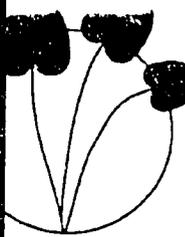


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MOROCCAN FLOWER SUBSECTOR STUDY

AND

RECOMMENDATIONS FOR PROJECT ACTIONS

MOROCCO AGRIBUSINESS PROMOTION PROJECT

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FOREWORD

The Cut Flower Subsector study is the third of eight subsector studies and commodity action plans to be prepared by the Agribusiness-Marketing-Investissement (A-M-I) portion of the Morocco Agribusiness Promotion Project (MAPP). The AMI has many tools and resources to assist private businesses, both in Morocco and the United States. In order to deploy these resources, AMI is preparing an action plan for each of the eight subsectors based on an analysis of the structure of the subsector and the evolution of the markets for the products in that subsector, either new or old. These studies will provide the project with an analysis of the evolution of each of the subsectors and permit the project to compare the potential benefits and returns from applying its resources to one or the other of the subsectors and will highlight those areas with the greatest potential return within a given subsector. The goals of the study are to develop the action plan, through:

- highlighting the opportunities and constraints facing the subsector, especially those which the project can take concrete steps to address;
- providing the basic understanding of the opportunities which is necessary to serve as a preliminary screen for the Promotion and Investment Fund (PIF) requests;
- generating baseline data on potential clients as well as the basic information needed for product promotion;
- providing a clearer identification of potential buyer and investor opportunities and linkages; and
- introducing the project to potential partners for investment opportunities and other project activities in Morocco's agribusiness community.

The project uses a subsector diagnostic approach to develop this action plan. It identifies the principal channels through which product flows from the fields to the consumer, the trends in the industry, points of leverage, and the opportunities and constraints facing the industry. By differentiating the channels and identifying the points of leverage (those points in the industry where a concerted effort will have the largest payback) the action plan determines the best ways to approach the constraining factors and realize the opportunities which exist.

The initial fieldwork was carried out in March 1993 by members of the AMI staff in conjunction with two specialists in the field¹ provided by the University of Minnesota, and Morocco's leading floriculture researcher. During the four weeks over which the field work was conducted, more than forty private Moroccan firms and agencies involved in flower production, supply, marketing, and logistics were interviewed, along with the relevant public

¹ One is a successful rose grower from Minnesota. The other is a marketing consultant who has worked in the flower industry for a number of years.

sector agencies with the task of supporting the operators in the sector. In an effort to get the widest view of existing and potential activities, the team visited agricultural businesses in Agadir, Taroudant, Azemmour, Marrakech, Ben Slimane, Kenitra, and Skhirrat.

The study examines the dynamics of the Moroccan flower industry, which is dominated by rose exports to France, from a structural perspective within Morocco and from an analysis of the markets and international dynamics of the products. While Morocco is largely dependent on its rose exports to France there are many possibilities for developing and expanding new products. In recent years, exports of carnations and gladiolas are diversifying the portfolio of products and penetrating new markets such as the U.K. and Germany.

The major issues confronting Morocco are the danger of losing competitive ground to new players in the EC market, updating its technological approaches, and developing more sophisticated understanding of marketing techniques. Countries such as Kenya and Colombia are greatly increasing their exports, benefitting from tariff advantages, more temperate climates and cheaper labor, more aggressive marketing programs, or simply having adopted new technologies faster than Moroccans. They are putting increasing price pressure on Moroccan growers.

Chapter One reviews flower production in Morocco, followed by a review of the structure of production and export. Chapter Two looks more closely at the actors in the subsector and the flow of product. Chapter Three analyzes the major markets for Morocco's flowers, following a survey done of importers in four of the key countries. Chapter four provides a closer look at some of the key issues facing the Moroccan growers if they are to remain competitive on the world market and highlights steps which must be taken to keep Morocco competitive. These are discussed from a strategic overview, as well as on a country by country basis, highlighting some of the main opportunities. Chapter Five reviews the supporting environment, including legislation and institutions, and leads into the definition of the driving forces and points of leverage within the subsector in Chapter Six. These driving forces and points of leverage should dictate the best points for collaboration with the industry to achieve greatest impact at least cost. The major conclusions the opportunities facing Morocco, the constraints to attaining those opportunities and a vision of what Morocco's the future could bring, lead up to recommendations for a Project Action Plan.

The study presents preliminary recommendations for a program of project activities. The conclusions and recommendations of the study were presented to the industry at a meeting organized by AMPEXFLEUR to discuss the findings of the study. Some of these are more directly within the project's control, either through work with the collaborating institutions such as MAMVA, the IAV, or AMPEXFLEUR. But many more of the activities are dependent on interest within the private sector, the source of Morocco's dynamism. Already one of the key recommendations has been put into effect: the organization of an industry awareness visit to the U.S. The project action plan for direct collaboration with the private sector is to be kept general, highlighting those activities which appear to have the highest possible payoff. However, the process of working with the private sector is an iterative dynamic one, which will be ongoing throughout the life of the project.

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ACRONYMS

ACP	Africa, Caribbean, Pacific
AMI	Agribusiness, Marketing, Investissement
AMPEXFLEUR	Association Marocaine des Producteurs et Exportateurs des Fleurs
CMPE	Centre Marocain pour la Promotion des Exportations
CNIH	Centre National Interprofessionnel Horticole
CO ₂	Carbon Dioxide
EC, EEC	European Economic Community
EXIFLOR	Exposition International Floricole
DH	Dirham
DPAE	Direction de la Plannification et des Affaires Economiques
DPV	Direction de la Production Végétale,
DPVCTRF	Direction de la Protection Végétale, le Contrôle Technique et la Repression des Fraudes
EACCE	Etablissement Autonome de Contrôle et de Coordination des Exportations
FITA	Flower Importer Traders Association
FMA	Floral Marketing Association
GATT	General Agreement on Tariffs and Trade
GEMINI	Growth and Equity through Microenterprise Investment and Institutions
IAV	Institut Agronomique et Vétérinaire
INRA	Institut National de Recherche Agricole
KEDS	Kenya Export Development Support
MAPP	Morocco Agribusiness Promotion Project
MAMVA	Ministère de l'Agriculture et de la Mise en Valeur Agricole
PIF	Fond de Promotion de l'Investissement
UNDP	United Nations Development Program
SASMA	Société Agricole de Services au Maroc
UNCTAD	United Nations Conference on Trade and Development
UPOV	Union for the Protection of Plant Patents

EXECUTIVE SUMMARY

I. OVERVIEW OF THE INDUSTRY

The Moroccan flower industry has developed very rapidly over the past decade. There are now about forty cut-flower growing and exporting companies, having started with one in 1980. Morocco's flower production began with and has concentrated on roses, but carnations are becoming a larger percentage of the production every year.

Moroccan Flower Production
(millions of stems)

	85/86	86/87	87/88	88/89	89/90	90/91	91/92
Rose	43	50	66	65	75	102	89
Carnation	--	--	--	3	10	16	32
Giadiola	--	--	4.5	2.3	2.4	1.3	4
Strelitzia	--	--	2	2	3	3	3
Other	7	8	4	2	2.5	3.8	2.5
TOTAL	50	58	76.5	74.3	92.9	126.1	130.5

Along with production, exports have increased from 648 tons in 1986/87 (Office des Changes) to 2365 tons just to the EC in 1991/92 (Eurostat), representing a 365% increase over the five years. The value of these exports peaked at 116 million dirhams in 1990/91, but dropped to 100 million dirhams in 1991/92 (FOB Casablanca).

The surface area planted has increased from 250 hectares in 1985 to 425 hectares in 1992. Along with the increase in surface area, there has been a shift from open field to greenhouse production; in 1985 66% of production was in open field but by 1992 this ratio was reversed to 75% in greenhouses.

The profitable markets of the mid-1980's led to the increase in productive area and the gradual shift towards greenhouse production. However, investment in Moroccan production (surface planted) and exports reached a plateau in 1990/91 as profitability decreased in 1992. One major grower took 27 hectares out of roses and put them into carnations, leading to a slight reduction in rose production around the country.

Morocco faces important challenges from new producers (Kenya, Zimbabwe, and Colombia) in its key European markets. Import duties and transport costs are important factors in Moroccan costs affecting its competitive position, but Morocco's production

technologies can also be improved significantly to reduce the cost of production per stem. This would improve Moroccan competitiveness and allow it to target key marketing dates more effectively.

II. PRINCIPAL FINDINGS

The Moroccan flower industry now faces the challenge of looking to the future and competing on a world wide scale. With this in mind the following findings help to situate Morocco's flower industry and its potential competitive status in the world market.

- This is a dynamic industry on a worldwide basis, steadily evolving towards areas of lower cost of production.
- The costs of freight and customs duties are important, but they alone will not dictate the future of flowers in Morocco.
- Moroccan competition comes from the outside (Kenya, Colombia, Zimbabwe, etc.), not from other Moroccan producers.
- There are specific opportunities for market expansion by reaching the four target dates: Valentines Day, Christmas, All Saints Day, and Mother's Day.
- Moroccans generally use low-technology production methods which provide limited control of the production environment.

III. CONCLUSION

THERE WILL BE CONTINUED EVOLUTION WITHIN THE INDUSTRY, WITH INCREASING COMPETITION FROM THE OUTSIDE. THERE ARE OPPORTUNITIES FOR GROWTH FOR THE BEST GROWERS, THOSE WHICH INVEST AND SUCCEED IN CONTROLLING THE PRODUCTION ENVIRONMENT.

Mastering the production environment will become more and more critical over the next five to ten years, requiring a substantial investment. Throughout the world, the best growers face increasing competition from lower cost regions. They remain competitive by finding ways to drop their costs of production through technological improvements. Moroccans must achieve the following results to remain competitive:

- A higher yield per m² (target: 100 stems over five months);
- A better control of their production cycle (target: 95% reliability in their predictions for yields on a specific date);
- A higher percentage of their production getting sorted, sized, and put onto the target market (target 90% of flowers grown to market).

IV. PRELIMINARY RECOMMENDATIONS TO THE FLORAL INDUSTRY FOR A.M.I. ACTIONS

The following recommendations stem from the conclusions and the analysis. In each case, these recommendations address activities which the project could implement with the private sector in order to alleviate constraints facing the industry and enhance its competitiveness.

A. Succeed in controlling your production environment

Proposed Project Actions:

1. Organize a seminar on greenhouse management for rose production.
2. Organize a seminar on post-harvest handling for flowers.

B. Improve the links between industry, government, and research organizations.

Proposed Project Action:

1. Organize an industry awareness tour to the United States.

C. Improve understanding of the distribution channels in export markets and business practices.

Proposed Project Actions:

1. Organize an industry awareness tour to the United States, as in B. above.
2. Organize internships or training seminars in the U.S. or in Morocco.

D. Develop new products and new markets.

Proposed Project Actions:

1. Elicit requests for participation in the Promotion-Investment-Fund.
2. Organize market prospection visits (either as individuals or in a group) to seek partners in the USA or to participate in international fairs.
3. Co-finance and organize tests of new methods of transport.

- E. Improve control over the marketing channels - seek vertical integration to the level of the wholeseller or the importer.**

Proposed Project Actions:

1. Determine project assistance on a case by case basis for each company and its own distribution channels, most likely through the PIF or a market study.

- F. Increase and share general knowledge within the Moroccan floral industry.**

A critical role for AMPEXFLEUR must be to promote professional links within the industry and with the research institutions. AMI will be glad to participate in these different suggestions based on requests by the industry.

1. Organize group visits to farms and hold discussions with the floral researchers on themes to be defined.
2. Collect and distribute information coming from other countries in the World.
3. Establish a joint research program with the IAV, INRA, or SASMA. (AMI could participate in funding part of the research)
4. Establish collaborative relations with associations in the U.S. and the EEC. AMI can establish contacts with associations such as the Floral Marketing Association to identify means of collaboration.

I. OVERVIEW OF FLOWER PRODUCTION IN MOROCCO

Moroccan flower production grew steadily from 1980 until 1990/91: the numbers of varieties being grown expanded, exports increased, the area under production was enlarged, and the productivity grew. However, in 1991/92 the growth levelled off, leading to the important question of where the flower industry will go in the future.

A. TYPES OF FLOWERS GROWN

The figure below shows the evolution of Moroccan flower production over the last 8 years. Moroccan exports began primarily with roses in the early 1980's and then developed into new products. The second most important product is carnations, which saw a tremendous increase in 1990, when one of the major growers switched 20 hectares out of roses and into carnations. The third largest product is gladiolas, which have been exported for more years than carnations, but which have grown more slowly. Of the production, it is estimated that only one third is exported, or a total of 45 million stems in 1991/92.

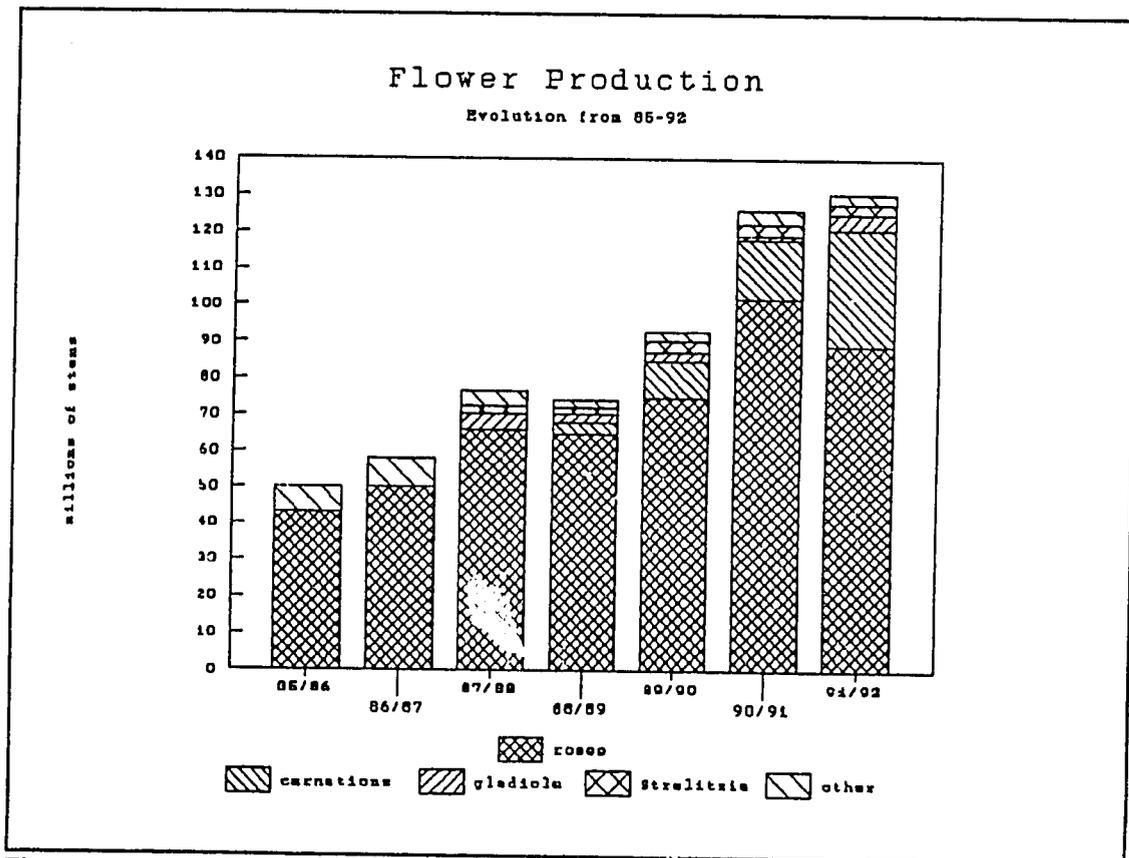


Figure 1

Morocco's flower exports have grown at the same pace. It is interesting to contrast the figures of Moroccan exports as presented by the EC data and the EACCE. According to Eurostat, Moroccan exports to the EC, alone, were 40% higher than total Moroccan exports registered by the Office des Changes.

Table One
Moroccan Flower Exports

	88/89	89/90	90/91	91/92
MAMVA:				
Exports (tons)	1,120	1,392	1,650	1,790
Value (DH)	71.5	86	116	99
Eurostat (into EC)				
Exports Tons				2,365
Exports Value (000' ECU)				11,577

For comparative purposes, the report will use the Eurostat data as its base of calculations because this allows us to compare against the competition, figures which are not otherwise available in Morocco.

B. GREEN HOUSE VERSUS OPEN FIELD PRODUCTION.

The figure below shows the both the increase in productive area from 1985 to 1992, as well as the structural shift in the technology, from open field to greenhouse.

As flower industry began to increase in the mid 1980's, the initial increases were in both open field and greenhouses. However, at the end of the decade, the realization that improved climate control was critical, led to the decrease in open field and the increase in acreage under greenhouses. In 1992, the great majority of the production is now done in greenhouses. The acreage has stabilized since 1990/91, due to the decreasing profitability of rose production (see Chapter 3) and the removal of over 20 hectares of rose producing greenhouses.

In 1992, roses accounted for 293 ha of the greenhouse production and 320.5 ha of the total productive surface. The split between the rest of the products is depicted in the Figure 3. Part of the responsibility for the shift towards greenhouse production is assigned to the change in the season for export of the product. While flower exports in the early to mid 1980's stretched well into June, most exports now cease by the middle of April, forcing the concentration of the production in the winter months when temperatures are more variable and requiring better control of the growing environment.

Moroccan Flower Growing Area

Evolution from 85-92

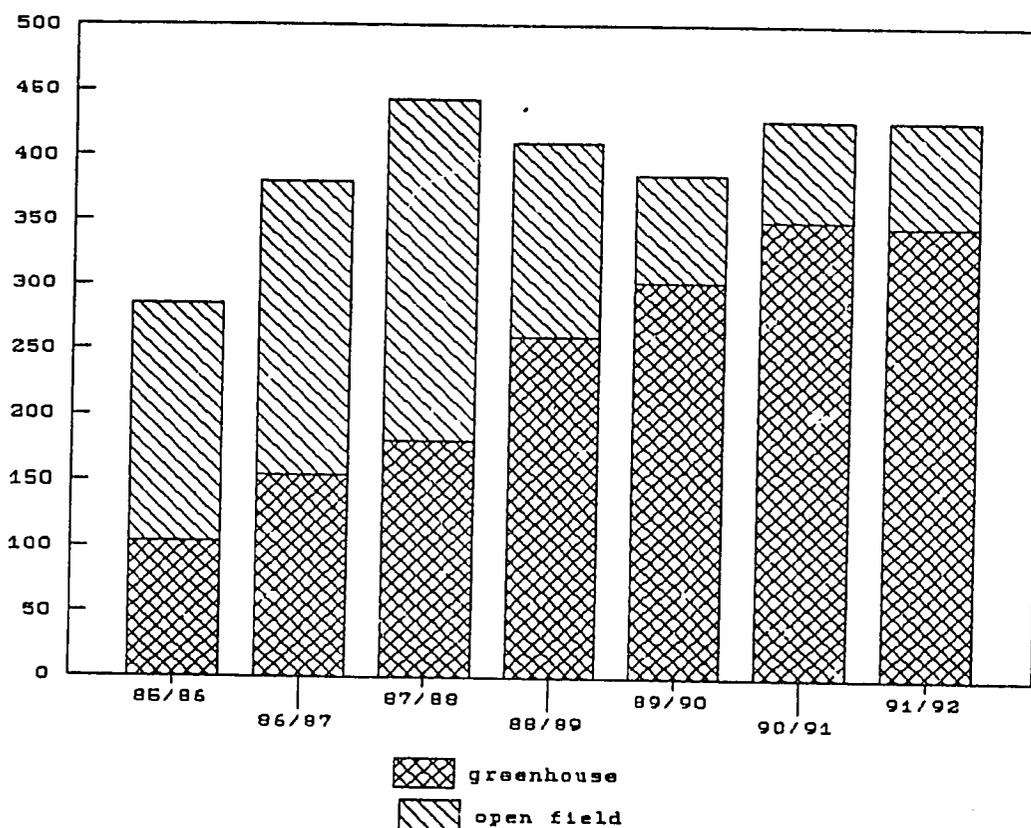


Figure 2

While roses remain the dominant product, there has been an increase in the mix of products produced by Morocco over the past 8 years. Figure Three shows the quantity of stems produced during the year. These figures represent primarily stems produced for export since the production season essentially ends with the export season. The low prices on the local market rarely justify the costs associated with the intensive production of flowers.

C. REGIONAL DISTRIBUTION

Morocco is a land of microclimates. The initial growing areas for roses began in Marrakech (the Haouz) which remains renowned for producing the best roses in Morocco. The green house production is concentrated in Agadir, Marrakech, and up the coast from Azemmour to Rabat. The open field production is largely based in the Souss Massa (around Agadir) and in the Rabat-Sale area, outlined in table one below.

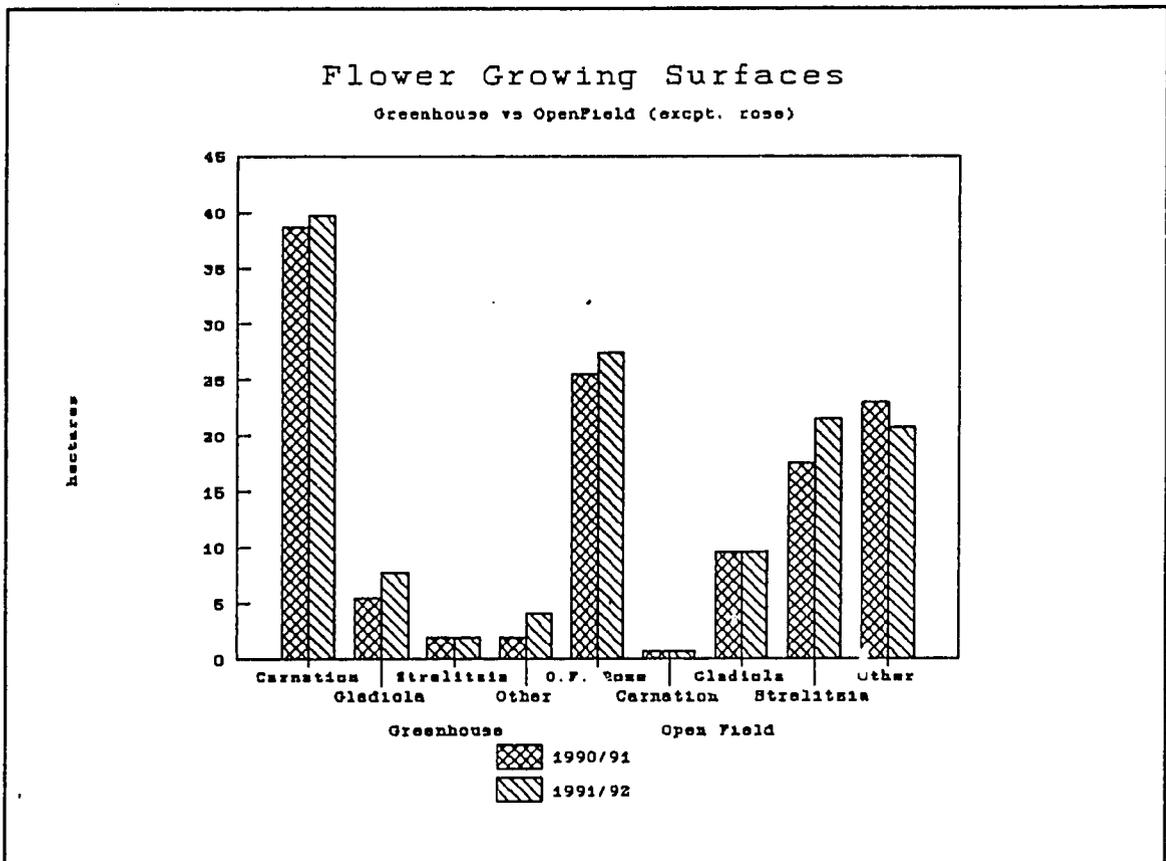


Figure 3

The three major producing areas have grown at about the same pace over the past fifteen years.

D. BREEDERS AND NURSERIES

The growth of the export market has led to the need for bedding plants. There are probably over one hundred nurseries providing rose plants for flower production. The MAMVA recognizes 132 ha of rose nurseries, of which 87 percent are located in the Tadla region and the other 13 percent in the Haouz, around Marrakech. As will be discussed in chapter 2, there was a spurt of nursery development for roses in the early 1980's and there are many uncertified rose plant producers.

The breeders supplying their plants to Morocco are mostly European, but some Americans, led by Meilland, NIRP, Kordes, Delbar, Rosen Tontou. They have spent many years and important financial resources developing the basic flowers which they sell.

There is much tension between the breeders and the nurseries over licensing and royalty payments. Since it is very easy to multiply new varieties, the breeders are careful with which nurseries they work. Among the rose plant nurseries, the breeders recognize that 10-15 are reliable, meaning that they will collect and pay royalties to the breeder.

Table Two
Growing Regions in Morocco, 1991/92

Region	Green House	%	Open Field	%	Total	%
Souss Massa (Agadir)	133.6	38.5	35	44	169	40
Haouz (Marrakech)	90	26		--	90	21
Azemmour	60	17			60	14
Tadla	29	8	6	7.5	35	8
Rabat-Salé	19	5	28	35	47	11
Benslimane	11	3	1	1	12	3
Gharb	4.5	2	0.5	0.5	5	1
Casablanca	0	0	9.4	12	9.4	2
Total	347		80		427	

Source: MAMVA

However, there are many informal nurseries producing pirated plants for sale at deep discounts. These flowers are not certified, leading to some risk on the part of the flower grower that they are diseased or not the specific variety desired.

There is some production of plants for export, totalling about 114 tons in 1991/92, down from 125 tons in 1990/91. This product goes mainly to France (85%) and Holland (9%).

There is one certified nursery for carnation cuttings, working off of certified stock from Holland. It supplies much of the local market and have authorization to export to neighboring African countries.

Gladiola bulbs are usually imported directly at a large size for production or are imported small and then developed for one year to get them up to size. This is done on the farms of the two main producers in Agadir and Azzemour.

II. DESCRIPTION OF THE PRODUCTION SYSTEMS

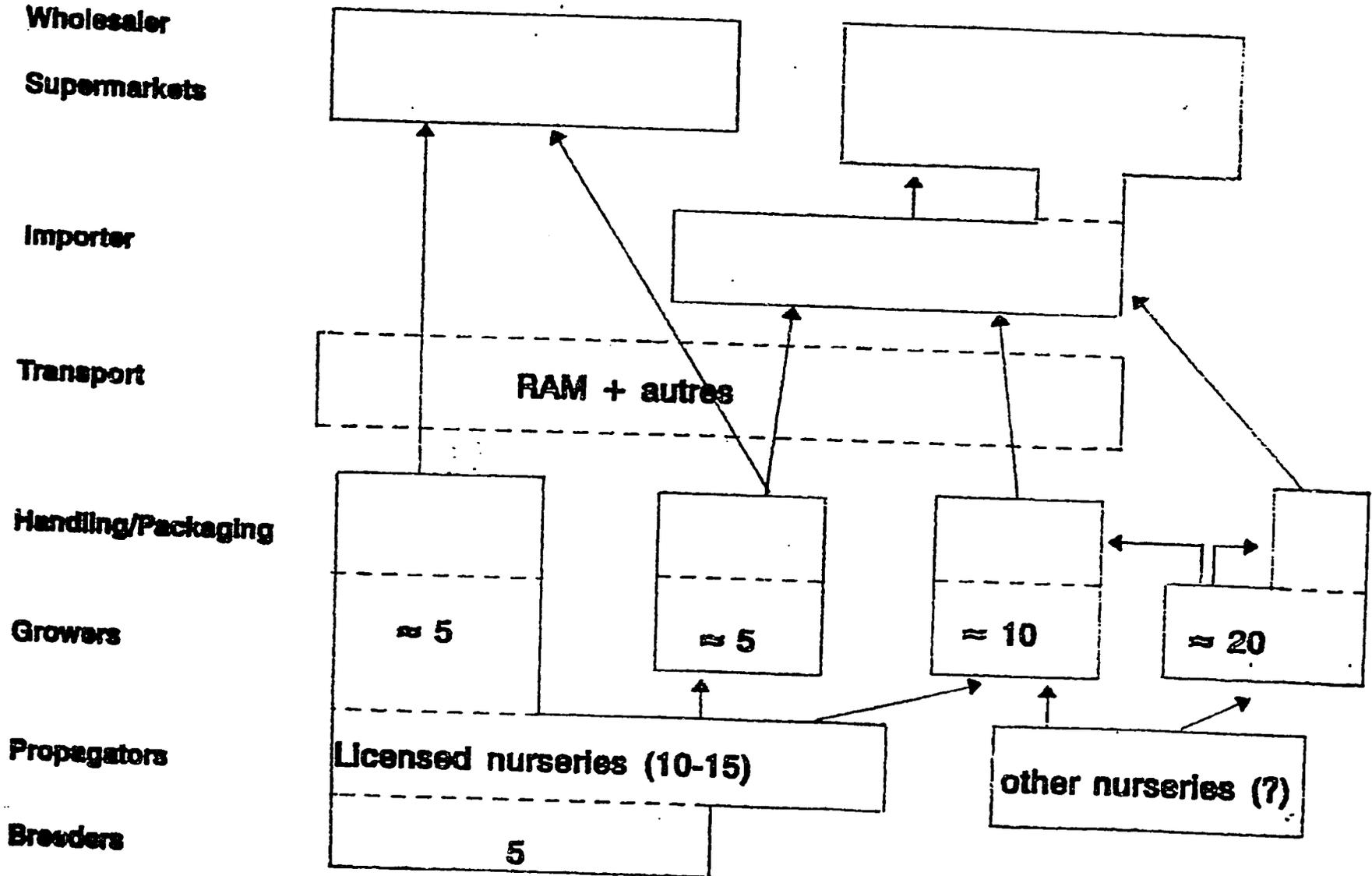
The flow of products in the flower industry can be presented with the help of a map of the system which takes the products from the conception through to final markets. This highlights the different channels through which product can flow within the overall framework of the subsector. The subsector can be mapped from two perspectives: its structure and the division of tasks. The Subsector Map, presented on the following page, tries to capture these differences to give us a good idea of the different actors in the sector and their marketing channels.

A. THE SUBSECTOR MAP

The flower industry contains many different activities at different levels in the marketing chain. The map presents the different actors, differentiated by their technologies. At the base of the map we find the breeders, followed by the nurseries which multiply their selected plants. After this is the production of the flowers and their preparation for export. Transport and marketing of the flowers are at the end of chain, just before the markets; which are detailed by the quantity of product which passes to each country. These functions are usually carried out by highly specialized actors, of differing origins:

- The breeder develops the new plant material. These are usually international firms doing their product development outside of Morocco but introducing the plant matter onto the local market;
- The propagators (nurseries) are usually tied to one or more breeders, but not always. This is the source of many problems, since many of the nurseries sell pirated plant matter, as we will see below;
- The growers are the core of the industry, but this discrete function is usually handled by a simple technician or farm manager who has learned on the job. The cases where the owner of the farm is also the manager are rare.
- The packing and treatment for the market are always tied to the production of the flowers, but is usually managed by a separate technician or worker with experience at this task.
- Transport, for roses, is monopolized by RAM working with the other airlines which are tied to it by bilateral agreements;
- The marketing is usually in the hands of the owners of the farms since this is where the money is, bringing an accountant and a secretary to manage the process. However, since this is usually separately and at a distance from the farm (production), there are often errors in communication on availability and quality of product.

ROSE SUBSECTOR MAP



1. The Main Actors

a. Breeders and nurseries

Meilland, represented by its local subsidiary, Hortimex, controls about 53.4% of the production of rose plants in Morocco. Nirp, Kordes, Rcsen Tonto, and Delbard complete the list of international breeders represented in Morocco. These firms produce/multiply their plants in licensed nurseries which ensure follow-up to collect royalties or directly with the flower growers who handle the royalty payments for other growers. However, many nurseries operate outside of the legal system, growing plants at will and selling them without collection of royalties. This mechanism operates in an environment without laws to protect the breeder from pirate nurseries nor to guarantee the quality/purity of plant for the grower which buys from the pirate nursery. With respect to this, a draft law is being studied which could be enacted soon which will provide a legal framework to protect the breeders. Only a dialogue between the two sides can lead to a consensus between the two parties. The closing of non licensed nurseries will be absolutely necessary to purify the vegetative matter and provide better controls which will ensure the rights of the breeders and the growers are respected.

b. Flower farms

The average surface area of a farm in 1985/86 was about 5 ha, but we find three size groupings among the farmers: 3-5 ha, 10-12 ha, and 20-30 ha, with the odd case of 0.5 or 1 ha for farms which are in the trial stages. Surface area does not necessarily correspond to the production technologies (heating, use of rockwool, fertigation, etc.). There has, however, been an evolution towards larger sized farms, since 1985, a sign of confidence in the growers in their profession. Many of the companies have grown, while at the same time changing their main crops (the case of Prim'rose which shifted over 20 ha from roses to carnations).

But this evolution is in a state of stagnation. After years of growth, several farms have reduced their acreage by as much as 20%. Some farm managers would prefer to get better technology, but the farm owners do not agree, since the latter want minimum cost which usually means lower quality and lower productivity per square meter.

The use of greenhouses has increased greatly, shooting up from 104 ha in 1985/86 to 351 ha in 1990/91, then dropping slightly to 347 in 1991/92. This overview of the surfaces planted provides a view of the dynamism of the sector, but also demonstrates that the period of steady growth and confidence is over. The stagnation of 1992 probably represents the end of the era of flower growing for anyone, and the beginning of the era of purely professional flower growers. It must be recognized that the market is tightening up in Europe and elsewhere, forcing better techniques and production controls.

2. The Production Technologies

a. The main production tool: the greenhouse

The greenhouse has seen a remarkably rapid evolution. Flower (rose) production in Morocco started in the open fields in the 1970's, then moved towards some greenhouse production by 1986 (36%), and finally has reached 83 percent in the greenhouses in 1992. The wooden greenhouses, the *Canaries* and the *Delta 9* greenhouses were the first ones implanted in the industry.

By 1986, the growers were already aware of the differences in productivity between the two systems. The *Canaries* proved more efficient than the *Delta 9*'s with better aeration and lower costs of production. The *Delta 9*'s have higher condensation, need more labor for weeding, yet can accommodate lower plant densities (gross acreage) due to the shape of the *Delta 9* greenhouses and lost space around the edges.

Since 1985/86, there has been a major trend towards using the multichapel greenhouse, *Tombarello*. This shelter costs much more, about 40-45 Dh per m², compared to 25-30 Dh per m² for the *Canaries*, but is more technically adapted even though it is weak on airtightness and management of the ventilation. At the end of 1992, Canary greenhouses accounted for 53 percent of the greenhouse area. However, the area under the *Canaries* is continually shrinking, in favor of the multichapel greenhouses (163 ha in 1992), which are 90 percent *Tombarello*.

The remaining 10 percent of the multichapel greenhouses, about 16 ha, have double layer, inflatable greenhouses, such as the *Richel*, *Filclair*, and now the *Staim*. These three brands are fairly airtight, and have automatic ventilation. There is an important difference in price between the *Staim* and the other two, which should limit its acceptance. However it should be tried for its productive advantages for the different floral species.

Plastic covering is often PVC with 180 or 220 microns thick, made in Morocco. The growers are wary of the weak resistance of this material, its rapid deterioration, less than 2 years, and the limited light transmission, which gets worse with age. Some growers import three layer plastic, which is more resistant to ultraviolet, and anti-dust. This plastic may last up to four years, but is more expensive.

b. Application of the different horticultural technologies at the production level.

Heating: There were 38.5 ha (11%) of heated greenhouses in 1992. Heating oil is used with pressured air.

Irrigation: About 261 ha are equipped with micro-irrigation, or 61% of the total. Those with fertilizer injectors (fertigation) are about 226 ha, and appears to becoming much more popular with the growers. Computer controlled fertigation is rare. It must be a function of the soil, the substrate, the age of the plant, and other environmental conditions, so requires a good adaptation to the growing program.

Growing Techniques: Mastering growing techniques and scheduling the harvests is an art requiring good timing, optimal conditions and proper technical handling. Therefore it is a good mix of the three.

c. Postharvest technologies.

Most growers have their own packing houses at the farm (90 percent according to Mokhtari in 1993). Obviously some are better equipped than others, with differences in the area of the cold rooms and the nature of the equipment (graders, sorting tables, conveyor belts, hydration basins, or bunchers). A majority hydrate their roses, but very few use chemical preservatives. The quality of the water from the wells is often good, which permits a better rehydration. Rinsing the basins with bleach is common.

Though many people put their flowers in coldrooms, precooling is rarely done properly. This requires the blowing of cold air through the flowers, which requires special equipment.

The packaging of the roses is usually in bunches of 5, 10, 20, or 25 flowers per bunch, with 20 flowers as the norm for France and most of Europe. The USA and Canada use 25 flowers per bunch. However, the number of flowers and the range of colors in each bunch is up to the client. For carnations, bunches are either of 10 (for spray carnations) or 20 (for the standard carnations). Flowers are generally covered with perforated cellophane. Several rose exporters use undulated cardboard to protect the buttons from the box, but this has a lower aesthetic value for export.

Annex four reviews these and other postharvest handling technologies in greater detail.

d. Transport and marketing

Airfreight is the only transport used for roses, but other products such as carnations and gladiolas are now being trucked to Europe. As is discussed in Chapter V, the cost of transport is the single most important cost in the flower industry. Trucking product has several advantages in terms of cost, quality control and shipping flexibility:

- **cost:** standard carnations shipped by truck to Paris would cost between 0.22 - 0.24 DH/stem while the same stem shipped by plane would cost about 0.28 DH. This marginal difference in the cost can be quite important;
- **shipping flexibility:** The exporter is not bound by limited cargo space on RAM; and
- **quality control:** as noted below, there are some problems still remaining in handling flowers at the airport (see Chapter V, 2.c, below). Particularly in the later months of the year (May, June and July), the exporter can benefit from trucking the product, sending it directly from his cold room into the truck and delivering it to the client without confronting the warmer temperatures at the airports and possible damage from mishandling.

Research into the requirements to truck roses to Europe would be valuable as the cost of the airfreight is a heavy burden on the grower/exporters.

While most transport has been to traditional markets such as Rungis and Alsmir due to limits placed by destinations for the airfreight from Morocco, this is being opened up due to the new routes which RAM is developing.

In sum, the Moroccan Flower Industry, up until 1993, can be represented by three major categories of growers:

- Category 1: Growers of roses for export
- Category 2: Growers of carnations and other flowers for export
- Category 3: Growers of flowers and other plants (ornamentals) primarily for the local market.

There is a lot of evidence, however, that many growers seek to diversify their production beyond roses, by following the lead to switch into carnations for the 1993/94 season. They will maintain some of their rose production for cash flow purposes.

3. The Channels of Supply

These categories can be further divided by their levels of integrations between the different levels, or by their technologies. The subsector map for roses, which largest part of the industry, is presented below.

a. Channel One: Vertically integrated growers, who represent a breeder, grow their own plants and flowers, treat and pack their products, and market the flowers to the wholesaler. Within this group, we can further divide the channel into firms with intensive technology and those which use less advanced technologies. The first ones have the latest models of greenhouses which are the best performing and which have adopted the latest technologies (heating, artificial growing media, automatic fertigation, etc.), while the second group uses traditional multichapel greenhouses. These growers have well trained technicians or agronomists running their operations.

b. Channel Two: The growers in this channel are similar to the second set above, with less advanced technologies, but who purchase their plants from a nursery and pay the royalties to the breeder (through the nursery). They have control of their product through to the marketing phase. These also have relatively well trained staff.

c. Channel Three: Growers in this channel are less integrated and use varying technologies. They have older greenhouses, some in metal and some in wood, with or without heat, and their own packing houses. They are less organized for the marketing, often relying on others to handle their sales, just as they buy their plants from the nurseries. These growers are less likely to pay royalties.

d. Channel Four: This channel represents the low cost of production strategy. They grow under wooden canary greenhouses, expending little money but often with low yields of mediocre quality to show for it. Some of the growers don't have their own packing houses. They have little control over either their supply of plants or the marketing of their product at the export level. These factors may be attributed to the fact that it is still a young industry yet it has different activities requiring very different skills.

We see a clear trend between the channels with channel one as the best performing and best poised for the future. They have evolved towards their current position by equipping themselves with trained horticultural specialists to control their production and specialized marketing agents to better respond to their markets. Some have sought out the breeders to become their representatives in order to gain better control over their plant stock, as well as reduce the overall cost of their plant material and gain profit from the sale of plants. In the increasingly competitive environment for flower growers, these steps are the building blocks for the future.

B. COSTS OF PRODUCTION AND PROFITABILITY

The costs of production for roses vary depending on the type of greenhouse and other equipment/facilities, whether they use heating, and the level of debt needed to finance the operation. Annex 6 provides a complete description of the different costs for companies in different channels. A summary of the major cost elements for four different operations shows this range:

Table Three
Comparative Costs of Production

	Channel 3 Company # 1	Channel 1 Company # 2	Channel 3 Company # 4	Channel 2 Company # 4
EXPENSE				
FIXED COSTS	684,000	1,845,000	692,000	558,000
Structure	70%	70%	58%	64%
Irrigation	9%	8%	17%	
Heating system		1%	2.5%	
Rockwool		7%		
Crop	21%	13%	24.5%	33%
OPT. COSTS:	285,000	599,000	423,000	814,000
Production	33.5%	47.5%	17%	28%
Packing	6.8%	1%	5%	8%
Transport	16%	21%	24%	23%
Deprec'n Fin.	44%	31%	55%	41%
REVENUES	760,000	1,200,000	700,000	1,350,000

We see from these figures that depreciation and financial costs are the biggest parts of the operating budgets in all cases. Among the production costs, heating represents the greatest share for the two companies which heat (between 60 and 75%). Transport, discussed later in Chapter Five, represents a smaller portion of the cost than is usually cited. The costs associated with packing the flowers are also surprisingly low.

It is difficult to draw many conclusions from these figures since many other factors enter into the formula which we cannot pinpoint. A good case in point is the financing costs which vary considerably based on whether a company is self-financed or debt-financed. However, we do note that the companies using heating, even though they pay much more in production costs, have much higher revenues. This implies better yields per square meter and an ability to hit the key target dates, which will be examined more closely in Chapters Four and Seven. The standardized costs, as viewed by the MAMVA are presented in Annex Six.

