - bunch)	160 - 190	150 - 180	250 - 300	N/A	204 - 238
Iris (Blue, bunch of 5)	40 - 50	30 - 50	40 - 50	25 - 40	31 - 44
Lily (Imported, Enchantment, bunch of 10)	300 - 400	300 - 500	350 - 400	450	276 - 405
Orchid (Singapore - each)	30 - 60	50 - 60	50 - 60	60 - 70	50 - 60

* March - May
Source: The Grower.

Selling Methods and Marketing Costs

Cut flowers are normally sold on a consignment basis, the usual commission rate being 12.5% - 15%. Exporters receive remittances after subtraction of commission and other costs (see below). Much of the import trade with the Netherlands is beginning to be conducted on the basis of either 'firm price' or profit sharing with the Dutch auction based exporters. Fixed price buying is also becoming more popular with the specialist importer/packers, supplying the supermarket and multiples sector.

Payment terms are negotiable, typically by telegraphic transfer on account - three to four weeks from sale - or by draft. Fixed price contracts are occasionally paid by letter of credit.

Additional costs include:

- **Airport handling charges.** Currently (October 1990) charged at 5p/kg.
- **Airport clearing charges.** Costs of clearing through customs are in the region of £40 per consignment. Additional services offered by clearers include:-
 - collection from the airport (35p - 45p per box)
 - cool storage (10p - 25p per box per day)
 - handling: including breaking bulk (around 45p per box)
 - redistribution. Dependent on distance. For example, Heathrow airport to London markets charged at 75p - 90p per box.
- **Import duty**, if applicable.

Air Freight Costs

It is virtually certain that any Commonwealth developing country supplying the UK market will utilise air freight services. Actual air freight costs vary greatly from country to country and airline to airline, but it is important to note that the cost per kg is nearly always higher than for other horticultural products such as fruits and vegetables. This is because of the higher value of flowers and the high volume to weight ratio.

At What Price?

As examples of air freight costs, the rates to the UK (London, Heathrow) in May 1990 were:

Origin	Rate Per kg (£)
Kenya	1.03
Barbados	0.90
Zambia	0.95

Production and Investment Costs

It is important that Commonwealth developing countries are aware of the very high costs involved in producing cut flowers for export. Commercial cut flower production is one of the most intensive forms of horticultural cultivation, incurring substantial investment costs. In order to compete on the market and to meet the very high standards required, considerable capital investment in production, packing, grading, cooling, pre-conditioning, storage and cool-chain distribution facilities is essential. The major production costs are for irrigation and protection of the maturing flowers. Further information is given in the following section.

Production costs (labour, inputs, etc.) will depend upon the circumstances in individual countries. A high level of expertise, in production, post-harvest technology and management, is vital and this may involve employing expatriate staff at additional cost.

– Cultivation, Post-Harvest Handling and Packaging –

Cultivation

A marketable flower consists of three parts, each having to be perfect: the bloom, the stem and the leaves. In order to achieve this, the following are important:

Parent Stock

Flowers should be grown from selected, high quality, virus free, vegetatively propagated planting material or seed, free from pests and diseases. The use of inferior parent stock is very much a false economy, as it gives rise to the production of inferior, poor quality blooms, unsaleable on the UK market.

Protection

Some kind of protection, for example, shade, plastic cover or greenhouses, is normally required during the growing period. Some of the low value summer annuals and wild flowers, such as orchids and heliconia, may be grown outdoors with little artificial protection in favourable climates.

Soil and Water

Soils do not have to be highly fertile. However, irrigation and good drainage is essential at all times. Water should be of the highest quality. Overhead irrigation should be avoided in order to prevent diseased petals, leaf scorch and chemical deposits on the leaves, which can render stems unsaleable.

Support

With the possible exception of roses, which have hard, woody stems, all flowers require support during development to ensure strong, straight stems.

Treatment

All operations, such as disbudding, pest and disease control, need to be carried out with meticulous care and attention to detail.

Harvesting

It is vital that all flowers are cut early in the morning to ensure that they remain turgid and as cool as possible. As soon as stems are cut the water flow within the stem is interrupted and the cut bloom needs to be stood in water immediately, placed in a cool shaded area and transported to a cooled packing shed with the minimum delay. The correct stage of harvest depends

– Cultivation, Post-Harvest Handling and Packaging –

upon the species and variety but, generally, few flowers develop correctly if harvested immature.