A very important element in the cost structure for carnations, which is different from roses is the need to replace the plants more frequently. With each cutting costing 2 dh and only lasting for 2 years (with decreased yield the second year), those firms which

are vertically integrated to produce cuttings for a breeder under license benefit quite significantly from the cost savings on the production of cuttings. As is evident from annex 6.2, the cost of the cuttings is the single largest operating cost, after transport

C. FIRMS

The breakdown of the number of firms in the industry and their location within one channel or another is presented in the map on page 7. Clearly the largest number of firms is in Channels Three and Four, but the concentration of the production is in channels one and two. After the five main breeders which are represented in Morocco, we have the 132 ha of nurseries, representing about 40 nurseries (this figure is an estimation).

III. MARKETS FOR CUT FLOWERS

A. WORLD MARKET OVERVIEW

There has been a significant expansion of consumption and trade of flowers worldwide during the last 5 years. World exports of flowers has increased from \$2,219 million in 1987 to \$3,620 million in 1991. This represents a significant increase of 74.04%. 25 % of floral exports are now coming from developing countries.

However, the flower trade levelled off in 1992. For the first time in forty years, the total turnover in value of product passing through the Dutch flower auctions in Holland decreased. Holland controls more than 65% of worldwide flower exports, according to the Flower Council of Holland. Approximately 10% of its turnover is in imported flowers from developing countries. It is important to note that while total value was down, the volume still increased, indicating a worldwide decline in average flower prices.

This flattening out of the aggressive growth pattern is generally attributed to the current global economic downtrend and no early improvement is predicted. The best chances for an increase in consumption will be if the U.S. market begins to consume more (see section 5, below).

During this same period of time, the Morocco flower industry has been evolving. Morocco's flower exports have increased from 648 tons in 1986/1987 to 2,365 tons in 1991/1992. This represents an increase of 365% in 5 years.

Morocco's export flower industry is relatively young. It was started in the early 1980's and has traditionally supplied roses to France, with whom Morocco has enjoyed a long history of trade. During the 1991/1992 season Morocco supplied 799 tons of roses to France, more than 52 %, of the total 1531 tons that France imported. This was done at an average of 6.67 ECU's, the highest value of any imported roses into France. Most of this product is sold to the main flower market in France, Rungis, located near Paris.

As Morocco's flower industry has begun to mature and to struggle with establishing itself in the world market place, it has become obvious that it needs to expand its horizons beyond France, into more countries of the European Community and beyond. Morocco has enjoyed some success in branching out beyond its traditional market of France. During the 1991/1992 season, of its total exports of 2,365 tons, 1232 tons or 52.1% was exported into other countries of the EC. This is a marked improvement over the recent past when it was estimated that more than 70% of Moroccan exports were going to France.

Table Four
Moroccan Flower Exports to the EC (1991/92)

Country	Tons	Total ECU	ECU/KG
France	1,133	6,370	5.62
United Kingdom ²	494	1,205	2.44
Germany	381	1,919	5.04
Holland	186	719	4.86
Italy	90	895	9.94
Belgium	54	338	6.26
All Others	27	131	4.85
TOTALS	2,365	11,577	4.90

To secure its position in the world marketplace, Morocco must continue this trend. Its obvious concern is its future opportunities, recognizing the current world oversupply of flowers and generally declining prices.

An important characteristic of the world flower trade is the focus on a few key dates when demand momentarily outstrips supply and the price of flowers increases considerably. The most important of these is Valentines' Day, followed by Christmas, Mother's Day and All Saint's Day. During those periods, tremendous profits can be gained if the growers can put as much of their production as possible into the market at that time.

B. EUROPEAN MARKET OVERVIEW

1. General Trade Data

The European market is the world's largest flower importer, including product which is grown within the EEC, particularly in Holland. Germany is the largest consumer of imported flowers.

² 98% of exports to the U.K are carnations

Table Five
Imports of All Flowers into Main EC Markets
1991/92

	EC total	Holland	France	UK	Germany	Italy
Morocco	2,365	186	1,133	494	381	90
Kenya	19,312	13,261	52	978	4,930	9
Colombia	19,320	1,617	662	9,340	4,485	180
Canary Isl.	2,213	162	12	720	1,128	314
Zimbabwe	4,625	4,086	3	344	134	45
Israel	10,463	3,138	407	2,362	4,254	130
Totals	439,877	40,481	47,693	54,719	237,482	18,779

The major export for Morocco has historically been roses. Carnations have been successfully produced and exported for the last few years and gladiolas are just beginning. These are areas of possible expansion. The following sections look briefly at these three products.

a. Roses

Since 1988 there has been a steady progression in imports of roses into the EC, from 44,671 tons to 61,415 tons in 1991/92. The table below shows the evolution between the exporters over the past 5 years. While Morocco's total tonnage has also steadily increased, Morocco's share of total non-EC imports dropped from 13.7 percent in 1990 to 11.7%. Kenya is the latest entrant into the market, with a very rapid rise since 1989 up to 15.5% of the imports from non-EC countries.

Table Six
Rose Imports into EEC - Tons
(% is of the Non EC Imports)

Exporting	'88	%	'89	%	'90	%	91/92	%
Morocco	635	10.4	799	12.2	1,040	13.7	1,280	11.7
Kenya	312	4.8	536	7.1	1,693	15.5		
Colombia	544	8.9	390	5.9	432	5.7	1,075	9.8
Canary Isl.	1,116	18.3	996	15.2	1,049	13.7	1,001	9.2
Zimbabwe			244	3.7	627	8.3	1,982	18.1
Israel	2,871	47	3,241	49.4	3,122	41.3	2,314	21.2
Total all countries	44,671		47,115		52,715		61,415	

Since 1988, there has been a steady decrease in the value of roses, amounting to 18.3% decrease in the unit value of the exports. Most of this decrease comes from the EC produced and exported roses (primarily from Holland), but there has also been an 11.7 % decrease in prices over that period.

Table Seven
Rose Imports into the EEC (ECU)

	'88	'89	'90	'91/92	% change (-)
All Roses	5.35	5.31	5.18	4.37	(18.3%)
Rose Imports (extra EC)	6.13	5.93	5.86	5.4	(11.7%)
EC Roses (Intra)	5.12	5.13	4.97	4.15	(18.9%)

Source: Eurostat

The differences among the average prices from the exporting countries are considerable: While Kenya has moved into the second position on the tonnage list, they are getting less than half the price that Morocco is getting per kg, even though they are exporting during the same months. The same is true for Zimbabwe. The most surprising element of the comparison of prices is that Morocco captures consistently higher average prices in the EC than all other exporters. This is most likely due to the phenomenon that most exports go through the wholesalers at Rungis rather than through regular importers (see description in section C.4 below). At the same time, since most of the product from Zimbabwe and from Kenya passes through the auction in Holland, they get the lowest price. There does seem to be a gradual evening out of prices per kilogram in the 1991/92 season between Morocco, Israel, and Colombia.

Table Eight
Rose Imports into EEC - Price/KG

Exporting country	'88	'89	'90	'91/92
Morocco	7.33	7.2	7.55	6.56
Kenya	2.73	3.04	2.89	
Colombia	5.77	3.15	6.23	6.83
Canary Islands	5.92	6.63	6.65	6.87
Zimbabwe	3.05	3.68	4.48	
Israel	6.52	3.79	6.09	6.29

Source: Eurostat

The figure below presents this price variation over the course of the year. From this it is clear that prices are highest during the months when Morocco exports to the EC, i.e. November through March.

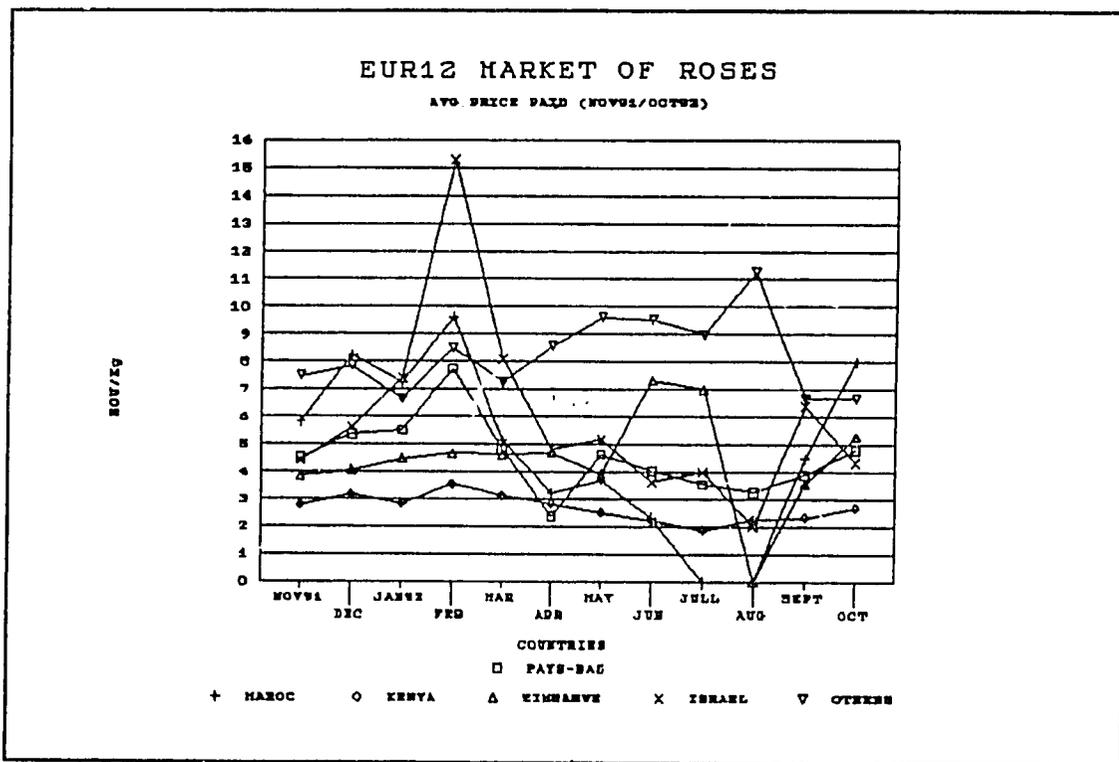


Figure 5

b. Carnations

Tonnage wise, Carnations represent the largest single product imported into the EC. At 75,000 tons, they represent 17% of all flower imports. The Table below demonstrates that Germany is the largest European importer of carnations, with about 43% of total EC imports in 1991/92. The United Kingdom and Netherlands are also large consumers. Carnation imports into France are limited.

The table below shows the progression of carnation imports into the EEC since 1988. The tonnage has increased over the past 5 years, even though there was a decrease during 1990. There has been relatively little variation in the average price per kg of the carnations over that period. It is important to note the very steady increase of the Colombian exports, which have increased by 220% and the increase of the Kenyan exports over that same period by 193%. Given the relatively gentle growth of the overall category, these increases have come largely at the expense of the Israelis, who have decreased to only 45% of their 1988 totals and the Spanish, who have dropped considerably to just over half of their 1989 peak. We also note that the average price for carnations was 3.79 ECU/KG in 1991/92, much lower than the price for roses which was 4.37 ECU/KG and 5.4 ECU/KG for non EC roses.

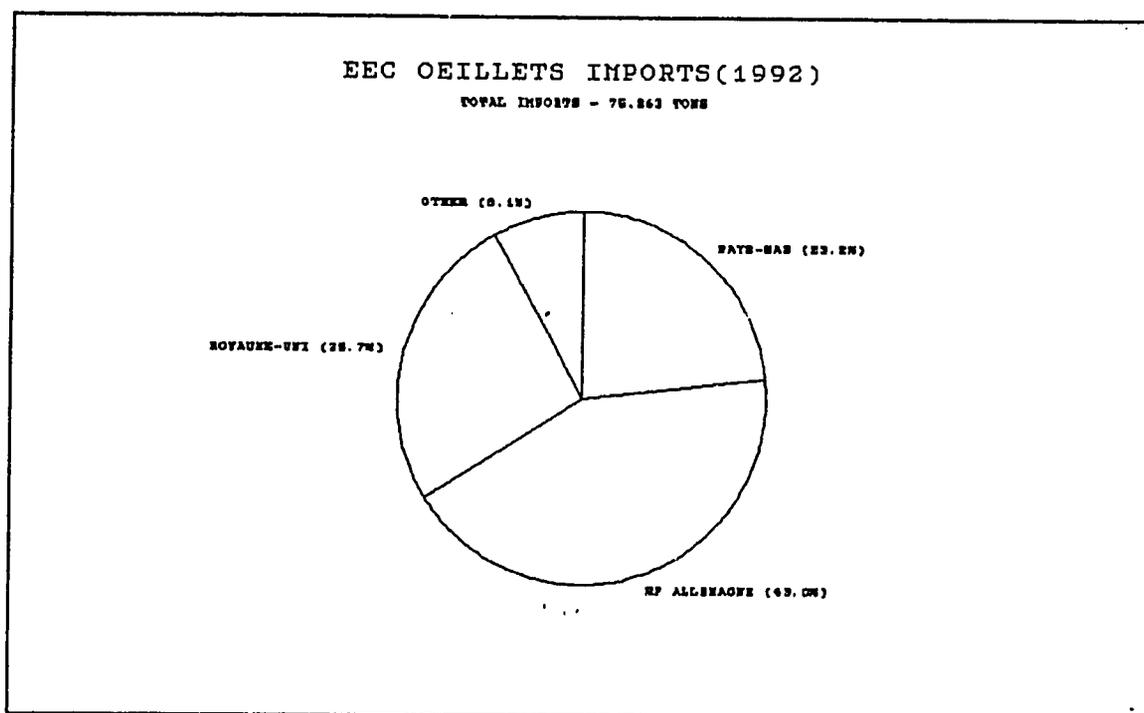


Figure 6: EEC Carnation imports

Table Nine
European Imports of Carnations

Exporting Countries	'88	'89	'90	'91/92	%
Kenya	4,326	4,804	4,738	8,381	93.7
Colombia	7,373	8,004	10,618	17,147	132.6
Israel	7,697	6,267	6,766	3,427	(55.5)
Netherlands	25,642	26,472	26,379	25,315	(1.3)
Spain	17,156	20,088	14,119	10,269	(40)
Total all Countries	69,941	75,252	71,096	75,263	7.6
Total Value	258,888	264,649	254,739	285,586	10.3
Average price/kg	3.5	3.39	3.58	3.79	8.3

Source: Eurostat

Exporting countries focus their exports. The table below shows the major non-EC suppliers in 1991/92 and their respective client countries. It is clear that Colombia concentrates its efforts on the UK and German markets, with Kenya shipping mainly to Holland (through the auction) and Germany (direct imports).

Table Ten
Carnation Imports into Major EC Markets
(1991/92 in tons)

Country	EC Total	Holland	France	UK	Germany
Morocco	958	61	219	488	161
Kenya	8,381	4,189	36	598	3,509
Colombia	17,147	1,546	146	8,905	4,004
Canary Isl.	8	0	0	3	4
Zimbabwe	31	13	0	18	0
Israel	3,427	1,204	29	692	1,460
Totals	75,263	17,473	947	19,353	32,334

Source: Eurostat

c. Gladiolas

Gladiolas are still a very small market. In 1991/92, the EC imported only 113 tons worth of Gladiolas from outside of the EC, with 31 of those coming from the U.S.! Overall, the EC imports 3,691 tons of gladiolas, with 95% of those coming from Holland. Unlike roses, which have a high unit value, gladiolas have a fairly low value, averaging 2 ECU/kg. Those coming in from the U.S. capture the highest price, at 3.58 ECU/kg, while Moroccan gladiolas came in well under the average at 1.58 ECU/kg, even though they were exported during roughly the same months as the U.S. production.

The traditional export market for Moroccan flower exports has been France. As can be seen in the figures above, France is a relatively small importer of the three main flowers which Morocco produces: roses, carnations, and gladiolas. As the Moroccan flower export industry has expanded in the last five years new markets within the European Community have begun to develop. Morocco has realized that in order to continue the expansion of the flower sub-sector, greater efforts must be made in further developing markets beyond France.

2. Survey of the Major European Importing Countries

A survey was made of three targeted European countries and France to assess current market perceptions of Morocco's flower exports on a comparative basis with other exporting countries for flower quality, service and pricing.

Over 20 major import/distributors were interviewed in France, Germany, the U.K. and Holland for their impressions of flower products and services from Morocco. A detailed list of these companies surveyed is included in Annex Two of this report.

a. Survey consensus:

All importers interviewed believed there was a current "oversupply" of flowers in the world market, creating a "buyers market." This has been evidenced by higher tonnage volumes and generally lower prices on the world market. For the first time in forty years "turnover" defined as gross monetary volume decreased through the auction system in Holland which controls approximately 65% of the world supply of flowers, according to the Flower Council of Holland.

This is a major consideration for the Moroccan flower industry to consider as it begins to develop a strategy for future market development.

The current "oversupply" of flowers was generally related to two key issues:

- Increase of supply of products from developing countries such as Kenya, Zimbabwe, Turkey and Colombia.
- General global economic downturn resulting in a decrease in discretionary spending on non essential items.

It should be noted that the survey consensus was that this "oversupply" situation would likely improve within the next twenty four to thirty six months because of an improvement of the global economy and the elimination of marginal producers of flowers currently supplying the world market.

The challenge for Morocco, is to establish itself as a quality supplier of roses, carnations and other flowers as it develops its international markets in the 1990's and beyond.

b. Market observations about the Moroccan flower industry

The following remarks were made by numerous importers relative to Moroccan product and business practices. They reflect the prevailing perceptions in the market place, which must be taken into consideration.

- Moroccan flower quality is perceived as acceptable in the market place, but many problems exist in packaging and delivery.
- Moroccan exporters are consistently identified as "difficult to do business with."
- The Moroccan flower industry is generally perceived as lacking in sufficient technical talent to produce and deliver a premium product.
- Moroccans are thought to target their flower industry output to the unique needs of the French market, where they can command higher prices, to the exclusion of other EC markets that would use their products with some modifications.

- Moroccan flower exporters are believed to be lacking in their general business acumen resulting in a consistently poor delivery record.
- International business negotiations and transactions are most commonly consummated in the English language. Many EC flower importers sighted lack of expertise in English as an inhibitor to Moroccan export expansion.
- The Moroccan flower industry is perceived to be lacking in "sensitivity to the needs" of markets in UK and Germany. For example, the traditional Morocco roses delivered to the French market will not sell well in the German market, which would prefer shorter stems (30 cm. to 60 cm.) with greater color selection at lower prices. This presents a market development opportunity.
- The EC duty requirement on Moroccan flowers is simply treated as "another cost" by the flower importers.

c. General market observations

The following points were made by many of the importers in the European market and are important for Moroccan exporters to acknowledge and take into consideration in their day to day dealings with the European Market.

- Most flower importers are seeking long term supply relationships with their exporters and continually work to develop such relationships. These relationships allow them to build a reliable supply network of quality flowers to supply their wholesale customers throughout the year. These long term relationships allow for negotiation year round or seasonal pricing, regular shipment commitments or standing orders.
- Importers use primary and secondary suppliers in their "supply network" and will supplement regular standing orders with primary suppliers with fill in orders at "market price" from secondary suppliers.
- Most importers are seeking quality flowers but do handle a range of qualities to meet the varying needs of their wholesale customers.
- Market price for export flowers is not determined by the flower importers. The market price is established by the daily consumer demand and reflected in wholesale prices throughout the world, primarily dictated by transactions at the Dutch Auctions each day.
- A flower importer "pre-sells" his product to his wholesale customers, based on their market selling price, before he commits a purchase from a flower exporter. Therefore, an importer is simply a "pass through" or access to the real market place, who generally works on a small percentage basis.

- Flower importers know the Dutch Auction prices daily because they are "in the market" and often before a flower exporter from a producing country.
- Worldwide weather variations have a tremendous impact on world flower supplies. A freeze in Israel can drive up the price of carnation and a heat wave in Kenya can depress the price of roses, because of unusually high production.
- EC spring and summer production dramatically impacts the export price potential, because the supply increases and the flowers are "local" and therefore much fresher than imports.
- Many EC flower importers would prefer to purchase flowers from Morocco on an FOB basis (with prepaid, but invoiced transportation costs) just as they do as standard practice in many of the other exporting countries. This allows them to negotiate and schedule the air freight space, control their inbound deliveries, track shipments and negotiate special transportation rates. Most flower importers are experts in this arena and are somewhat frustrated by Morocco's flower industry insistence to sell C & F (cost and freight).

C. COUNTRY AND MARKET CHARACTERISTICS

1. United Kingdom

The United Kingdom imported 54,718 metric tons of all flowers during the period November 1991 through October 1992. Morocco supplied the UK with 494 tons of this total or slightly less than 1%.

Of the 494 tons of "flowers" from Morocco 488 or 98.8% were carnations, primarily spray carnations. However, this represented only 2.6% of the total UK carnation imports of 19,353 metric tons for the same period. The primary competition to Morocco for these products is Kenya, Colombia, Turkey, and Israel. We note that Moroccan carnations capture the lowest average price on the U.K. market, nearly one half the price received by Israel, the highest priced exporter.

This compares to:

<u>Country</u>	<u>Tons</u>	<u>Percent</u>	<u>ECU/KG</u>
Spain	525 tons	2.71%	3.22
Kenya	598 tons	3.09%	2.68
Israel	692 tons	3.57%	4.51
Turkey	2,105 tons	10.88%	3.71
Colombia	8,905 tons	46.01%	4.2
Morocco	488 tons	2.6%	2.44

The United Kingdom market is comprised of approximately 21 import companies serving several hundred wholesales on 64 markets throughout England, Ireland, Scotland and Wales.

It has traditionally been a "consignment" or commission market. This means that flowers entering the market have been sent by the producer to be sold by the wholesaler on a commission basis. The wholesaler would sell the products on the market for the market price and simply retain a commission of approximately 20% and forward the balance of the proceeds to the producers.

Historically, the producers were domestic. Because of the large network of wholesale markets throughout the UK as imports began to enter the market, they also came on commission or consignment. With the globalization of the flower industry with many exporting countries supplying the world markets, the UK became a "dumping ground" of sorts, for over supplies of flowers because they could be sold on consignment. This has caused a generally depressed market price for flowers in the UK over the years.

However, with the expansion of the import industry in the UK, which realized rather dramatic growth in the late 1980's, the network of importers supplying the wholesale distribution system began to purchase on a "fixed price" basis; that is, the importer and the exporter would agree on a fixed price for the product, before it was exported. This allowed to importer to know his landed costs, after adding transportation and handling, so he could sell the product to his wholesalers on a fixed price as well.

This has changed the market in the UK. Now the wholesalers survey their market needs from their retailers and inform the importers of the price they can pay and the quantity they desire. This means the importers (who essentially are a middle man working on a commission usually between 15% to 20%) are basically buying for the wholesale markets, who determine the price an importer can buy at.

It is important that the Moroccan flower exporters understand that "importers" are a pass through to a well established market distribution system, that requires quality product and service delivered at a predetermined "market price." This situation prevails in most export markets in which they are participating in or hope to develop.

In 1987, the UK flower importers organized themselves into a group called Flower Importer Traders Association (FITA). A list of these importers is provided in this report in Annex Three. The effort to organize was for the primary purpose of combining import shipments to lower air transportation costs from Colombia, by combining many purchases into chartered air shipments. It has also evolved into a general industry credit clearing house for their wholesale customers.

2. Germany

The German market is the largest importer of flowers in the world. In 1991 it imported \$1,245 million in flower products. Most of the flower imports entering Germany are coming from the Netherlands.

The German per capita consumption of flowers is the fourth highest in Europe, after the Netherlands, Italy, and Switzerland (KEDS Project Report, 1992).

Interviews with key importers in Frankfurt indicated the following information. Germany prefers roses that are from 40-60 cm. in length. They buy red roses, but also like pink and yellow with some white. They prefer what they refer to as "sweetheart" varieties which refers to smaller bloom size in proportion to the shorter stems above. This is in contrast to what they are being offered from Morocco, which tend to be most red, long stem and large bloom flowers. They know that France prefers this type of rose and that Morocco is a traditional supplier of this type of rose. They believe there is a market opportunity for Morocco in Germany if they offered shorter roses with more color options. They also prefer tighter buds on the flowers than Morocco sells to France.

Table Eleven
German Imports of Roses and Carnations 1991/92

Country	Roses	% of total	Carnations	% of total (non-EC)
Morocco	219	4.1	161	1.6
Kenya	539	18.6	3,509	35.7
Colombia	377	8.5	4,004	40.7
Canary Isl.	449	9.3	4	0
Zimbabwe	116	2.7	0	0
Israel	991	32.8	1,460	14.8
Total EX-EC	3,398	7.2	9,841	30.4
Holland	43,234	91.4	18,076	56
Italy	605	1.2	3,218	10
Total	47,305		32,334	

Moroccan roses are generally perceived as being of good quality, but "high priced" for the German market. The EC quota and duty are somewhat of an issue. Some importers had bought flowers from Morocco, thinking the quota had not yet been reached, and sold them to their customers, only to find out later that they owed duty because the quota had just been exceeded.

The carnation quality from Morocco was rated high. Spray carnations are thought of as an inexpensive flower in Germany.

Germany has flowers offered to it from all over the world, and is now generally considered to be a "buyers market."

General importing experience with Morocco ranged from quite good to near comic. German importers generally believe that Morocco lacks qualified production, packing and shipping personnel. They pointed out that most developing countries employ expatriate experts to ensure proper packaging and exportation of quality product.

The most frequent complaint about Moroccan exports was the "mixing of varieties" in a box. Apparently, when boxes of red roses of one variety are ordered, it is common that boxes of mixed varieties of red arrive. This is a big problem for importers, who simply pass through orders to wholesalers, and are only buying product that has been pre-sold. There appears to be confusion on the part of Moroccan about the acceptability of "mixed colors" and mixed varieties.

All importers interviewed were interested in developing good long-term supply relationships with Moroccan flower exporters. This is a real opportunity for Morocco.

Germany has approximately 30 importers, heavily concentrated in the Frankfurt area because of the inbound product arriving internationally at Frankfurt Airport. Germany has many wholesale markets and approximately 2,000 wholesalers. Importers serve several wholesalers in each market. "Branding of Flowers" was not important to rose or carnation sales, which are the highest volume flowers purchased.

Importers work on an average gross margin (in Germany) of 12%-18%. (this somewhat higher than usual margin is partially attributable to new "green rule" now being enforced in Germany detailed below) Wholesalers work on the traditional 20% margin.

German (and Dutch) domestic production dramatically impacts the price (and demand) for imported flowers beginning in late March. This situation continues through September.

Turnover in Germany has recently been flat. With an increase in flower supply, prices have become somewhat depressed and "flower quality" has become a much greater issue. Morocco quality is generally perceived as good reinforcing the market opportunity.

Trucking of flowers into Germany was thought to be desirable from a transportation cost viewpoint. They now receive products from Spain regularly by truck. This needs to be further explored.

Because of the new strict environmental packaging rules in Germany, German flower importers no longer pay box or packing charges to exporters. The importer is now responsible by law, for the destruction or removal of all flower packaging entering Germany and must pay for reclamation from the flower wholesalers and the destruction of the packaging materials. This has become a new cost of doing business for German flower importers. Delivery pallets entering Germany must go out, unless they are Euro-pallets. One way pallets must be exchanged.

3. Holland

The traditional Dutch Flower Auction system does not offer much opportunity for Moroccan exporters. The high cost of flower handling at the auction and the unpredictability of daily price fluctuations offer poor return to exporting countries.

However, it should be understood by Morocco flower exporters, how the Dutch Auction system impacts on their price potential throughout the EC and beyond. This is discussed in some detail elsewhere in this report.

There is an interesting development now occurring in Holland, that should be watched by the Morocco flower exporters. A collective effort to purchase "imported flowers" outside the Auction system has been initiated by a group of eight Dutch exporting companies. The auction buyers (Aalsmeer alone has more than 350) are termed flower exporters because they purchase flowers on the auction, then package and export them to other European countries and the world for distribution.

This collective group, called "E Team, Import, bv.", has initiated an effort to purchase "imported flowers" (those not grown in Holland) directly from exporters in the producing countries, thus by-passing the auction. This allows them to purchase for export, imported flowers, directly. They realize a savings of up to 20% and offer the original exporter a price more than 20%-30% or what they could realize on the auction.

This price differential (of 34%-50%) combined between buyer and seller offers an attractive opportunity for Moroccan exporters, who do have some reputation with these people. If this type of effort succeeds in the long run, it means Morocco has potentially many new customers to purchase and distribute their products. It appears there might be a "hole in the dike" of the auction system in Holland.

It is recommended that this new opportunity be explored. It may offer significant long term benefit to Moroccan exporters.

4. France

France has been the traditional market for Moroccan flowers. It was the first customer for Moroccan roses and the growing industry in Morocco has evolved around the needs of the Rungis market in Paris. However, the French import market is a relatively small one, overall. Total French imports were only 47,693 tons, or 10.8% of total EC imports. This compares to the German imports of 237,482 tons. The average price paid by the French for imports was 4.99 ECU/Kg, which is higher than the EC average of 4.18 ECU/KG, and Germany's price of 4.24 ECU/KG.

This has been good to get Morocco going in the production of roses and now carnations. The French market has offered open access to Moroccan roses at a good price. During the import season for France (from November through March-when French rose producers are not shipping) Morocco has captured 52% of the import market for roses. This has been Morocco's most significant accomplishment in its young flower industry.

However, Morocco's exporters have essentially saturated the Rungis market for roses and further efforts to develop this market will become detrimental to Morocco. As Moroccan exporters compete increasingly with themselves, they will drive down prices and returns. The following figure depicts the existing dominance of the Moroccan exporters into the French market.

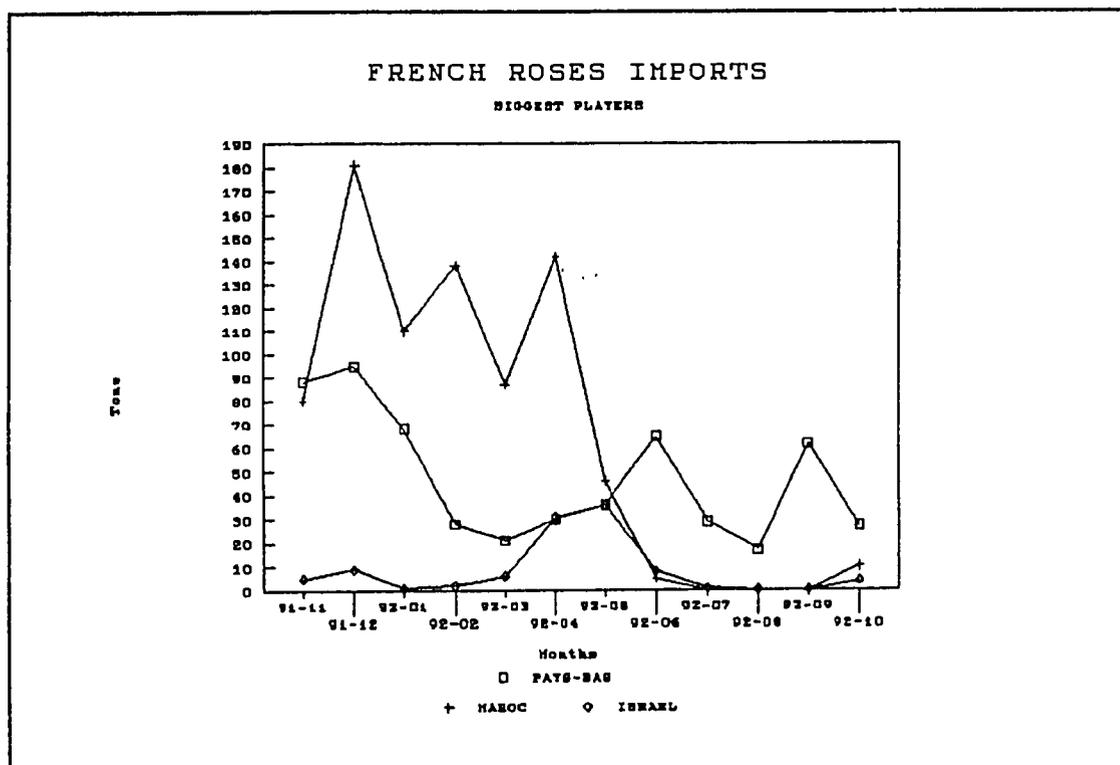


Figure 7

The Rungis market factor

Efforts to reach further into France and beyond Rungis are in the interest of Moroccan grower/exporters. This conclusion was pointed out at the recent EXIFLOR meeting in January 1993. Rungis has created an anomaly in the price structure for Moroccan exporters.

The Rungis Flower Market, located just outside Paris near Orly Airport, is comprised of approximately 140 wholesalers in one location, adjoining an international airport. This gives the "wholesaler" access to foreign imports, thus allowing them to act not only as wholesalers, but also importers, thus directly bypassing the mark up of an importer.

Approximately 50% of the "wholesalers" at Rungis act as importers, according to Serge Charras, President of the Rungis Wholesaler Association. Since a "wholesaler" traditionally works on a margin of 20% and an importer works on a margin of 8%-15% (and higher in Germany) this gives those wholesaler/importers who import directly an opportunity to save the entire import margin or to pass it on to the retailer. The net result is far less

price pressure when buying imported products. This has very much worked to the favor of the Moroccan rose exporters, who command a much higher return per kilo on roses in France than anywhere else they market. See table seven and figure 8 below.

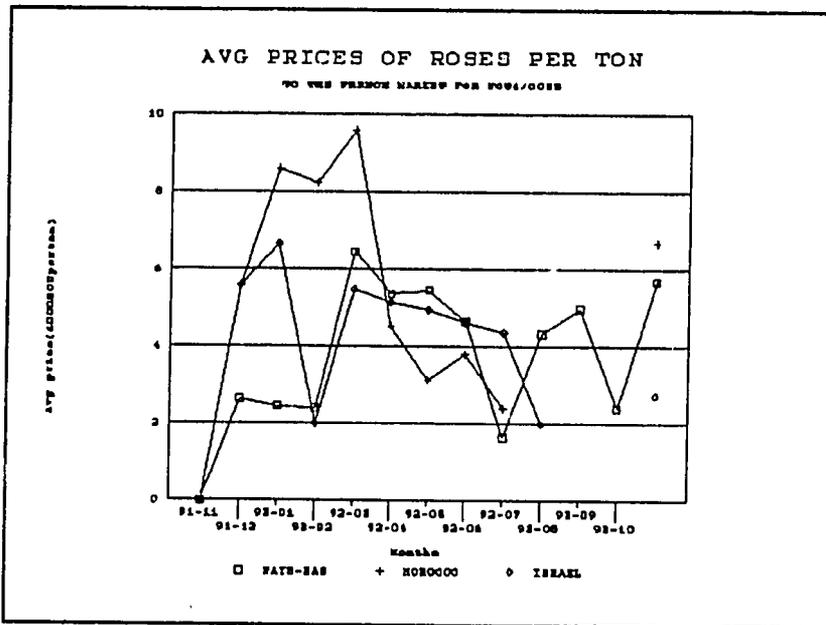


Figure 8

Further to the advantage of Morocco is the fact that they are selling directly to "wholesalers" who "inventory product." Although the French wholesalers "resell" the product, they do not have it pre-sold, when buying from Morocco, like importers in other countries. This means they can easily withstand variations in received shipments vs. product ordered, because they hold an inventory of flowers (on speculation) from which they sell to retailers and other wholesalers.

This accounts for the ease with which Moroccans do business with French importers (in the familiar language) and for the lack of complaints about business practices (order fulfillment) of Moroccan exporters so prevalent in the other three countries surveyed. The French accept the deviations with no problems because they are in reality wholesalers, not the traditional importer.

These two issues of low barrier price entry to Rungis and less rigid export to import order fulfillment are an anomaly in the international marketplace. Moroccans must recognize this and prepare for it. They recognize they need to reach "beyond Rungis", further into France. But when they begin to develop a balance in exports between the other EC countries, they will encounter lower price opportunity and much stricter requirements on service.

5. United States

The U.S. is an important consumer of flowers, including Morocco's two principal products: roses and carnations. While the production of flowers in the U.S. is growing at about 8 percent per year, consumption is increasing twice as fast, or 16 percent per year. The U.S. per capita expenditure on cut flowers is very low compared to that of other developed countries. For example:

Country	\$\$/capita in 1991
United States	\$23.61
Germany	\$42.29
Japan	\$47.23
Italy	\$70.84

This means that there is lots of room for development of the market, leading Americans to purchase more flowers every year. Since imports are outstripping local production, this is good news for exporting countries.

The U.S. Market: Production and Imports of Roses and Carnations

The actual U.S. consumption of roses and carnations peaked in 1989, dropped in 1990, and was on an upswing again in 1991. California is the major producing state for carnations and roses in the U.S. with the great majority of the production. Colorado follows in second place. There is rose production in most states, for the local market.

Table Twelve
Selected Imports to the U.S.A.

Standard Carnation (millions of stems)	1989 stems	\$\$	1990 stems	\$\$	1991 stems	\$\$
Production	248.6	\$36.2	238.1	\$36.9		
Imports	787	\$56.6	717.8		652.3	\$48.7
Totals						
Miniature Carnation (Millions of bunches)	1989 stems	\$\$	1990 stems	\$\$	1991 stems	\$\$
Production	12.5	\$169	14.7	\$173		
Imports	126		97.9	\$16.1	108.3	\$23.1
Roses (not Sweetheart)	1989 stems	\$\$	1990 stems	\$\$	1991 stems	\$\$
Imports	328.7		399.9	\$82.7	447.8	\$89.5

Colombia is the major supplier of roses and carnations to the United States with over 98% of the standard carnations and over 80% of the Spray Carnations. This move by the Colombians has led the way for standard carnation imports (Colombia has always been the major U.S. supplier), but has been the primary one only since 1985 for spray carnations. Colombia has always supplied over 60% of the U.S. rose imports since the early 1980's.

Imports of Roses, other than sweetheart roses, are highest in January, February, April and May, with a big drop in March. For spray carnations, the peak months are December through May and the imports of Standard carnations are also heaviest in December through May, with the peak in May.

U.S. Import of Moroccan Flowers

Roses have dominated Morocco's limited flower exports to the U.S. over the period 1985-1991, though they decreased considerably in 1990 and 1991.

Table Thirteen
Moroccan Rose Exports to the U.S.

	1985	1988	1989	1990	1991
N° of stems	38,000	34,000	139,000	52,000	13,000
Total / Value	\$9,000	\$24,000	\$31,000	\$35,000	\$6,000
Value / stem	\$.23	\$.71	\$.23	\$.68	\$.48
Avg Price / stem	\$.25	\$.2	\$.21	\$.21	\$.2

Morocco's rose exports have been concentrated during the February and March periods, when prices are higher (average was .61 in February and .34 in March), resulting in their well above average per unit import prices. French and Canadian rose imports capture the highest prices during those months (\$1.8 and \$1.6 respectively), but otherwise only Spain, the Netherlands, and Jamaica received higher prices in the U.S. in February and March 1991. Colombia, the major exporter with \$10 million in exports compared to Morocco's \$4,000 during the month of February, captures one of the lowest prices at \$.21 per stem. However, Colombia maintains this price for practically the entire year with its 331 million stems, recouping some value when other exporters prices drop.

Moroccan exports to the U.S. of Spray Carnations, with 20,000 stems in 1988 and 6,000 stems in 1991, valued at \$5,000 and \$1,000 respectively. These imports have been primarily in the month of February for Valentine's day. On a comparison level, the price per stem for Moroccan spray carnations was \$.17, double that of Kenya (\$.08), the same as Israel (\$.17), but lower than Colombia (\$.25).

Consumer Preference (based on UNCTAD/GATT 1987 world survey)

The U.S. consumer prefers the longer stem rose (such as produced in Morocco) to the short stem sweetheart rose. Long stemmed red roses make up 60-70% of the market for roses, followed by an even distribution of pink, white, yellow, and other roses at 10 percent each.

Among carnations, the standard carnation is preferred over the spray carnation. Preferred colors are red, white, and light pink. For the Spray carnations, there is no dominant color preference.

The table on the following page presents the major days of the year for flower sales in the U.S.A.

Market Distribution in the U.S. and Prices by Region

Importer-distributors handle roughly 90 percent of all imports into the U.S. and sell primarily to wholesalers. They usually import on consignment, charging a commission of 15-20 percent. Importing wholesalers account for most of the other ten percent, with some being imported directly by supermarkets.

The retail market in the U.S. is dominated by the small retail florist.

A review of 1991 wholesale prices in Chicago and Philadelphia, done for the KEDS project revealed that prices are generally higher in Chicago than Philadelphia. The table below present the ranges for the prices. We note separately the much higher prices for the product during the peak holidays of Valentines Day, Easter, and Mother's Day, which are the important profit making periods for flower growers in the U.S.

HOLIDAYS WITH HIGH CONSUMPTION
OF FLOWERS IN THE U.S.

1993

FLOWER HOLIDAYS

JANUARY						
SUN	MON	TUE	WED	THU	FRI	SAT
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY						
SUN	MON	TUE	WED	THU	FRI	SAT
						5 6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH						
SUN	MON	TUE	WED	THU	FRI	SAT
						9 10
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL						
SUN	MON	TUE	WED	THU	FRI	SAT
						13 14
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY						
SUN	MON	TUE	WED	THU	FRI	SAT
						1 18
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE						
SUN	MON	TUE	WED	THU	FRI	SAT
						22 23
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY						
SUN	MON	TUE	WED	THU	FRI	SAT
						26 27
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST						
SUN	MON	TUE	WED	THU	FRI	SAT
						31 32
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT
						35 36
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER						
SUN	MON	TUE	WED	THU	FRI	SAT
						40 41
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT
						44 45
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER						
SUN	MON	TUE	WED	THU	FRI	SAT
						48 49
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

- Valentine's Day Feb 14
- St. Patrick's Day Mar 17
- Palm Sunday Apr 4
- Passover Apr 6
- Good Friday Apr 9
- Easter Apr 11
- Secretaries Day Apr 28
- Mother's Day May 9
- Memorial Day May 31
- Father's Day Jun 20
- Independence Day Jul 4
- Labor Day Sep 6
- Grand Parents' Day Sep 12
- Rosh Hashanah Sep 16
- National Flower Week Sep 19-25
- Yom Kippur Sep 25
- Boss' Day Oct 16
- Sweetest Day Oct 16
- Mothers-In-Law Day Oct 24
- Thanksgiving Nov 25
- Hanukkah Dec 9
- Christmas Dec 25

YEAR ENDS JAN. 1, 1994

**Table Fourteen
Selected Prices for Imported and U.S. Flowers**

	Normal Range	Val. Day / Easter / Mother's Day
Chicago		
Select Carnations from Colombia	\$.28 to \$.35	\$.40 to .50
Standard Carnations from U.S.	\$.25 to \$.47	
Spray Carnations from U.S.	\$3.5	\$5-6
Spray Carnations from Colombia	\$2	\$4-5.5
Long Stem Roses from U.S.		
Long Stem Roses from Colombia	\$.1 - \$.2 less per stem	
Philadelphia		
Select Carnations from Colombia	\$.15 to \$.38	
Standard Carnations from U.S.		
Spray Carnations from U.S.	\$2.5	\$4.5
Spray Carnations from Colombia	\$2	\$4.13
Roses Produced in US	\$.68 - .9	\$1.63 - 2.35
Roses from Colombia	\$.25 - \$1.2 less per stem	

It is very important to note in these prices that locally grown flowers, such as Pennsylvania flowers in Philadelphia, always capture the highest price on the local market.

Annex 10 contains a description of the regulatory and quality control mechanisms for the United States Market.

Impact of Moroccan Flower Production on the U.S. Industry at Home and Abroad

Moroccan competitiveness in the U.S. market must be examined from two perspectives: against U.S. producers and against foreign imports.

Foreign Imports. It is clear from the figures cited above that Morocco faces tremendous competition getting into the U.S. Market. At present, this market is dominated by Colombian production. In its best year to date, 1989, Moroccan rose imports accounted for less 0.04 percent of rose imports. This percentage then dropped considerably in later years to 0.003 percent of rose imports in 1991. For Morocco to even reach 1 percent of U.S. imports of roses, it would have to increase its sales to about 4 million stems, or 200 tons of roses. Considering the important price competition provided by the Colombians this will be difficult.

U.S. Production. U.S. produced flowers command a higher market price than do any imports, according to U.S. wholesalers and U.S. growers. In fact the closer the production to the market, the higher the price it can command, generally because of higher perceived and real quality. The discerning consumer knows the difference. For this reason, Moroccan floral imports into the U.S. will primarily compete with imports, rather than U.S. grown flowers.

Competition with U.S. Exports. As shown in Annex 10, the U.S. exports negligible quantities of both roses and carnations to Europe, Morocco's major market, so increased Moroccan exports to Europe will not have any significant impact on U.S. production.

IV. PRODUCTION ISSUES

As we examine the evolution of the world market for flowers, we note two major trends:

- there has been a steady shift towards regions with lower costs of production (developing countries); and
- there has been investment in production technologies in the developed countries which have remained competitive.

The economics of flower production revolve around maximizing flower production in order to hit four key dates of the year: Valentine's Day, All Saint's Day, Christmas Day, and Mother's Day. In regions with very low costs of production, there can be overproduction for most of the year with little real cost to the grower, enabling the grower to have sufficient product for the key dates. In the developed countries, where the costs of production are very high, the level of productivity must be equally high and predictable, hence the required investments in controlled environment production. If a country falls between the two extremes, it will eventually be forced from the market. As new lower cost of production countries like Kenya and Zimbabwe develop their floral industries, Morocco is moving between the two extremes. It must look to the future.

Along with technologies for increasing productivity, there are natural factors which can favor the production of a given crop in a given region. Identification and exploitation of micro-climates is also important.

A. MEASURES OF PRODUCTIVITY

There are three elements which are critical measures of the productivity of a flower grower: the number of flowers per square meter, the predictability of the harvest, and the percentage of flowers grown which actually get to the target market. Many technologies exist to help the Moroccan industry to develop greater control and predictability over its production focusing on growing media, nutrients, water, light, air and temperature. All in combination are equally important in maximizing output. Annex Four provides a brief review of the critical technological/production issues.

Of additional importance are cultural and post harvest practices. Cultural practices include plant maintenance (pruning), plant spacing, maximizing light utilization, production scheduling, and harvesting. Post harvest practices concentrate on hydration, the use of flower preservatives, pre-cooling, grading, and packing the products. All of these are also discussed in greater depth in Annex Four, along with other recommendations for improving cultural and post harvest practices.

The table below compares Moroccan productivity measures with those from a grower in Minnesota. It also places the cost of greenhouses into the equation to provide us with a cost comparison.

Table Fifteen
Comparison Between Moroccan and U.S. Production - Real and Potential

Measure	Minnesota	Morocco (now)	Morocco (possible)
Flowers m ²	220	50-60	100
Predictability	97%	+ / - 50%	90%
%Grown, cut to target market	95%	+ / - 50-60%	90%
Greenhouse Cost	\$100 / m ²	\$10-20 / m ²	\$30 / m ²

There are a number of variable elements which factor into each of the three measures, summarized below.

Variable Elements to Reaching Control

<u>Flowers m²</u>	<u>Predictability</u>	<u>% to Market</u>
days to flower (heat)	temperature control	plant orientation
media control	cutting practices	
months of production	plant maintenance	Post Harvest handling

1. Flowers per Square Meter

Moroccan flowers per square meter currently range in estimates from 30 to 60, with two cuttings over seven months producing an industry average for export of 30 blooms per meter annually. This level of output compares with a closed greenhouse in Minnesota (US) of more than 200 blooms per meter in seven cuttings over 12 months.

It is felt that by adding heat to a closed environment greenhouse in Morocco, improving the growing media in which the rose plants grow, continuing current nutritional practices and adding CO₂ capabilities, production per square meter in Morocco can be doubled. The addition of CO₂ alone to a closed environment, properly used can account for an increase in productivity of 20%.

An additional benefit of adding heat is increasing the time from cutting to bloom. The Minnesota operation referred to produces flowers from pinching (cutting) in 42 days. Current Moroccan production methods are producing flowers from pinching to bloom in 60 to 90 days, depending on the operation. The addition of heat to Moroccan greenhouses will increase the time from pinch to bloom considerably, in all likelihood to less than 50 days. This will allow for more cuttings per plant and significantly contribute to an increase in production per meter.

2. Predictability

The addition of heat to a closed greenhouse environment allows for the control of temperature inside the greenhouse. This control adds the capability of "scheduling flowering" to bloom, through manipulation. This key element allows target marketing by time. It adds the dimension of predictability to production. It is estimated that current production practices only allow for a confidence rate of 40% of current production. Temperature control with the addition of heat, properly practiced, can raise the rate of confidence to more than 90%.

3. Percentage to Market

The element of temperature control (with heat and cooling) in a closed greenhouse environment also adds the capability to improve the percent of exportable flowers by allowing for better quality control in production. This is done with temperature management discussed above, cutting practices, plant orientation inside the greenhouses, plant maintenance practices and handling, all discussed in detail in Annex Four. These improvements are felt to offer the opportunity to substantially increase the amount of exportable production.

The investment to achieve the results estimated to be possible is approximately \$30 per square meter. This is compared to current estimates of \$10 per square meter in existing facilities.

It should be noted that, as these technologies are introduced to Morocco flower production, they will need to be adapted to Moroccan climatic conditions. In most cases, current installations are not suitable for conversion, so introducing these technologies will also require installing new facilities (greenhouses). Therefore, as the technologies are introduced they need to be approached as new installations and comprised of complete "systems". This cannot be done piece meal, but it must be done slowly and gradually at first to ensure proper use of the technologies. Therefore, the growers should convert slowly, building on their learning curve. This complete systems approach is done all over the world, successfully.

B. USE OF MICRO CLIMATES

A micro climate can be defined as unique climatic condition existing in a small selected environment of no more than a few kilometers square, with special light, heat, wind, and water conditions. While traveling throughout Morocco many micro climates were observed.

Roses require a warmer climate than carnations, but neither does well in extremes of heat. This suggests a location near the sea, which moderates the high and low temperature swings. Inland mountain areas of higher altitudes possibly could be of value.

It is recommended that a study be done to determine locations of optimum average temperatures, by the week, for a year to find those micro climates that are best suited to specific marketable crops that are or could be produced here. These data were not found but may already exist. It would be useful for any interested agricultural joint venture that requires specific climate.

This is a very important part of future agricultural expansion. If it can be done and made available to people around the world it will attract successful ventures.

C. GENERAL OBSERVATIONS

Some concluding comments on the production side of the equation are:

- The Moroccan flower growers are very astute, knowledgeable business people who are relatively new to the flower business. They understand how business works, but are less well informed on the production side and need help in this new flower industry. All the help that can be given by Universities, Ministry of Agriculture and outside agencies, including tours, will be well utilized by these entrepreneurs.
- Because of this lack of understanding of the global floral industry, there is obvious frustration and a sense of defeat among many of the growers. However, there should be a sense of hope for the industry and the individual business people that there can be a better future, with guidance, diligence and further investment.
- There is a real need to establish a meaningful working relationship of trust between the research institutes, government ministries, trade groups and the individual growers themselves, to synergize the resources of these varying groups to move the industry forward collectively into the global market.
- The oversupply of flowers is the same of the oversupply of most of the other agricultural products. There is a tendency to want to "give up" until it is realized there is no ideal crop, where the competition is not very keen. Great effort must be made to do the best job possible, utilizing all technologies and help available.

V. THE INSTITUTIONAL AND REGULATORY SUPPORT ENVIRONMENT

A. INSTITUTIONAL SUPPORT

The flower industry interacts with and is supported by numerous different institutions ranging from its own trade association, to government service groups, and the Institute for Agronomy and Veterinary Sciences.

1. Trade Associations

The Association of Moroccan Growers and Exporters of Flowers (AMPEXFLEUR) is the principal representative of the flower grower/exporters. AMPEXFLEUR counts as its members all grower exporters of cut flowers, approximately 40 growers in all.

AMPEXFLEUR's major activity in the past has been the annual organization of EXIFLOR, the Moroccan flower trade show. EXIFLOR has increased in stature over each of its four years, and is the major source of revenue for the association. EXIFLOR has been quite successful in generating both exposure and interest for the Moroccan flower growers.

Though AMPEXFLEUR has all the same difficulties as other Moroccan trade association with collecting dues, it is one of the most dynamic associations for dealing with the problems confronting the industry. They have taken the initiative to meet and negotiate directly with the French flower growers (Centre National Interprofessionel Horticole - CNIH), both in Morocco and in France, to try to resolve the duty and quota issue. AMPEXFLEUR has also successfully argued its case on the cost of transport for flowers by air to Europe and received a 1 DH subsidy during the peak exporting period.

Recently, there has been a spin-off group of growers, primarily in the Agadir area, who argue against the payment of royalties on rose plants. These growers are generally smaller producers with limited financial resources for whom the total of the royalties, up to 400,000 DH/ha, represent an important barrier to entry. However, all the members of this group retain their membership in AMPEXFLEUR, which is able to address the broader policy issues.

2. Export Oriented Government of Morocco Institutions

a. Centre Marocain pour la Promotion des Exportations

As an exported product, flowers are on the CMPE's list of active products. The CMPE is currently helping to organize the participation of the AMPEXFLEUR in a German floral trade show, for which it has a grant from the German government.

b. The Ministry of Agriculture and Agricultural Development (MAMVA)

The Affaires Economiques branch of the DPAE and the DPV have been actively following the policy issues (discussed in section B. below) and trying to provide an interface for the flower growers in the face of the transport problems and the duty and quota in Europe. The MAMVA provides several sets of incentive packages under the Development Fund for Agriculture (FDA) which can assist the grower/exporters.

The most commonly cited and most appreciated assistance by the private sector is the subsidy provided for airfreight. The subsidies include³:

- 4.5 DH/kg during the entire agricultural campaign for Scandinavia, North America, and the Middle East
- 1 DH/kg for exports to France between March 1 and June 30.

c. Airports - ROYAL AIR MAROC

The highly perishable nature of flowers, in particular roses, has made the airport facilities and services an important part of the export process. The RAM has developed several new products which are helping to address the transport constraint. They have organized a refrigerator truck freight link from Marrakech to Casablanca specifically for flowers. In Casablanca, they have just installed two new cold storage rooms which will provide greater flexibility for export.

It must be noted that the service provided by the airport is still not fully functional. During the visit to the airport, flowers were observed sitting in the sun for several hours. This obviously hurts their condition at the market, lowering their value. AMPEXFLEUR has an incentive to work closely with the airport staff to develop their expertise in handling flowers.

3. Research and Technical Assistance Government of Morocco Institutions

a. The Ministry of Agriculture and Agricultural Development (MAMVA) - DPV

The MAMVA's role in supporting the flower growers has been primarily focused on the policy side, such as the transport subsidy. While the Ministry follows the production issues quite closely, the small number of growers (about 40), their general level of sophistication, and the MAMVA's limited resources mean that it cannot provide very much direct technical support.

However, the MAMVA does have the FDA which provides financial assistance to the growers in the following areas:

³ See annex seven for the RAM airfreight rates - any difference in prices is attributable to the subsidy.

- Transport (described above);
- Assistance for financing equipment (greenhouses, fertigation etc.) related to production for export; and
- Assistance for financing cold storage rooms.

b. MAMVA - the IAV

The research capacity within the MAMVA is very limited. However, the Agronomy and Veterinary Institute of the Hassan II University, under the supervision of the Ministry, is beginning to play a role on the research side as well as producing technicians who are capable of working for the growers. The IAV has one professor specializing in floriculture, who is completing his PhD from the University of California at Davis. Under his leadership there is increasing interest in tackling the research related issues confronting the flower industry on the production and post harvest sides.

During the site visits, it was noted that most of the flower farms employed graduates of the IAV, a very positive sign of the increasing appropriateness of the education the graduates are getting. It also reflects the structured nature of the flower growing industry, where the owners can afford to have good technicians on site. This also bodes well for the rapid adoption of new technologies in the industry.

In addition to the frequency of IAV graduates being hired by flower growers, the IAV has a good stock of studies carried out by their students who have worked as interns in many of the farms. This wealth of information allows many of the issues facing the growers to come to the attention of the University Researchers. However, to date, there has been little joint private-university research efforts.

B. OTHER ELEMENTS IN THE SUPPORTING/REGULATORY ENVIRONMENT

1. EC Trade Policies - the Quota and the Duty

The critical regulatory issue facing the Moroccan flower industry is the EC's tariff and quota policy. Morocco currently has only a 500 ton flower quota into France and an additional 300 ton quota for the rest of Europe. Once that quota is exceeded, usually by the end of December, the importers in Europe must pay a 15% duty on all imports. This duty is usually factored into the cost of the flower by the importer, resulting in a lower sales price to the exporter.

Meanwhile, Morocco's major non-EC competitors either benefit from special status as ACP countries benefitting from LOME IV (Kenya and Zimbabwe), or have special trade agreements which is the case of Israel with a quota they never reach and Colombia which has unlimited duty free entry for purposes of drug prevention. This provides a very strong competitive advantage for those other countries, since the 15 percent margin comes off of the producer/exporter's bottom line.

2. Royalties for the Breeders and Patent Protection

One of the big complaints of many growers is the requirement to pay royalties for plants of patented varieties. The costs associated with royalties for the roses grown in Morocco are considered by them to be very heavy. However, royalties are common practice around the world to reward the significant cost and investment which goes into developing the plants. Actually, Moroccan growers pay a lower price for their plants than do American growers. Currently, the royalty for a recently developed plant is 5.6 dh, the duty for an old plant is 4.2 DH. In addition, growers must pay for the plants, which runs between 1.5 and 4 dirhams depending on the quality of the nursery.

This is an issue which Morocco cannot sidestep as it tries to take its place as a regular player on the world market. Morocco must abide by the rules of the game, or pay the price by being branded a fraudulent player. This issue is very important in the eyes of the importers who wish to develop sound trade relations with a supplier, but won't want to deal with irresponsible growers.

The royalty issue is largely one for the rose growers due to the great number of nurseries involved in production of non certified plants. This stems from the lack of control on the industry in its early years and the nature of the product. At present there are only about 10-15 nurseries with which the breeders will work. Since there are 70-80,000 plants per hectare, the cost for a hectare of plants can reach up to 800,000 dh for the top quality latest varieties.

While the rose growers complain about the cost of the certified plants, they are given many facilities by the breeders in Morocco: they pay only 10% down and have the right to complete payment over two years. In addition, since rose plants generally last for 6-8 years, this amount must be depreciated over the number of stems in the life of the plant. With each plant producing about 6 stems per year, this leads to a per stem royalty cost of about .10 - .15 dirhams over the life of the plant. In the United States, growers pay more than 25 dirhams per plant, though they get to depreciate it over a greater number of stems since they produce on a year round basis.

Royalties are not an issue with either carnations or gladiolas since their production is highly controlled and the growers cannot get around paying them. For carnations they are 2 dh per cutting which lasts for two years. Each cutting produces 6 flowers per year, or 12 over their life. This leads to a per stem royalty cost of .166 DH. For the gladiola bulbs, growers must pay about .8 dirhams per bulb which will yield one plant, or import smaller bulbs and grow them into larger bulbs on site.

The breeders are trying to get a law passed which will protect them, based on drafts received from the Union for the Protection of Plant Patents (UPOV). Already some of the breeders are seeking protective measures on the European end of the marketing channels. Enforcement of international patent rights is a matter for the Government of Morocco to correct.

Because of the erratic supervision of the nurseries, very few are up to international standards to provide certified stock. Morocco should adhere to the UPOV, and researchers and the DPVCTRF should collaborate to ensure the quality and resolve phytosanitary problems. Non-certified nurseries should be carefully monitored or eliminated, in order to provide a better organized structure for production and sale of plants.

3. RAM Transport Policies and Impact on Cost of Marketing.

RAM is adopting a new freight strategy, overall, using smaller planes to service a greater number of markets with greater frequency. The MAMVA has been managing a subsidized transport program for the flower exporters, reducing the cost of transport during the peak season.

RAM, however, operates a very tightly controlled export program. With exports exceeding imports by 50%, the RAM must program its exports carefully. The flower growers must book their space in advance, meaning they must have efficient export planning. This is a factor which will strengthen the long run position of the better organized companies.

The list of RAM freight charges is attached in Annex 7. Freight charges for roses are 7 DH per kg to Paris from March 1 to June 30, and 8 DH the rest of the year. For carnations, the heavier crop, the price is slightly lower at 6.55 DH and 7.55 DH for those same periods to Paris.

AMPEXFLEUR carried out a study after the 1991/92 season which demonstrated that the cost of air transport is a significant cost of the flower delivered to Europe, averaging between 12 and 35% of the sale price of the flower for roses, depending on the month. Carnations are a heavier crop with a lower unit sales and transport represents between 20 and 37% of the sales price per stem of standard or spray carnation. In the cost analysis in Annex 6, transport ranged from 15.6% to 23% of the total costs of production, or between 6% and 16% of the value of the sales. Prices to other European destinations are usually 7-20% higher than to France.

While these charges are high, they are proportional with other products being exported from Morocco (freight for tomatoes also runs about 20% of the sales value of the product). We do not have figures on the comparable cost of shipping for product from Morocco's main competitors Kenya, Colombia, and Israel.

However, as long as the marginal costs of harvesting and shipping are covered by the sales price, then the growers should continue to ship. Since most costs are already sunk, such as the greenhouse, the plant, the inputs, and the cooling shed/packing house, if the price is greater than the costs of cutting, packing and shipping (including duty) then the growers should be shipping.

VI. DRIVING FORCES AND POINTS OF LEVERAGE

An important step in defining a reliable program is to identify the forces which drive the industry and the points within the industry where pressure can be most efficiently applied to get wide ranging results. The driving forces define the direction which an industry is taking. They must be taken into consideration for any successful actions to be defined. They are generally production, technology, and market related, but they can quite often be determined by government policy.

The points of leverage are critical for determining the most cost effective way to address the problems and opportunities identified during the study. Working through a point of leverage allows the project to leverage its resources and reach as large a number of clients/beneficiaries as is possible. A point of leverage can be an institution which has contact with many different groups in the subsector, a point of geographic concentration which might lead to targeted interventions in that zone, or system nodes, i.e. those points in the system where large numbers of actors funnel their activities through a few key operators. By targeting a few key leverage points, which respond to the goals of the project, the action plan can have the greatest payoff.

A. DRIVING FORCES

There are a number of forces which are driving the flower industry in Morocco. These include the world market, the costs of production, trade barriers, and technological innovations.

1. The Market

As noted above, the world market is becoming steadily saturated with high quality product. In 1992, for the first time ever, total volume of flowers increased slightly, while the value of the product declined. This highlights the importance of lower costs in the equation of successful exports. While this may be a temporary phenomenon, based on the poor economic performance in Europe, it is not certain. The increasing quantities of product available from all around the world may succeed in keeping the prices down.

2. Costs of Production

Historically, as costs of transport have dropped, there has been a migration of flower production towards areas where labor is cheaper and the natural advantages are greater (warmer weather and greater luminosity). This migration is certain to continue, possibly squeezing out much of Moroccan production, as countries with lower labor costs take up the production. Unless Moroccan growers are willing to invest in the technologies which will keep them competitive.

3. Trade Barriers and Tariffs

The second part of the cost formula is the EC tariff. It is clear that it has had an impact on Moroccan exports, forcing growers out of some products into others. In particular, the price differential that the tariff provides to Morocco's main competitors is increasingly squeezing Moroccan growers.

There will be definite short-term benefits to the Moroccan flower industry from the removal of the quota or lowering the tariffs. However, the long run impact of the removal of the tariffs and the quota are uncertain. Under most economic hypotheses, the windfall profits would lead to increases in growers and surface under production. Moroccans would continue to increase their production to the point where they would reduce the margins on the products, recreating the current situation.

4. Technological Innovation

As noted in Chapter Four, maximizing production per square meter and increasing the capacity to dictate harvest dates will be important parts of keeping down the costs of production and increasing revenues. In order to do this, the growers must know of the latest growing techniques and the technologies which are available so that they can be modified to the local conditions. There have been many advances around the world which have led other growers to maximize production and guarantee harvest dates. Morocco must keep up with them or fall behind and, eventually, out of the market. Production issues such as controlling levels of CO₂, temperature, humidity, and luminosity are being addressed in other countries. Post harvest problems are also being addressed on a regular basis through collaborative research between the private sector and the University research systems.

B. POINTS OF LEVERAGE

As noted above, points of leverage may be related to geographic concentration of production or markets; institutions which work with large numbers of industry participants and define the policies which govern the industry; or system nodes, i.e. those points where large quantities of the product pass through the hands of a few participants.

1. Geographic Concentration

Flower production is concentrated in three parts of the country: the Souss, the Haouz, and the coastal area. Each of these regions has its own micro-climate and a concentration of growers, making it easier to target programs in each of those regions.

2. System Nodes and Institutional Support

As noted in section V above, there are numerous institutions which can play fundamental roles in increasing the quantity and value of Morocco's flower exports. Each agency has specific elements which it can bring to the sector.

a. AMPEXFLEUR is a key institution for organizing programs to reach the industry as well as to carry on policy dialogue with other trade groups. It is representative of the Moroccan industry and has very active participation from the key participants in the industry.

Activities such as field workshops on technological advances and techniques for post harvest handling should be organized with and through the AMPEXFLEUR. Incorporating some of these technical issues into the EXIFLOR may also be a good way of expanding the horizon of the growers. Seminars to transmit information on proper business practices can also be passed through them.

b. The Agronomic and Veterinary Institute - IAV.

The IAV is a system node for staff going into the farms and for research to solve the production and post harvest handling problems. The IAV has the best capacity for addressing floriculture production and post harvest research in Morocco. The faculty and student base are interested and capable of carrying out useful research for the private sector, if it can be properly coordinated.

The IAV faculty can provide consulting assistance to the growers, and the growers should be able to access the research which is already available at the IAV on flower production (a list of is attached in annex nine). IAV faculty should be encouraged to participate in any technology transfer workshops organized with the AMPEXFLEUR.

c. Royal Air Maroc

The RAM is the third system node. It handles most of the flowers transported out of Morocco. Its pricing policies and support services are important to determining the future of Moroccan exports and it must not be neglected.

3. Policies

The EC tariff and quota policy is the key regulatory issue to be addressed in Morocco. Eliminating it will have a positive short term benefit for Moroccan growers, even if it will not force the growers to take the long run perspective which is necessary to develop a solid, lasting industry.

Respect for the international patent laws is also important for the future long term development of the Moroccan image as a player in the world market. A study or review of the policies of Colombia, Israel, and Kenya for their management of this issue might be in order for the project.

VII. OPPORTUNITIES AND CONSTRAINTS

A. OPPORTUNITIES

Opportunities for increasing Morocco's cut flower exports need to concentrate on maximizing Morocco's competitive advantage to get product in the best markets.

1. EC market opportunities for Morocco

It appears that the best current market opportunity for the Moroccan flower industry is to target the EC market at specific holiday occasions identified as All Saints Day (November 1), Christmas (December 25), Valentine's Day (February 14) and Mothers Day, which is celebrated on different Sundays of May in various countries in Europe and in March in the UK.

This identifies the maximum production season in Morocco from mid-October through May and provides a potential seven month export season, even though prices in the EC market drop dramatically on a weekly basis when domestic European production enter the market in early April. The notable exception to this is for Mothers Day, as identified, in May.

These times offer the highest price return for the Moroccan producer whether they are producing roses, carnations or other flowers. Every effort should be directed to control production to these targeted holiday occasions with maximum production to maximize the financial return to the Moroccan producers, if the industry is to continue to grow, profitably.

Recommendations to producers focus on maximizing output with current plantings in existing facilities, improving existing production systems, but leading to additional investment in technology. These improvements will allow the producers to *schedule their production* by controlling their production environment. They will then be able to maximize their output at the desired times and deliver product to the EC market on "holiday occasions" when the prices are the highest. This timing will improve financial return on the investments in those technologies. This approach recognizes the goals of the producers to increase the spread between the cost of production and the return on sales.

- Germany appears to offer Morocco a good market for development of shorter and more colorful rose varieties. Carnations, if trucked in to be price competitive, could be a good product for the German market. Cultivation of key importers/distributors for long term supply relationships is recommended for the German market.
- The United Kingdom can clearly take more carnations from Morocco since they are very competitive when they are transported by truck.

- In France, Morocco's main opportunity lies in maintaining its current share of the market while trying to reduce competition between Moroccan producers which exists today.
- In Holland, the sole profitable opportunity appears to be to try to reach the "E Team Import" group directly which will allow the Moroccan exporters to not lose on the auction.

2. Maximize Morocco's competitive advantage

Morocco's natural competitive advantage over the EC producers is high light, lower labor costs, and potentially lower heating costs. With respect to the other non-EC competition, it is nearer the EC market than other producing countries such as Colombia, Israel, and Kenya.

The EC producer competes with third world exporters by the extensive use of the latest technologies for environmental control. This technology (light, carbon dioxide, heat, nutritional expertise, pest management, greenhouse fabrication and others) have allowed them to maintain a competitive market share in the globalization of production.

The report focuses on recommendations to adapt some of the existing technologies to Moroccan production which, combined with their advantages of high light and low labor, can give Morocco an opportunity to capture greater market share.

By targeting the four key market dates cited above and maximizing their competitive advantage through improving their control of the production environment, Moroccans can develop several opportunities for profit to the Moroccan flower industry by maximizing sales and profits. This requires:

- increasing overall production,
- lowering the unit flower costs through increased productivity,
- improving the timing of flower production and peak market demand periods,
- improving their market image,
- develop new markets and increase unit sales, and
- sell at higher prices.

The opportunity to reach the first three of these points is related to controlling production, while reaching the second three will require vertical integration.

a. Control Production

The key element to maximizing sales and profit opportunities at peak market demand is to be able to control production. To control production of flowers (to bloom on demand) requires control of the environment in which the flowers grow, the greenhouse. This study included visits to more than fifteen growers representing more than 50% of the industry's production. In most cases, neither closed greenhouse environments nor heating were elements used in control of production.

The production (and real profit) opportunity lies in the conversion to closed greenhouse environments with the addition of heat. This technology, when applied properly, will allow the Moroccan industry to target market dates and schedule production to meet those target dates with up to 90% confidence with maximum quantities of good to excellent quality flowers at the highest market prices.

A closed greenhouse environment allows the control of production of the flowers with maximum quality in maximum quantities for key market dates by doing the following:

- Increasing flowers produced per square meter;
- Increasing production predictability; and
- Increasing the percentage of graded flowers for export.

By controlling the greenhouse environment in Morocco it is estimated that it would be possible to double the current output of flower production with the existing amount of plantings; to increase the percentage of exportable production from 46% to more than 80%; and, most importantly, to schedule production harvest to meet the key target market dates in the EC, when flowers command premium prices.

b. Integrate Vertically

Successful exporting countries such as Colombia, Israel and Kenya have enhanced their ability to "market" their increased quantity of quality products through vertically integrated marketing efforts. Each case illustrates how proactive marketing efforts, as an industry, might be more productive for the Moroccan flower industry, than a single company effort.

The Colombians, for example, have set up individual importers in the Miami, Florida area of the United States that are owned and controlled by the exporter/growers of Colombia. They have also formed the Colombia Flower Council, whose charter is to promote Colombian Flowers to the U.S. markets. This allows the Colombian industry (not known for its cooperative approach) to pull the product through their own importers in Miami to the marketplace. It allows them the possibility to make profits at the producer level in Colombia and the import/distribution level in the US. We must note that it took many years to set up

Israel has done the same kind of thing with Agrexco, which is the marketing arm of Israel for agricultural products. Products are marketed under a brand name of "Carmel." Agrexco has a sales network in place throughout Europe and the United States. It is closely tied with the production efforts of Israeli industry and manages marketing and distribution into the market place, by keeping a constant "presence" and visibility, and by directing the flow of its product, through managed sales efforts, into the markets offering the highest prices

Kenya, which directly competes with Morocco on roses and carnations into the EC, has set up a joint venture distribution network with Florimex, the largest importer of flowers in the world (with offices and facilities in more than 41 worldwide locations). "Kenya Flowers" is located in Frankfurt, Germany (Kelsterbach) and coordinates the marketing efforts for Kenya production into the EC.

These are a few examples of successful marketing efforts on behalf of some country's flower industries. This system, in its various forms, offers the opportunities to maximize sales and profits for the individual flower exporters in each of those countries. It is strongly recommended that this type of effort be seriously considered as Morocco moves forward with its industry expansion.

3. Potential new floriculture crops

Some other possible floriculture crops to be considered for further study in Morocco could be cut eucalyptus foliage, gypsophelia, tropical foliage, gladiolas, potted azaleas, potted hibiscus, and bougainvillea. Some already have limited production.

Eucalyptus: This is a commercially-produced cut-green foliage in California. The variety most commonly used is called silver dollar. It can be preserved with glycerin and sold as a dried product or used fresh as a foliage. Eucalyptus of other varieties is observed growing in many places in Morocco.

Potted azaleas: These are grown in Florida under shade cloth and distributed throughout the Northern U.S. There is a possibility that this can be adapted to Moroccan climate.

Floral Greens: A study should be made in Europe to determine that types of fresh and preserved floral greens are being used and what could be adapted to Moroccan culture.

The above suggestions are made by observers who are not knowledgeable in the production of these items. Thus the recommendation for further study, companies like Espace Vert and the Karrakchou Group have more experience in this.

B. CONSTRAINING FACTORS TO REACHING THOSE OPPORTUNITIES

Numerous factors limit Morocco's ability to take advantage of the market opportunities before them. Some are extraneous to the control of the industry, such as the costs associated with royalties, transport, and duties. Others relate to the production technology being used and the marketing techniques.

1. External Constraining Factors

The external constraints of royalties, transport costs, and duties are beyond the immediate responsibility of the industry and require decisions from other parties. These constraints have all been discussed thoroughly in chapters 2 and 5. The industry, through AMPEXFLEUR, has been making steady progress on negotiating lower costs for all three constraints. This should continue, and any support the project can lend will be useful.

2. Production and Marketing Constraints

The flower industry in Morocco has significant room for improving the yields per square meter and the timeliness/predictability of the harvest dates. Some of the factors which have constrained improvements in the productivity and technological advances are:

- a. There is limited transmission of new ideas within the Moroccan industry.

The growers are very independent. While they have succeeded in collaborating to resolve external problems, there has been very little collaboration to resolve internal production problems, largely due to the perception that Moroccan firms are competing with each other, which is largely false.

- b. Moroccan growers get little after purchase service from suppliers.

Where a grower introducing a new growing technology in Europe or the United States gets a complete package with after sales service, the Moroccan grower must often try to understand the use of the new technology on his own. A good example of this is rockwool, a highly sophisticated production medium technology which requires constant monitoring in order to follow a precise nutrient delivery program. The one grower who has put it in is abandoning it because it does not work properly.

- c. There is limited collaboration between local research institutions and the industry.

As a corollary to (a) and (b) above, there has been limited collaboration with and use of the local resources to find solutions to some of the technological constraints. While the IAV does not have great depth in the subject matter, it does have some excellent resources in staff and research which has been carried out, which are being underutilized by the industry.

d. There is limited investment in the human technology by the owners.

While many owners are very willing to invest money in the fixed assets (greenhouses, packing sheds, irrigation systems), they have been more reluctant to invest in the capacity to use those more sophisticated tools. The flower industry does employ many IAV graduates as technicians and engineers on their farms, which is very positive. But these technicians rarely get any follow-up training. As the production technologies become more sophisticated, the technicians need to follow continuing education programs to use them and keep up with the state of the art, which the owners are reluctant to finance. Reluctance to make this investment will lead to underutilized resources.

e. Business and marketing practices.

Moroccan exporters often fail to respect quality, quantity and delivery times for orders which have been placed. Moroccan business practices have been shaped by their dealings with the French market through the Rungis importer/wholesalers. This is not the typical European importer, as discussed above in Chapter 3, and the business practices need to be improved to be able to reach a more general market.

f. Heavy concentration within the French market and little control over marketing channels

During the peak export months, Moroccan growers provide the majority of the roses to the French market, leading to a situation where they are competing with themselves in that market. This over emphasis on the French market also means that the growers are not producing the flowers which are required in the other markets, which often have different characteristics from the French market.

While the French market is a lucrative one because the exporters are often able to sell directly to wholesalers rather than through importers, Moroccans have very little control over their marketing channels. Moroccan grower/exporters are still largely dependent on the importers in their final markets, making them price takers rather than price setters. Taking the example in the French market, better control of the marketing channels would allow them to turn their market concentration into an asset rather than a liability.

VIII. CONCLUSIONS AND RECOMMENDATIONS

While these are the preliminary conclusions and recommendations, many have already been discussed at length with AMPEXFLEURS and some have already been acted on. At the time of the revised version of this draft, a group of Moroccan flower growers have already been to the U.S. under a project industry awareness tour and the AMPEXFLEUR has asked the project to help with organizing a part of the EXIFLOR '94.

A. PRINCIPAL CONCLUSIONS ON CUT FLOWER INDUSTRY

1. **This is a dynamic industry on a worldwide basis, steadily evolving towards areas of lower cost of production.**

Only those companies which evolve with the market and the latest technologies will still be in the industry in the next five to ten years. From between five to twenty firms will remain. With a better use of natural resources and better control of the production environment, producers can decrease their costs. A sounder investment program will increase yield per m². An improvement in the harvest schedules could contribute to reaching the target dates and increase the percentage which is exported, which will lead to a reduction in unit costs.

2. **The costs of freight and customs duties are important, but they will not dictate the future of flowers in Morocco. However, they must be combatted all the same.**

AMPEXFLEUR should continue to raise the customs problem and fight for a reduction in transport costs. At the same time, the private companies can be experimenting with new forms of transport. AMPEXFLEUR has already reached an understanding with the French growers which will allow it to export roses to France without a quota until the first of April, followed by an imposition of a reduced quota and the 15 percent duty. In addition, the French will expand the quota for carnations.

3. **Moroccan competition comes from the outside (Kenya, Colombia, Zimbabwe, etc.), not from other Moroccan producers.**

The growers should not treat each other as competitors in their effort to develop the market and to improve the techniques of production. The French market is the only market where they compete with each other during a few months. A grower who increases his productivity and the quality of his service, improves the image for all of the Moroccan industry.

4. **There are specific opportunities for market expansion: reaching the target dates.**

During the year, most product sales just cover the costs of production with little profit. However, during the four major holidays (four days of the year), growers around the world earn 80% of their profits. Getting the product into the market on the target days is absolutely critical, obviously necessitating complete control of production.

THE FUTURE:

EVOLUTION IS CERTAIN, WITH INCREASING COMPETITION. BUT THERE ARE OPPORTUNITIES FOR GROWTH FOR THE BEST GROWERS, THOSE WHO INVEST AND SUCCEED IN CONTROLLING THE PRODUCTION ENVIRONMENT WITH THE FOLLOWING RESULTS:

- A higher yield per m² (100 stems over five months);
- A better control of their production cycle (95% reliability in their predictions for yields on a specific date);
- A higher percentage of their production getting sorted, sized, and put onto the target market.

Mastering the production environment will become more and more critical over the next five to ten years, requiring a substantial investment. Throughout the world, the best growers face increasing competition from lower cost regions. They remain competitive and in production by finding ways to drop their costs of production through technological improvements.

B. PRELIMINARY RECOMMENDATIONS TO THE FLORAL INDUSTRY FOR A.M.I. ACTIONS

The following recommendations stem from the conclusions and the analysis. In each case, these recommendations address activities which the project could implement with the private sector in order to alleviate constraints facing the industry and enhance its competitiveness.

1. Succeed in controlling the production environment

Proposed Project Actions:

- a. Organize a seminar on greenhouse management for rose production.
- b. Organize a seminar on post-harvest handling for flowers.

2. Improve the links between industry, government, and research organizations.

Proposed Project Action:

- a. Organize an industry awareness tour to the United States.

3. **Improve understanding of the distribution channels in export markets and business practices.**

Proposed Project Actions:

- a. Organize an industry awareness tour to the United States, as in B. above.
- b. Organize internships or training seminars in the U.S. or in Morocco.

4. **Develop new products and new markets**

Proposed Project Actions:

- a. Help the industry develop requests for participation in the Promotion-Investment-Fund.
- b. Organize market prospection visits (either as individuals or in a group) to seek partners in the USA or participation in international fairs.
- c. Co-finance and organize tests of new methods of transport.
- d. Support efforts to diversify into cut foliage and azalea production.
- e. Help determine product specifications in each market to facilitate market penetration.

5. **Improve control over the marketing channels - vertical integration to the level of the wholeseller or the importer**

Proposed Project Actions:

- a. Determine project assistance on a case by case basis for each company and its own distribution channels, most likely through the PIF or a market study.

6. **Increase and share general knowledge within the Moroccan floral industry.**

A critical role for AMPEXFLEUR must be to promote professional links within the industry and with the research institutions. AMI will be glad to participate in these different suggestions based on requests by the industry.

Proposed Project Actions:

- a. Organize group visits to farms and hold discussions with the floral researchers on themes to be defined.
- b. Collect and distribute information on floriculture coming from other countries in the world.

- c. Establish a joint research program with the IAV, INRA, or SASMA. (AMI could participate in funding part of the research)
- d. Establish collaborative relations with associations in the U.S. and the EEC. AMI can establish contacts with associations such as the Floral Marketing Association to identify means of collaboration.
- e. Collect the information on microclimatés around Morocco which might be propitious for new production operations.