Pre-Treatment

Many flowers, particularly the woody varieties such as roses, hollow stemmed varieties such as chrysanthemum, and latex exuding varieties such as euphorbia, require some form of hot water treatment of the stem base to encourage uptake of water and nutrients. Woody stems need to be dipped into near boiling water for 30 seconds; others are placed into water heated to 45°C for 15 minutes.

Some very sensitive varieties, such as carnation, need to be treated with an ethylene inhibitor such as silver thiosulphate (STS) by standing in a solution for some hours.

In all cases, blooms need to be stood in deep clean water and treated with a biocide such as household bleach at 1,000 ppm to prevent fungal and bacterial infections.

Most leafy plants, such as chrysanthemum, produce sufficient carbohydrate naturally by the process of photosynthesis and can be harmed by the addition of sugar in the standing solution. However, most others will greatly benefit by the addition of 1.5% to 2% sugar dissolved in the standing water. Proprietary 'nutrient' solutions are available for many different varieties and some include hormones to give added life.

Storage

At all times, cut flowers should be kept as cool as possible. Many tropical species, such as anthurium and orchids, need to be stored at relatively high temperatures to avoid low temperature damage - usually around 12 to 15°C. However, most species will respond to rapid pre-cooling to between 2 and 3°C, followed by storage at 3°C.

Cold storage has a desiccating effect on flowers and it is important that the atmosphere is maintained at a high humidity. Modern stores, utilising water as the coolant, such as the 'Zero' cooler or 'Humistore', maintain such an ideal atmosphere and, by the nature of the cooling action, freezing damage is eliminated.

All flowers should be kept in store in buckets and packed on the day of shipment.

– Cultivation, Post-Harvest Handling and Packaging –

Grading and Packing

The packing and grading areas need to be as cool as possible. Only the highest quality of flowers should be selected for export and these graded according to species - stem length and size of bloom being the main features, along with leaf condition and appearance and strength of stem. There should be as little variation as is practical in each graded box.

Many flowers are now sleeved in plastic or soft paper sleeves to protect delicate blooms. Others, such as gerbera or anthurium, require individual special treatment.

As a rule, all cut flowers need to be firmly placed in the container and fixed with a wooden or sponge rubber sleeper to prevent movement.

All markets are now sensitive to the inadvertent introduction of injurious pests and disease. Any sign of infection will render the entire consignment prohibited for importation and liable for destruction.

Containers

Non-returnable fibreboard telescopic containers are now universally used for flowers. Dutch standard cut flower boxes, of which there are 30 standard sizes, are universally accepted. 'Air boxes', which are specifically designed for air freight, as they fit air pallets exactly, may also be used.

Air freight costs are based on a 'theoretical weight', calculated by IATA on the basis of the box size, as shown below:

Code	Size (cm)	Volume	IATA Weight
Dutch standard box:			
AA	120 x 46 x 29	138	27 kg
A	120 x 46 x 25	118	23 kg
B	120 x 36 x 25	90	18 kg
C	120 x 36 x 19	67	14 kg
Air box:			
21	106 x 35 x 36	118	21 kg
18	106 x 35 x 30	100	18 kg
15	106 x 35 x 24	79	15 kg
12	106 x 35 x 20	65	12 kg

– Cultivation, Post-Harvest Handling and Packaging –

Consequently, bulky but lightweight species are charged at a higher ‘unit’ weight than heavier species packed in the same sized box. For example, 700 carnations in an “A” box with a true weight of 21 kg will be charged at the same rate as 200 chrysanthemum in the same box but with a true weight of only 14 kg - both being charged as being 23kg.

Whichever container is chosen, the most important aspects to consider are:-

- durability - must be strong enough to withstand the rigours of transportation.
- presentation - first impressions are very important. If it looks good, buyers will pay the highest prices.

Packaging, ideally combined with high quality printing and presentation, needs to be of the highest quality and strength. It cannot be overstressed that the finest quality blooms leaving the farm frequently end up on the rubbish heap, unsold, due to economies in packaging. An export carton must be able to withstand rough airport handling, frequent changes in storage atmospheres and temperatures, fluctuating humidities and customs inspections.

Transportation

Fluctuation in temperature must be avoided at all times. Thus refrigerated or insulated vehicles need to be used to transport flowers to the airport, where facilities should include cool storage warehouses.

Handling at the receiving airport needs to be undertaken by specialists to ensure correct handling and rapid clearance and transportation to the market.