LIST OF ANNEXES

- ANNEX ONE: EUROPEAN IMPORT STATISTICS
- ANNEX TWO: CONTACTS IN MOROCCO AND EUROPE
- ANNEX THREE: EUROPEAN FLOWER TRADING COMPANIES
- ANNEX FOUR: TECHNICAL CONSIDERATIONS IN FLOWER PRODUCTION
- ANNEX FIVE: THE DUTCH AUCTION AND ITS IMPACT ON WORLD PRICES
- ANNEX SIX: FLOWER INDUSTRY COST DATA AND SELECTED COMPANY CHARACTERISTICS
- ANNEX SEVEN: ROYAL AIR MAROC FREIGHT CHARGES
- ANNEX EIGHT: UNITED STATES IMPORT FIGURES FOR
- ANNEX NINE: MOROCCAN RESEARCH ON CUT FLOWERS
- ANNEX TEN: ANALYSIS OF THE EUROPEAN COMMUNITY MARKETS FOR ROSES AND CARNATIONS, BASED ON EUROSTAT DATA
- ANNEX ELEVEN: US FLORAL IMPORT REGULATIONS
- ANNEX TWELVE: MOROCCAN FLOWER EXPORTERS

ANNEX ONE

EUROPEAN IMPORT STATISTICS FOR 1991-92

(Eurostat)

1. Rose Imports into Europe
2. Carnation Imports into Europe
3. Gladiola Imports into Europe

EUROPEAN ROSE IMPORT STATISTICS

source EuroStat, November 1991 - October 1992

EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)

N°: 02 1993 93.03.03 Imprimé le : 25/03/1993 - 12:30:14

Régime statistique: 4. Unité: Tonnes

Produit: ROSES Déclarant: EUR12.70-92

Paix partenaires

	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08	92-09	92-10	No91/Oc9 A001
FRANCE 60-92	4	5	5	2	2	5	6	2	0	5	0	5	43
BELG-LUXBG. 60-92	30	11	7	11	13	15	22	20	26	24	17	22	218
PAYS-BAS 60-92	3923	3441	2537	2052	3039	9644	4412	3480	4364	4335	4194	4013	49438
RE ALLEMAGNE 60-92	3	14	8	8	12	12	6	3	5	4	5	9	92
ITALIE 60-92	45	37	64	131	90	108	73	19	5	7	6	25	612
ROYAUME-UNI 73-92	0	3	1	2	1	0	0	15	0	0	0	1	27
IRLANDE 73-92	0	0	0	0	1	0	0	0	0	0	0	0	2
GRECE 81-92	0	0	0	1	0	0	0	0	0	0	0	0	1
ESPAGNE 85-92	2	3	3	4	7	9	14	0	0	0	0	4	48
ILES CANARIES 86-92	82	149	124	136	157	137	81	27	16	7	18	64	1001
FINLANDE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
TURQUIE 65-92	0	0	0	0	0	1	0	1	0	0	0	0	2
POLOGNE 90-92	2	0	0	0	0	0	2	1	1	1	0	0	7
BULGARIE 91-92	1	0	0	0	0	0	0	1	0	0	0	0	2
MAROC 65-92	112	278	217	212	138	222	72	6	0	0	0	0	1280
KENYA 65-92	136	157	260	205	262	235	136	27	26	22	70	153	1693
ZAMBIE 65-92	25	28	60	35	52	33	27	1	0	0	0	24	284
ZIMBABWE 81-92	143	297	551	324	301	171	53	3	0	0	9	126	1982
MAJAWES 65-92	6	0	23	10	10	18	6	1	0	0	2	22	99
AFRIQUE SUD 90-92	0	6	9	4	1	0	0	0	0	0	0	1	23
ETATS-UNIS 76-92	2	2	0	2	1	0	0	0	0	0	0	1	10
SPERTEMO 65-92	0	0	0	2	0	0	0	0	0	0	0	0	2
MEXIQUE 65-92	8	22	17	29	22	6	3	0	0	0	0	2	119
COSTA RICA 65-92	0	6	9	4	1	5	2	0	1	0	1	5	36
ANGUILLES 87-92	0	0	0	1	0	0	0	0	0	0	0	0	1
JAMAÏQUE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
COLOMBIE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
EQUATEUR 65-92	72	115	156	349	112	74	26	10	10	10	37	96	1075
BRESIL 65-92	27	48	156	141	93	26	15	5	4	3	8	33	565
CHILI 65-92	0	3	0	56	53	24	18	1	9	0	13	35	398
ISRAEL 65-92	287	506	379	174	146	299	244	112	78	8	5	94	2314
INDE 65-92	0	0	0	7	4	2	0	0	0	0	0	0	22
THAÏLANDE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
CHINE 76-92	0	0	0	0	0	1	0	0	0	0	0	0	1
MONDE 68-92	4955	5193	4675	3914	4523	11055	5227	3737	4540	4428	4398	4768	61415
INTRA-CE 58-92	4008	3513	2628	2213	3167	9795	4538	3538	4402	4378	4223	4082	50487
EXTRA-CE 58-92	946	1679	2048	1701	1355	1258	688	200	138	52	172	685	10926
CLASSE 1 58-92	2	8	9	7	3	1	1	0	0	0	1	2	37
A.E.L.E. 58-92	0	0	0	0	0	0	0	0	0	0	0	0	1
CLASSE 2 58-92	941	1672	2039	1693	1352	1256	684	197	136	50	171	682	10876
ACP (68) 90-91	312	483	0	0	0	0	0	0	0	0	0	0	795
ACP (69) 92-92	0	0	895	574	626	458	222	33	27	22	82	327	3265
CLASSE 4 91-92	3	0	0	0	0	0	2	2	1	0	0	0	9
CLASSE 5 91-92	0	0	0	0	0	1	0	0	0	0	0	0	1

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Pays partenaires	Période												No91/Oc9 A001
	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08	92-09	92-10	
FRANCE 60-92	34	37	41	31	24	20	21	10	4	4	7	39	272
BELG.-LUXBG. 60-92	109	72	61	71	44	51	84	59	62	56	51	74	794
PAYS-BAS 60-92	17735	18475	13971	15887	14629	22945	20477	14048	15516	14156	16346	19313	203497
RF ALLEMAGNE 60-92	13	89	73	86	107	47	24	16	24	23	27	49	579
ITALIE 60-92	276	331	407	556	441	826	547	138	43	61	41	224	3393
ROYAUME-UNI 73-92	5	20	13	58	5	5	3	23	1	0	1	7	144
IRLANDE 73-92	0	0	1	0	3	0	0	0	0	0	0	0	4
GRECE 81-92	0	0	3	17	5	1	0	0	0	0	1	0	27
PORTUGAL 86-92	0	1	0	0	0	2	0	0	0	0	0	0	3
ESPAGNE 86-92	12	21	30	61	59	45	111	1	0	0	1	39	381
ILES CANAIRES 86-92	509	1133	1017	1231	1021	795	464	137	75	35	96	364	6880
FINLANDE 65-92	0	0	0	0	1	0	3	0	0	0	0	0	4
SUISSE 65-92	0	0	0	0	0	0	0	0	3	0	0	0	3
TURQUIE 65-92	0	0	0	0	0	3	0	6	0	0	0	0	9
LETTONIE 92-92	0	0	0	0	0	0	0	0	0	0	0	1	1
U.R.S.S. 65-92	0	0	1	0	0	0	0	0	0	0	0	0	1
POLOGNE 90-92	1	0	0	0	0	0	2	1	2	2	0	0	9
BULGARIE 91-92	3	0	0	0	0	0	0	6	0	0	0	0	9
MAROC 65-92	652	2290	1571	2038	710	717	267	14	0	0	9	136	8401
TUNISIE 65-92	0	0	0	0	0	0	0	0	0	0	0	2	2
S.TOME/PRINC. 72-92	0	0	0	0	0	0	0	0	0	0	0	0	1
BURUNDI 67-92	0	0	0	0	0	0	0	0	0	0	0	2	2
KENYA 65-92	378	500	734	727	822	665	342	60	49	50	163	412	4900
ZAMBIE 65-92	94	141	275	174	218	143	105	3	0	0	0	83	1237
ZIMBABWE 81-92	553	1211	2464	1515	1396	805	208	22	7	0	32	665	8876
MALAWI 65-92	19	0	73	34	36	64	22	4	0	0	6	76	336
AFR. DU SUD 90-92	2	50	65	39	11	5	2	0	0	0	0	7	181
ETATS-UNIS 76-92	8	9	2	30	5	0	5	0	0	1	6	8	77
S.PIERRE/MIQ 65-92	0	0	14	0	0	0	0	0	0	0	0	0	14
MEXIQUE 65-92	28	67	52	149	79	19	13	0	0	0	9	33	449
GUATEMALA 65-92	0	0	3	0	1	0	0	0	0	0	0	0	4
COSTA RICA 65-92	1	27	38	25	7	27	12	2	3	1	9	31	182
PANAMA 81-92	0	0	0	0	1	0	0	0	0	0	0	0	1
ANGUILLA 87-92	0	0	0	4	0	0	0	0	0	0	0	0	4
JAMAÏQUE 65-92	2	3	0	2	3	1	0	0	0	0	0	0	12
ANTILLES NL 87-92	0	0	0	0	0	0	0	0	0	1	0	0	1
COLOMBIE 65-92	452	729	969	2944	750	468	156	57	59	51	203	504	7343
VENEZUELA 65-92	1	0	0	0	0	0	0	0	0	0	1	0	2
EQUATEUR 65-92	124	254	631	741	485	156	79	22	20	10	39	154	2714
BRESIL 65-92	450	452	474	373	379	153	106	6	0	2	75	275	2745
CHILI 65-92	2	4	2	7	1	0	0	0	0	0	0	0	16
BOLIVIE 65-92	3	0	0	0	0	0	0	0	0	0	0	0	3
ISRAEL 65-92	1180	2840	2808	2657	1179	1444	1261	407	312	16	32	410	14547
INDE 65-92	0	3	24	20	4	2	0	0	0	0	0	0	53
THAÏLANDE 65-92	0	9	3	1	0	0	0	1	0	0	0	0	14
SINGAPOUR 68-92	0	3	0	0	0	0	0	0	0	0	0	0	3
CHINE 76-92	0	0	0	0	0	4	0	0	0	0	0	0	4
NOUVELLE-ZELANDE 65-92	0	0	2	2	6	0	0	0	0	0	0	2	12
MONDE 58-92	22654	28776	25810	29500	22435	29417	24317	15046	16181	14470	17157	22907	268669
INTRA-CE 58-92	18189	19047	14600	16771	15317	23944	21269	14296	15651	14302	16475	19746	209602
EXTRA-CE 58-92	4465	9727	11209	12729	7117	5472	3049	748	529	169	683	3163	59063
CLASSE 1 58-92	10	58	70	71	24	8	10	6	3	1	7	17	287
A.E.L.E. 58-92	0	0	0	0	1	0	3	0	3	0	0	0	7
CLASSE 2 58-92	4450	9669	11138	12659	7093	5459	3036	735	524	166	676	3145	58750
ACP (68) 90-91	1048	1856	0	0	0	0	0	0	0	0	0	0	2904
ACP (69) 92-92	0	0	3545	2453	2476	1678	677	89	55	50	201	1237	12463
CLASSE 4 91-92	4	0	1	0	0	0	2	7	2	2	0	1	19
CLASSE 5 91-92	0	0	0	0	0	4	0	0	0	0	0	0	4

Régime statistique: 4 Unité: Tonnes
 Produit: ROSES Déclarant: EUR12 70-92

Pays partenaires	Période										No91/Oct9 A001		
	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08		92-09	92-10
FRANCE 60-92	4	5	5	2	2	5	6	2	0	5	0	5	43
BELG-LUXBG 60-92	30	11	7	11	13	15	22	20	26	24	17	22	218
PAYS-BAS 60-92	3923	3441	2537	2052	3039	9644	4412	3480	4344	4335	4194	4013	49438
RF ALLEMAGNE 60-92	3	14	8	8	12	12	6	3	5	4	5	9	92
ITALIE 60-92	45	37	64	131	90	108	73	19	5	7	6	25	612
ROYAUME-UNI 73-92	0	3	1	2	1	0	0	15	0	0	0	1	27
IRLANDE 73-92	0	0	0	0	1	0	0	0	0	0	0	0	2
GRECE 81-92	0	0	0	1	0	0	0	0	0	0	0	0	1
ESPAGNE 86-92	2	3	3	4	7	9	14	0	0	0	0	4	48
ILES CANARIES 86-92	82	149	124	136	157	137	81	27	16	7	18	64	1001
FINLANDE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
TURQUIE 65-92	0	0	0	0	0	1	0	1	0	0	0	0	2
POLOGNE 90-92	2	0	0	0	0	0	2	1	1	1	0	0	7
BULGARE 91-92	1	0	0	0	0	0	1	0	0	0	0	0	2
MAROC 65-92	112	278	217	212	138	222	72	6	0	0	2	17	1280
KENYA 65-92	136	157	260	205	262	235	136	27	26	22	70	153	1693
ZAMBIE 65-92	25	28	60	35	52	33	27	1	0	0	0	24	284
ZIMBABWE 81-92	143	297	551	324	301	171	53	3	1	0	9	126	1982
MALAWI 65-92	6	0	23	10	10	18	6	1	0	0	2	22	99
AFRIQUE SUD 90-92	0	6	9	4	1	0	0	0	0	0	0	1	23
ETATS-UNIS 76-92	2	2	0	2	1	0	1	0	0	0	1	1	10
SPERRE-MO 65-92	0	0	0	2	0	0	0	0	0	0	0	0	2
MEXIQUE 65-92	8	22	17	29	22	6	3	0	0	0	2	10	119
COSTA RICA 65-92	0	6	9	4	1	5	2	0	0	0	1	5	36
ANGOLA 87-92	0	0	0	1	0	0	0	0	0	0	0	0	1
JAMAÏQUE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
COLOMBIE 65-92	72	116	156	349	112	74	26	10	10	10	37	96	1075
EQUATEUR 65-92	27	48	156	141	93	26	15	5	4	3	8	33	565
BRESIL 65-92	62	63	72	56	53	24	18	1	0	0	13	35	398
CHILI 65-92	0	0	0	2	0	0	0	0	0	0	0	0	2
ISRAEL 65-92	267	506	379	174	146	299	244	112	78	8	5	94	2314
INDE 65-92	0	0	10	7	4	2	0	0	0	0	0	0	22
THAÏLANDE 65-92	0	1	0	0	0	0	0	0	0	0	0	0	1
CHINE 76-92	0	0	0	0	0	1	0	0	0	0	0	0	1
MONDE 58-92	4955	5193	4675	3914	4523	11055	5227	3737	4540	4428	4398	4768	61415
INTRA-CE 58-92	4008	3513	2628	2213	3167	9795	4538	3538	4402	4378	4223	4082	50487
EXTRA-CE 58-92	946	1679	2048	1701	1355	1258	688	200	138	52	172	685	10926
CLASSE 1 58-92	2	8	9	7	3	1	1	1	0	0	1	2	37
A.E.L.E 58-92	0	0	0	0	0	0	0	0	0	0	0	0	1
CLASSE 2 58-92	941	1672	2039	1693	1352	1256	684	197	136	50	171	682	10878
ACP (68) 90-91	312	483	0	0	0	0	0	0	0	0	0	0	795
ACP (69) 92-92	0	0	895	574	626	458	222	33	27	22	82	327	3265
CLASSE 4 91-92	3	0	0	0	0	0	2	2	1	1	0	0	9
CLASSE 5 91-92	0	0	0	0	0	1	0	0	0	0	0	0	1

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 N2: 02 1993 93.03.03 Imprime le : 25/03/1993 - 12:30:11
 Flux: Import Régime statistique: 4 Unite: 1000 ECU
 Produit: ROSES Déclarant: EUR12 70-92
 Pays partenaires Période

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	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08	92-09	92-10	No91/Oct9 A001
FRANCE 60-92	34	37	41	31	24	20	21	10	4	4	7	39	272
BELG.-LUXBG. 60-92	109	72	61	71	44	51	84	59	62	56	5	74	794
PAYS-BAS 60-92	17735	18475	13971	15887	14629	22945	20477	14048	15516	14156	16346	19313	203497
RF ALLEMAGNE 60-92	13	89	73	86	107	47	24	16	24	23	27	49	579
ITALIE 60-92	276	331	407	556	441	826	547	138	43	61	41	224	3893
ROYAUME-UNI 73-92	5	20	13	58	5	5	3	23	1	0	1	7	144
IRLANDE 73-92	0	0	1	0	3	0	0	0	0	0	0	0	4
GRECE 81-92	0	0	3	17	5	1	0	0	0	0	0	0	0
PORTUGAL 86-92	0	1	0	0	0	2	0	0	0	0	0	1	0
ESPAGNE 86-92	12	21	30	61	59	45	111	1	0	0	0	0	3
ILES CANARIES 86-92	509	1133	1017	1231	1021	795	464	137	75	35	96	364	6880
FINLANDE 65-92	0	0	0	0	1	0	3	0	0	0	0	0	4
SUISSE 65-92	0	0	0	0	0	0	0	0	3	0	0	0	0
TURQUIE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	3
LETONIE 92-92	0	0	0	0	0	3	0	6	0	0	0	0	9
U.R.S.S. 65-92	0	0	1	0	0	0	0	0	0	0	0	1	1
POLOGNE 90-92	1	0	0	0	0	0	2	1	2	0	0	0	1
BULGARIE 91-92	3	0	0	0	0	0	0	6	0	2	0	0	9
MAROC 65-92	652	2290	1571	2038	710	717	267	14	0	0	9	136	8401
TUNISE 65-92	0	0	0	0	0	0	0	0	0	0	0	2	2
S.TOME,PRINC 72-92	0	0	0	0	0	0	0	0	0	0	0	0	1
BURUNDI 67-92	0	0	0	0	0	0	0	0	0	0	0	0	2
KENYA 65-92	378	500	734	727	822	665	342	60	49	50	163	412	4900
ZAMBIE 65-92	94	141	275	174	218	143	105	3	0	0	0	83	1237
ZIMBABWE 81-92	553	1211	2464	1515	1396	805	208	22	7	0	32	665	8876
MALAWI 65-92	19	0	73	34	36	64	22	4	0	0	0	76	336
AFR. DU SUD 90-92	2	50	65	39	11	5	2	0	0	0	6	7	181
ETATS-UNIS 76-92	8	9	2	30	5	0	5	0	0	0	0	8	77
S.PIERRE,MIQ 65-92	0	0	0	14	0	0	0	0	0	1	6	8	14
MEXIQUE 65-92	28	67	52	149	79	19	13	0	0	0	9	33	449
GUATEMALA 65-92	0	0	3	0	1	0	0	0	0	0	0	0	4
COSTA RICA 65-92	1	27	38	25	7	27	12	2	2	1	0	0	182
PANAMA 81-92	0	0	0	0	1	0	0	0	3	1	9	31	1
ANGUILLA 87-92	0	0	0	4	0	0	0	0	0	0	0	0	4
JAMAÏQUE 65-92	2	3	0	2	3	1	0	0	0	0	0	0	12
ANTILLES NL 87-92	0	0	0	0	0	0	0	0	0	1	0	0	1
COLOMBIE 65-92	452	729	969	2944	750	468	156	57	59	51	203	504	7343
VENEZUELA 65-92	1	0	0	0	0	0	0	0	0	0	1	0	2
EQUATEUR 65-92	124	254	631	741	485	156	79	22	20	10	39	154	2714
BRESIL 65-92	450	452	474	373	379	153	106	6	0	2	75	275	2745
CHILI 65-92	2	4	2	7	1	0	0	0	0	0	0	0	16
BOLIVIE 65-92	3	0	0	0	0	0	0	0	0	0	0	0	3
ISRAEL 65-92	1180	2840	2808	2657	1179	1444	1261	407	312	16	32	410	14547
INDE 65-92	0	3	24	20	4	2	0	0	0	0	0	0	53
THAÏLANDE 65-92	0	9	3	1	0	0	0	1	0	0	0	0	14
SINGAPOUR 68-92	0	3	0	0	0	0	0	0	0	0	0	0	3
CHINE 76-92	0	0	0	0	0	4	0	0	0	0	0	0	4
NOUV.ZELANDE 65-92	0	0	2	2	6	0	0	0	0	0	0	2	12
M O N D E 58-92	22654	28776	25810	29500	22435	29417	24317	15046	16181	14470	17157	22907	268669
INTRA-CE 58-92	18189	19047	14600	16771	15317	23944	21269	14296	15651	14302	16475	19746	209602
EXTRA-CE 58-92	4465	9727	11209	12729	7117	5472	3049	748	529	167	683	3163	59063
CLASSE 1 58-92	10	58	70	71	24	8	10	6	3	1	7	17	287
A E L E 58-92	0	0	0	0	1	0	3	0	0	0	0	0	7
CLASSE 2 58-92	4450	9669	11138	12659	7093	5459	3036	735	524	166	676	3145	58750
ACP (68) 90-91	1048	1856	0	0	0	0	0	0	0	0	0	0	2904
ACP (69) 92-92	0	0	3545	2453	2476	1678	677	89	55	50	201	1237	12463
CLASSE 4 91-92	4	0	1	0	0	0	2	7	2	0	0	1	19
CLASSE 5 91-92	0	0	0	0	0	4	0	0	0	0	0	0	4

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EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)

N° 02 1993 93 03 03 Imprimé le 25/03/1993 - 12:20:42

Régime statistique: 4 Unité: Tonnes

Période: No 91/Oct 92 Produit: ROSES

	Pays déclarants												
	EUR12 70-92	FRANCE 60-92	BELG-LUXBG 60-92	PAYS-BAS 60-92	RF ALLEMAGN 60-92	ITALIE 60-92	ROYAUME-UNI 73-92	IRLANDE 73-92	DANEMARK 73-92	GRECE 81-92	PORTUGAL 86-92	ESPAGNE 86-92	
FRANCE 60-92	43	0	2	4	29	6	0	0	2	0	0	0	0
BELG-LUXBG 60-92	218	7	0	202	9	0	0	0	0	0	0	0	0
PAYS-BAS 60-92	49438	569	3021	0	43234	22	1419	48	1072	2	3	48	0
RF ALLEMAGNE 60-92	92	7	14	57	0	0	2	0	10	2	0	2	0
ITALIE 60-92	612	4	0	2	605	0	1	0	0	0	0	0	0
ROYAUME-UNI 73-92	27	0	0	12	9	0	0	5	1	0	0	0	0
IRLANDE 73-92	2	0	0	0	0	0	2	0	0	0	0	0	0
GRECE 81-92	1	1	0	0	0	0	0	0	0	0	0	0	0
ESPAGNE 86-92	48	8	3	6	21	0	4	4	0	0	0	0	0
ILES CANARIES 86-92	1001	12	0	88	449	11	19	3	1	0	2	0	0
FINLANDE 65-92	1	0	0	0	1	0	0	0	0	0	0	418	0
TURQUIE 65-92	2	0	0	0	1	0	1	0	0	0	0	0	0
POLOGNE 90-92	7	0	0	0	7	1	0	0	0	0	0	0	0
BULGARIE 91-92	2	0	0	0	0	0	0	0	0	0	0	0	0
MAROC 65-92	1280	799	27	125	216	79	6	0	4	1	0	0	0
KENYA 65-92	1693	4	1	1067	539	0	81	0	0	0	0	0	0
ZAMBIE 65-92	284	0	0	273	5	0	0	6	0	1	0	0	0
ZIMBABWE 81-92	1982	0	0	1773	116	7	77	0	9	0	0	0	0
MALAWI 65-92	99	0	0	99	0	0	0	0	0	0	0	0	0
AFR. DU SUD 90-92	23	0	0	5	16	2	0	0	0	0	0	0	0
ETATS-UNIS 76-92	10	0	0	2	6	0	0	0	0	0	0	0	0
S. PIERRE. MIQ. 65-92	2	0	0	0	0	0	0	0	0	0	0	0	0
MEXIQUE 65-92	119	1	0	2	87	16	0	0	0	0	0	2	0
COSTA RICA 65-92	36	0	0	20	11	5	0	0	0	0	0	13	0
ANGUILLA 87-92	1	0	0	0	1	0	0	0	0	0	0	0	0
JAMAIQUE 65-92	1	0	0	0	1	0	0	0	0	0	0	0	0
COLOMBIE 65-92	1075	9	11	52	377	114	137	9	8	1	0	0	0
EQUATEUR 65-92	565	7	0	267	182	48	1	1	0	0	0	0	0
BRESIL 65-92	398	0	0	13	385	0	0	0	0	0	0	0	59
CHILI 65-92	2	0	0	0	2	0	0	0	0	0	0	0	0
ISRAEL 65-92	2314	102	7	771	991	2	429	0	11	0	0	0	0
INDE 65-92	22	0	0	22	0	0	0	0	0	0	0	1	0
THAÏLANDE 65-92	1	0	0	0	0	1	0	0	0	0	0	0	0
CHINE 76-92	1	0	0	0	1	0	0	0	0	0	0	0	0
M O N D E 58-92	61415	1531	3086	4863	47305	320	2182	75	1117	6	8	922	0
INTRA-CE 58-92	50487	595	3040	286	43908	29	1430	55	1085	2	5	52	0
EXTRA-CE 58-92	10926	935	46	4577	3398	291	752	18	32	4	3	870	0
CLASSE 1 58-92	37	0	0	7	23	5	2	0	0	0	0	0	0
A E L E 58-92	1	0	0	0	1	0	0	0	0	0	0	0	0
CLASSE 2 58-92	10878	935	46	4570	3367	285	750	18	32	2	3	870	0
ACP (68) 90-91	795	1	1	587	173	7	24	2	0	0	0	0	0
ACP (69) 92-92	3245	3	0	2624	489	0	135	4	9	1	0	0	0
CLASSE 4 91-92	9	0	0	0	7	1	0	0	0	1	0	0	0
CLASSE 5 91-92	1	0	0	0	1	0	0	0	0	0	0	0	0

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	Pays partenaires		Pays déclarants										
	EUR12 70-92		FRANCE 60-92	BELG -LUXBG. 60-92	PAYS-BAS 60-92	RF ALLEMAGN 60-92	ITALIE 60-92	ROYAUME-UNI 73-92	IRLANDE 73-92	DANEMARK 73-92	GRECE 81-92	PORTUGAL 86-92	ESPAGNE 56-92
E 60-92		272	0	16	21	150	68	1	0	11	0	1	4
LUXBG 60-92		794	44	0	707	36	1	5	0	1	0	0	0
AS 60-92	203497		1878	8176	0	175024	166	10926	284	6502	0	0	0
MAGNE 60-92	579		34	91	343	0	1	13	0	68	33	499	0
60-92	3893		49	0	13	3817	0	12	0	0	0	29	0
ME-UNI 73-92	144		1	3	48	29	0	0	0	2	0	0	0
XE 73-92	4		0	0	0	0	0	12	57	6	0	0	0
81-92	27		9	0	3	2	13	4	0	0	0	0	0
GAL 86-92	3		0	0	0	0	0	0	0	0	0	0	0
NE 86-92	381		54	32	31	171	0	1	0	0	0	0	2
UNIARIES 86-92	6880		98	0	560	3673	133	125	19	8	34	0	0
IDE 65-92	4		0	0	0	4	0	0	0	0	1	2263	0
65-92	3		0	0	0	3	0	0	0	0	0	0	0
IE 65-92	9		0	0	0	2	0	7	0	0	0	0	0
IE 92-92	1		0	0	0	1	0	0	0	0	0	0	0
65-92	1		0	0	0	1	0	0	0	0	0	0	0
INE 90-92	9		0	0	0	9	0	0	0	0	0	0	0
RIE 91-92	9		0	0	0	0	6	0	0	0	0	0	0
C 65-92	8401	5330		231	549	1383	768	13	0	0	3	0	0
65-92	2		0	0	0	2	0	0	28	0	0	80	0
PRINC 72-92	1		0	0	0	0	0	0	0	0	0	0	0
DI 67-92	2		0	0	0	0	0	0	0	0	1	0	0
65-92	4900	19		4	2997	1533	5	334	0	8	0	0	0
WE 81-92	1237		0	0	1112	52	0	5	68	0	0	0	0
VI 65-92	8876		0	2	7842	494	45	446	0	45	2	0	0
USUD 90-92	336		0	0	336	0	0	0	0	0	0	0	0
JNIS 76-92	181		2	0	29	130	15	4	0	0	0	0	0
E.MIQ 65-92	77		0	0	26	33	18	0	0	0	0	0	0
UE 65-92	14		0	0	0	0	0	0	0	0	0	0	14
449		9		18	228	78	0	0	0	0	0	0	0
MALA 65-92	4		0	0	0	4	0	0	0	0	0	116	0
RICA 65-92	182		3	0	88	60	30	0	1	0	0	0	0
AA 81-92	1		0	0	0	1	0	0	0	0	0	0	0
LLA 87-92	4		0	0	0	4	0	0	0	0	0	0	0
QUE 65-92	12		0	0	0	12	0	0	0	0	0	0	0
ES NL 87-92	1		0	0	0	0	0	0	0	0	0	0	0
VIE 65-92	7343	62		69	256	2307	806	1006	56	73	5	4	2700
JELA 65-92	2		0	0	0	0	1	1	0	0	0	0	0
EUR 65-92	2714	33		0	1009	1140	268	3	3	0	0	0	0
65-92	2745		0	0	37	2708	0	0	0	0	0	258	0
65-92	16		0	0	2	10	4	0	0	0	0	0	0
65-92	3		3	0	0	0	0	0	0	0	0	0	0
65-92	14547	503		40	3669	5443	53	4718	0	112	0	0	0
65-92	53		0	0	53	0	0	0	0	0	0	9	0
NDE 65-92	14		0	0	0	0	13	0	0	0	1	0	0
OUR 68-92	3		0	0	0	0	0	0	0	0	0	0	0
76-92	4		0	0	0	4	0	0	0	3	0	0	0
ZELANDE 65-92	12		0	0	4	2	6	0	0	0	0	0	0
DE 58-92	268669	8134		8665	19757	198476	2498	17649	529	6858	32	93	5978
CE 58-92	209602	2070		8319	1168	179232	250	10982	382	6589	9	67	534
CE 58-92	59063	6064		345	18590	19245	2247	6666	147	269	23	24	5443
E1 58-92	287		2	0	60	7	38	11	0	0	0	0	1
58-92	7		0	0	0	7	0	0	0	0	0	0	0
E2 58-92	58750	6061		345	18528	19056	2203	6655	147	269	0	24	5442
8) 90-91	2904		2	4	2127	567	44	137	21	0	2	0	0
9) 92-92	12463		17	2	10161	1525	6	649	47	47	8	1	0
E4 91-92	19		0	0	0	10	6	0	0	0	3	0	0
E5 91-92	4		0	0	0	4	0	0	0	0	0	0	0

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EUROPEAN CARNATION IMPORT STATISTICS

source EuroStat, November 1991 - October 1992

EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)

N°: 02 1993 FJ 03 03 Imprimé le 25/03/1993 - 12.21.07

Régime: Import Régime statistique: 4 Unité: Tonnes

Période: No 91/Oct 92 Produit: OEUILLET

	Pays déclarants											
	EUR12 70-92	FRANCE 60-92	BELG-LUXBG 60-92	PAYS-BAS 60-92	RF ALLEMAGN 60-92	ITALIE 60-92	ROYAUME-UNI 73-92	IRLANDE 73-92	DANEMARK 73-92	GRECE 81-92	PORTUGAL 86-92	ESPAGNE 86-92
FRANCE 60-92	227	0	5	19	191	0	12	0	0	0	0	0
BELG-LUXBG 60-92	37	7	0	22	2	0	6	0	0	0	0	0
PAYS-BAS 60-92	25315	82	1653	0	18076	0	5134	75	264	0	0	0
RF ALLEMAGNE 60-92	2209	168	6	1566	0	41	403	0	24	0	1	30
ITALIE 60-92	3614	0	6	23	3218	0	367	0	0	1	0	0
ROYAUME-UNI 73-92	75	0	0	8	3	0	0	0	0	0	0	0
DANEMARK 73-92	1	0	0	0	0	0	0	64	0	0	0	0
GRECE 81-92	5	0	0	0	1	0	0	0	0	0	0	0
PORTUGAL 86-92	17	0	0	0	5	0	0	0	0	0	0	0
ESPAGNE 86-92	10269	0	0	0	0	0	7	0	0	0	0	10
ILES CANARIES 86-92	8	226	226	8261	996	8	525	2	16	0	9	0
FINLANDE 65-92	1	0	0	0	4	0	3	0	0	0	0	1
TURQUIE 65-92	2712	0	0	1	0	0	0	0	0	0	0	0
POLOGNE 90-92	2	32	0	277	294	0	0	0	0	0	0	0
ROUMANIE 65-92	5	0	0	0	2	0	0	0	1	3	0	0
BULGARIE 91-92	11	0	0	0	0	0	0	0	0	5	0	0
MAROC 65-92	958	219	27	61	161	0	488	0	0	11	0	0
EGYPTE 65-92	4	0	0	0	0	3	1	0	0	0	1	1
NIGERIA 65-92	3	0	0	0	0	0	3	0	0	0	0	0
CAMEROUN 65-92	1	0	0	0	0	0	1	0	0	0	0	0
KENYA 65-92	8381	36	38	4189	3509	4	598	0	0	0	0	0
ZAMBIE 65-92	2	0	0	2	0	0	0	0	0	2	0	5
ZIMBABWE 81-92	31	0	0	13	0	0	0	0	0	0	0	0
AFR. DU SUD 90-92	4	0	0	0	3	0	1	0	0	0	0	0
NAMIBIE 91-92	1	0	0	0	0	0	1	0	0	0	0	0
ETATS-UNIS 76-92	46	0	0	33	9	0	3	0	0	0	0	0
MEXIQUE 65-92	3	0	0	3	0	0	0	1	0	0	0	0
GUATEMALA 65-92	30	0	0	1	20	0	7	0	0	0	0	0
COSTA RICA 65-92	9	0	0	8	0	0	0	0	1	0	0	2
ANTILLES NL 87-92	2	0	0	2	0	0	0	0	0	0	0	0
COLOMBIE 65-92	17147	146	28	1546	4004	26	8905	338	45	218	1	1890
EQUATEUR 65-92	132	0	0	3	127	0	1	0	0	0	0	0
PEROU 65-92	421	1	0	197	210	0	7	0	0	0	0	1
CHILI 65-92	43	0	0	15	16	0	12	0	0	0	0	0
ISRAEL 65-92	3427	29	42	1204	1460	0	692	0	0	0	0	0
ARABIE SAOUD 65-92	81	0	0	12	18	0	51	0	0	0	0	0
INDE 65-92	3	0	0	0	2	0	1	0	0	0	0	0
THAÏLANDE 65-92	8	0	0	1	0	0	1	0	0	4	0	2
SINGAPOUR 68-92	1	0	0	0	0	0	0	0	0	1	0	0
AUSTRALIE 65-92	1	0	0	0	1	0	0	0	0	0	0	0
PAPOU-NI GUIN 76-92	1	0	0	1	0	0	0	0	0	0	0	0
MONDE 58-92	75263	947	2035	17473	32334	83	19353	485	352	246	12	1943
INTRA-CE 58-92	41770	483	1899	9900	22492	49	6452	139	304	1	9	42
EXTRA-CE 58-92	33488	463	135	7572	9841	34	12900	346	47	244	2	1904
CLASSE 1 58-92	2769	32	1	310	309	0	2111	1	1	4	0	0
A E L E 58-92	1	0	0	1	0	0	0	0	0	0	0	0
CLASSE 2 58-92	30701	432	135	7261	9532	34	10787	345	46	224	1	1904
ACP (68) 90-91	2285	8	21	1120	990	2	142	0	0	0	0	2
ACP (69) 92-92	6136	28	17	3087	2519	2	478	0	0	2	0	3
CLASSE 4 91-92	18	0	0	0	2	0	0	0	0	16	0	0

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	EUR12 70-92	Pays associés		PAYS-BAS		RF ALLEMAGNE	ITALIE	ROYAUME-UNI	IRLANDE	DANEMARK	GRECE	PORTUGAL	ESPAGNE
		FRANCE 60-92	BELG-LUXBG 60-92	60-92	60-92	60-92	60-92	73-92	73-92	73-92	81-92	86-92	86-92
FRANCE 60-92	1154	0	18	58	1041	0	35	2	0	0	0	0	0
BELG-LUXBG 60-92	84	24	0	32	13	0	15	0	0	0	0	0	0
PAYS-BAS 60-92	108653	355	3365	0	78766	0	0	0	0	0	0	0	0
RF ALLEMAGNE 60-92	7441	560	28	5355	0	144	23841	353	1618	4	14	328	0
ITALIE 60-92	23438	5	43	260	0	0	1268	0	0	0	0	0	0
ROYAUME-UNI 73-92	446	0	0	40	21398	0	1728	4	0	0	0	0	0
DANEMARK 73-92	9	0	0	8	0	0	0	396	1	0	0	0	0
GRECE 81-92	40	0	0	0	8	0	0	0	0	0	0	0	0
PORTUGAL 86-92	35	0	0	0	40	0	0	0	0	0	0	0	0
ESPAGNE 86-92	26669	569	440	20361	3509	46	1692	8	38	0	0	0	11
ILES CANARIES 86-92	44	0	0	0	26	0	11	0	0	0	0	0	0
FINLANDE 65-92	4	0	0	1	3	0	0	0	0	0	0	0	7
GIBRALTAR 65-92	2	0	0	0	0	0	0	0	0	0	0	0	0
YOUgosLAVIE 65-91	2	0	2	0	0	0	0	0	0	0	0	0	0
TURQUIE 65-92	9451	105	2	600	927	0	7800	0	0	0	0	0	0
POLOGNE 90-92	3	0	0	0	3	0	0	0	0	0	0	0	0
ROUMANIE 65-92	25	0	0	0	0	0	0	0	0	0	0	0	0
BULGARIE 91-92	26	0	0	0	0	0	1	0	0	0	24	0	0
MAROC 65-92	2660	658	107	169	530	2	1192	0	0	0	25	0	0
EGYPTE 65-92	5	0	0	0	0	4	1	0	0	0	0	0	0
NGERIA 65-92	4	0	0	0	0	0	4	0	0	0	0	0	0
CAMEROUN 65-92	3	0	0	0	0	0	4	0	0	0	0	0	0
KENYA 65-92	18718	161	126	7838	8932	25	1607	0	0	0	0	0	0
MAURICE 76-92	1	0	0	0	1	0	0	0	0	0	11	0	18
ZAMBIE 65-92	8	0	0	5	0	0	0	0	0	0	0	0	0
ZIMBABWE 81-92	117	0	0	0	0	0	0	3	0	0	0	0	0
MALAWI 65-92	1	0	0	53	0	0	64	0	0	0	0	0	0
AFR. DU SUD 90-92	21	0	0	0	0	0	1	0	0	0	0	0	0
NAMIBIE 91-92	3	0	0	0	12	0	9	0	0	0	0	0	0
ETATS-UNIS 76-92	170	0	0	0	0	0	3	0	0	0	0	0	0
S.PERREMIQ 65-92	2	0	0	0	42	0	12	8	0	0	0	0	0
MEXIQUE 65-92	11	0	0	11	0	0	0	0	0	0	2	0	0
GUATEMALA 65-92	110	0	0	5	77	0	0	0	0	0	0	0	0
COSTA RICA 65-92	31	0	0	27	0	0	23	0	0	0	0	0	0
PANAMA 81-92	2	0	0	0	0	0	0	1	3	0	0	5	0
ANTILLES NL 87-92	1	0	0	2	0	0	0	0	0	0	0	0	0
COLOMBIE 65-92	73546	570	103	5979	17742	143	37396	1733	0	0	0	0	0
VENEZUELA 65-92	1	0	0	0	0	0	0	0	0	0	0	0	0
EQUATEUR 65-92	458	2	1	25	427	0	1	0	205	1084	6	8585	0
PEROU 65-92	1701	3	0	640	1020	0	0	0	0	0	0	0	0
CHILI 65-92	213	0	0	73	88	0	20	18	0	0	0	0	2
PARAGUAY 65-92	2	0	0	0	2	0	50	0	0	0	0	0	0
UBAN 65-92	1	0	0	0	0	0	0	0	0	0	0	0	2
ISRAEL 65-92	10022	53	197	2759	3685	6	3122	0	0	0	1	0	0
ARABIE SAOUD 65-92	149	0	0	16	33	0	100	0	0	0	0	0	0
INDE 65-92	8	0	0	0	5	0	3	0	0	0	0	0	0
THAÏLANDE 65-92	44	0	0	5	0	0	0	0	0	0	0	0	0
SINGAPOUR 68-92	6	0	0	0	0	1	3	0	0	0	26	0	0
CHINE 76-92	2	0	0	0	0	0	0	0	0	0	6	0	0
AUSTRALIE 65-92	3	0	0	2	0	0	0	0	0	0	0	0	0
PAPOUA-N.GUIN 76-92	10	0	0	3	0	0	0	0	0	0	0	0	0
M O N D E 58-92	285586	3063	4434	44438	138557	379	80032	2528	1948	1208	0	0	0
INTRA-CE 58-92	107979	1512	3896	26107	104789	198	28603	765	1738	11	19	8971	0
EXTRA-CE 58-92	117608	1552	538	18331	33766	182	51431	1763	210	1197	8	341	0
CLASSE 1 58-92	9662	105	4	713	988	0	7822	8	2	19	1	8630	0
A E L E 58-92	5	0	0	1	4	0	0	0	0	0	0	0	0
CLASSE 2 58-92	107889	1448	533	17617	32773	181	43600	1755	208	1129	7	8630	0
ACP (68) 90-91	4936	37	66	2158	2289	10	369	0	0	0	0	0	0
ACP (69) 92-92	13928	124	60	5748	6644	15	1312	3	0	0	0	0	7
CLASSE 4 91-92	54	0	0	0	3	1	1	0	0	11	0	11	0
CLASSE 5 91-92	2	0	0	0	2	0	0	0	0	49	0	0	0

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EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)

N° 02 1993 93 03 03 Imprimé le 25/03/1993 - 12 41 46

Régime statistique 4 Unité Tonnes

Produit CÉLULETS Déclarant EUR 12 70-92

Pays partenaires

	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08	92-09	92-10	No91/Oc92
FRANCE 60	19	22	27	36	46	30	29	2	0	0	0	13	227
BELG.-LUXBG	0	3	1	5	6	3	3	9	3	2	0	1	37
PAYS-BAS 60	2084	2203	1690	1557	2145	2947	2693	1725	2198	1912	2183	1978	25315
RF ALLEMAGNE	260	406	323	230	285	113	30	5	5	61	134	355	2209
ITALIE 60-92	219	288	269	545	425	827	472	239	87	72	44	127	3614
ROYAUME-UNI	5	14	3	5	13	6	5	8	7	3	3	1	75
DANEMARK	0	0	0	0	1	0	0	0	0	0	0	0	1
GRECE 81-	0	0	0	0	0	0	5	0	0	0	0	0	5
PORTUGAL 8	1	1	0	1	3	1	0	0	0	5	5	0	17
ESPAGNE 8	216	303	717	931	1907	2246	3661	235	9	3	0	38	10259
ÎLES CANARIES	0	5	0	1	0	0	0	0	0	0	0	1	8
FINLANDE 65	0	0	0	1	0	0	0	0	0	0	0	0	1
TURQUIE 65-	366	294	292	218	352	492	481	96	2	0	0	117	2712
POLOGNE 9	0	0	0	0	0	0	0	0	1	1	0	0	2
ROUMANIE	0	0	0	0	0	0	2	0	0	3	0	0	5
BULGARIE 91	6	3	0	1	0	1	0	0	0	0	0	0	11
MAROC 6	56	105	112	111	136	138	137	98	42	0	0	17	958
EGYPTE 65-	0	0	0	0	3	0	0	0	0	0	0	0	4
NIGERIA 65-	0	0	0	0	3	0	0	0	0	0	0	0	3
CAMEROUN	0	0	1	0	0	0	0	0	0	0	0	0	1
KENYA 65-	1007	1267	1458	1040	812	441	192	57	75	283	651	1095	8381
ZAMBIE 65-	0	0	2	0	0	0	0	0	0	0	0	0	2
ZIMBARWE 8	1	8	8	7	6	0	0	0	0	0	0	1	31
AFR. DU SUD 9	0	1	0	1	0	0	0	0	0	0	0	0	4
NAMIBIE 91-	0	0	0	0	0	0	0	0	0	0	0	2	1
ETATS-UNIS 76	0	1	4	9	1	7	7	5	4	1	2	3	46
MEXIQUE 65	1	0	1	1	0	0	0	0	0	0	0	0	3
GUATEMALA	6	2	1	2	2	2	2	0	1	1	3	10	30
COSTA RICA	0	0	2	2	2	0	2	0	0	1	0	0	9
ANTILLES N. 8	0	0	0	2	0	0	0	0	0	0	0	0	2
COLOMBIE 6	1437	1944	1670	1798	1574	991	981	871	1074	1137	1512	2155	17147
EQUATEUR 6	7	10	10	14	13	7	15	7	8	9	9	24	132
PEROU 65-	64	40	84	36	32	41	25	22	34	27	5	10	421
CHILI 65-92	6	14	18	3	0	0	0	0	0	0	0	1	43
ISRAEL 65-9	247	919	789	283	271	512	251	17	134	0	0	4	3427
ARABIE SAOUD	7	8	17	11	6	18	15	0	0	0	0	0	81
INDE 65-9	0	0	0	1	1	0	0	0	0	0	0	0	3
THAÏLANDE 6	2	0	1	2	0	0	1	0	0	0	0	0	8
SINGAPOUR	0	1	0	0	0	0	0	0	0	0	0	0	1
AUSTRALIE 65	0	0	0	0	0	0	0	0	0	0	0	1	1
PAPOU-N. GUIN	1	0	0	0	0	0	0	0	0	0	0	0	1
M O N D E 58	6016	7862	7502	6861	8048	8830	9010	3402	3688	3522	4552	5961	75263
INTRA-CE 58	2806	3237	3029	3311	4833	6176	6899	2224	2312	2057	2369	2515	41770
EXTRA-CE 58	3208	4624	4472	3550	3216	2653	2112	1177	1377	1463	2184	3445	33488
CLASSE 1 58-	366	296	297	229	354	500	488	101	6	1	2	124	2769
A L L E 58-9	0	0	0	1	0	0	0	0	0	0	0	0	1
CLASSE 2 58-	2835	4324	4176	3320	2863	2149	1623	1075	1368	1457	2182	3321	30701
ACP (68) 90-	1009	1276	0	0	0	0	0	0	0	0	0	0	2285
ACP (69) 92-	0	0	1468	1048	821	441	192	57	75	283	652	1096	6136
CLASSE 4 91-	6	3	0	1	0	3	0	0	1	4	0	0	18

	V1-11	V1-12	V2-01	V2-02	V2-03	V2-04	V2-05	V2-06	V2-07	V2-08	V2-09	V2-10	No91/Ce92	AD01
ICE 60	95	173	152	196	178	163	127	12	0	2	3	52	1154	
-LUXBG	0	15	0	4	11	13	10	5	11	4	2	4	84	
-BAS 60	8842	10099	7223	8219	8573	12807	11204	7297	9411	7557	8061	6359	108653	
LEMAGNE	910	1267	1046	955	861	401	136	25	26	205	407	1203	7441	
60-92	1668	2499	2096	4179	2511	4594	2616	1101	553	394	303	922	23438	
LUMELNI	32	101	26	44	69	38	27	34	30	17	17	10	446	
EMARK	1	0	0	0	6	0	0	0	0	0	0	0	0	
CE 81-	0	0	0	0	0	0	40	0	0	0	0	0	0	
UGAL 8	5	3	0	4	8	4	0	1	1	5	4	0	35	
GNE 8	619	999	2301	2861	4999	5316	8906	533	26	5	0	103	26669	
ANARIES	1	26	5	5	0	0	1	0	0	0	0	1	5	
UNDE 65	0	0	0	1	1	0	0	2	0	0	0	0	4	
ALTAR 6	0	0	0	0	0	0	0	0	0	0	0	0	2	
SOSLAVIE	0	2	0	0	0	0	0	0	0	0	0	0	2	
IE 65-	1362	1022	1069	960	1352	1498	1499	291	4	0	2	400	9451	
IGNE 9	0	0	0	0	0	0	0	0	0	3	0	0	3	
IANIE	0	0	0	0	0	12	0	0	1	12	0	0	25	
ARIE 91	16	5	0	2	0	1	0	1	0	0	0	0	26	
OC 6	188	333	337	333	339	323	337	261	128	0	0	80	2660	
TE 65-	0	0	0	1	4	0	0	0	0	0	0	0	5	
RIA 65-	0	0	0	0	4	0	0	0	0	0	0	0	4	
EROUN	0	0	3	0	0	0	0	0	0	0	0	0	3	
A 65-	2152	2746	3006	2500	1714	911	376	114	150	696	1495	2861	18718	
RICE 7	0	0	0	0	1	0	0	0	0	0	0	0	1	
IE 65-	0	0	5	0	0	0	3	0	0	0	0	0	8	
ABWE 8	1	27	25	34	24	0	0	0	0	0	0	5	117	
AW 65	0	0	0	0	0	0	0	0	0	0	0	0	1	
DUSUD 9	0	2	1	6	0	0	0	0	0	0	0	0	21	
IBIE 91-	0	0	0	0	0	0	0	0	0	0	3	8	3	
HUNS 76	0	4	15	36	5	33	28	14	17	6	7	14	178	
REMIQ 6	0	0	2	0	0	0	0	0	0	0	0	0	2	
QUE 65	3	0	4	3	1	0	0	0	0	0	0	0	11	
TEMALA	21	8	3	8	8	0	8	0	0	0	0	0	110	
IA RICA	0	0	5	5	5	0	13	0	4	5	9	36	31	
AMA 8	0	0	0	0	2	0	0	0	0	3	0	0	2	
LES NI 8	0	0	0	1	0	0	0	0	0	0	0	0	1	
MBIE 6	6964	8857	7206	8179	6957	4424	4343	4073	4171	4126	5445	8799	73546	
ZUELA 6	1	0	0	0	0	0	0	23	27	29	30	78	458	
ATEUR 6	26	40	37	49	41	32	45	23	27	0	0	0	1701	
U 65-	226	196	306	150	128	190	121	75	132	116	15	50	213	
65-92	30	74	82	17	2	0	0	0	0	0	0	0	2	
GUAY	2	0	0	0	1	0	0	0	0	0	0	0	1	
J 65-9	0	0	0	0	0	0	0	0	0	0	0	0	10022	
IL 65-9	652	2293	2084	1193	984	1595	840	49	315	0	4	11	149	
ME SAUD	12	16	29	18	17	27	31	0	0	0	0	0	8	
65-9	0	0	0	4	3	0	0	0	0	0	0	0	44	
ANDE 6	8	1	4	17	0	4	6	0	0	0	0	0	6	
APOUR	0	5	0	1	0	0	0	0	0	0	0	5	44	
E 76-9	0	0	0	0	0	2	0	0	0	0	0	0	2	
RALE 65	0	0	0	0	0	0	0	0	0	0	0	0	3	
XUN-GURN	10	0	0	0	0	0	0	0	0	0	0	3	3	
N D E 58	23847	30815	27066	29984	28816	32390	30717	13912	15007	13187	15816	24017	10	
ACE 58	12175	15156	12846	16463	17219	23337	23067	9008	10658	8191	8801	11654	285586	
A-CE 58	11674	15658	14221	13521	11596	9052	7651	4904	4948	4997	7016	12564	167979	
SE 1 58-	1362	1030	1076	1003	1359	1532	1528	308	21	6	12	427	117608	
E 58-9	0	0	0	1	1	0	0	2	0	0	0	0	9662	
SE 2 58-	10297	14623	13147	12518	10237	7505	6124	4594	4926	4976	7002	11938	5	
(68) 90-	2163	2773	0	0	0	0	0	0	0	0	0	0	107889	
(69) 92-	0	0	3039	2534	1744	911	379	114	150	696	1498	2867	4936	
SE 4 91-	16	5	0	2	0	13	0	1	1	15	0	0	13928	
SE 5 91-	0	0	0	0	0	2	0	0	0	0	0	0	54	
													2	

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EUROPEAN GLADIOLA IMPORT STATISTICS

source EuroStat, November 1991 - October 1992

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EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)
 N°: 02 1993 93.03.03 Imprimé le : 25/03/1993 - 12.21:52
 Flux Import Régime statistique : 4 Unité : 1000 ECU
 Période : No91/Oct92 Produit : GLAIEULS

	Pays partenaires		Pays déclarants										
	EUR12 70-92		FRANCE 60-92	BELG-LUXBG 60-92	PAYS-BAS 60-92	RF ALLEMAGNE 60-92	ITALIE 60-92	ROYAUME-UNI 73-92	IRLANDE 73-92	DANEMARK 73-92	GRECE 81-92	PORTUGAL 86-92	ESPAGNE 86-92
FRANCE 60-92		0	0	0	1	2	0	0	0	0	0	0	3
BELG-LUXBG 60-92		4	0	0	3	1	0	0	0	0	0	0	0
PAYS-BAS 60-92	6755		153	522	0	5755	0	63	0	188	0	0	0
RF ALLEMAGNE 60-92		1	0	0	0	0	0	1	0	0	4	2	68
ITALIE 60-92		128	0	0	0	128	0	0	0	0	0	0	0
ESPAGNE 86-92		50	6	0	18	0	0	0	0	0	0	0	0
ILES CANARIES 86-92		13	0	0	0	0	0	1	0	0	0	25	0
MAROC 65-92		11	11	0	0	0	0	0	0	0	0	0	13
ZAMBIE 65-92		60	0	0	18	0	0	0	0	0	0	0	0
ZIMBABWE 81-92		68	0	0	17	0	0	42	0	0	0	0	0
AFR. DU SUD 90-92		30	0	9	4	1	3	51	0	0	0	0	0
ETATS-UNIS 76-92		111	0	0	1	0	12	12	0	0	0	0	1
MEXIQUE 65-92		2	0	0	0	0	103	0	0	0	0	7	0
COLOMBIE 65-92		3	0	0	0	0	0	0	0	0	0	0	2
BRESIL 65-92		26	0	0	0	1	0	25	0	0	0	0	0
ISRAEL 65-92		80	2	0	0	36	5	37	0	0	0	0	0
INDE 65-92		2	0	0	2	0	0	0	0	0	0	0	0
THAÏLANDE 65-92		1	0	0	0	0	0	0	0	0	0	0	0
M O N D E 58-92	7358		172	531	65	5931	111	234	0	188	5	34	87
INTRA-CE 58-92	6948		159	522	21	5889	0	67	188	4	27	71	0
EXTRA-CE 58-92	409		13	9	43	42	111	167	0	0	1	7	16
CLASSE 1 58-92	140		0	9	5	1	105	12	0	0	0	7	1
CLASSE 2 58-92	266		13	0	38	40	5	154	0	0	1	0	15
ACP (68) 90-91	55		0	0	10	0	0	45	0	0	0	0	0
ACP (69) 92-92	74		0	0	26	0	0	48	0	0	0	0	0

EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)
 N°: 02 1993 93.03.03 Imprimé le : 25/03/1993 - 12.21:53
 Flux Import Régime statistique : 4 Unité : Tonnes
 Période : No91/Oct92 Produit : GLAIEULS

	Pays partenaires		Pays déclarants										
	EUR12 70-92		FRANCE 60-92	BELG-LUXBG 60-92	PAYS-BAS 60-92	RF ALLEMAGNE 60-92	ITALIE 60-92	ROYAUME-UNI 73-92	IRLANDE 73-92	DANEMARK 73-92	GRECE 81-92	PORTUGAL 86-92	ESPAGNE 86-92
FRANCE 60-92		1	0	0	0	1	0	0	0	0	0	0	0
BELG-LUXBG 60-92		3	0	0	3	0	0	0	0	0	0	0	0
PAYS-BAS 60-92	3496		138	485	0	2797	0	16	0	38	0	0	0
ITALIE 60-92		42	2	0	0	40	0	0	0	0	1	0	21
ESPAGNE 86-92		31	1	0	18	0	0	0	0	0	0	0	0
ILES CANARIES 86-92		3	0	0	0	0	0	0	0	0	0	12	0
MAROC 65-92		7	7	0	0	0	0	0	0	0	0	0	3
ZAMBIE 65-92		21	0	0	0	0	0	0	0	0	0	0	0
ZIMBABWE 81-92		10	0	0	9	0	0	12	0	0	0	0	0
AFR. DU SUD 90-92		9	0	0	3	0	0	7	0	0	0	0	0
ETATS-UNIS 76-92		31	0	0	2	0	0	4	0	0	0	0	0
COLOMBIE 65-92		1	0	0	0	1	29	0	0	0	0	2	0
BRESIL 65-92		11	0	0	0	0	0	0	0	0	0	0	0
ISRAEL 65-92		22	2	0	0	11	0	11	0	0	0	0	0
M O N D E 58-92	3491		149	488	36	2853	30	56	0	38	1	14	26
INTRA-CE 58-92	3575		140	485	21	2840	0	17	0	38	1	14	26
EXTRA-CE 58-92	113		9	3	14	12	30	40	0	0	1	2	21
CLASSE 1 58-92	40		0	3	2	0	29	4	0	0	0	2	3
CLASSE 2 58-92	74		9	0	12	12	2	36	0	0	0	2	0
ACP (68) 90-91	16		0	0	4	0	0	12	0	0	0	0	3
ACP (69) 92-92	15		0	0	8	0	0	7	0	0	0	0	0

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EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)
 N°: 02 1993 93.03.03 Imprime le : 25/03/1993 - 13:05:30
 Flux: Import Régime statistique: 4 Unité: Tonnes
 Produit: GLAIEULS Déclarant: EUR12 70-92
 Pays partenaires Période

	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08	92-09	92-10	No91/Oc9 A001
FRANCE 60-92	0	0	0	0	0	0	0	1	0	0	0	0	1
BELG.-LUXBG. 60-92	0	0	0	0	0	0	0	0	0	0	0	0	3
PAYS-BAS 60-92	101	57	31	13	26	69	169	308	764	925	699	332	3496
ITALIE 60-92	0	0	0	0	0	8	18	4	1	3	1	6	42
ESPAGNE 86-92	0	0	1	6	2	5	7	10	0	1	0	0	31
ILES CANARIES 86-92	0	0	0	0	1	1	0	0	0	0	0	0	3
MAROC 65-92	0	3	2	1	2	0	0	0	0	0	0	0	7
ZAMBIE 65-92	10	5	6	0	0	0	0	0	0	0	0	0	21
ZIMBABWE 81-92	0	1	5	3	1	0	0	0	0	0	0	0	10
AFR. DU SUD 90-92	2	3	1	0	0	1	0	0	0	0	0	0	9
ETATS-UNIS 76-92	0	1	4	15	10	1	0	0	0	0	0	0	31
COLOMBIE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	1
BRESIL 65-92	1	3	0	2	0	1	2	0	0	0	0	0	11
ISRAEL 65-92	0	0	6	3	8	3	0	0	0	0	0	0	22
M O N D E 58-92	114	71	57	45	52	91	197	324	765	929	700	342	3691
INTRA-CE 58-92	101	57	32	19	28	83	194	323	765	928	700	341	3575
EXTRA-CE 58-92	13	15	25	26	24	8	2	0	0	0	0	1	113
CLASSE 1 58-92	2	4	5	15	10	2	0	0	0	0	0	0	40
CLASSE 2 58-92	10	12	19	9	13	5	2	0	0	0	0	1	74
ACP (68) 90-91	10	6	0	0	0	0	0	0	0	0	0	0	16
ACP (69) 92-92	0	0	11	3	1	0	0	0	0	0	0	0	15

EUROSTAT Commerce Extérieur Mensuel de la CEE (Nomenclature Combinée)
 N°: 02 1993 93.03.03 Imprime le : 25/03/1993 - 13:05:31
 Flux: Import Régime statistique: 4 Unité: Milliers
 Produit: GLAIEULS Déclarant: EUR12 70-92
 Pays partenaires Période

	91-11	91-12	92-01	92-02	92-03	92-04	92-05	92-06	92-07	92-08	92-09	92-10	No91/Oc9 A001
FRANCE 60-92	0	0	0	0	0	2	4	5	5	0	0	7	23
BELG.-LUXBG. 60-92	0	0	0	0	0	0	7	0	0	5	3	20	35
PAYS-BAS 60-92	1554	898	617	294	634	1121	2030	3519	8937	10738	8499	4694	43535
RF ALLEMAGNE 60-92	0	0	0	1	0	89	156	45	13	28	11	72	7
ITALIE 60-92	0	0	0	0	0	0	0	6	0	0	0	0	415
ROYAUME-UNI 73-92	0	0	0	1	0	0	0	0	0	0	0	0	6
PORTUGAL 86-92	0	1	0	1	0	0	0	0	0	0	0	0	3
ESPAGNE 86-92	0	0	7	45	72	85	50	32	0	8	0	0	299
ILES CANARIES 86-92	0	0	3	2	13	13	6	2	0	0	0	0	39
POLOGNE 90-92	0	0	0	0	0	0	0	0	0	0	0	0	5
MAROC 65-92	0	26	13	5	17	0	0	0	0	5	0	0	61
ZAMBIE 65-92	124	69	82	0	0	0	0	0	0	0	0	0	275
ZIMBABWE 81-92	0	17	90	55	28	7	0	0	0	0	0	0	197
AFR. DU SUD 90-92	43	40	16	7	3	16	9	0	0	0	0	0	134
ETATS-UNIS 76-92	0	7	26	98	71	5	0	0	0	0	0	0	207
MEXIQUE 65-92	0	0	0	0	0	0	0	0	0	0	0	0	6
COLOMBIE 65-92	0	0	0	0	0	0	0	7	2	0	0	0	9
BRESIL 65-92	11	28	0	42	0	29	39	0	0	0	0	0	171
ISRAEL 65-92	0	2	72	112	154	114	7	0	0	0	0	22	461
ARABIE SAOUD 65-92	0	0	0	0	3	0	0	0	0	0	0	0	3
INDE 65-92	0	0	0	1	4	0	0	0	0	0	0	0	5

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NDE	65-92	0	2	0	0	0	0	0	0	0	0	0	2	
DE	58-92	1733	1090	926	663	999	1481	2308	3616	8957	10791	8513	4821	45898
CE	58-92	1555	899	624	341	705	1297	2247	3607	8955	10786	8513	4793	44323
CE	58-92	178	191	302	322	293	184	61	9	2	5	0	28	1575
:1	58-92	43	47	42	105	74	21	9	0	0	0	0	0	341
:2	58-92	135	144	260	217	219	163	52	9	2	0	0	28	1229
8)	90-91	124	6	0	0	0	0	0	0	0	0	0	0	210
9)	92-92	0	1	172	55	28	7	0	0	0	0	0	0	262
:4	91-92	0	0	0	0	0	0	0	0	0	5	0	0	5

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ANNEX TWO

CONTACTS IN MOROCCO AND EUROPE

A. MOROCCAN CONTACTS

MARA

Mr. Maghdad
Mr. Fizzazi
Mr. Hammoutou
Mr. Berichi
M. Bourfoune

CMPE

M. Layashi	CMPE (Europe du Nord)	02-30-22-10
M. Belarbi	CMPE (Pays Anglophone)	
Mme. WILL, Margret	CMPE (technicien Allemand)	
M. Abarkha, Ahmed	CMPE	

SOCIETES PRIVES

	<u>Société</u>	<u>Contact</u>
1. M. Berrada	Rose Maroc	02-35-23-35
2. Mme. Benschakroun	Arbor Sud	02-35-49-28
3. Ali Bennani-Smires	Prim'rose	02-35-55-55
4. M. Takkali	Morocco Roses	03-32-88-33
5. M. Lefnaoui	Rose d'Agadir	08-24-05-78
6. M. Sefrioui	Maya Roses	08-84-58-31
7. Mounir Benhayoune	Beniflor	02-40-50-12/13/14
8. Abdellatif Moumille	Atlas 2000	08-84-44-13
9. M. Roland Ameglio	Florimar	02-36-78-01
10. M. Jean Daney	ExMora	07-74-22-22
11. Mlle Selma El Farhan:	Edenfleur	02-11-24-08
12. M. Achchaf Hamid	Edenfleur	07-71-09-24
13. Ismail Saliki	Novafior	04-44-70-13
14. M. Taarifi	Florasud	08-24-46-59
15. M. Loutfi Abdelhafid	Fleur Inter	08-84-11-15
16. M. Omari Tadlaoui	Multifoods, Int'l	02-40-71-63
17. Benabdallah Khalil	Multifoods, Int'l	08-84-54-05
18. Dr. Berrada	Roseaie Habiba	04-43-03-90
19. Mortada Karim	Sté ABAZ	02-22-46-71
M. Benjelloun Abdelouahd		
20. Mr. Aleon		

Jeff Allen
Driss Meski

USAID
USAID

07-76-22-65

B. EUROPEAN CONTACTS

SUPPLEMENTAL LIST OF CONTACTS NOT SUBMITTED ON SEPARATE SHEETS:

Holland:

Dick Van Dam
Manager of Import Department
Cooperative Vereniging
Verenigde Bloemenveilingen Aalsmeer
(VBA) B.A.
1430 BA Aalsmeer
Holland
Fax # 31-2977-32791

Fernand Fens
Public Relations adviser
same as above
Fax # 31-2977-21313

Christa Portegies
E Team Import, B.V.
1430 BL
Aalsmeer, Holland
Fax # 31-2977-29721

A.A. Elhadji
Jet Set b.v.
(Importer/exporter)
V.B.A. straat 15-Box 135
Postbus 1268
1430 BG Aalsmeer, Holland
Fax # 31-2977-43482

UK:

Professor A.K. Thompson
Quality controller of packaging of
horticultural goods
(Post Harvest)
Silsoe College
MU45 40T
Bedfordshire, England
Phone: 0044-525-860428

Germany:

Harald Bont General Manager

Bont G.m.b.h.
Hochster
StraBe 96
6237 Liederbach
Germany Fax# 69-33-37-98
(Notes of this interview were not
transcribed)

P. Moeller
Secretary General
UNION FLEURS
Julicher Strabe 32
4000 Dusseldorf 30
Germany
(This is the world organization of national
floral associations. Ampexfleur is a
member.)

International Association of Horticultural
Producers
Institut for Gartenbaukonomie Der
Univeritat Hanover
Hanover, Germany
(They gather and publish international
statistics on non-edible horticultural
products.)22

ANNEX THREE
EUROPEAN FLOWER TRADING COMPANIES

FITA MEMBERS - 1993

Klein & Owen Ltd
6, Woodham Lane, New Haw, Weybridge, Surrey.
Tel: 0932 853421 Fax: 0932 853447 Telex: 948820
Contact: Phil Owen.

C. & L. Flowers Ltd
30, Vale Road, Southborough, Tunbridge Wells, Kent, TN4 0OH
Tel: 0892 515159 Fax: 0892 515162
Contact: Chris Baverstock.

Distriflor (U.K.) Ltd
7 - 9, Edinburgh House, Tenterden Grove, Hendon, London, NW4 1TL
Tel: 081 202 1330 or 081 203 5251 Fax: 081 202 2210
Contact: Avril or Tobie.

Maytal Flowers Ltd
17, Malthouse Close, Straight Road, Old Windsor, Berks, SL4 2SD
Tel: 0753 850129 Fax: 0753 841143
Contact: Kevin McCreanor.

Connaught Flowers Ltd
55a, Church Street, Staines, Middx, TW18 4EN
Tel: 0784 469777 Fax: 0784 465545 Mobile: 0831 231836
Contact: Mike Dodd. 24 Hours 0276 71649

World Flowers Ltd
The Hangar, Stonefield Park, Martins Lane, Chilbolton,
Stockbridge, Hants, SO20 6BL
Tel: 0264 860400 Fax: 0264 860864 Telex: 477166
Contact: Peter Adams.

Euroflower Import Export Company
281, Flower Market, New Covent Garden, London, SW8 5NB
Tel: 071 720 6961 Fax: 071 498 0383 Telex: 919230
Contact: Andy Gauna

Deba-flora Ltd
Stirling Road, Fallin, Stirlingshire, Scotland, FK7 7JW
Tel: 0786 817001 Fax: 0786 817451
Contact: Bert Klapwijk.

R. Shemi (U.K.) Ltd
30, Pern Drive, Botley, Southampton, SO23 2GW
Tel: 0489 785471 Fax: 0489 785472
Contact: Veronica Mason.

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FITA MEMBERS - 1993

J. & E. Page (Distributors) Ltd
230, Flower Market, New Covent Garden, London, SW8 5LZ
Tel: 071 720 7681 Fax: 071 720 7688 Telex: 918997
Contact: Paul Tomlinson.

Freshlife Marketing Ltd
Town Mill, Bagshot Road, Chobham, Surrey, GU24 8BZ.
Tel: 0276 855655 Fax: 0276 855882 Telex: 858203
Contact: Tony McAlister.

Sunflora Ltd
Eden House, 64/66, High Street, Chobham, Woking, Surrey, GU24
Tel: 0276 856980 Fax: 0276 857505 Telex: 858794 8AA
Contact: Keith Russell.

Florimex (Manchester) Ltd
Stainburn Road, Manchester, M11 2JZ
Tel: 061 223 1006 Fax: 061 231 7472 Telex: 665354
Contact: Robert Collingridge.

Vered Flowers Import Ltd
23, Tillingbourne Gardens, London, N3 3JJ
Tel: 081 349 4944 Fax: 081 349 2437 Telex: 892845
Contact: Hasy Halevy.

Eagle Floral Import Export Ltd
Gt. Western Chambers, Railway Station, Old Warwick Road,
Royal Leamington Spa, Warwickshire, CV31 3NS
Tel: 0926 470709/540 Fax: 0926 470558
Contact: Jim Bentley.

Geest Wholesale Services
296-298, Flower Market, New Covent Garden, London, SW8 5NB
Tel: 071 720 8355 Fax: 071 627 3831 Telex: 8953356
Contact: Albert Sparkes.

Southern Glass House Produce Ltd
Swallowfield Nurseries, Caer Wennol, Titchfield Road, Fareham,
Tel: 0329 844214 Fax: 0329 844425 Telex: 86264 Hants.
Contact: Jeff Hooper.

Best Floral Imports Ltd
Office 29, Trade Suite, Manor House, 40, Moat Lane, Birmingham,
Tel: 021 666 6722 Fax: 021 622 4575 Telex: 333858 B5 5BD
Contact: Martin Best.

Crystal Import Sales Ltd
Caledonian House 98 The Centre Faldham Middlesex

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FITA MEMBERS - 1993

Blooms Floral Import Ltd
Whiteoaks, 27, Ludlow Avenue, Luton, Beds, LU1 3RW
Tel: 0582 22267 Fax: 0582 31683 Mobile 0831 462757
Contact: Ann Crosson.

Florimex Ltd
Florimex House, Clayton Road, Hayes, Middx, UB3 1AX.
Tel: 081 569 2348 Fax: 081 569 2145 Telex: 922549
contact: Gil Gazit.

1993

F A X M E S S A G E

To Mr. Bill Haines
in William David & Associates
Murrieta
U S A
Fax 001 909 698 4421

From Agneta Becker
GTZ/PROTRADE
Langer Kornweg 14
6092 Kelsterbach/Germany
Fax 49 6107 62990
Tel 49 6107 6095

Kelsterbach 12 3 93

Subj. Market research on flowers - Morocco

Dear Mr. Haines.

referring to your fax to GTZ. I would like to recommend to you some importers of flowers here in Kelsterbach area.

✓ 1) Fa. Multiflor
Mr. Klaus Lichtenberg *2/10*
Am Aspenhaag 7 *10 6.11*
6092 Kelsterbach
Tel 49 6107 719010
Fax 49 6107 5877

2) Fa. Projectfleur
Mr. Helmut Hardt
Langer Kornweg 34 d
6092 Kelsterbach
Tel 49 6107 759212
Fax 49 6107 759218

✓ 3) Fa. Bont GmbH
Mr. Harald Bont *3/11*
Höchster Straße 98
6237 Liederbach
Tel 49 69 330060
Fax 49 69 333796

✓ 4) Fa. Klaus Holze
Am Hirtengraben 9
6233 Kalkheim/Fischbach
Tel 49 6195 62570
Tel 49 6190 7321
Fax 49 6195 65998

5) Fa. Fantasia GmbH *6/11*
Mr. Werner Goetz *10/11*
Am Südpark 7c
6092 Kelsterbach
Tel 49 6107 62011
Fax 49 6107 61090

There are a few other big importers in other cities of Germany. Berlin/Munich if you want to get in touch with them or if you need some more informations about the German market, don't hesitate to contact me.

Best regards

Agneta Becker
consultant acting on behalf of PROTRADE

Agneta Becker

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GERMANY

FLORIMEX VERWALTUNGS-
GESELLSCHAFT MBH

Ostendstr. 132
D-8500 Nürnberg 30
Tel. 0911/5487-0
GM: E. Lehrer 54 13 32
B. Schwiagers. 5 46 00 29
Fax Management 0911/54 61 61 (fax).
ZV 54 26 51
Telex 626 697

FLORIMEX NÜRNBERG GMBH

Postfach 25 55
Ostendstraße 132
D-8500 Nürnberg 30
GM: Eberhard Lehrer
Tel. 0911/54 87-0
Fax 0911/54 73 28 Admin.
0911/54 75 40 Purch.
Telex 622 922

Central Purchase
Dept:

FLORIMEX
ZENTRALEINKAUF
Am Grünen Weg 5
D-6092 Kelsterbach
Hartmut Fischer
Tel. 06107/40 99,40 90
/15 86,10 54
A. Günther /53 44
Fax 06107/6 25 66
Telex 417 710

011-49-6107-61566

FLORIMEX GMBH, FRANKFURT

Am Grünen Weg 5
Postfach 12 24
D-6092 Kelsterbach
GM: Frank Sirringhaus
Tel. 06107/703-0
Fax 06107/703-2 52
Telex 413 369

FLORIMEX NEUSS GMBH

Hammer Landstraße 109
D-4040 Neuss 1
GM: Frank Sirringhaus
Tel. 02131/180-30
Fax 02131/180-3 36
Telex 8 517 525

FLOWER SERVICE GMBH

Am Aspenhaag 6
D-6092 Kelsterbach
GM: Lutz Schumacher
Tel. 06107/80 57
Fax 06107/40 70
Telex 416 851

JET FREIGHT GMBH

Am Aspenhaag 6
D-6092 Kelsterbach
Tel. 06107/30 06
Fax 06107/76 01 78
Telex 417 764

AGROS MÜNCHEN GMBH

Birnhälderstr. 14
D-8000 München 82
GM: Frank Sirringhaus
Tel. 089/42 20 71-73
Fax 089/42 28 84
Telex 5212 054

KENYA FLOWERS GMBH

Am Aspenhaag 6
D-6092 Kelsterbach
GM: Klaus Voss
Tel. 06107/760-10
Fax 06107/760-1 22
Telex 417 764

J. BAARDSE MEN. EN

ZONEN'S GMBH
Florinstr. 24
D-5403 Mülheim-Kärlich
GM: Uwe Peters
Tel. 02630/40 51
Fax 02630/25 44

EUROPE

FLORIMEX AG, ZÜRICH

Thurgauer Str. 68
CH-8050 Zürich
GM: Theodor Ebnetter
Tel. 0041/1/3 02 22 22
Fax 0041/1/3 01 24 24
Telex 045/823 609

FLORIMEX BLUMENIMPORT

GES.M.B.H.
Niedermoserstraße/
Lichtblaugasse
A-1220 Wien
GM: Axel Linhart
Tel. 0043/222/259-35 35
Fax 0043/222/259-36 59
Telex 047/132 459

FLORIMEX B.V., AALSMEER

Zwartaweg 149
NL-1431 VL Aalsmeer
GM: Bert Keijser
Tel. 0031/2977/2 55 55
Fax 0031/2977/4 17 01
Telex 044/18 127

FLORIMEX SANREMO S.r.l.

Fraz Porra Glaire
dell' Isola
I-18039 Ventimiglia
GM: Adolf Feiler
Tel. 0039/184/112-22
Fax 0039/184/312-29

FLORIMEX ROMA S.r.l.

Via Idrovore
della Magliana 175
I-00148 Roma
GM: Hans Lüty
Tel. 0039/6/6 57 18 43
Fax 0039/6/6 55 34 42

FLORIMEX MILANO S.r.l.

Via Miglioli 13
I-20090 Segrate
GM: Giuseppe Dell'Oro
Tel. 0039/2/213-65 41
Fax 0039/2/213-99 01
Telex 043/316 368

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Statistik / Plw.
Dietmar Fischer

Bundesverband des Deutschen Groß- und Außenhandels e.V.

EINGEGANGEN
19. Juni 1991

BGA · Postfach 1349 · 5300 Bonn 1

Erl.....

An die
Mitglieder des Arbeitskreises
"Verpackungen"

Kaiser-Friedrich-Straße 13
Postfach 1349
5300 Bonn 1
Telefon (0228) 26004-0
Telefax (0228) 26004-55
Telex 886783
Drahtwort: Bundesgrossa
Btx: • 53787 •

Konten:
Postg.amt Köln 17625-509 · (BLZ 370 100)
Sparkasse Bonn 92751 · (BLZ 38050000)

Ihre Zeichen

Ihre Nachricht vom

Unsere Zeichen

Durchwahl

Datum

17. 6. 1991

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FACSIMILE TRANSMISSION FORM

Page 1 of 1

INTERNATIONAL TRADE CENTRE UNCTAD/GATT (ITC)
CENTRE DU COMMERCE INTERNATIONAL CNUCED/GATT (CCI)
CENTRO DE COMERCIO INTERNACIONAL UNCTAD/GATT (CCI)

MNS Fax : (41 22) 733 7176
Telephone : (41 22) 730 0111
Telex : 414 118 MNS CH

TO : Mr. B. Haines - William David + Associates

MARKET NEWS SERVICE

From : Mr. Jan Plasmeijer - ITC/MNS Geneva

Date : 5 March 1993

Fax : 00.1.909.698.4421



With reference to your fax dated 1 March 1993

- 1) We can provide you with graphs see Annex 1 per import market per product. The costs are USD 100.- per product. The products we are covering, see annex II.
- 2) We can provide you with export-figures from Morocco to their major import countries in Europe in value and weight. The costs are USD 100.-
- 3) Addresses of important importers:
 - Florimex GmbH
Attn. Mr. Hartmut Fischer
Am Grünen Weg 5
D-6092 Kelsterbach-Gewerbegebiet
Germany
Telno. 49.6107.4099
Faxno. 49.6107.62566
 - Florimex SARL
Attn. Mr. Jacob
61 Avenue de la Vilette, Fleurs 384
94637 Rungis Cedex, Paris
France
Telno. 33.1.46869137
Faxno. 33.1.46870148
 - Flower Auction Aalsmeer
Attn. Dick van Dam - Import dep.
P.O. Box 1000
1430 EA Aalsmeer - The Netherlands
Telno. 31.2977.32162
Faxno. 00.31.2977.22498
 - Crystal Import Sales Ltd.
Attn. Mr. Chris Hurley
Caladonian House 98
The Centre Feltham
Middlesex TW13 4BH
United Kingdom
Telno. 44.81 8440050
Faxno. 00.44.81.890.7473
- 4) If you can choose which information you would like to receive, please tell us

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JORGE ENRIQUE URIBE

LEINPfad 01
2000 HAMBURG 00
DEUTSCHLAND
TEL. (040) 47 08 50
FAX (040) 47 08 71

To: W. Haines

Hamburg, 23.3.93

Mr. Bill Haines
WILLIAM DAVID & ASSOCIATES
FAX No (909)698 4471

*Feder
Haimel
6 Bahnhofsplatz Mainz W 6500
Mainz Germany
011-49-6131-611065*

Dear Mr. Haines,

Upon my return from a trip yesterday, I found your teleFax of march 10. I hope this fax will be sent to you to Frankfurt via your office. The following people will be able to provide information useful for your research project;

P. Moeller
Secretary General
UNION FLEURS
Jülicher Straße 32
4000 Düsseldorf 30
Tel (0211) 441388 Telefax (0211) 482647

R. Semeria
GIOVANNI SEMERIA - Floristen - EINKAUF GmbH
5800 Hagen, GERMANY
Tel 02331 8008 0 Telefax 02331 8008 44

If you have time, please contact me in order to provide you with more information.

Sincerely,

JURIBE
Jorge Uribe

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ANNEX FOUR

TECHNICAL CONSIDERATIONS IN FLOWER PRODUCTION

A. TECHNOLOGIES

1. Growing Media

In high technology production of roses and most vegetables in Holland and the United States, producers have gone to the use of Rock Wool which has produced dramatic increases in production and gives the grower complete control over plant nutrition. Rock wool is a media for growing plant material available commercially from Europe. This method eliminates concerns in Morocco's various soil problems such as high calcarious soils, poor drainage, nematodes and assists in weed control. However, it must be managed expertly to maximize the benefits which should be 20% increase over average soil and 100% over poor soils observed in some Morocco greenhouses.

Further research is needed in adapting this technology from Holland, an environment where it is used extensively to the Moroccan environment. And this research should be in the area of adapting nutrient balance and water treatment as used in other countries.

There is evidence that some testing of this media has been attempted in Morocco without success, and has been discarded. It is believed that because this technology has worked in other parts of the world, it can and will be adapted here with great success.

2. Weeding

In any successful growing operation weeds must be removed. In countries with high labor costs, weed control by hand is not practical. Weeds did not appear to be of concern to the Moroccan growers, who are attempting to control them by hand. They did not seem to be concerned about the labor cost of hand removal. Weeds harbor diseases such as botrytis and mildew and insects such as spiders, aphids and nematodes.

Weed control by chemicals such as methyl bromide and herbicides are practiced regularly in other countries. Research needs to be done to evaluate relative cost of the economic feasibility of these chemicals versus hand control.

3. Light

Maximum plant growth is dependent upon high light. One of Morocco's strategic advantages is high light. Any greenhouse structure in Morocco must maximize this benefit. Most of the greenhouse structures observed in Morocco appeared to be constructed of a polyethylene material that obstructed what appeared to be 50% of the available light. The reasons given for the use of this material were that it was produced in Morocco (presumably more economical) and that it lasted longer than a domestically produced but clearer material. Many of the growers expressed dissatisfaction with this material but felt that imported material cost more.

It is known that an ingredient is blended with polyethylene to combat deterioration from ultra violet light, which inhibits light transmission, but increases the life of the polyethylene.

It is recommended that there should be a study done on quality of polyethylene regarding light transmission, relative cost and productivity to determine if a material that transmits more light can be economically feasible in Morocco. There are some very economical and durable glass greenhouses used in Holland that should be looked at in this study for cost comparison.

In Morocco it was observed that greenhouses using double layers of polyethylene, separated by air and attached to the metal structure with "Poly Lock", were being used. Poly Lock attaches the polyethylene to the metal structure with a snap clip that eliminates the need for bolts nails or wire for attachment. This is a common type of structure in the United States and elsewhere. It can be built economically and designed to avoid most drip from interior condensation. It is felt that this type of structure will become very common place as the Morocco flower industry expands. This type of system is available from many manufacturers in the United States and elsewhere.

Plants need maximum light. It was observed in Morocco that much of the light fell on the walk between plant rows because of the single row spacing. It is suggested that a bench method be used and a physical support of one meter in width be used to spread out the plants and keep the stems straight. A walk of one half meter between the beds is sufficient for harvest and plant maintenance. This is similar to the bed walk arrangement already being used in Morocco carnation production and is commonly used on roses in the United States and Holland. This arrangement facilitates higher production by better utilization of the light.

4. Temperature Control

Temperature must be controlled to maintain quality, quantity and timing of floral crops. A crop of roses that misses the holiday high prices is worthless. A greenhouse must be a closed environment with ventilation. This holds in the heat during cool times and allows ventilation when it is warm. A rose plant grows best when the temperature is maintained at an optimum level, day and night. Setting up this type of optimum environment for flowers also creates an optimum environment for pests which must be dealt with.

Red spider mites thrive best in a warm temperature, along with roses. Therefore, there may be problems with more spider mites with the installation of a proper heating system.

A greenhouse with heating was observed that had the typical amount of holes caused by current construction methods allowing much escape of heat. The manager informed us that he was only able to raise the temperature three degrees above outside temperature with this heating system and structure.

In the midwestern United States a heating system with twice the capacity is able raise the temperature 25 degrees C. over outside temperatures with a closed environment. This illustrates the point that a tightly constructed greenhouse is an absolute necessity if additional heat is going to be used to maintain optimal growing conditions.

Ten years ago in Morocco, 60% of the roses were grown outside of a structure in an open field. 35% were grown in unheated greenhouses. Only 5% were grown in heated greenhouses. Now open field is no longer used and it appears as if heating is being used to a greater extent. The next step is suggested to be an industry conversion to heat controlled and ventilated greenhouses.

5. Carbon Dioxide

Carbon dioxide is a necessary ingredient for healthy plant growth. In a normal atmosphere there are 300 parts per million. When a greenhouse environment is closed, the levels will drop below 200 parts per million through photosynthesis. This necessitates supplementing the levels of carbon dioxide in a closed greenhouse system. Carbon dioxide levels can be measured very easily with a device on the market that costs approximately \$600, which can demonstrate the low levels that occur when a greenhouse is closed and light is present.

Typically in a closed greenhouse, one hour after the rise of the sun, the level of carbon dioxide drop below 200 parts per million and growth almost stops, until dark. One half hour after dark, the level will naturally rise to 700 parts per million, due to respiration of the plants, until light reoccurs. Therefore, ventilation from the outside is necessary from the outside or supplemental carbon dioxide must be added to sustain optimal growth. It is common to have 20% increases in production with supplemental carbon dioxide at an increased of less than 1% of total production costs. Much of this research was done in Israel in a similar environment to Morocco. This technology is common practice in many other producing countries.

6. Water Quality

The water quality in Morocco has been observed in most places to be high in magnesium bicarbonate and calcium bicarbonate and a high PH of between 7 and 8. It was generally felt that Moroccan flower growers were using good cultural practices to balance the water quality. There was a good balance of fertilization and in general the plants appeared quite healthy.

There was no evidence of the use of foliar analysis or soil analysis to measure the imbalances that can build up over a long period of time in intense agriculture. It would be recommended that some system be worked out with a university or private company devoted to foliar and soil analysis to do regular testing over a long period of time so when problems arise such as trends towards an imbalance it can be corrected before disasters occur.

B. CULTURAL PRACTICES

The goal in production is to hit specific target dates in the market place. In the EC those dates appear to be Ali Saints Day (November), Christmas (December 25) Valentine's Day (February 14) and Mother's Day observed at different times in the individual countries of the EC.

1. Pruning

Since there are no target holidays during the summer months of June July August, that is an ideal time to "build" the plant; that is to put as much foliage and growth on the plants so that during production time the plant has more to give to producing flowers.

This is accomplished in other producing countries by "pinching" which is cutting the stem just below the two sets of five leaves at the top of the stem. This will help the plant to produce foliage that will give the plant vigor for the winter production.

It has been observed however, that the practice of "under-cutting" (cutting below the "hook" at time of harvest) is done to gain maximum stem length (presumably for higher prices). This removes all of the new foliage from the plant and detracts from the plants ability to put out another flower, when production is needed. This practice can be used successfully only if there is adequate foliage left on the plant from previous pinches, as described above.

It was further observed that many times the plant was "robbed" of foliage and the crop that followed did not show the vigor that it could have with adequate maintenance.

These cutting practices take a long time of trial and error to determine what will work best under Morocco's climatic conditions. It is advised that experimentation of different cutting practices be employed to determine what will work best with different varieties under Morocco conditions.

2. Production Scheduling

Scheduling means targeting the optimum harvest date. With a closed greenhouse operation described above, this simply means determining the delay from pinch to harvest for a given variety and pinching on that day. Managing the temperature from pinch day forward will ensure that it will flower to be harvested on the proper day.