Although the ambient temperatures in the UK rarely give rise to high temperature heat problems, in winter, frost and freezing can be major problems, requiring temperature controlled distribution.

Few distributors are specialists in flowers; most handle mixed loads of fruit, flowers and vegetables. Frequently these commodities are mixed in for bulk transportation to distant markets, giving rise to potential problems such as ethylene contamination and physical damage to cut flowers. The importance of using reliable clearers and distributors cannot be overemphasised.

Appendix 1 - Import Legislation

Imports of cut flowers into the UK are affected by various regulatory requirements:

Quality standards

These apply to imports of all types of cut flowers. Consignments are subject to inspection by Ministry of Agriculture, Fisheries & Food Horticultural Marketing Inspectors, to ensure that they meet certain standards laid down by the EC. Inspectors must satisfy themselves that standards of quality grading (into 'Extra' Class, Class I or Class II produce), sizing, presentation, packaging and marking, have been met.

Details of the EC Common Quality Standards for Fresh Cut Flowers and Foliage are set out opposite.

Phytosanitary Regulations

Phytosanitary certificates must accompany imports of:

- Roses
- Carnations
- Chrysanthemums
- Gladioli
- Gypsophila
- Statice

Phytosanitary certificates are issued by the responsible authority in the exporting country and provide confirmation that the flowers to be exported conform to regulatory health/hygiene standards.

CITES Requirements

Several species of orchid are covered by provisions laid down by the Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES). Exports of orchids which are classified as 'endangered species' require a special licence, issued by the UK's Department of the Environment upon application by the importer.

Import and CAP Licences

A provision exists in EC legislation for the application of such licences to imports of roses and carnations. However, these regulations are not applied at the moment and have not been for several years.

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Ministry of Agriculture, Fisheries and Food

EC Common Quality Standards for Fresh Cut Flowers and Foliage

The following notes on the European Community's common quality standards for fresh cut flowers (including special provisions for mimosa) and for foliage (including special provisions for asparagus sprengeri and asparagus plumosus) are provided for information only and are not intended to be a comprehensive statement of the legal requirements nor do they cover the requirements of any other legislation.

Application

The standards apply to fresh cut flowers and flower buds, foliage, leaves, branches and other parts of plants suitable for bouquets or for ornamental purposes. The standards define the requirements for these products when they are displayed for sale, put on sale, sold delivered or otherwise marketed at the wholesale stage within the Community either by traders or directly by the producers, and when they are imported from a country outside the Community or exported to such a country.

Requirements

All produce must have been carefully cut or picked, according to the species, and have reached an appropriate stage of growth.

1. Cut flowers

A. CLASSIFICATION AND QUALITY REQUIREMENTS

Extra Class: Produce which qualifies for Class I without the aid of any tolerance may be marked Extra. However, this classification may not be used for American carnations with a split calyx.

Class I: Flowers in this class must be of good quality. They must have the characteristics of the species and, where appropriate, of the variety.

Appendix 1 - Import Legislation

They must be:

- Whole
- Fresh
- Unbruised
- Free of animal or vegetable parasites and from resultant damage
- Free of residue of pesticides and other extraneous matter affecting the appearance
- Free of development defect.

Calyx splitting is not considered a development defect of carnations. However, American carnations (as grown under glass in this country) must be ringed, packed separately in uniform lots and the packages marked accordingly.

According to the species and variety, the stems must be rigid and sufficiently strong to support the flower(s).

Class II: This class includes flowers which do not meet all the requirements of Class I but are:

- Whole
- Fresh
- Free of animal parasites.

The following defects may be present providing they do not impair the appearance, life or use of the flowers:

- Slight malformation
- Slight bruising
- Slight damage, including that caused by pest or disease
- Small marks resulting from pesticides
- Weaker and less rigid stems.

B. QUALITY TOLERANCES

Quality tolerances are permitted in each unit of presentation as follows:

Class I: Up to 5% of the cut flowers may have slight defects providing the uniformity in a unit of presentation is not affected.

Class II: Up to 10% of the cut flowers may vary from requirements of the Class. However, not more than half of this 10% may be damaged by animal or vegetable parasites. The defects in question must not impair the use of the flowers.

Appendix 1 - Import Legislation

C. SIZING

Cut flowers must comply at least with the size ranges given below. The stem lengths quoted include the flower head.