3. Harvesting

Harvesting is usually done based on how long a stem can be taken with the flower. It is then often cut *under the hook*, removing the total stem which can weaken the plant and lower future production. It is suggested to "cut up", leaving one or two five leaves to give the plant the ability to increase its vigor and produce a stronger and better flower. Experimentation is necessary and records kept to determine which method works best in each of the producing areas of Morocco.

C. POST HARVEST

Once a quality flower is harvested it begins to die. Every effort has to be made to prolong its life to give the greatest satisfaction to the consumer, the ultimate customer. There has been much research done on post harvest practices in the last ten years and many have emerged that appear absolutely necessary to give maximum satisfaction to the consumer.

1. Hydration

When a rose is first cut at harvest it is usually 24 hours before it is packed and shipped. A rose dies because of lack of hydration, lack of water to the flower. That blockage is caused by bacteria and/or trapped air in the bottom 5 cm of flower not allowing more water to be drawn up the stem. This blockage can be removed physically by cutting 5 cm. from the bottom of the stem while the cut is made under water to prevent further intake of air. Then the stem can draw water. A special machine is needed to carry out this cut underwater.

2. Flower Preservatives

a. For Roses

The use of a floral preservative that has a biocide to help reduce bacteria in the water and lowers the pH to 3.5 will help correct most of these problems. Many growers have chosen not to use a preservative because they see no improved life through the beginnings of the distribution chain. However, research has shown that benefit does show up in the hands of the consumer, extending the vase life of the flower. Therefore, some experimentation with different preservatives on the market designed for use at the grower level will show greater satisfaction with the roses at consumer level, increasing demand.

Products containing aluminum sulfate have been used in the past in Morocco, but have not worked very well. Other products like Sevaflor, Crysaflo, Rosaflor, Aixflor and others are used occasionally in Morocco. Some growers use anti-botrytis solutions such as Procymidone at levels of 1 g/l.

b. For Carnations

Carnations die from ethylene injury. Ethylene is given off by the carnation and by decaying material and fruit. Levels above 1 part per million are injurious. The use of silver thiosulfate (STS) will reduce the effects of ethylene injury in carnations. This treatment must be given, however, at the grower level. The effects will be realized at the consumer level.

The hydration so necessary for the rose at time of cutting does not appear to be necessary for the carnation. See attached articles about floral preservatives.

3. Pre-cooling

It is absolutely necessary to slow down the metabolism of the rose before shipping. From the greenhouse, where their metabolism is very high, they should be placed in water as soon as possible after cutting (preferably no more than 5 minutes) and then in a cooler of 1 degree centigrade for 15 to 20 hours. Grading is normally performed in the cooler.

Carnations do not need hydration as soon after harvest as roses. But it is important that they are not allowed to heat up, in the sun or by stacking in large amounts. Cooling at 1 degree C. is important to slow the metabolism, at which point they should be placed in water.

4. Grading

It was observed that the grading process used by the Moroccan growers seemed adequate for the market they are serving. It was further observed that the lighting in many of the grading areas was insufficient to maximize the graders ability to pick out faults on the flower buds such as botrytis or malformed petals. It is suggested that better lighting be used.

5. Packing

Packing methods observed using a rubber binder or tying flowers into the carton with a rope appeared to be satisfactory on the production end. However, the most common method used in other parts of the world is to place a small wooden brace (2 cm x 2 cm) across the width of the box, covered with a collar of paper, placing the flower bunches on top of this arrangement, finally securing the bunches with an additional wooden brace, nailed into the box from each side. This may better prevent shifting of flower bunches during shipment, which was observed during the market study.

Strapping the cartons after packing is recommended to give box handlers a way to hold the carton without tipping the box, upon receipt in the market place. Little strapping was observed, even though it is common practice in the international marketplace.

ANNEX FIVE

THE DUTCH AUCTION AND ITS IMPACT ON WORLD PRICES

The Dutch Auction

The Dutch Auction system was devised by and for growers in the Netherlands who formed cooperatives to market their products. The auctions are located in rural Amsterdam, Holland. The auction facilities are surrounded by small growers, numbering more than 8,000, throughout the Netherlands, who grow the flowers and deliver them five days a week to the auction for sale and distribution throughout the world. Each grower usually grows one kind of flower, often one variety, in a greenhouse of .5 hectare average size. This specialization contributes to very high productivity in less than ideal climatic conditions.

Each grower grades and packages his production to very strict standards and delivers them to the auction in water and on carts with wheels. This delivery system facilitates the movement through the auction facility, past the auction clock and to the exporters (buyers) located at and around the auction.

The flowers are pre-inspected by the buyers before the auction begins, usually before 6 A.M.; at which time they begin passing in front of a gallery of buyers from all over the world and before the famous Dutch Clock.

The Dutch Clock begins at a high price value and continues lowering (around the clock) until a buyer consummates a sale by simply pressing an electronic button as the clock reached his preferred price level. The first buyer to press his own button buy the lot. The transactions pass very quickly and as you might imagine "buying" becomes an art. The Aalsmeer Auction, the largest in the Netherlands has a total of thirteen clocks operating simultaneously.

Buyers sit in an auction gallery in a seat. Each seat is complete with a purchasing button and a speaker allowing them to listen to the lot description passing before the clock. A plastic card inserted into the panel in front of the buyer's seat opens the buying "button" for the buyer, that automatically records his purchases financially as he works the button. As a buyer initiates a transaction he pushes the button at the desired price which completes a financial transaction with a bank at the auction deleting the value of that lot from his bank account and crediting the "sale" to the grower producing the product. The grower receives his payment in seven days, less all auction handling costs.

The buyers represent flower importers, exporters and distributors from around the world. There are seven auctions in the Netherlands and each auction has more than one "buyers' gallery" and each gallery may have one or more clocks.

Auctioning that begins at 6 A.M. is usually completed by 10 A.M.

Flowers that are delivered to the auction that day are sold within hours of receipt and delivered to more than 350 exporters located at the auction, who then receive the flowers, package them and ship them to their distributors throughout Europe and around the world, all within a matter of hours of harvesting. All flowers are sold each day.

The latest estimates from the Flower Council of Holland are that nearly 70% of the world flower exports pass through the auctions in the Netherlands. Imports (flowers received from other producing countries) represent about 10% of the total auction volume.

World Price Impact:

Because of the speed and volume of this system and with today's electronic communications capabilities, daily prices set at the auctions, by the buyers from around the world, essentially create the market price for flowers globally.

This means that the price of flowers in almost any country's domestic market are impacted by the auctions of the Netherlands. This has a tremendous impact on the marketing efforts of any exporting country. An export flower industry in any country will have its potential market price impacted and therefore limited by the transaction in Holland on almost any given day. This factor must be understood in Morocco as it targets the EC market and other markets around the world.

ANNEX SIX

FLOWER INDUSTRY COST DATA AND SELECTED COMPANY CHARACTERISTICS

1. Production Costs for Roses
2. Production Costs for Carnations
3. Production Costs for Gladiolas
4. Characteristics of several Rose Growing Companies
5. Characteristics of two Carnation Growing Companies

COUTS DE PRODUCTION
ROSIER

SPECIFICATIONS	Firm #1 (CANAL 2)	Firm #2 (CANAL 1)	Firm #3 (CANAL 3)	Firm #4 (CANAL 2)
. Serre tombarello et canarienne		. Serre Richel	. Serre tombarello et tunnel 19	. Serre Tombarello et tunnel 19
. Irrigation localisee		. Irrigation localisee	. Irrigation gravitaire.	. Irrigation localisee
. Chauffees 6,6 plants/m2		. Chauffees, bac tranche, 5 a 6 plant.	. Non Chauffees; 5 a 6 plants/m2	. Chauffee, 5,7 plants/m2
. Plants achetes		. Plants achetes	. Plants achetes	. Plants achetes
. Conditionnement a 15 km		. Conditionnement sur place	. Conditionnement sur p.	. Conditionnement sur place
. Ventes : Export + local		. Ventes : Export + lo.	. Ventes : Export + local	. Ventes : Export + local
A) INSTALLATION				
1- Serre		1300000		
- Armature	380000		270000	270000
- Plastique	45000		51000	54000
- Fil de fer	1680		1200	1400
- Main d'oeuvre	780		6000	7500
- Divers	50520		75340	28740
TOTAL SERRS	477980	1300000	403540	361640
	69.92%	70.43%	58.31%	64.76%
2- Syst. d'irrigation	62800	149440	120000	
	9.19%	8.10%	17.34%	
3- Syst. de chauffage		18750		14000
		1.02%		2.51%
4- Bac tranche		135130		
		7.32%		
5- Culture				
. Preparation sol	12620		16370	9950
. Plants	128750	240202	150000	171000
. Main d'oeuvre	1460	2330	2100	1800
-Total culture	142830	242532	168470	182750
	20.89%	13.14%	24.35%	32.73%
TOTAL INSTALLATION	683610	1845852	692010	558390
	100%	100%	100%	100%

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B) PRODUCTION

1-Engrais	23030	40620	40000	19660
2-P. phytos	27110	18550	10000	8000
3-Irrigation	6860	4540	6000	5160
4-Main d'oeuvre	35830	54140	15900	19100
5-Gasoil	2820	162630		175000
6-Palissage		3570		1500
7-Divers		480		900
<hr/>				
TOTAL PRODUCTION	95650	284530	71900	229320
	33.52%	47.54%	16.97%	28.16%

C) CONDITIONNEMENT

	19400	6079	20000	64220
	6.80%	1.02%	4.72%	7.89%

D) TRANSPORT

	44670	123370	100000	188020
	15.65%	20.61%	23.60%	23.09%
	5.85%	10.54%	14.29%	13.98%

E-AMORTISSEMENT, FRAIS

FINANCIERS ET DIVERS

	125660	184585.2	231870	332760
	44.03%	30.84%	54.72%	40.86%

COUT TOTAL

	285380	598564.2	423770	814320
	100%	100%	100%	100%

F-RECETTES

Export + local	763600	1170340	700000	1345200
----------------	--------	---------	--------	---------

G-MARGE BENEFICIAIRES

Benefice (DH/AN/HA)	478220	292310	276680	530880
Rentabilite	167.57%	48.84%	65.29%	65.19%

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COÛT DE PRODUCTION CARNATIONS

Specifications : Cycle cultural = 2 ans

- * Culture sous abri multichapelle "Tombarello"
- * Irrigation par goutte à goutte
- * Boutures importées
- * Densités : 20 a 22 plants/m2

	MONO	MINI
A) INSTALLATION		
1-Serre		
-Armature	413470	413470
-Plastique	342000	342000
-Fil de fer	58500	58500
-Main d'oeuvre	2025	2025
	4695	4695
TOTAL SERRE	407220	407220
2-Système d'irrigation	288840	288840
3-Culture		
-Préparation du sol	32740	32740
-Patissage	50050	50050
-Boutures	422000	422000
-Main d'oeuvre	1125	1125
TOTAL CULTURE	505915	505915
B) CHARGES		
1-Production		
Fertigation	73000	73000
T.phytopsanitaires	197030	197030
Main d'oeuvre	211195	211195
Divers	2500	2500
TOTAL CHARGES	483725	483725
2) CONDITIONNEMENT		
1-Approvisionnement	227000	255800
2-Main d'oeuvre	35900	42930
3-Fonctionnement station	11550	11550
TOTAL CONDITIONNEMENT	274450	310280
3) TRANSPORT	725010	874860
4) AMORTISSEMENT ET DIVERS	230250	219530
RECETTES		
1-Export	2639610	2723840
2-local	326630	159520
TOTAL RECETTES	2966240	2883360
D- MARGE BENEFICIAIRE		
Bénéfice (DH/HA/2ANS)	746890	489050
Rentabilité	0.34	0.2

Cost of Production
Gladiolas

Specifications

- * Culture de plein champ
- * Irrigation par aspersion
- * Bulbes : Achat + Grossissement
- * Densité : 20 plants/m2
- * Conditionnement sur place
- * Ventes : Export + local

A-CHARGES

1-Production	
-Bulbes	140520
-Engrais	7590
-P. phytos.	6410
-Irrigation	4010
-Main d'oeuvre	21000
2-Transport	57110
3-Amortissement	19540
4-Divers	54340

	310520

B-RECETTES

1-Export	305650
2-Local	89000

	394650

C-MARGE BENEFICIAIRE

BENEFICE (DH/HA/CYCLE)	84130
Rentabilité =	27%

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DIAGNOSTIC TECHNIQUE DES SOCIETES PRODUCTRICES DE FLEURS

SOCIETES	ARBOR	NOVAFLOR	EXMORA	ROSALIE	SAPIAMA	PRIM'ROSE
-Region	Agadir	Marrakech	Rabat	Agadir	Taroudant	Azemmour
-Superficie (HA)	108	22,0	5,0	18,0	150	155
-Texture sol	Sableux	Sabl/argileux	Sableux	Sableux	Sableux	Sableux
CE (mmhou/cm)	0,17	-	-	0,13	0,5	
PH	8,7	-	7,8	8,8	-	
-Sup. Hors sol (ha)	?	Non	?	Non	5,0	Non
-Eau : Barrage	Non	Non	Oui	Oui	Non	
Salinite	-	?	?	?	Non	
Puits	Oui	Oui	Oui	Oui	Oui	
Profondeur	60	56	20	75	100	Disponible
Salinite	0,85	?	2,1	0,19	0,9	2 mmhos/cm
-Superficie fleurs (ha)	18,66	5,0	2,00	5,5	5,0	32 ha
-Sup. fl. convertie (ha)	13,66	5,0	2,00	5,5	5,0	30 ha
-Types de serres	Tombarello	Tombarello multiserre	Tombarello Promontage	Tombarello Canarienne	Richel	Tombarello Socodam
-Sup. chauffee (ha)	?	Non	0,52	5,5	5,0	Non
. Air pulse			0,52	-	5,0	
. Autre				Bois brule	5,5	
-Sup. irriguee (ha)						
. localisee	13,66	-	2,00	5,5	5,0	Oui
. Traditionnelle	?	5,0	-	-	-	
Sup. Rosier (ha)	3,0	5,0	2,0	5,5	5,0	
. Densite (plants/m2)	?	5a6	5,7	6,6	5a6	
. Nb varietes	?	19	-	16	16	
. Total Plants rosier	?	275000	114000	283254	275000	
Sup. Oeillet (ha)	10,0	0,0	0,0	0,0	0,14	30
. Monoflore	2					2.5
. Multiflore	8					27.5
. Densite (plts/m2)	20					20
. Nb vtes mono	17					
. Nb. vtes Mini	23					
. Tot plants Mono	400000					
. Tot plants Mini	1600000					6,000,000
Sup. glaieul (ha)	5,66	0,0	0,0	0,0	0,0	2
. Densite (plts/m2)	20					
. Nb. varietes	6					
. Tot plants glaieul	1132000					

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Autres fleurs		Essai liliium		0,0			
-Surface Salle Condition	520	600	135	3572	600		890
-Chambre frigo :							
-Nombre	4	2	2	4	3		4
-Volume(m3)	910	432	102	?	580		1200
-Camion frigo	1	-	-	1	1		1
-Directeur adm. comm.	1	-	-	1	1		3
Gerant Experimente	1	1	1	1	-		1
Ingenieurs	-	-	1	-	-		1
Techniciens	3	-	-	1	9		6
Main d'oeuvre (ouvriers)	150	56	30	?	148		400
-Periodes de production							
-Rose	?	Nov.- Avr.	Nov.-Avr.	Dec.-Mai	Nov.- Mai		
-Oeillet	Oct.-Mai	-	-	-	-		Oct. Juillet
-Glaieul	Dec.-Avr.	-	-	-	-		Janv.-Avril
Production au m2							
-Rose	?	1000000	912000	2884000			
-Oeillet	7047640	-	-	-			132
-Glaieul	950000	-	-	-			
Total ventes (millions de tige)						1 ha k.red	
-Rose	?	?	820800	2797476	449660		
-Oeillet	5201326	-	-	-			75.00%
-Glaieul	775650	-	-	-			
-Destinations (%)							
-Marche local	31,6	?	20	10	28,5		15.00%
-Europe	54,8	100%	80	90	71,5		80.00%
-Pays Scandinaves	-	-	-	-	-		5.00%
-Moyens orient	13,6	-	-	-	-		0.00%

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ANNEX SEVEN
ROYAL AIR MAROC FREIGHT CHARGES

TARIFFS PREFERENTIELS

Aéroport Casa - Anfa - Casablanca - Maroc - Tél. : 22.903 M
Tél. : (02) 91.20.00 - Poste : 2950 - Fax : 91.29.97 - Site : CASFZ AT

3) PRET AU DEPART DU MAROC A COMPTER DU 1er DECEMBRE 1991
EN DH/KG POUR PLUS DE 100 KG.

DE CASABLANCA VERS	Poissons sauf Crustacés	Fruits/Lég./Oeilletts Sauf champignons *		Fleurs		Menthe	Articles en Cuir	Textiles	Bonneterie	Chaussures	Articles
		Tarif Préf	Tarif OG	Tarif Préf	Tarif OG						
FRANCE											
Paris/Strasbourg	9,80	7,65	6,66	8,00	7,00	8,00	8,70	6,98	7,55	8,30	5,0
Marseille/Nice	9,80	7,05	6,06	7,65	6,55	8,30	8,30	6,78	7,25	8,05	5,6
Toulouse/Bordeaux/Lyon	9,80	7,05	6,06	7,55	6,66	7,55	8,30	6,78	7,28	8,05	5,6
EUROPE											
Athènes	14,25	9,70	8,70	10,75	9,75	10,75	11,85	9,35	10,15	11,30	8,7
Amsterdam	11,65	8,20	7,20	9,10	8,10	9,10	9,90	8,00	8,70	9,65	6,0
Bruxelles	10,95	7,80	6,80	8,65	7,65	8,65	9,45	7,45	8,05	8,95	6,1
Genève/Zürich	11,95	8,45	7,45	9,35	8,35	9,35	10,30	8,20	8,90	9,90	7,0
Francfort/Düsseldorf	11,90	8,40	7,40	9,30	8,30	9,30	10,30	8,20	8,90	9,90	7,0
Munich/Nuremberg/Stuttgart	13,15	10,05	9,05	11,15	10,15	11,15	10,90	8,20	8,90	9,90	7,0
Berlin	12,55	9,20	8,20	10,20	9,20	10,20	10,60	8,90	10,15	11,20	8,5
Hambourg/Bremen/Hanovre	17,40	12,40	11,40	13,85	12,55	13,55	15,30	12,15	13,25	14,75	11,0
Gothenberg	14,10	10,00	9,00	10,95	9,95	10,95	12,20	9,80	10,60	11,85	8,6
Copenhague	11,00	7,80	6,80	8,65	7,65	8,65	9,45	7,45	8,05	8,95	6,3
Londres	8,95	5,20	4,20	5,65	4,65	5,65	6,25	4,85	5,25	5,75	3,7
Madrid	9,30	6,70	5,70	7,35	6,35	7,35	8,00	6,25	6,70	7,40	5,1
Barcelone	8,95	5,45	4,45	5,30	4,30	5,30	6,65	5,16	5,50	6,05	4,1
Las Palmas	7,65	5,20	4,20	6,06	5,06	6,06	6,25	4,85	5,25	5,75	3,7
Lisbonne	19,80	14,25	13,25	15,45	14,45	15,45	17,45	13,90	15,10	16,95	12,7
Oslø/Stockholm	12,05	7,75	6,75	8,65	7,65	8,65	9,45	7,45	8,05	8,95	6,3
Rome/Milan	12,70	9,05	8,05	9,90	8,90	9,90	11,00	8,68	9,38	10,40	7,5
Vienne	16,16	11,00	10,00	12,26	11,25	12,25	13,55	10,60	11,55	12,85	9,4
Isamboul											
USA/CANADA											
New-york	18,45	14,70	10,20	15,00	10,60	15,00	17,90	14,20	15,45	17,30	13,0
Montréal	18,45	14,70	10,20	15,00	10,60	15,00	17,90	14,20	15,45	17,30	13,0
PROCHE ORIENT											
Abou-dhabi	25,16	18,66	14,06	20,16	15,66	20,16	24,05	18,80	20,50	23,05	17,6
Jeddah	19,95	14,90	10,40	16,10	11,60	16,10	19,05	14,90	16,20	18,20	13,7
Ryadh	21,65	16,50	12,00	17,45	12,95	17,45	20,75	16,40	17,80	20,00	15,2
Koweït	21,55	16,00	11,60	17,40	12,90	17,40	20,80	16,10	17,65	19,65	14,9
AFRIQUE											
Abidjan	22,06	9,65		11,75			21,35	18,05	19,60	22,05	16,90
Bamako	19,65	17,45					21,15	16,00	17,45	19,65	14,85
Conakry	18,90	9,66		11,75			20,65	16,55	18,90	18,90	
Dakar	16,70	9,66		11,75			18,15	13,75	14,90	16,70	12,60
Libreville		22,66					27,45	20,75	22,66	25,40	19,60
Bangui/Brasaville							28,25	23,10	23,10	26,00	20,10
Douala/N'Djamena							27,35	22,60	22,60	25,25	19,5
Cotonou							24,75	20,30	20,30	22,80	
Malabo (250 kg)								23,10	26,15	28,30	21,9
Tripoli	8,95	6,95		7,70		7,70	8,70	6,95	7,55	8,35	5,8
Benghazi (250 kg)	11,95	9,95		10,65		10,65	11,70	9,95	10,60	11,30	8,8
Tunis	8,95	6,95		7,05		7,05	7,80	6,30	6,80	7,55	5,1
Nouakchott		9,65		11,75			16,15	11,65	12,65	14,05	10,4
AMERIQUE/SUD											
Rio de Janeiro	30,46	21,80		23,46		23,46	25,05	22,10	24,05	27,10	20,9
Sao Paulo	31,00	22,20		24,00		24,00	26,60	22,40	24,40	27,50	21,2

NB : 1/ La taxation au volume : Se fait sur la base 1 kg = 6 dm³
2/ Les tarifs O.G. sont valables vers les destinations suivantes :
- Oslo, Stockholm, Helsinki, U.S.A., Canada et Moyen Orient du 1er Décembre 1992 au 30 Septembre 1993.
- L'Europe (excepté Scandinavie) du 1er Mars 1993 au 30 Juin 1993.

3/ **TARIFS DOMESTIQUES :**
- Les tarifs départ Marrakech } Tarifs Casablanca + 1,50 MAD/KG
- Les tarifs départ Agadir }

4/ OG : Ordre Gouvernemental

* Tarifs oeilletts valables uniquement sur la FRANCE et l'EUROPE

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ANNEX EIGHT

**UNITED STATES IMPORT FIGURES FOR
SELECTED FLOWERS**

U.S. Production of Carnations and Roses, 1989 and 1990

CULTURE	PRODUCERS		PLANTS GROWN		PRODUCTION AREA		QUANTITY SOLD		PERCENT OF SALES		WHOLESALE PRICE		VALUE OF SALES		
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	
	Number		1,000 Plants		1,000 Square Feet		1,000 Units			Percent	Cents		1,000 Dollars		
CARNATION															
California	152	141	26,050	25,510	14,985	16,250	Stems	Stems							
Colorado	41	39	3,685	3,715	1,660	1,620	203,200	197,300							
Illinois	4	5	104	162	60	95	42,500	38,120	100	100	13.3	14.5	27,026	28,609	
New York	19	19	157	45	25	16	402	563	97	98	20.0	20.0	8,500	7,624	
Pennsylvania	15	15	113	103	42	43	450	351	100	100	29.9	34.2	120	193	
Texas	25	31	192	165	101	95	871	820	64	47	32.1	33.9	144	119	
U.S. Total	256	250	30,201	29,700	16,873	18,119	1,238	916	58	57	20.4	18.3	178	150	
							248,661	238,070	69	69	20.6	22.1	255	202	
									99	99	14.6	15.5	36,223	36,897	
MULTIPLE CARNATION															
California	139	137	11,250	13,300	7,800	8,460	Bunches	Bunches							
Colorado	26	25	1,400	1,020	555	530	10,310	12,800	100	100	Dollars				
Illinois	4	3	414	433	346	296	1,720	1,385	99	98	1.37	1.36	14,125	17,408	
New York	10	10	178	168	125	118	247	232	98	100	1.45	1.66	2,494	2,299	
Pennsylvania	17	21	50	52	17	24	149	155	98	100	1.55	1.55	383	360	
Texas	10	10	33	32	16	15	63	78	87	92	2.76	2.91	411	451	
U.S. Total	12	15	24	30	14	29	28	32	75	72	3.19	3.28	201	256	
	218	221	13,349	15,035	8,875	9,472	24	31	79	64	3.03	3.01	85	96	
							12,541	14,713	32	41	2.04	2.35	49	73	
									99	99	1.42	1.42	17,748	20,943	
DOUBLE TEA ROSE															
California	115	125	15,930	16,820	25,100	26,170	Stems	Stems							
Colorado	18	17	1,370	1,295	2,270	2,160	320,700	334,900	100	100	Cents				
Illinois	15	13	340	334	921	960	31,200	32,105	97	100	27.1	27.4	86,910	91,763	
Pennsylvania	13	12	952	977	1,348	1,390	7,562	8,586	99	99	31.0	29.0	9,672	9,310	
Texas	7	10	370	370	500	490	16,697	16,924	100	100	32.3	29.5	2,443	2,533	
U.S. Total	8	7	255	298	348	490	5,280	5,720	99	99	52.7	54.8	8,799	9,274	
	26	25	1,122	1,156	1,361	1,356	6,234	6,726	97	99	70.0	65.0	3,696	3,718	
	13	12	648	663	854	904	21,395	22,193	99	99	58.1	65.6	3,622	4,412	
	5	5	539	497	1,029	1,010	12,095	11,972	99	98	67.5	67.6	14,442	15,002	
	14	15	882	887	1,093	1,135	11,296	13,620	99	99	50.2	50.0	6,072	5,986	
	53	53	1,768	1,486	2,503	2,299	15,629	15,043	99	98	38.7	46.0	4,372	6,265	
	287	294	24,176	24,783	37,327	38,293	33,076	27,295	99	99	68.1	66.6	10,643	10,019	
							481,164	495,084	99	99	55.4	54.8	18,331	14,961	
									99	99	35.1	35.0	169,002	173,243	
HEART ROSE															
California	74	72	1,915	1,805	3,430	2,950	Stems	Stems							
Colorado	14	12	245	170	345	320	55,680	51,800	100	100	Cents				
Illinois	6	6	44	32	102	91	8,140	6,710	95	100	16.8	17.0	9354	8806	
Pennsylvania	11	10	210	200	280	268	7,556	5,793	100	90	17.0	16.0	1384	1074	
Texas	5	4	110	110	150	160	2,075	2,500	100	100	27.5	28.7	261	228	
U.S. Total	5	4	43	44	69	62	1,786	1,695	100	100	28.6	34.6	2161	2004	
	21	17	358	280	390	386	6,035	6,330	99	91	45.0	40.0	934	1000	
	10	11	107	102	129	135	2,360	2,299	98	98	36.6	44.1	654	747	
	4	4	196	210	364	403	4,748	5,940	100	99	53.5	46.5	3229	2943	
	12	12	201	199	316	318	5,984	5,955	95	96	32.5	30.9	767	710	
	35	37	358	352	595	586	11,007	11,749	99	99	43.8	32.9	1211	1954	
	197	189	3,787	3,504	6,170	5,679	106,319	101,564	99	99	38.1	44.9	2621	2674	
									99	99	25.5	41.6	4199	4882	
											26.6	26.6	26,775	27,022	

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Table U.S. Imports of Standard Carnations, 1980-1991, 1,000 Stems

	1981	1985	1988	1989	1990	1991
Canada	n/a	3,449	52	6,516	2,261	3,998
Mexico	n/a	10,475	5,825	276	4,746	2,951
Guatemala	n/a	33				
Honduras	n/a	170		100		
Costa Rica	n/a	407	26	2		
Jamaica	n/a		112	70	803	
Dominican Rep	n/a	56	166			
Montserrat	n/a	96				
Neth Antilles	n/a	28				
Colombia	n/a	597,340	737,879	775,870	702,830	639,521
Ecuador	n/a	3,324	1,007	1,088	973	4,051
Peru	n/a	201		1,631	4,908	1,225
Bolivia	n/a		141		25	22
Chile	n/a	2,295	599	418	164	318
United Kingdom	n/a	9	58			
Netherlands	n/a	452	31	107	21	70
France	n/a	1	11	11	12	
Germany	n/a	15	14	4		69
Spain	n/a	916	54	49		
Italy	n/a	494	348	626	90	
Romania	n/a		23			
Israel	n/a	235	27	220	113	
Burma	n/a					32
Indonesia	n/a		21			
Singapore	n/a	12				
Macao	n/a	185				
Australia	n/a		1			
Kiribati	n/a	26				
Cocos Islands	n/a			19	19	
Egypt	n/a			26		
Ivory Coast	n/a		53		104	
Ghana	n/a					16
Congo	n/a				30	
Kenya	n/a	107	4		45	
Mauritius	n/a			7		
Brit Indian Ocn	n/a				55	
Total	n/a	620,326	746,452	787,032	717,198	652,271

Source: U.S. Bureau of the Census

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Table U.S. Imports of Standard Carnations, 1980-1991, Customs Value, US\$000s

	1981	1985	1988	1989	1990	1991
Canada	n/a	229	4			
Mexico	n/a	777	413	415	145	241
Guatemala	n/a	3		20	302	189
Honduras	n/a	2				
Costa Rica	n/a	47	3	8		
Jamaica	n/a		10	4		
Dominican Rep	n/a	5	13	5	55	
Montserrat	n/a	7				
Neth Antilles	n/a	4				
Colombia	n/a	41,167	52,151	55,741	49,829	47,708
Ecuador	n/a	198	75	77	88	262
Peru	n/a	37		120	333	211
Bolivia	n/a		12		2	1
Chile	n/a	98	59	31	8	80
United Kingdom	n/a	2	4			
Netherlands	n/a	116	13	22	8	16
France	n/a	6	4	2	1	
Germany	n/a	3	1	4		14
Spain	n/a	40	6	10		
Italy	n/a	89	58	112	16	
Romania	n/a		2			
Israel	n/a	41	12	18	9	
Burma	n/a					
Indonesia	n/a		2			3
Singapore	n/a	2				
Hacao	n/a	13				
Australia	n/a		3			
Kiribati	n/a	2				
Cocos Islands	n/a					
Egypt	n/a			1	1	
Ivory Coast	n/a			2		
Ghana	n/a		3		6	
Congo	n/a					1
Kenya	n/a	4	2		2	
Mauritius	n/a				1	
Brit Indian Ocn	n/a			2		
Total	n/a	42,889	52,848	56,592	50,811	48,726

Source: U.S. Bureau of the Census

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Table U.S. Imports of Standard Carnations, 1980-1991, Customs Value, US\$/Stem

	1981	1985	1988	1989	1990	1991
Canada	n/a	0.07	0.07			
Mexico	n/a	0.07	0.07	0.06	0.06	0.06
Guatemala	n/a	0.09		0.07	0.06	0.06
Honduras	n/a	0.01				
Costa Rica	n/a	0.11	0.10	0.08		
Jamaica	n/a		0.09	1.50		
Dominican Rep	n/a	0.09	0.08	0.07	0.07	
Montserrat	n/a	0.07				
Neth Antilles	n/a	0.15				
Colombia	n/a	0.07	0.07	0.07	0.07	0.07
Ecuador	n/a	0.06	0.07	0.07	0.09	0.06
Peru	n/a	0.18		0.07	0.07	0.17
Bolivia	n/a		0.08		0.07	0.05
Chile	n/a	0.04	0.10	0.07	0.05	0.25
United Kingdom	n/a	0.18	0.07			
Netherlands	n/a	0.26	0.40	0.22	0.37	0.23
France	n/a	8.09	0.40	0.16	0.11	
Germany	n/a	0.17	0.08	0.94		0.20
Spain	n/a	0.04	0.12	0.19		
Italy	n/a	0.18	0.17	0.18	0.17	
Romania	n/a		0.09			
Israel	n/a	0.18	0.45	0.08	0.08	
Burma	n/a					0.09
Indonesia	n/a		0.07			
Singapore	n/a	0.16				
Macao	n/a	0.07				
Australia	n/a		3.48			
Kiribati	n/a	0.06				
Cocos Islands	n/a			0.06	0.07	
Egypt	n/a			0.06	0.06	
Ivory Coast	n/a		0.06		0.06	0.06
Ghana	n/a				0.07	
Congo	n/a				0.03	
Kenya	n/a	0.04	0.51	0.33		
Mauritius	n/a				0.07	
Brit Indian Ocn	n/a					
Total	n/a	0.07	0.07	0.07	0.07	0.07

Source: U.S. Bureau of the Census

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Table U.S. Imports of Standard Carnations, 1991 by month, US\$000s Customs Value

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mexico	5	29	25	42	40	24	32	13					
Guatemala	7	9	13	37	24	9	2	4		8	17	6	241
Colombia	4,793	4,785	4,727	5,649	6,817	3,189	3,355	1,315	1,488	2,568	3,366	5,654	47,708
Ecuador	9	16	38	31	57	25	12	8	15	12	14	25	262
Peru	16	22	23	1	7		12	75	4	20	20	11	211
Bolivia		1											1
Chile		19		6									80
Netherlands			1		2		1				55		16
Germany					14					3	1	8	14
Burma						3							14
Ghana								1					3
Total	4,830	4,881	4,827	5,766	6,961	3,250	3,414	1,416	1,525	2,636	3,487	5,733	48,726

Source: U.S. Bureau of the Census

Table U.S. Imports of Standard Carnations, 1991 by month, 1,000 Stems

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mexico	62	333	295	1,021	595	346	552	221					
Guatemala	220	174	192	449	364	106	31	91	(0)	159	314	100	3,998
Colombia	64,596	63,453	60,253	69,698	83,845	37,190	41,913	25,612	27,202	40,670	50,066	75,021	2,951
Ecuador	266	292	473	377	699	299	154	214	289	241	258	489	639,521
Peru	213	336	327	30	96	(0)	37	94	5	35	31	19	4,051
Bolivia		22											1,225
Chile		113	0	94	(0)								22
Netherlands			16		6	(0)	1	(0)			110	(0)	318
Germany					69	0				6	8	32	70
Burma						32							69
Ghana								16	0				32
Total	65,357	64,723	61,557	71,669	85,673	37,972	42,688	26,248	27,817	41,527	50,968	76,073	652,271

Source: U.S. Bureau of the Census

Table U.S. Imports of Standard Carnations, 1991 by month, US\$ Customs Value per Stem

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mexico	0.08	0.09	0.08	0.04	0.07	0.07	0.06	0.06					
Guatemala	0.03	0.05	0.07	0.08	0.07	0.09	0.06	0.04		0.05	0.05	0.06	0.06
Colombia	0.07	0.08	0.08	0.08	0.08	0.09	0.08	0.05	0.06	0.06	0.07	0.07	0.06
Ecuador	0.03	0.05	0.08	0.08	0.08	0.08	0.08	0.05	0.05	0.06	0.07	0.08	0.07
Peru	0.07	0.07	0.07	0.03	0.07	0.08	0.08	0.04	0.05	0.05	0.05	0.05	0.06
Bolivia		0.05					0.33	0.79	0.76	0.56	0.64	0.56	0.17
Chile		0.17		0.06									0.15
Netherlands			0.06		0.32		1.11				0.50		0.25
Germany					0.20					0.48	0.12	0.25	0.23
Burma						0.09							0.20
Ghana								0.06					0.09
Total	0.07	0.08	0.08	0.08	0.08	0.09	0.08	0.05	0.05	0.06	0.07	0.08	0.07

Source: U.S. Bureau of the Census

Table U.S. Imports of Miniature/Spray Carnations, 1980-1991, 1,000 Stems

	1981	1985	1988	1989	1990	1991
Canada	14	45	71	126	67	
Mexico	97		780	1,624	419	
Guatemala	10	27				
Costa Rica	5	528	2,253	2,563	1,170	
Dominican Rep				32	141	
Neth Antilles		308				
Colombia	7,614	22,822	70,557	94,553	76,200	86,
Ecuador	2	3,231	1,722	5,588	9,399	9,
Peru	298	10,514	13,933	14,331	8,719	9,
Iceland		17	352	370		
United Kingdom	609	103				
Netherlands	5,423	4,984	1,350	429	499	
France		15	21			
Germany		136	34		61	
Spain		487	556	158	73	
Portugal				10		
Italy	296	280	118	197	44	
Greece						
Turkey			125	80		
Israel	18,442	19,584	8,937	5,061	640	1,
India				9	8	
Thailand		16		4		
Singapore		26				
Macao		25				
Japan		27			6	
Australia			0			
Egypt		15				
Morocco			20			
Congo						
Haiti		9			5	
Kenya	26	3,291	1,397	865	466	2
South Africa		20				
Brit Indian Ocn			93			
Total	32,836	66,509	102,318	126,000	97,917	108,2

Source: U.S. Bureau of the Census

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Table U.S. Imports of Miniature/Spray Carnations, 1980-1991, Customs Value, US\$000s

	1981	1985	1988	1989	1990	1991
Canada	27	21	82	124	69	9
Mexico	12		74	140	59	3
Guatemala	1	3				
Costa Rica	3	64	442	397	127	165
Dominican Rep				12	16	30
Neth Antilles		28				
Colombia	1,124	5,924	8,137	12,934	13,801	20,213
Ecuador	1	357	265	594	1,056	1,423
Peru	220	1,902	1,029	1,078	612	1,000
Iceland		2	75	93		
United Kingdom	25	41				
Netherlands	773	917	321	87	87	87
France		5	4			
Germany		8	6		8	18
Spain		23	69	32	9	2
Portugal				2		
Italy	41	54	29	37	8	7
Greece						2
Turkey			17	12		
Israel	538	2,200	1,346	645	173	123
India				1	5	
Thailand		4		1		
Singapore		4				
Macao		3				
Japan		1			5	
Australia			1			
Egypt		2				
Morocco			5			
Congo						1
Mali		1			4	
Kenya	3	168	190	126	79	38
South Africa		2				
Brit Indian Ocn			7		1	
Total	2,769	11,736	12,100	16,312	16,120	23,121

Source: U.S. Bureau of the Census

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Table U.S. Imports of Miniature/Spray Carnations, 1980-1991, Customs Value, US\$/St

	1981	1985	1988	1989	1990	1991
Canada	1.86	0.46	1.16	0.98	1.03	2.01
Mexico	0.12		0.10	0.09	0.14	0.23
Guatemala	0.08	0.13				
Costa Rica	0.53	0.12	0.20	0.15	0.11	0.71
Dominican Rep				0.37	0.11	1.05
Neth Antilles		0.09				
Colombia	0.15	0.26	0.12	0.14	0.18	0.23
Ecuador	0.52	0.11	0.15	0.11	0.11	0.14
Peru	0.74	0.18	0.07	0.08	0.07	0.11
Iceland		0.11	0.21	0.25		
United Kingdom	0.04	0.40				
Netherlands	0.14	0.18	0.24	0.20	0.17	0.18
France		0.35	0.20			
Germany		0.06	0.18		0.14	0.22
Spain		0.05	0.12	0.20	0.12	0.04
Portugal				0.15		
Italy	0.14	0.19	0.25	0.19	0.19	0.47
Greece						1.11
Turkey			0.13	0.15		
Israel	0.03	0.11	0.15	0.13	0.27	0.11
India				0.12	0.69	
Thailand		0.28		0.28		
Singapore		0.15				
Macao		0.10			0.80	
Japan		0.05				
Australia			2.70			
Egypt		0.10				
Morocco			0.25			0.17
Congo					0.83	
Mali		0.12				
Kenya	0.13	0.05	0.14	0.15	0.17	0.17
South Africa		0.12				
Brit Indian Ocn			0.08		0.95	
Total	0.08	0.18	0.12	0.13	0.16	0.21

Source: U.S. Bureau of the Census

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Table U.S. Imports of Miniature (Spray) Carnations, 1991 by month, US\$000s Customs Value

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Canada	1				3	2							
Mexico			1						3				9
Costa Rica	17	10	26	44	37	10					2		3
Dominican Rep	2		3	2		1		4	6			11	165
Colombia	2,421	1,597	1,607	2,096	2,460	1,305	1,019	1,195	1,065	4	4	3	30
Ecuador	134	119	180	128	172	129	117	87	89	1,766	1,438	2,244	20,213
Peru	126	165	152	77	52	43	37	15	39	98	70	100	1,423
Netherlands		15	11	6	38		1		4	85	66	143	1,000
Germany					18						16	2	87
Spain					2								18
Italy					3								2
Greece		2											7
Israel	2	11	24	18	68							4	2
Morocco		1											2
Kenya		11	6										123
Total	2,703	1,931	2,010	2,371	2,853	1,490	1,177	1,301	1,214	1,956	1,599	2,516	23,121

Source: U.S. Bureau of the Census

Table 12: U.S. Imports of Miniature (Spray) Carnations, 1991 by month, 1,000 Stems

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Canada	1	(0)			1	1	(0)						4
Mexico			1	0					2	(0)		(0)	13
Costa Rica	35	10	22	36	27	8	(0)	3	7		12	(0)	13
Dominican Rep	2	(0)	2	2	0	1	2	(0)	8	(0)		84	233
Colombia	8,605	6,486	7,444	8,886	10,292	5,219	4,004	5,608	5,275	5	3	3	29
Ecuador	919	744	1,011	816	1,217	855	816	673	837	8,542	6,277	9,982	86,620
Peru	1,670	2,561	2,021	1,073	599	669	176	22	67	858	645	580	9,972
Netherlands		103	45	35	193	0	22		10	183	162	219	9,422
Germany					82	(0)				(0)	58	13	478
Spain					56								82
Italy					1	(0)							56
Greece		2	(0)										2
Israel	11	65	186	198	662	0						14	15
Morocco		6											2
Kenya		130	50										1,121
Total	11,243	10,107	10,783	11,045	13,131	6,753	5,020	6,307	6,206	9,590	7,192	10,902	108,278

Source: U.S. Bureau of the Census

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Table U.S. Imports of Other Roses, 1991 by month, US\$000s Customs Value

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Greenland					2								2
Canada	7	191	10	5	56	20	18	44	14	43	15	13	436
Mexico	1,100	4,056	401	1,125	1,166	552	390	415	480	538	263	243	10,729
Guatemala	207	450	179	316	312	281	251	282	274	383	316	241	3,492
Honduras		2											2
Costa Rica	49	231	38	82	131	47	36	32	6	61	55	21	789
Jamaica		34	6						1				41
Dominican Rep	10	43	27	17	40	17	15	12	10	11	5	3	210
Colombia	7,691	10,283	3,663	7,757	8,147	4,583	4,809	4,283	2,945	5,096	3,439	3,112	65,808
Venezuela	1	20						1					22
Ecuador	700	807	383	635	783	437	434	382	215	408	385	295	5,864
Bolivia	97	120	57	58	44	38	3		6	49	34		528
Chile	2	6	2	5								10	25
Brazil	1	5		14	54	23	28						125
Netherlands	41	124	17	96	282	74	24	46	125	123	70	49	1,071
France	4	37	10	17	26	8			2	20	34	40	198
Germany				2									2
Spain		11											11
Italy						2							2
Greece	6								1				3
Israel	2	39	3	2									8
West Bank		3	5	17	6	7							76
New Zealand						5				1	1		13
Morocco		4	2						3	3	2		8
Mali													6
Ethiopia													5
South Africa					1								1
Total	9,918	16,466	4,803	10,148	11,050	6,094	6,008	5,497	4,082	6,736	4,620	4,054	89,476

Source: U.S. Bureau of the Census

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Table U.S. Imports of Other Roses, 1991 by month, 1,000 stems

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Greenland					11	0							11
Canada	7	119	16	5	69	26	25	58	20	65	20	27	456
Mexico	2,468	9,112	1,516	4,634	4,707	2,730	2,093	2,511	2,694	2,575	1,685	1,589	38,316
Guatemala	1,386	2,278	1,249	2,083	2,163	1,861	1,847	2,141	2,431	2,514	2,562	1,981	24,496
Honduras		11	0										11
Costa Rica	216	973	220	447	697	261	173	160	47	357	370	153	4,074
Jamaica		40	9	0									49
Dominican Rep	87	403	202	184	319	163	157	123	0	114	49	61	2,021
Colombia	36,088	48,067	17,575	36,957	38,412	21,792	22,564	21,887	19,237	27,745	22,183	18,857	331,365
Venezuela	14	158							2	(0)			174
Ecuador	4,557	5,379	2,559	3,987	5,141	2,691	2,502	2,330	1,959	2,859	3,249	2,601	39,814
Bolivia	525	577	286	290	216	176	16	0	46	270	210	146	2,758
Chile	9	26	14	17	0								137
Brazil	8	19	0	83	292	89	141	(0)				72	632
Netherlands	75	193	32	353	758	187	77	132	315	267	131	63	2,582
France	13	21	14	22	29	10	0		2	25	63	35	235
Germany		17	(0)	8	0								8
Spain													17
Italy						2	0		2	0			3
Greece	52	(0)		28	0								80
Israel	6	103	21	127	60	60	(0)			17	11	(0)	405
West Bank		15	54			36	0						105
New Zealand				(0)					10	8	3	(0)	21
Morocco		7	6										13
Mali													5
Ethiopia					5	(0)							5
South Africa											3	(0)	3
Total	45,511	67,518	23,771	49,223	52,880	30,085	29,596	29,344	26,878	36,861	30,539	25,590	447,797

Source: U.S. Bureau of the Census

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Table 1991 Wholesale Market Prices for Std. Carnations: Chicago & Philadel
 US\$ per bloom, average of Tuesday/Wednesday High and Low

Month	Week	Select -- Philadelphia			Select -- Chicago	
		Calif.	Colombia		Calif	Colombia
Jan	1		0.19	Y	n/a	n/a
	2		0.19	Y		0.30
	3		0.16	Y		0.31
	4		0.15	Y		0.31
Feb	5		0.15	Y		0.30
	6		0.28	Y		0.44
	7		0.38	Y	0.59	0.45
	8		0.24	Y		0.28
Mar	9		0.15	Y		0.28
	10		0.15	Y		0.28
	11		0.23	Y	0.40	0.31
	12		0.25	Y	0.40	0.40
Apr	13		0.33	Y		0.45
	14		0.18	Y		0.45
	15		0.18	Y		
	16		0.15	Y		0.35
May	17		0.17	Y		0.34
	18		0.35	Y	0.43	0.36
	19	0.38	0.35	Y		0.35
	20		0.17	Y		0.29
Jun	21		0.15	Y		0.29
	22		0.15	Y		0.29
	23		0.13	Y		0.18
	24		0.15	Y		0.25
Jul	25		0.17	Y		0.25
	26		0.32	Y		0.34
	27		0.23	Y	0.36	0.33
	28	0.20	0.23	Y		0.35
Aug	29	0.16	0.20	Y	0.34	0.34
	30	0.15	0.15	Y	0.34	0.34
	31	0.15	0.15	Y		
	32	0.15	0.15	Y	0.35	0.33
Sep	33		0.15	Y	0.34	0.35
	34		0.15	Y	0.34	0.35
	35		0.15	Y	0.34	0.35
	36		0.16	Y	0.35	0.18
Oct	37		0.23	Y		0.18
	38		0.28	Y		0.31
	39		0.27	Y		0.34
	40		0.27	Y		0.34
Nov	41		0.25	Y		0.30
	42		0.25	Y		0.30
	43		0.20	Y		0.30
	44		0.20	Y	0.35	0.29
Dec	45			Y	0.35	0.31
	46		0.25	Y		0.31
	47		0.25	Y		0.31
	48		0.20	Y		0.30
Dec	49		0.18	Y		0.30
	50		0.18	Y		0.25
	51		0.18	Y	0.50	0.32
	52		0.19	Y	0.50	0.32
	53		0.19	Y	0.50	0.32

Source: Federal-State Market News Service, Chicago and Philadelphia Branches

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Table 1991 Wholesale Market Prices for Min. Carnations: Chicago and Philad
 US\$ per bunch, average of Tuesday/Wednesday High and Low

Month	Week	Philadelphia		Chicago	
		Calif.	Colombia	Calif	Colombia
Jan	1		2.63	n/a	n/a
	2		2.25	5.50	3.50
	3		2.25	5.50	3.50
	4		2.25	5.50	3.50
Feb	5		2.25	5.45	3.50
	6		3.25	5.50	
	7		3.50	6.00	
	8		2.50	5.50	4.50
Mar	9		2.50	5.50	4.50
	10		2.50	5.50	4.00
	11		2.25	5.50	4.00
	12		2.25	5.50	5.50
Apr	13		3.25	4.00	3.38
	14		2.68	3.75	3.38
	15		2.50	3.75	3.38
	16		2.50	4.50	4.00
	17		3.00	3.88	4.00
May	18		3.00	3.63	
	19		4.13	4.50	3.50
	20	4.50	2.73	5.00	5.00
	21	2.50	2.38	3.75	4.25
Jun	22	2.50	2.38	3.75	4.25
	23	2.50	2.38	3.75	4.13
	24	2.50	2.50	3.75	
	25	2.50	2.50	3.75	
Jul	26	2.50	2.25	3.75	2.00
	27	3.00	2.50	3.75	3.00
	28		2.50	3.50	2.75
	29	2.50	2.50	3.63	3.00
	30	2.50	2.50	3.63	3.00
Aug	31	2.50	2.50	3.63	3.00
	32	2.50	2.50	3.50	2.75
	33	2.50	2.50	3.50	2.50
	34	2.50	2.50	3.50	3.00
Sep	35	2.50	2.50	3.50	2.25
	36	2.50	2.50	3.50	
	37	2.50	2.50	3.50	2.50
	38	2.25	2.75	3.50	
Oct	39	3.00	2.63	3.38	2.50
	40	3.00	2.63	3.50	3.00
	41	3.00	2.63	3.50	3.00
	42	3.00	2.63	3.75	3.50
	43	2.50	2.00	3.75	2.50
Nov	44	2.50	2.25	3.75	
	45	2.50	2.25	3.75	
	46	2.50	2.25	3.75	
	47		2.25	3.75	
Dec	48		2.25	3.75	3.25
	49		2.25	4.00	2.50
	50		2.25	4.00	2.50
	51		2.25	4.00	2.50
	52		2.50	4.50	3.50
	53		2.25	4.50	3.50
				4.25	3.50

Source: Federal-State Market News Service, Chicago and Philadelphia Branches

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Table 1991 Wholesale Market Prices for Roses: Chicago and Philadelphia
US\$ per bloom, average of Tuesday/Wednesday High and Low

Month	Week	26" and Longer -- Philadelphia		26" and Longer -- Chicago		
		Penn.	Calif.	Colombia	Calif/Ill	
Jan	1		0.93	0.70	n/a	n/a
	2		0.93	0.70	1.04	0.96
	3		0.95	0.70	1.14	1.05
	4		0.95	0.70	1.17	1.05
	5		0.95	0.60	1.18	1.05
Feb	6		1.08	0.63	1.20	1.05
	7	2.35	1.63	1.20	2.13	1.50
	8	1.75	0.90	0.60	1.13	0.87
	9	1.40	0.75	0.38	0.97	0.67
Mar	10	1.40	0.75	0.38	0.85	0.67
	11	1.40	0.73	0.38	0.85	0.70
	12	1.40	0.83	0.50	0.85	0.63
	13	1.40	0.88	0.60	0.85	0.66
Apr	14	1.20	0.83	0.48	0.85	0.66
	15	1.20	0.75	0.40	0.83	0.66
	16	1.20	0.73	0.40	0.80	0.63
	17	1.20	0.73	0.40	0.83	0.72
	18	1.20	0.73	0.40	0.83	0.72
May	19	1.20	0.95	0.50	0.85	0.70
	20	1.15	0.83	0.38	0.85	0.70
	21	1.15	0.80	0.38	0.88	0.70
	22	1.18	0.80	0.38	0.88	0.70
Jun	23	1.05	0.80	0.43	0.88	0.70
	24	1.05	0.80	0.45	0.83	0.63
	25	1.05	0.80	0.50	0.83	0.73
	26	1.00	0.80	0.48	0.83	0.73
Jul	27	1.00	0.80	0.40	0.83	0.73
	28	1.00	0.80	0.25	0.83	0.60
	29	1.00	0.80	0.25	0.83	0.46
	30	0.90	0.68	0.25	0.83	0.46
	31	0.90	0.68	0.25	0.85	0.46
Aug	32	0.90	0.68	0.25	0.83	0.50
	33	0.90	0.68	0.40	0.85	0.63
	34	0.90	0.68	0.35	0.85	0.63
	35	0.90	0.68	0.33	0.85	0.63
Sep	36	0.90	0.68	0.33	0.85	0.63
	37	0.90	0.68	0.40	0.85	0.63
	38	1.20	0.70	0.43	0.85	0.63
	39	1.20	0.70	0.43	0.85	0.63
Oct	40	1.20	0.70	0.43	0.85	0.63
	41	1.20	0.70	0.43	0.86	0.63
	42	1.10	0.70	0.43	0.86	0.63
	43	1.15	0.78	0.43	0.86	0.63
	44	1.15	0.78	0.43	0.86	0.63
Nov	45	1.15	0.78	0.43	0.86	0.63
	46	1.16	0.83	0.40	0.86	0.63
	47	1.20	0.83	0.30	0.85	0.63
	48	1.20	0.80	0.30	0.85	0.50
Dec	49	1.20	0.80	0.30	0.85	0.50
	50	1.20	0.75	0.50	0.86	0.50
	51	1.20	0.68	0.50	0.83	0.50
	52	1.20	0.73	0.45	0.83	0.50
	53	1.20	0.73	0.50	0.83	0.50

Source: Federal-State Market News Service, Chicago and Philadelphia Branches

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Table 1991 Wholesale Market Prices for Statice: Chicago
 US\$ per bunch, average of Tuesday/Wednesday High and Low

Month	Week	From California			I	From Mexico	
		Sinuata	Seafoam	Latifolia		Sinuata	Seafoam
Jan	1						
	2	5.50	4.25	8.00	I	4.5	4.5
	3	5.50	4.25		I	4.38	5.50
	4	4.38	4.38		I	4.38	5.50
Feb	5	4.38	4.25		I		
	6	4.38	4.25	8.00	I	3.50	3.50
	7	4.00	4.25	8.00	I	3.50	4.00
	8	3.25	4.25		I		
Mar	9	3.25	4.25		I		
	10	3.25	3.50		I	4.25	
	11	3.25	3.88	6.50	I	3.00	3.00
	12	3.63	4.50	8.00	I		
Apr	13	3.63	4.50		I	4.85	3.85
	14	3.63	4.50		I		
	15	3.88	4.50		I	3.75	
	16		3.75		I	3.75	
	17		3.75	4.50	I	3.00	2.50
May	18		4.38		I		
	19	3.13	4.38		I	3.00	
	20	3.13	4.38		I	3.75	
	21	3.13	4.38	7.00	I	3.75	4.25
Jun	22	3.13	4.38	8.00	I		
	23	3.13	4.38	8.00	I		
	24	3.13	4.38		I		
	25	3.13	4.38	8.00	I		
Jul	26	3.38	4.38	8.00	I		
	27	3.38	4.38	8.00	I		
	28	3.25	4.38	8.00	I		
	29	3.25	4.38	8.00	I		
	30	3.25	4.38	8.00	I		
Aug	31	3.25	4.38	8.00	I		
	32	3.25	4.13		I	3.88	3.50
	33	3.25	4.13		I		
	34	3.75	4.13		I		
Sep	35	3.75	4.25		I		
	36	3.75	4.25		I		
	37	3.75	4.25		I		3.00
	38	3.75	4.25		I		
	39	3.25	4.25		I	3.50	
Oct	40	3.25	4.25		I	3.50	
	41	3.25	4.25		I		
	42	3.25	3.88		I		
	43	3.25	3.88	8.00	I		
Nov	44	3.63	4.38	8.00	I		
	45	3.63	4.38	8.00	I		
	46	3.50	4.38	8.00	I		
	47	3.50	4.38	8.00	I		
Dec	48	3.50	4.38	8.00	I		
	49	3.50	4.38	8.00	I	3.50	
	50	3.63	4.38	8.00	I	3.50	
	51	3.63	4.38		I	3.50	
	52	3.63	4.13		I		3.50

Source: Federal-State Market News Service, Chicago Branch

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Table 1991 Wholesale Market Prices for Roses: Chicago and Philadelphia
 US\$ per bloom, average of Tuesday/Wednesday High and Low

10" and Longer Month	Week	Philadelphia			Chicago	
		Sweethearts Penn.	Calif.	Colombia	Sweethearts Calif	Colombia
Jan	1	0.60	0.50		n/a	n/a
	2	0.60	0.50			
	3	0.60	0.50		0.55	
	4	0.60	0.50		0.64	0.55
	5	0.60	0.50		0.64	0.58
Feb	6	0.60	0.60		0.64	
	7	0.98	1.00		0.64	
	8	0.50	0.50		1.38	
	9	0.60	0.45		0.60	
Mar	10	0.60	0.45		0.55	
	11	0.60	0.45		0.53	0.55
	12	0.60	0.43		0.53	
	13	0.60	0.45	0.50	0.53	
Apr	14	0.60	0.50		0.53	
	15	0.60	0.50		0.53	
	16	0.50	0.45		0.53	
	17	0.50	0.45		0.53	
	18	0.50	0.45		0.53	
May	19	0.50	0.45		0.53	0.45
	20	0.50	0.55		0.55	
	21	0.40	0.45	0.50	0.58	
	22	0.40	0.45	0.50	0.58	
Jun	23	0.50	0.45	0.50	0.58	
	24	0.60	0.45		0.58	
	25	0.60	0.45		0.53	
	26	0.50	0.45		0.53	
Jul	27	0.50	0.45		0.53	
	28	0.50	0.43		0.50	
	29	0.50	0.35		0.50	
	30	0.50	0.35		0.50	
	31	0.60	0.30		0.50	
Aug	32	0.60	0.30		0.50	
	33	0.45	0.30		0.48	
	34		0.30		0.53	
	35		0.30		0.53	
Sep	36		0.28	0.28	0.53	
	37	0.40	0.33	0.28	0.53	
	38	0.40	0.38	0.30	0.53	
	39	0.40	0.38		0.48	
Oct	40	0.40	0.38		0.48	
	41	0.40	0.38		0.48	
	42	0.40	0.38		0.48	
	43	0.40	0.38		0.48	
	44	0.40	0.35		0.48	
Nov	45	0.40	0.35		0.48	
	46	0.40	0.35		0.48	
	47	0.40	0.38		0.48	
	48	0.60	0.38	0.40	0.50	
Dec	49	0.60	0.38	0.45	0.48	
	50	0.60	0.38	0.45	0.48	
	51	0.60	0.38		0.48	
	52	0.60	0.38		0.53	
	53	0.60	0.38		0.53	0.50
			0.40		0.53	0.50

Source: Federal-State Market News Service, Chicago and Philadelphia Branches

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CLIMATE USA



State	City	Winter (Dec-Feb)				Spring (Mar-May)				Summer (June-Aug)				Fall (Sept-Nov)			
		Maximum Normal Daily Temp (F)	Minimum Normal Daily Temp (F)	Total Precipitation (In)	Total Days with Precipitation	Maximum Normal Daily Temp (F)	Minimum Normal Daily Temp (F)	Total Precipitation (In)	Total Days with Precipitation	Maximum Normal Daily Temp (F)	Minimum Normal Daily Temp (F)	Total Precipitation (In)	Total Days with Precipitation	Maximum Normal Daily Temp (F)	Minimum Normal Daily Temp (F)	Total Precipitation (In)	Total Days with Precipitation
Alabama	Birmingham	56	38	16	32	75	53	15	35	90	70	13	29	76	54	10	23
	Mobile	63	43	15	32	77	57	17	26	90	72	22	42	78	58	12	24
Alaska	Juneau	31	20	12	58	46	31	10	52	63	46	12	50	47	36	19	63
Arizona	Phoenix	67	39	2	12	84	52	1	6	103	74	2	10	87	57	2	8
	Tucson	65	39	2	12	81	50	1	7	97	71	5	21	83	56	2	11
Arkansas	Little Rock	52	31	13	28	71	49	15	30	90	68	10	23	74	49	10	21
California	Los Angeles	67	48	8	16	71	53	3	11	81	62	.07	2	70	58	2	8
	Sacramento	55	39	10	28	72	46	4	17	91	57	.2	2	76	50	3	11
	San Diego	65	47	5	19	68	54	2	14	74	63	.13	1	73	58	2	8
	San Francisco	57	47	12	31	61	49	5	19	64	53	.2	3	67	54	4	13
Colorado	Denver	45	18	2	17	60	34	6	29	84	56	5	27	66	37	3	16
Connecticut	Hartford	35	18	10	33	58	36	11	33	82	59	11	31	63	41	11	29
Delaware	Wilmington	42	25	9	30	62	42	10	34	84	64	11	28	67	47	9	25
District of Columbia	Washington	45	29	8	28	66	45	10	32	86	67	12	28	69	50	9	23
Florida	Jacksonville	66	45	9	24	79	57	10	24	89	71	21	41	79	61	14	27
	Miami	76	59	6	19	82	67	12	23	89	75	23	48	84	70	20	40
	Tampa	71	51	7	19	82	61	8	19	90	73	23	45	83	65	11	25
Georgia	Atlanta	53	34	13	32	70	50	14	30	88	68	12	31	72	52	9	21
Hawaii	Honolulu	81	66	10	30	83	69	8	28	87	73	2	21	86	71	6	25
Idaho	Boise	40	24	4	34	61	37	3	25	85	55	1	11	64	39	2	20
Illinois	Chicago	33	17	5	32	58	37	9	37	81	59	10	29	63	41	7	29
	Peoria	34	18	5	27	60	40	11	35	84	63	11	27	64	43	8	24
Indiana	Indianapolis	38	22	8	34	61	41	11	37	84	63	11	28	65	44	8	26
	South Bend	33	19	7	43	57	37	10	38	81	60	11	29	62	42	9	31
Iowa	Des Moines	31	15	3	23	58	38	9	31	83	63	11	28	62	42	7	22
Kansas	Wichita	44	24	3	16	67	44	8	26	90	68	12	24	70	47	7	19
Kentucky	Lexington	43	26	11	36	65	44	13	37	85	64	12	31	67	46	8	27
	Louisville	44	26	10	34	65	44	13	36	86	65	11	29	68	46	9	25
Louisiana	New Orleans	64	45	14	29	78	58	14	24	90	72	17	38	79	60	12	22
	Shreveport	59	39	12	27	76	55	14	27	92	72	9	22	78	58	9	21
Maine	Portland	33	13	11	33	52	32	10	35	77	54	8	28	59	38	11	29
Maryland	Baltimore	43	26	9	28	64	42	10	33	85	64	12	26	68	47	9	23
Massachusetts	Boston	37	24	11	35	56	41	11	34	79	62	9	30	62	48	11	29
Michigan	Detroit	34	21	6	38	58	36	8	37	81	61	9	29	62	45	7	29
	Grand Rapids	32	18	6	44	56	35	9	37	81	58	9	29	61	41	9	34
	Sault Ste. Marie	24	8	6	53	47	28	7	35	73	50	10	33	52	38	10	43
Minnesota	Duluth	21	2	3	34	47	27	8	34	73	52	12	35	51	34	7	31
	Minneapolis-St. Paul	24	7	2	25	53	33	7	31	80	59	11	32	57	37	6	25
Mississippi	Jackson	60	37	14	30	77	52	15	29	92	69	11	29	79	52	9	23
Missouri	Kansas City	43	26	4	21	64	45	10	30	89	69	11	26	70	48	8	21
	St. Louis	42	25	6	26	65	45	11	33	87	67	11	26	68	48	8	25
Montana	Billings	35	16	2	22	54	33	5	29	81	55	4	24	59	37	3	19
	Great Falls	33	14	3	24	54	31	5	30	80	51	5	26	58	35	3	20
Nebraska	Lincoln	36	15	3	17	61	39	8	29	86	64	12	25	65	42	6	20
	Omaha	36	16	2	20	62	39	9	30	86	64	13	28	66	42	6	19
Nevada	Las Vegas	58	34	1	8	78	50	1	6	101	72	1	7	80	53	9	8
	Reno	47	21	3	18	64	31	2	15	87	45	1	8	69	31	1	10

BEST AVAILABLE COPY

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ANNEX NINE

Moroccan Research on Cut Flowers

The following articles are available at the library of the Horticultural Complex of the IAV in Agadir or are in the process of being completed.

I. POST HARVEST HANDLING

- Hydration of roses in post harvest
- Acidification, treating roses with bleach
- Effects of sugar and preservatives on roses
- Effects of temperature, light, and leaf surface area on rose recovery after stress.
- Search for a local rose preservative solution.
- Effects of different levels of stress on the rose's ability to recover after stress.
- Stem water flow and bacterial contribution to flow resistance.
- Study of fresh weight changes, Transpiration and stomatal conductivity variation in several important commercial rose cultivars.
- Studies on the effects of several minerals to counterbalance the effect of ethylene.
- Level of rose's sensitivity to Ethylene.

II. PRODUCTION

- Techno-economic study of the rose
- Techno-economic study of the carnation
- Techno-economic study of the galdiola
- Several reports on the production and packing of flowers by flower growing companies.
- Cryptogamique illnesses of the rose in the Souss-Massa plain.
- Study of the virusses attacking roses in Morocco (technique using electronic microscope and electrophorese).
- Botrytis in the rose
- Comparison of rose production between heated and non-heated greenhouses.
- In vitro micropropagation of carnations
- Evaluation of greenhouse carnation productivity.

ANNEX TEN

ANALYSIS OF THE EUROPEAN COMMUNITY MARKETS FOR ROSES AND CARNATIONS, BASED ON EUROSTAT DATA

EEC MARKET INFORMATION ON ROSES

NOV 1991 - OCT 1992

Overview

The EEC imported a total of 61,415 tons of roses in the November 1991 - October 1992 period. Of this total, 50,487 tons originated from intra-EEC suppliers and 10,926 from extra-EEC suppliers. All rose imports amounted to 269 million ECU, with 59 million ECU going to extra-EEC rose imports.

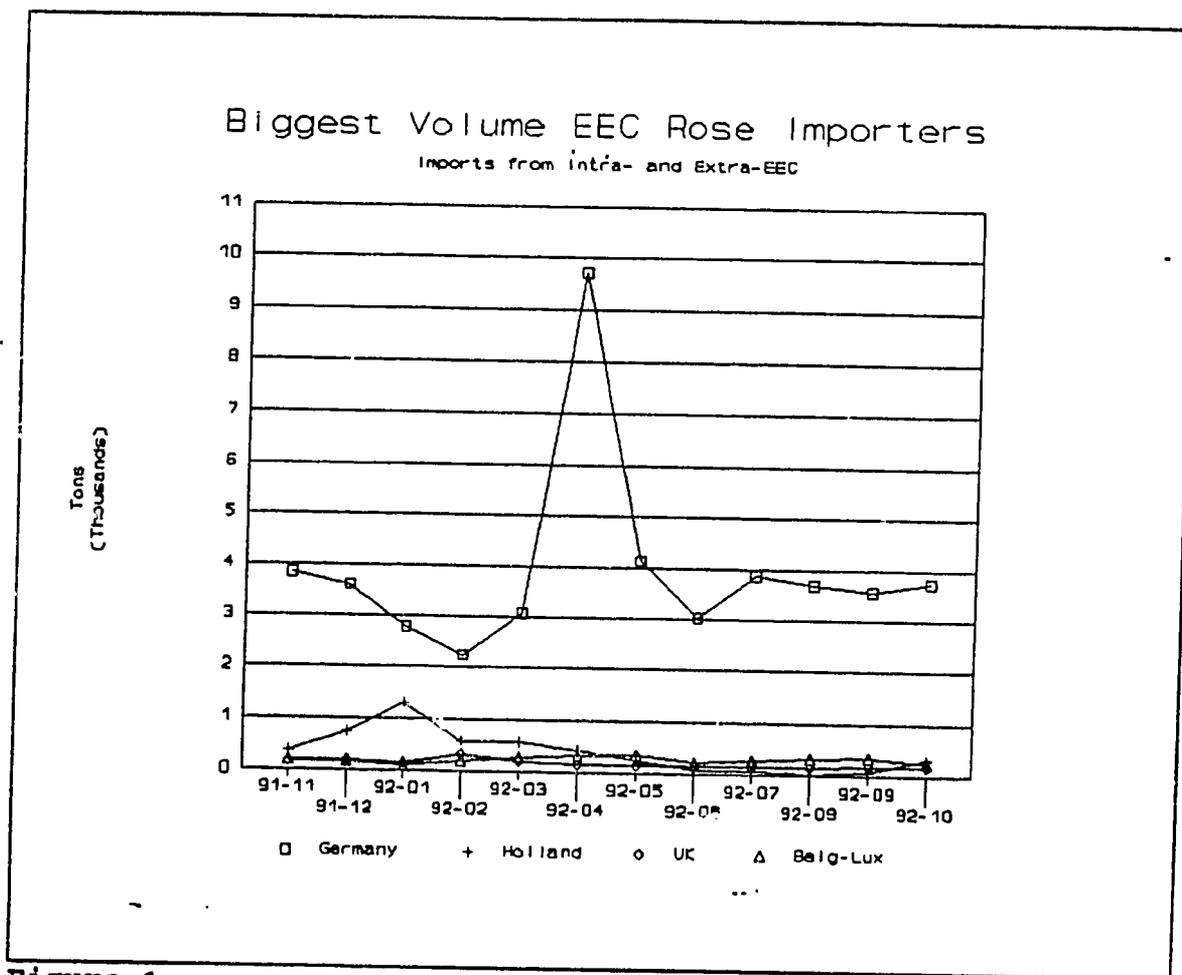


Figure 1

The major EEC importers of roses were the Germany, Holland the United Kingdom, and Belgium-Luxembourg (Figure 1). Germany was by far the largest importer in both the peak and off-peak seasons, dominating the entire EEC rose import market. Holland imported significant quantities of roses only in December, January, and February, before its own rose production took off.

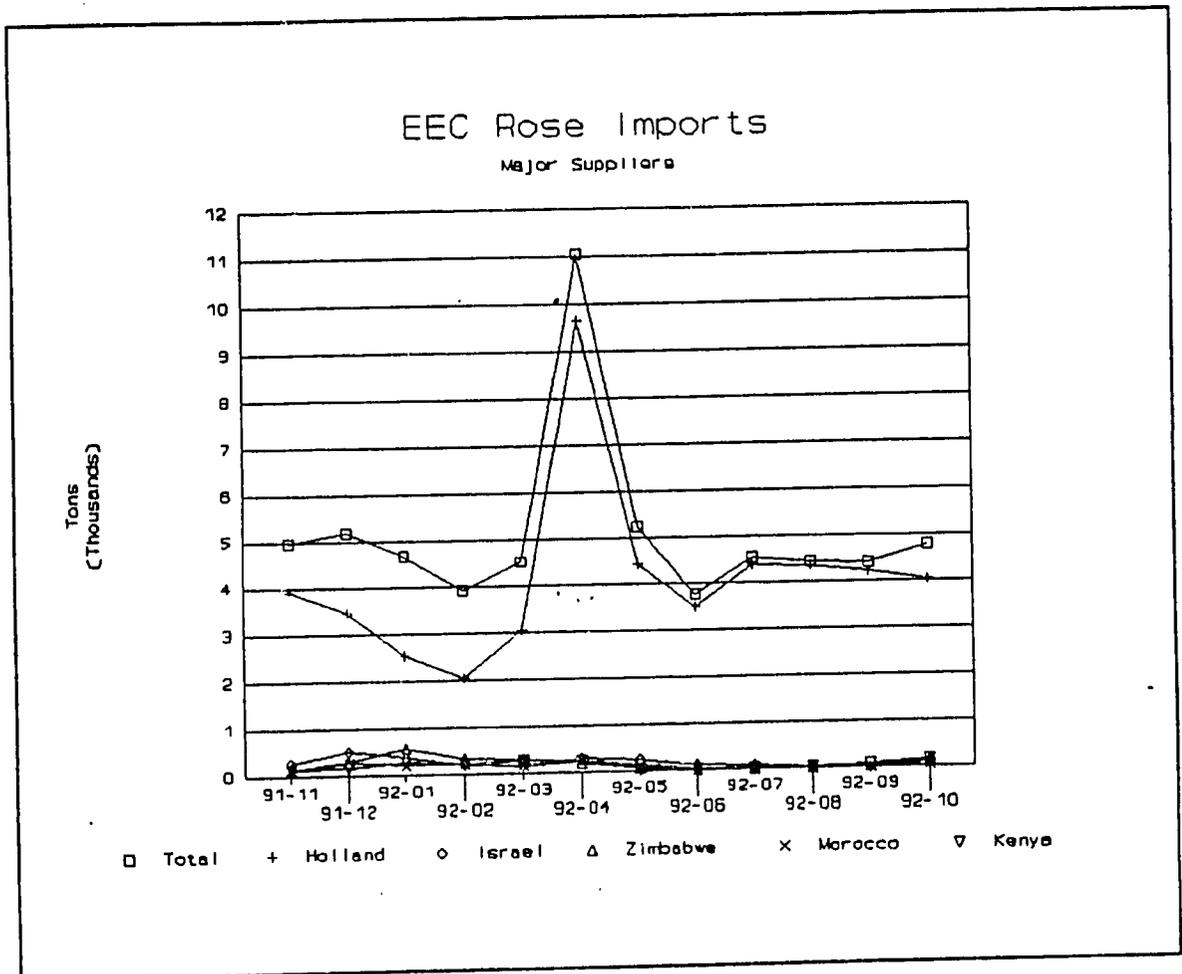


Figure 2

The major supplier to the EEC rose market was Holland, whose exports peak in April. In the post peaked period of May to September, Holland continued to supply most of the EEC's total rose imports. From October to March, however, various smaller suppliers, including Israel, Zimbabwe, Morocco, and Kenya contributed significant supplies (Figure 2). Other than the surge in imports in April, EEC rose imports were relatively stable, fluctuating between 4000 and 5000 tons per month.

Prices paid by the EEC as a whole for rose imports peaked in February, coinciding with Valentines Day in Europe (Figure 3). Israel received the highest prices for its roses in the peak price period (January, February, and March), followed by Morocco and then Kenya. The average world price bottomed out in April, coinciding with the surge in Holland's rose production. Outside of January through April, prices to all suppliers fluctuated in a band between 4,000 and 8,000 ECU per ton.

Supply

Supplies of intra-EEC roses originated predominantly from Holland (compare Figure 2 and Figure 4). Imports of extra-EEC roses peaked between December and February when Holland's supply to the EEC was at its lowest. Prices of both intra- and extra-EEC roses were at high levels in this period (Figure 5).

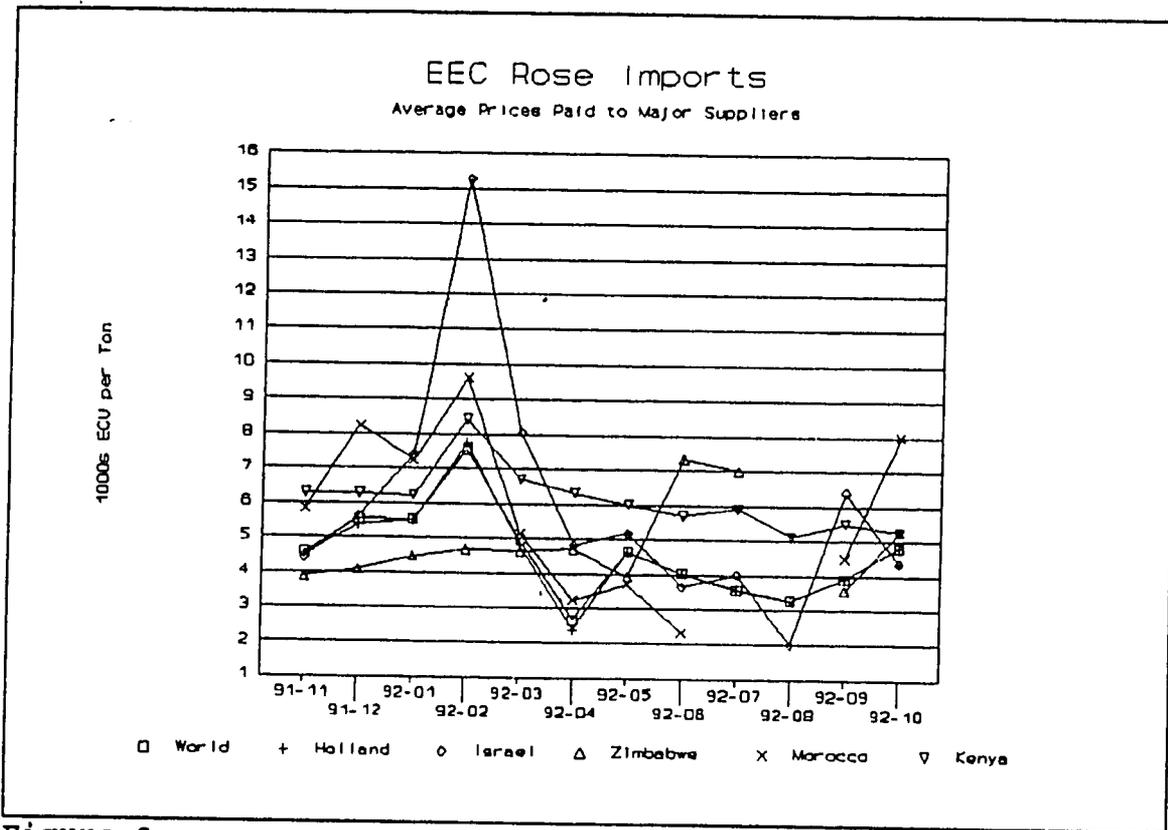


Figure 3

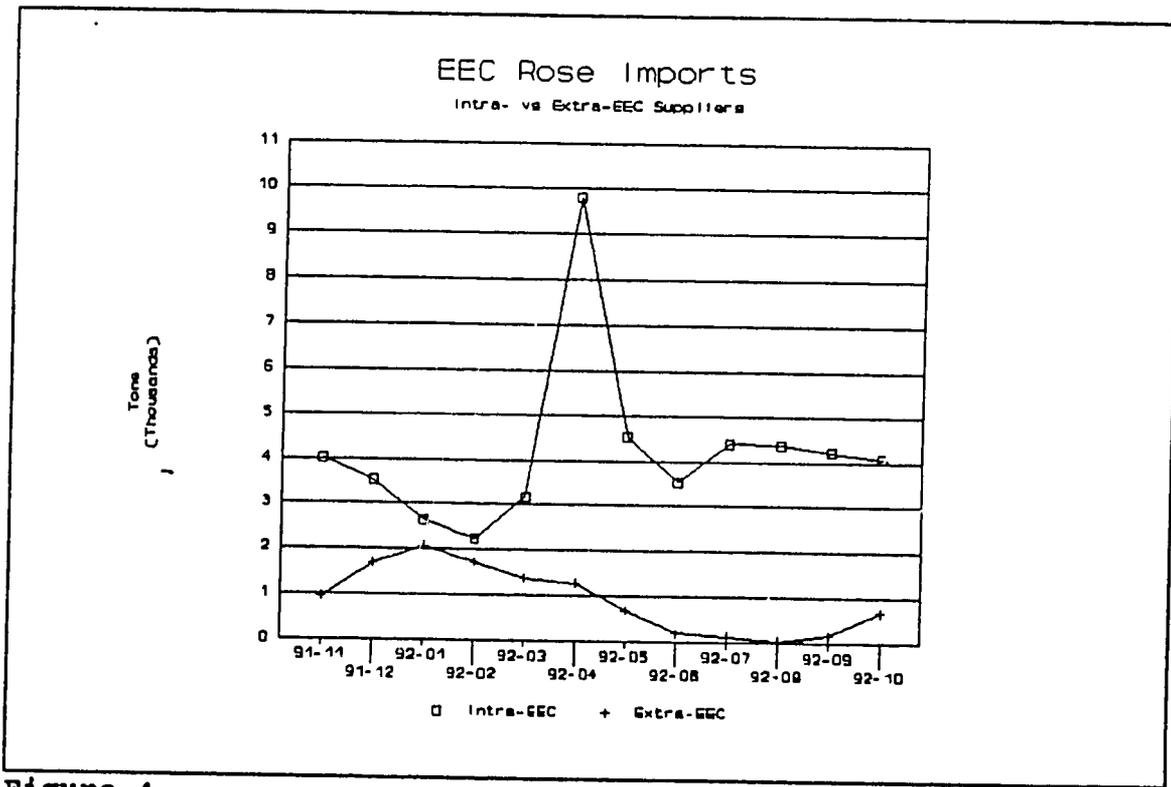


Figure 4

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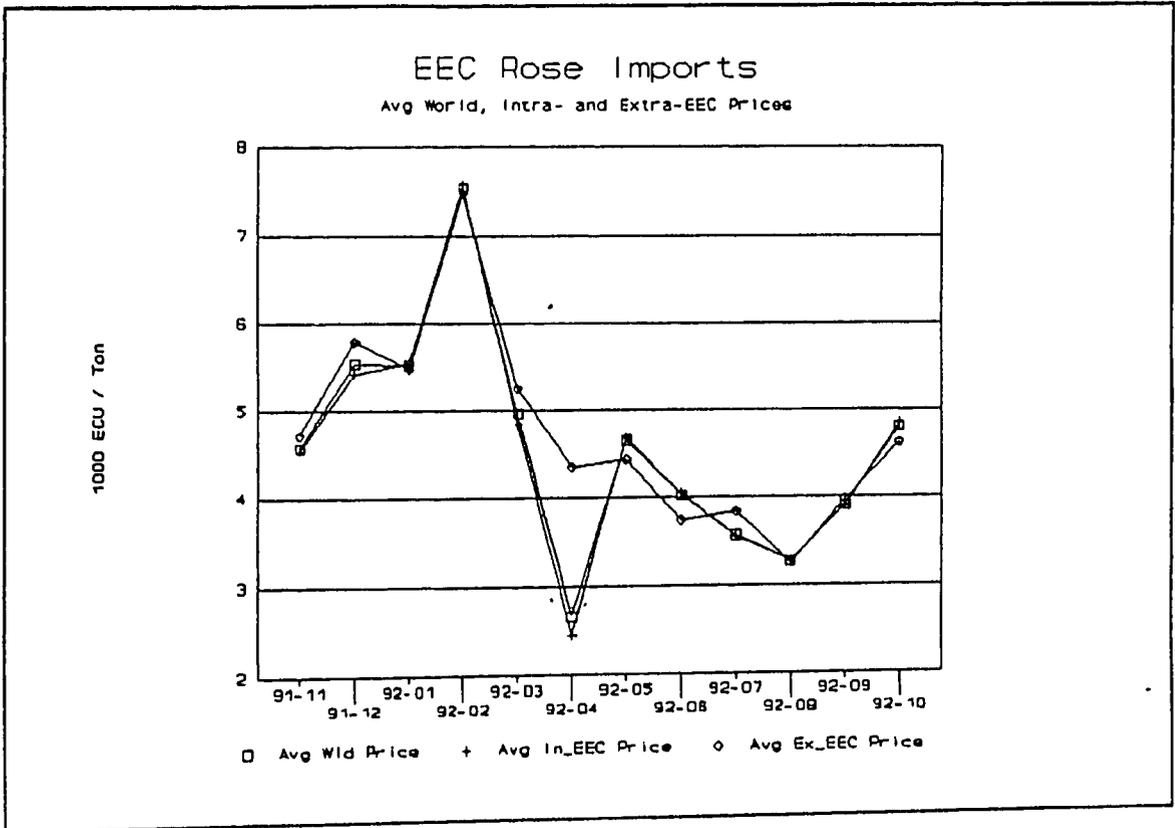


Figure 5

Differences in prices for intra- and extra-EEC roses were very slight (Figure 5). The largest difference -- over 1000 ECU per ton -- occurred in May when the price of extra-EEC rose imports surpassed that of intra-EEC imports as Holland's production surged.

The major extra-EEC suppliers of roses to the EEC market were Israel, Zimbabwe, Morocco, Kenya, and Colombia (Figure 6). Monthly exports from Israel peaked in December at 450 tons and those of Zimbabwe peaked the following month at 480 tons. Israel had a second, smaller peak in rose exports in April (300 tons). Exports of all extra-EEC suppliers fell steadily from April to less than 100 tons for all supplier together. Morocco's exports to the EEC fluctuated around 200 tons per month from November through April and then fell to insignificant levels for the rest of the year.