Description code	Minimum and maximum stem length
0	less than 5 cm or flowers marketed without stems
5	5 - 10 cm
10	10 - 15 cm
15	15 - 20 cm
20	20 - 30 cm
30	30 - 40 cm
40	40 - 50 cm
50	50 - 60 cm
60	60 - 80 cm
80	80 - 100 cm
100	100 - 120 cm
120	more than 120 cm

Uniformity of sizing

In any one unit of presentation (e.g. bunch, bouquet or box, etc.) the maximum permitted difference between the shortest and longest stem lengths is as follows:

	Description Code	Stem length
For stem lengths less than 20 cm	0-15	2.5 cm
For stem lengths 20 - 60 cm	20-50	5 cm
For stem lengths greater than 60 cm	60 and over	10 cm

The differences may be doubled for flowers in flat-backed bunches; also for flat-backed bunches of large flowered chrysanthemums of stem lengths 20 - 60 cm (i.e. codes 20 - 50) the permitted variation is further increased to a maximum of 20 cm.

The size scale and uniform lengths set out above do not apply to mimosa (see special provisions for mimosa).

Appendix 1 - Import Legislation

D. PRESENTATION AND PACKAGING

A unit of presentation (bouquet, bunch, box, etc.) must consist of 5, 10 or a multiple of 10 pieces with the exception of:

- Flowers normally sold singly
- Flowers normally sold by weight
- Direct sales to retailers of consumer units at a fixed selling price outside wholesale markets provided that the seller and buyer have agreed to vary the number of flowers in a unit; the flowers are accompanied by a document (bill, delivery note, etc.) showing the selling price and the contents in the ultimate consumer pack are clearly identifiable
- Flowers for export to the USA or Canada when this requirement may be varied to meet the trade requirements of these countries.

Each unit of presentation must contain flowers of the same genus, species or variety and of the same quality class and which have reached the same stage of development. However, mixtures of flowers and mixtures of flowers with foliage of the same quality class but of different genus, species or variety are permitted provided they are so marked.

E. MARKING

The following information must be shown in respect of each consignment or lot. When packaged it is preferable that the containers are marked legibly and indelibly on one side or end.

Identification

Packer and/or Despatcher: Name and address, or officially issued or accepted code mark

Nature of produce

- genus
- species or variety or colour of flowers
- where appropriate 'Mixture' or equivalent term

Origin of produce (optional)

- country of origin and, optionally, district where grown or national, regional or local place name

Appendix 1 - Import Legislation

Commercial specifications

- class
- size - length code or minimum and maximum lengths (optional)
- number or net weight.

Presentation

If the number of flowers per unit of presentation does not correspond to the provisions of Section D above, packages must be marked to show the exact composition of the units of presentation contained therein.

Official control mark (optional)

2. Special provisions for Mimosa

A. QUALITY REQUIREMENTS

Mimosa must satisfy the quality requirements of Class I specified in the previous section. However, the rigidity requirement does not apply to the upper ends of the flower stems. The base of the branches must not be too woody.

In addition to the Class I quality requirements Mimosa must:

- have stems well furnished with flowers
- have unbroken or untrimmed tips.

However, stems with broken tips are permitted where the broken section has a diameter of less than 2 millimetres.

Mimosa may be presented in bloom or not. For Mimosa in bloom, the blossom should be normal for the variety and the numbers of green flowering heads not yet in bloom must not exceed:

- 60% for floribunda
- 20% for other species and varieties.

The flowering heads must be of normal colour, unspotted and firmly fixed to the inflorescence. For Mimosa which is not in bloom, 80% of the flowering heads must be yellow (slightly open).

Appendix 1 - Import Legislation

B. SIZING

Stems must not be less than 20 cm in length except that bundles and bouquet composed exclusively of small sprigs less than 20 cm in length are permitted providing they are marked 'shorts', 'short stemmed' or an equivalent term.

C. PRESENTATION

A unit of presentation, even when offered in bulk, must be of uniform composition and only contain branches of the same species and variety.

Branches of Mimosa must be either arranged in layers or presented in bunches of either 150 grammes, 250 grammes or multiples of 250 grammes.

Mimosa not in bloom must be packed in small bags made of polythene or a similar substance.

D. MARKING

In addition to indicating the packer or despatcher on each package, the marking must include the following particulars:

- the genus
- the species or variety (cultivar)
- the words 'in bloom' or 'not in bloom'
- where appropriate, the words 'shorts' or 'short stemmed' or equivalent term
- the total net weight or the number of bunches and the weight of each bunch.

Appendix 2 - Customs Tariffs

UK tariffs on imports are governed by the Common Customs Tariff of the European Community.

The EC has a number of preferential trade agreements with certain individual countries or groups of countries outside the EC. All of the developing country members of the Commonwealth belong to one or more of these groups and, as such, are entitled to reduced and, in most cases, nil tariffs on imports of cut flowers to the UK. Applicable rates are given in the product profiles. There are also some other countries, particularly in the Mediterranean Basin area, which have negotiated preferential tariff rates, some of which apply to cut flowers. However, these are not separately quoted because the countries in question are not significant suppliers of flowers to the UK market.

The following is a list of relevant preferential trade groups showing those Commonwealth developing countries which are members of the group and are eligible for preferential customs duties. (Some countries are members of the GSP group, but are not entitled to preferential rates because they have not complied with the administrative requirements of the EC. These countries are not listed.)

Generalised System of Preferences (GSP) Group

Includes:

The Bahamas	Kenya	Singapore
Bangladesh	Kiribati	Solomon Islands
Barbados	Lesotho	Sri Lanka
Belize	Malawi	Swaziland
Botswana	Malaysia	Tanzania
Brunei Darussalem	Maldives	Tonga
Ghana	Mauritius	Trinidad and Tobago
Grenada	Nigeria	Vanuatu
Guyana	Pakistan	Western Samoa
India	Papua New Guinea	Zambia
Jamaica	Sierra Leone	Zimbabwe

Appendix 2 - Customs Tariffs

African, Caribbean and Pacific (ACP) Group

Includes:

Antigua and Barbuda	Kiribati	Solomon Islands
The Bahamas	Lesotho	Swaziland
Barbados	Malawi	Tanzania
Belize	Mauritius	Tonga
Botswana	Nigeria	Trinidad and Tobago
Dominica	Papua New Guinea	Tuvalu
The Gambia	St. Christopher - Nevis	Uganda
Ghana	St. Lucia	Vanuatu
Grenada	St. Vincent and the	Western Samoa
Guyana	Grenadines	Zambia
Jamaica	Seychelles	Zimbabwe
Kenya	Sierra Leone	

Least Developed Developing Countries (LDDC) Group

Includes:

Bangladesh	Malawi	Tonga
Botswana	Maldives	Western Samoa
Kiribati	Sierra Leone	
Lesotho	Tanzania	

Appendix 3 - Contacts

IMPORTERS

Brooks Brothers Ltd

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Telex: 336707

Continental Farms

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Isleworth
Middlesex TW7 5EU

Tel: 081 569 9995

Crystal Import Sales Ltd

Unit 6
River Gardens
Business Centre
Spur Road, Feltham
Middlesex TW14 0SN

Tel: 081 844 0050

W. Daniel & Son Ltd

Smithfield Market
Pershore Street
Birmingham
West Midlands

Tel: 021 622 4771
Telex: 336 707

John Dennis (Flowers) Ltd

Smithfield Market
Pershore Street
Birmingham
West Midlands

Tel: 021 643 8374
Telex: 338968

Florimex Ltd

Florimex House
Clayton Road
Hayes, Middlesex

Tel: 081 569 2348

Francis Nicholls

New Covent Garden
London SW8

Tel: 071 720 8355/6

The House of Heyes Ltd

13/14 Market Centre
Western International
Market
Hayes Road, Southall
Middlesex

Tel: 081 848 4555
Telex: 934310

J. & E. Page Ltd

230-238 Flower Market
New Covent Garden
London SW8

Tel: 071 720 7681

S. Robert Allen Ltd

282 Flower Market
New Covent Garden
London SW8

Tel: 071 720 9432

CLEARERS

Pan Express

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OTHERS

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Market News Service for Cut Flowers

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Fax: 4122 733 7176
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Appendix 4 - References

- **International Trade Centre UNCTAD/GATT**
'Floricultural Products, A Study of Major Markets (1987)'
- **The Grower**
50 Doughty Street
London
WC1N 2LS
- **Flower Trades Journal**
Yew Tree Publishing Co Ltd
17 Wickham Road
Beckenham
Kent BR3 2JS
- **Ministry of Agriculture, Fisheries and Food**
'EC Common Quality Standards for Fresh Cut Flowers and Foliage'
- **Ministry of Agriculture, Fisheries and Food**
'Plant Health Import Legislation, Guide for Importers'
- **Ministry of the Environment**
'Controls on the Import and Export of CITES Species'



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