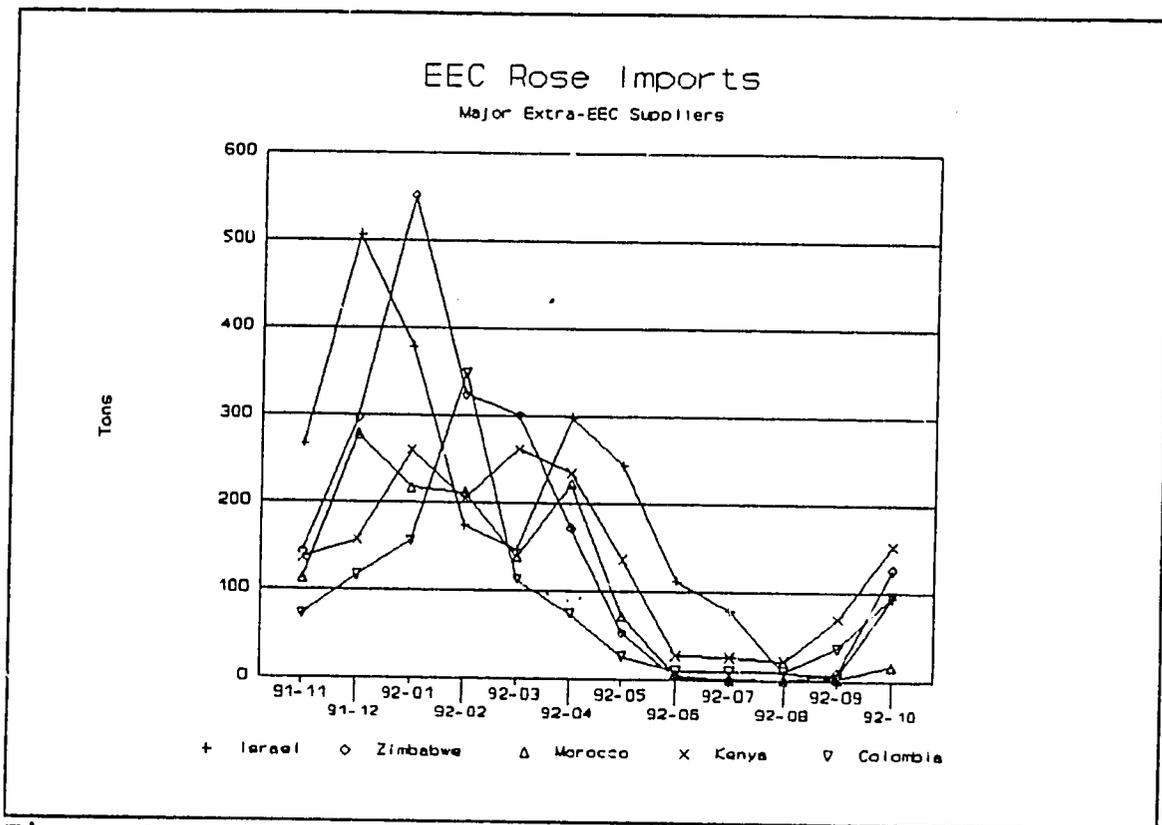


Figure 6

Average prices paid to major extra-EEC suppliers peaked in February. Israel received the highest price for its roses in that month and in the three preceding months. It also experienced the widest fluctuations in prices for its roses. The high in February was over 15,000 ECU per ton and the low in August, when its exports were also at a low, was 2,000 ECU per ton. Colombia received relatively high and relatively stable prices for its roses, while Kenya and Zimbabwe received relatively low and stable prices for theirs. Morocco received fluctuating prices for its rose exports with the two peaks occurring in February and October.

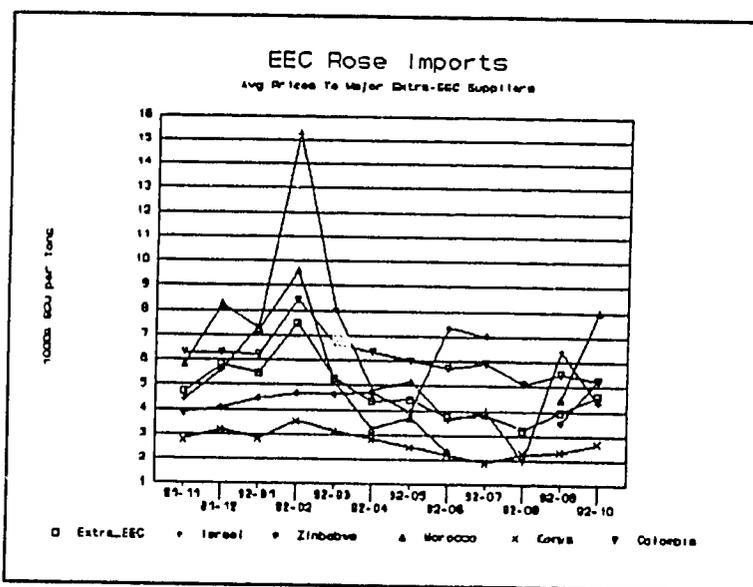


Figure 7

Major Importers

As seen above (Figure 1), the largest EEC importers of roses were Germany, Holland, the UK, and Belgium-Luxembourg. Germany accounted for over 77% of the EEC total rose imports. The next largest importer, Holland, imported only one-tenth of Germany's total. Both the UK and Belgium-Luxembourg imported minor quantities compared with Germany.

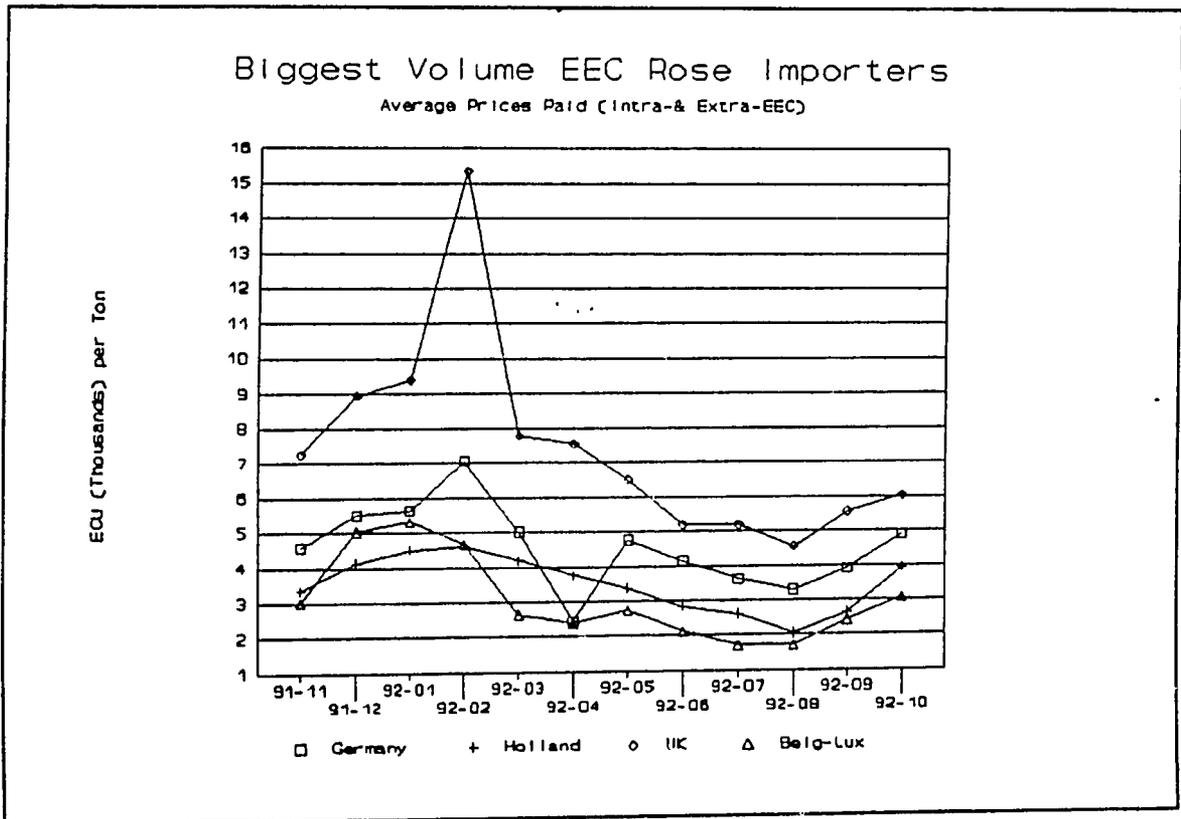


Figure 8

Compared with Holland or Belgium-Luxembourg, Germany paid slightly higher prices for its rose imports. The UK paid by far the highest prices for its imports, paying a peak price of over 15,000 ECU per ton in February. The UK paid its lowest prices for imports during June through October, but they were still higher than prices paid by the other importers. Germany paid its highest price for rose imports in February and its lowest in April.

Focusing on major importers of extra-EEC roses, both Holland and Germany imported significant quantities of extra-EEC roses from November through June, but Holland surpassed Germany in this category of imports. The UK, France, and Spain imported much smaller quantities from extra-EEC suppliers during the same time period.

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Largest EEC Importers of Extra-EEC Roses

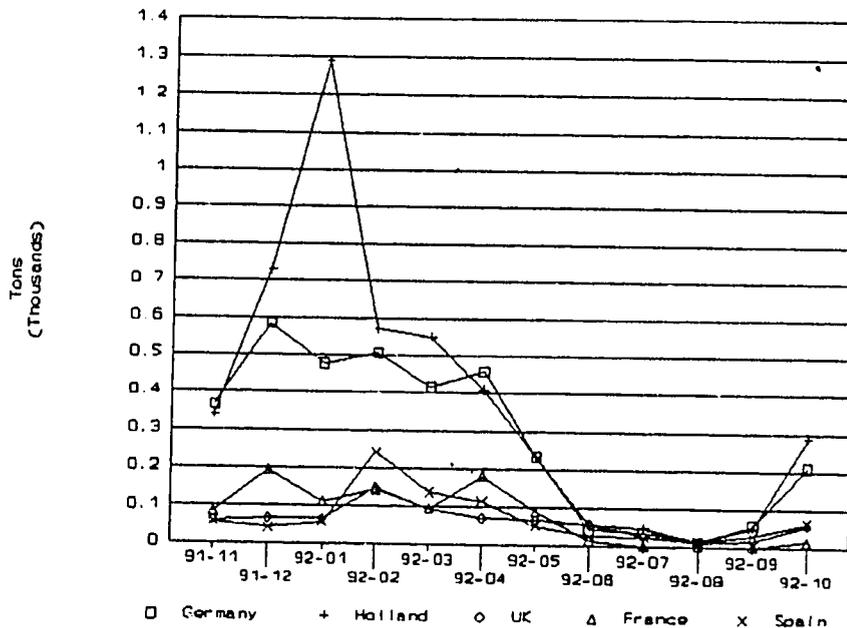


Figure 9

Of the major importers of extra-EEC roses, Holland paid prices well below those paid by the other countries. Prices paid followed a smooth progression, peaking in February and bottoming out in August. Belgium-Luxembourg paid the highest prices, in general well above those of other major importers. The prices it paid fluctuated much more significantly than those paid by Holland, but followed the same general progression.

Avg Prices Paid by Largest Importers of Extra-EEC Roses

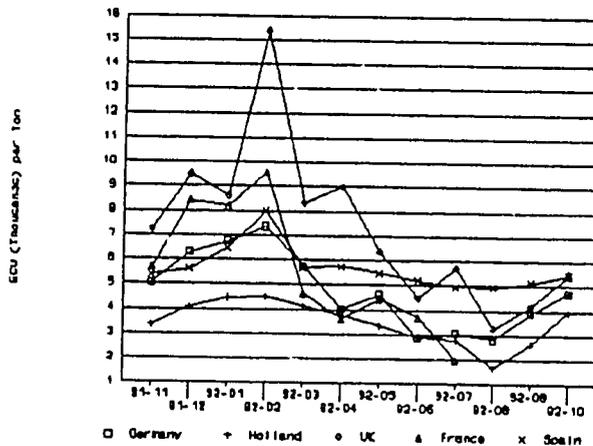


Figure 10

MARKETS

Germany

In terms of both value and volume of overall rose imports, Germany was by far the largest importer in the EEC. Its peak period for imports, April (Figure 11), came later than for the other two major importers, Holland and the UK, which both had their peaks in January and February, respectively (Figures 13 and 15). Germany's main supplier year round was Holland, but it imported minor quantities from Israel, Italy, the Canary Islands, Morocco, Kenya, Jamaica, Colombia, and Ecuador from November through March.

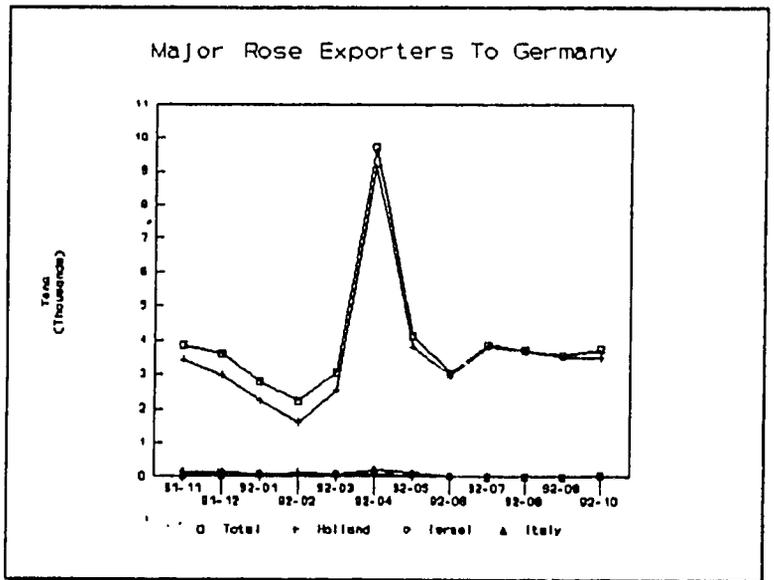


Figure 11

As seen above, Germany paid slightly higher prices for its rose imports than Holland or Belgium-Luxembourg. The prices Germany paid to its major rose suppliers varied widely. Italy received its highest prices from April to October, while the Canary Islands earned its highest prices (and the highest prices received by any supplier) during December through March. Israel received lower prices for its exports than did the Canary Islands, but the price movements followed the same general pattern. Holland, Germany's major supplier received relatively stable and low prices from November and January and from May through October and had a peak in February and a trough in April when the majority of its exports hit the market.

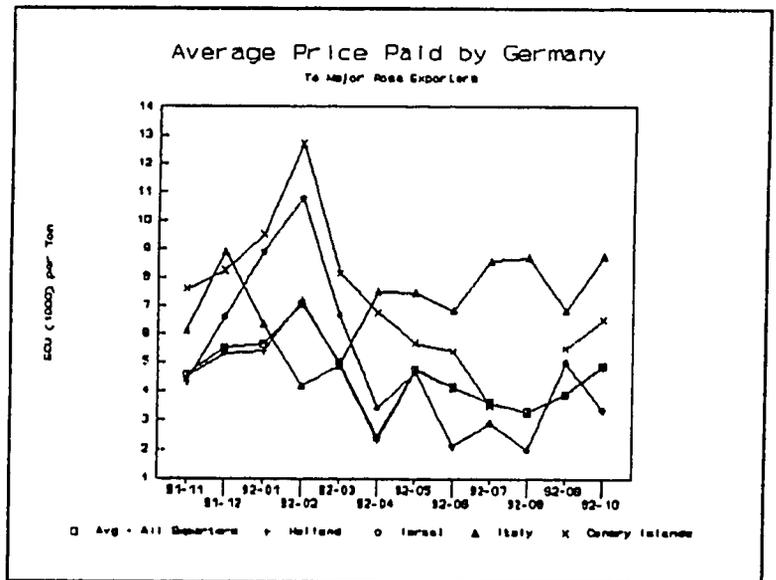


Figure 12

Holland

Holland had its peak imports in January, well before Germany. Its main supplier was Zimbabwe. Its secondary suppliers were Israel, Kenya, and Zambia. Imports were

Major Rose Exporters To Holland

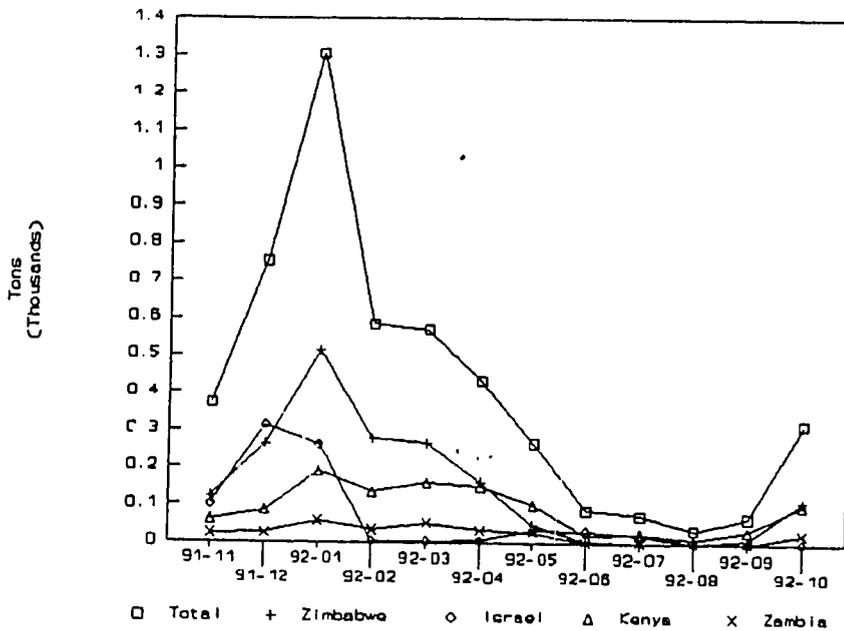


Figure 13

concentrated during November through May, before Holland's own production hit the EEC market. Israel's exports to Holland peaked in December and Zimbabwe's peaked in January.

As seen above (Figure 10) Holland paid very low prices to its rose suppliers. Its prices never rose above 5,000 ECU per ton, except for prices paid to Israel in January through April (Figure 14), but this was for very insignificant quantities.

United Kingdom

The UK had two major sources of supply for its rose imports, Holland and Israel. Its total rose imports were relatively stable throughout the year except in February when they peaked for Valentines Day.

Average Price Paid by Holland To Major Rose Exporters

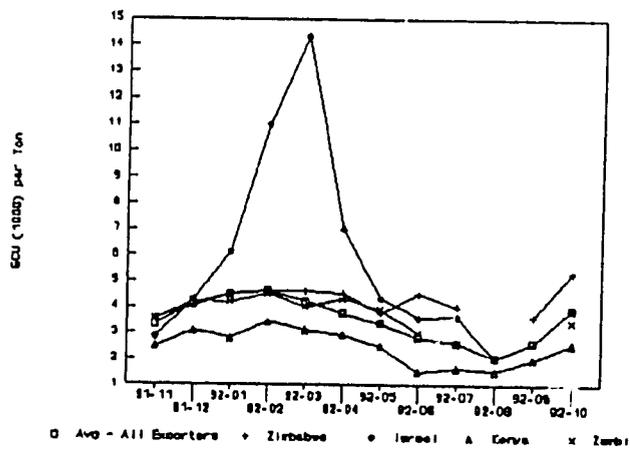


Figure 14

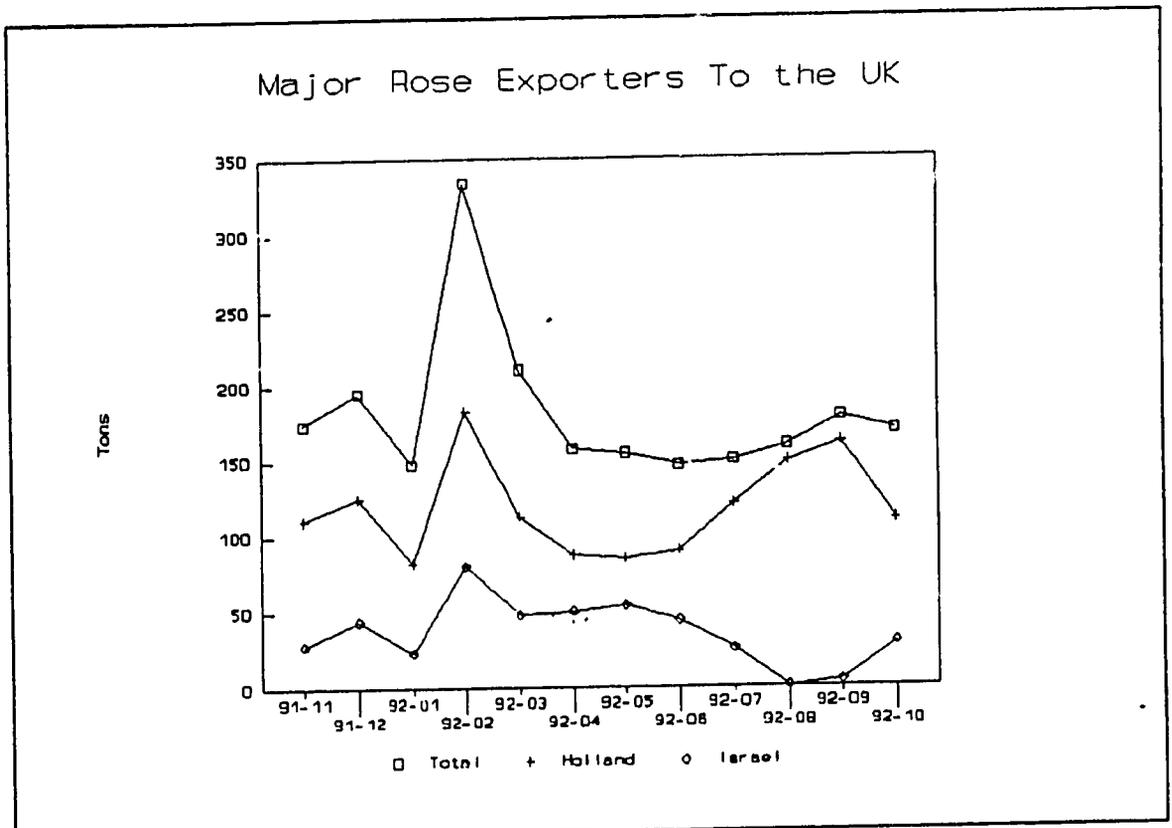


Figure 15

The UK paid much higher prices to its rose suppliers than the other major importers. For its rose imports from Holland, its major supplier, the UK paid much higher prices than Germany, whose major supplier was also Holland. Israel captured very high prices for its rose exports to the UK, receiving the highest prices from December through April.

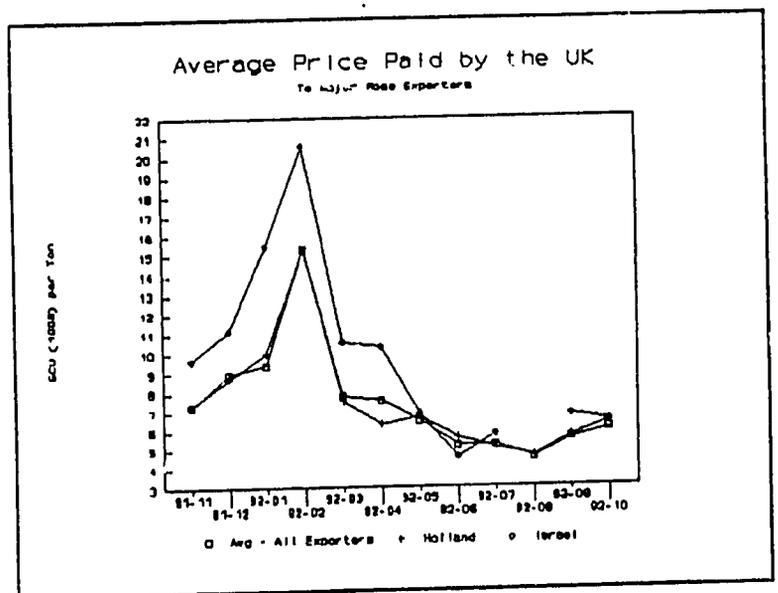


Figure 16

US Market Share

The United States had no appreciable share of the EEC rose market at any period during the year. Its total rose exports to the EEC were 10 tons, therefore assistance to Moroccan rose exporters towards Europe will not cause any significant harm to U.S. growers

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Opportunities in the Rose Markets of the EEC

Morocco was only a minor player in the EEC rose market during November 1991 to October 1992. Its largest export outlet was France which imported 799 tons of its total 1280 tons of rose exports. Morocco was the second largest rose exporter to Italy and had appreciable exports to Germany and Holland. Its exports of roses to the EEC market occurred from November to May.

Clearly, there is room for increased exports of Moroccan roses to the EC, particularly during the earlier months of the season (November, December), as long as the Moroccans can develop the delivery systems.

EEC MARKET INFORMATION ON CARNATIONS

NOV 1991 - OCT 1992

Overview

The EEC imported a total of 75,263 tons of carnations in the November 1991 - October 1992 period. Of this total, 41,770 tons originated from intra-EEC suppliers and 33,488 from extra-EEC suppliers. All carnation imports amounted to 285 million ECU.

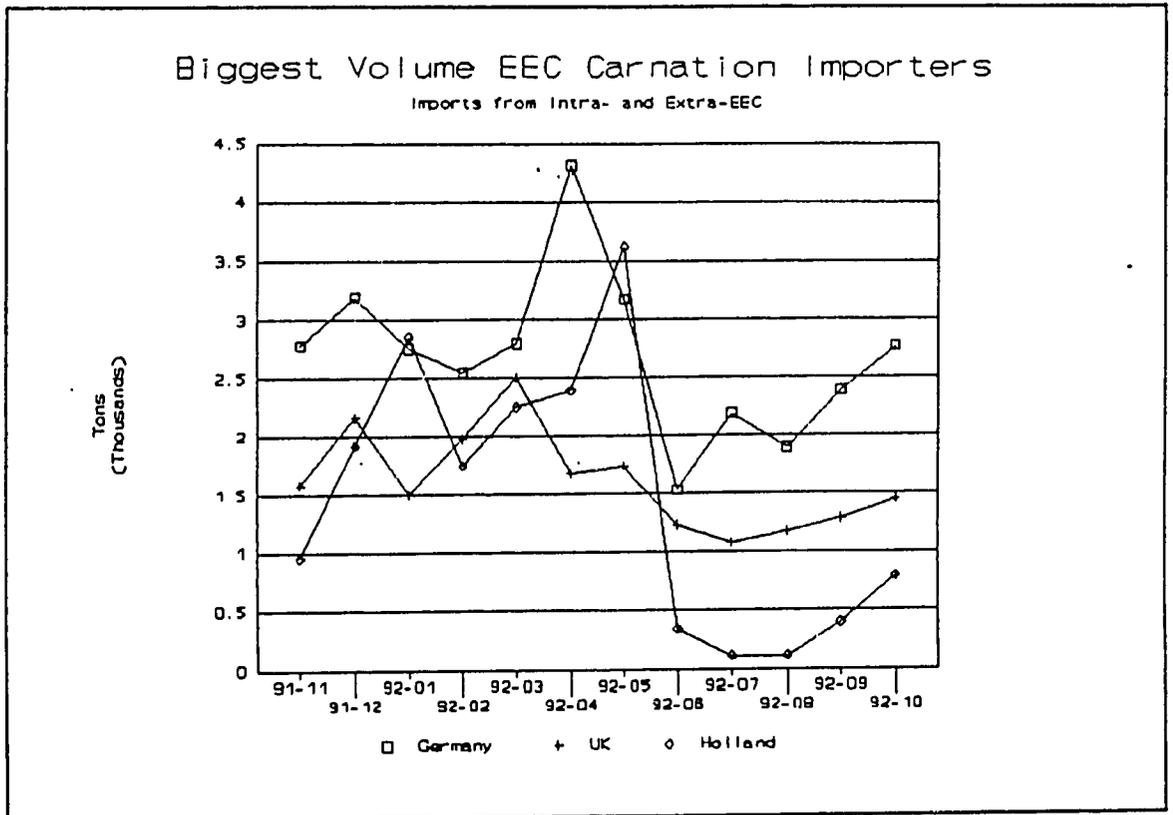


Figure 17

The major EEC importers of carnations were Germany, the United Kingdom, and Holland (Figure 17). The import season was divided into two distinct periods: a period of high imports from November to May and a period of lower imports which began in June. Holland's imports fell from very high levels in the first period to almost no imports in the second period. Germany, the largest importer during both periods, had its peak imports in April.

Major suppliers included Spain, Holland, and Colombia (Figure 18). Holland's supply of carnations remained relatively stable during the year, fluctuating just around 2,000 tons per month with a peak of 3,000 tons in April. Spain's supply was much more concentrated

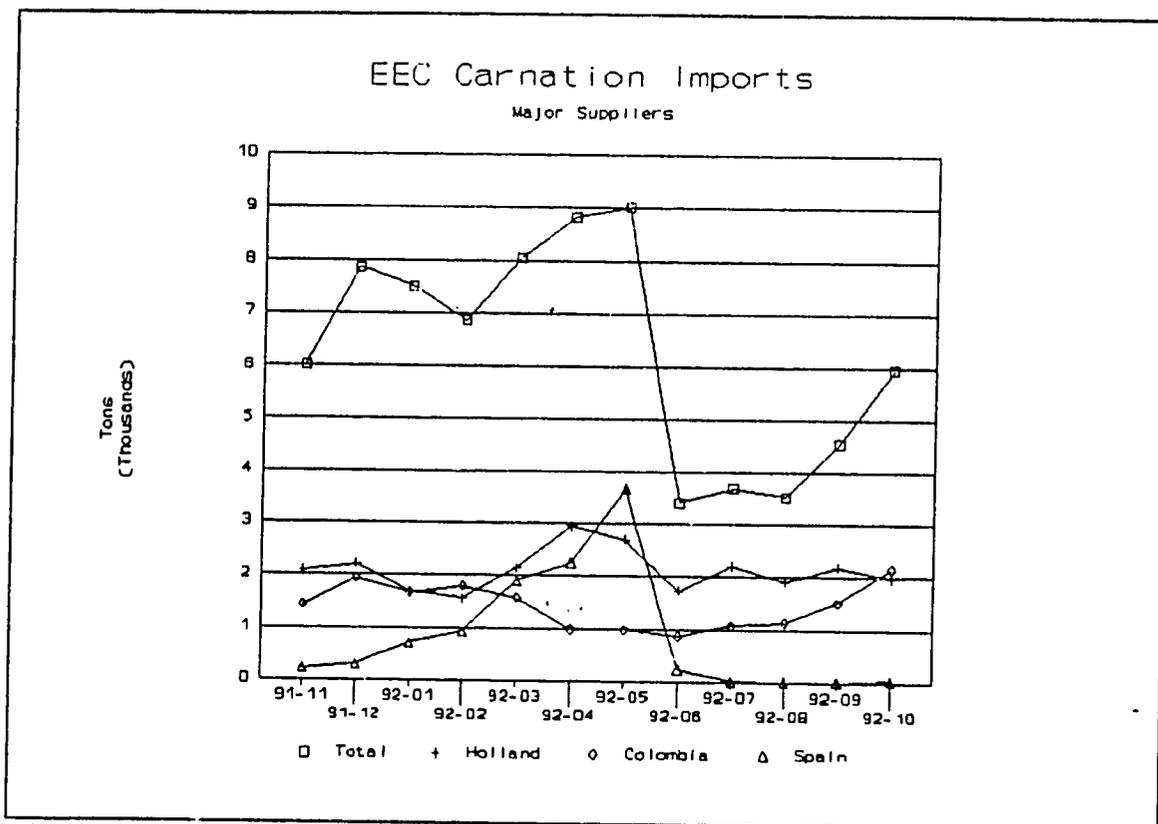


Figure 18

during January through May, after which its supply fell to zero. Colombia provided relatively stable supplies to the EEC Market during the year.

Spain received by far the lowest prices for its carnations on the EEC market (Figure 19). Its prices peaked in December at 3,300 ECU per ton, still well below the prices received by other suppliers at that time. In the first period, Holland and Colombia received relatively stable and high prices for their carnations. Prices fluctuated in a band between 4,000 and 4,500 ECU per ton. In the second period, prices fell to a low of 3,700 in September.

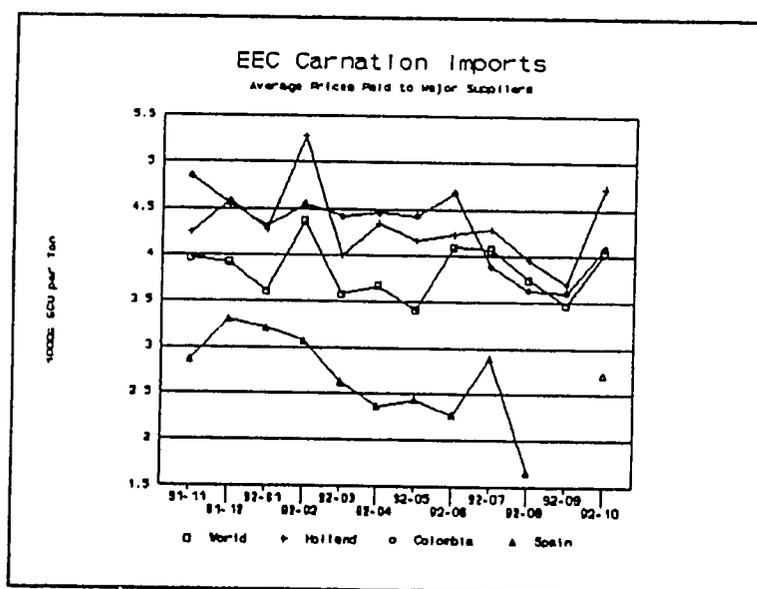


Figure 19

Supply

Supplies of carnations to the EEC originated predominantly from Intra-EEC suppliers (Figure 20). Only in the period from October to February did extra-EEC carnation supplies

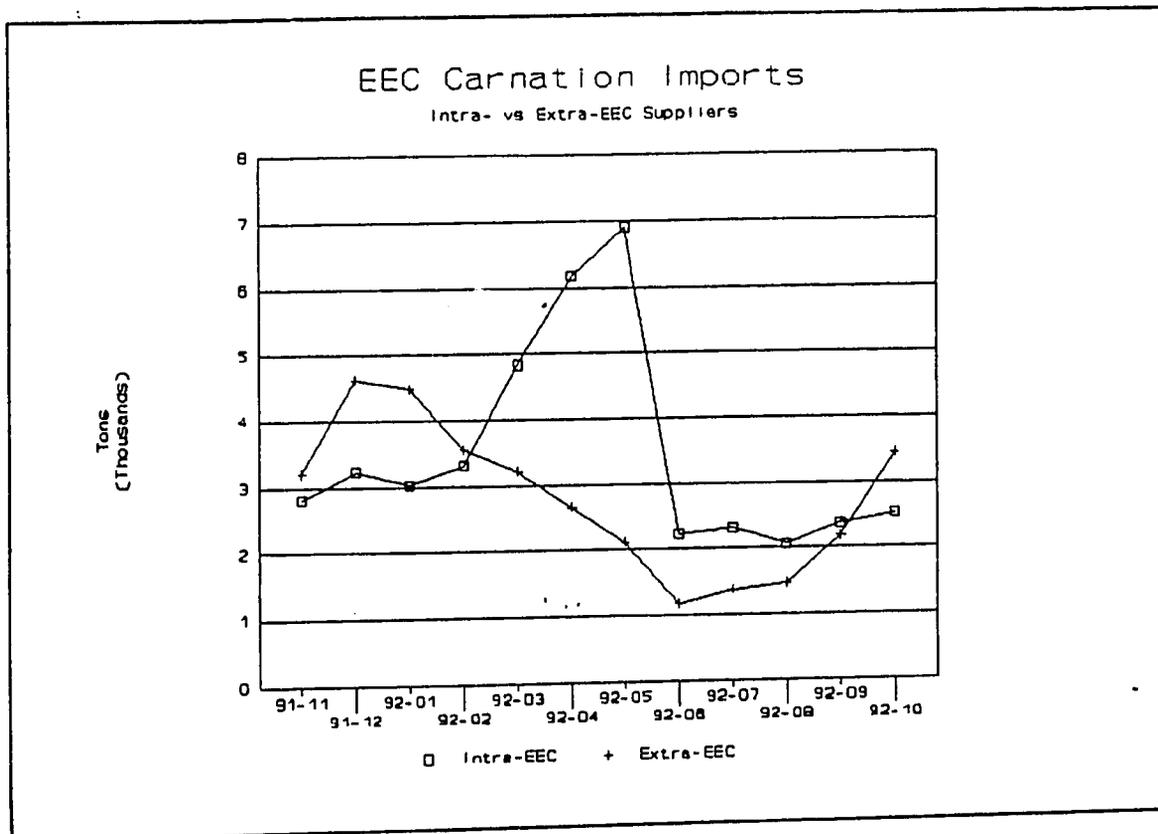


Figure 20

exceed intra-EEC supplies.

Intra-EEC imports peaked in May at the same point that extra-EEC carnation imports were falling to their lowest levels. Both intra- and extra-EEC supplies hit a trough in June. Extra-EEC supply peaked in December.

During all months, except May and June, the average price received by extra-EEC suppliers was significantly lower than that received by intra-EEC suppliers (Figure 21). Prices to intra-EEC suppliers peaked in February while those for extra-EEC suppliers peaked in June.

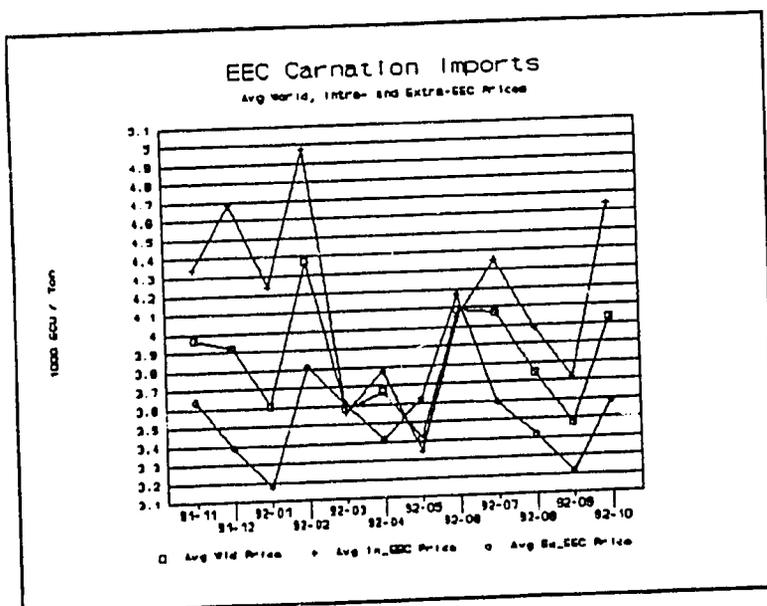


Figure 21

Looking only at the major extra-EEC suppliers of carnations to the EEC market (Figure 22), Colombia had a

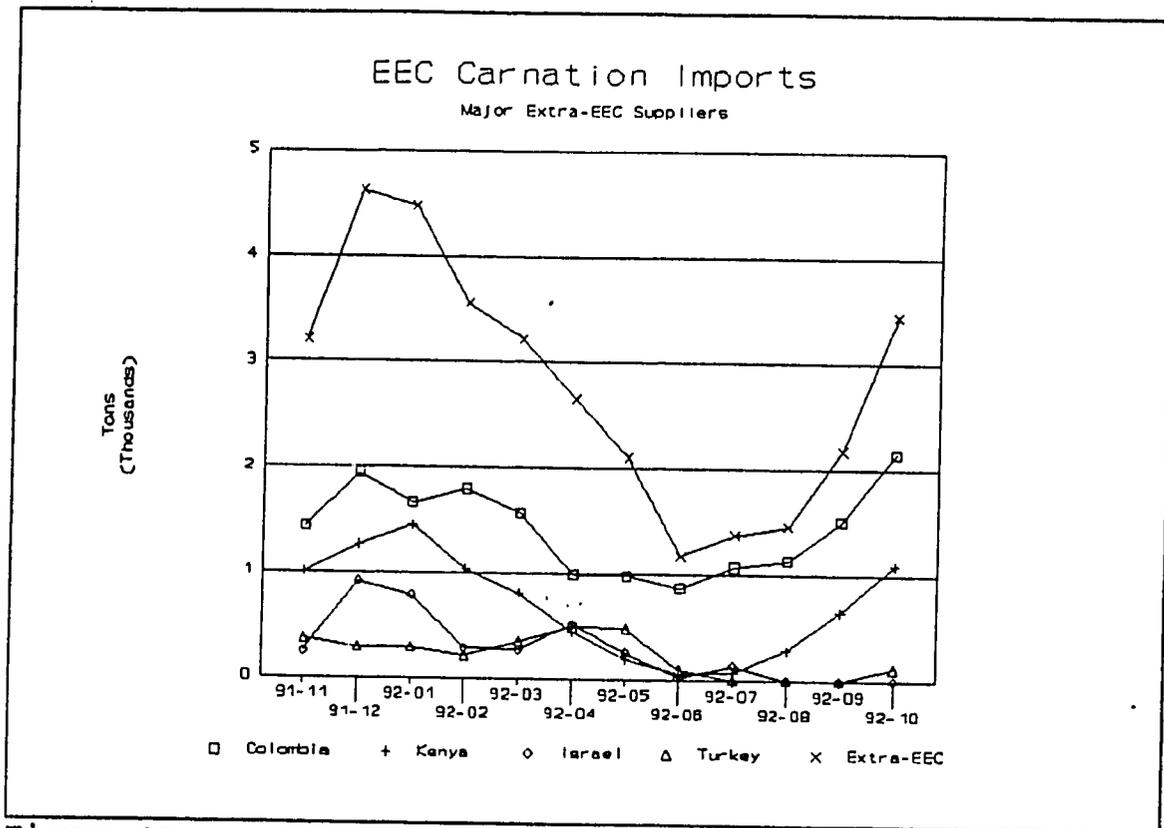


Figure 22

significant and stable share of the market throughout the year. Kenya's market share peaked in January and fell to progressively through June and then rose again. Israel and Turkey each had minor shares of the EEC market for extra-EEC supplies of carnations.

Of the important extra-EEC suppliers of carnations, Colombia received far superior average prices for its exports to the EEC market. Its prices fell significantly in July, August and September, as the prices to other suppliers, but they still remained above the extra-EEC average. Kenya received consistently low prices for its exports to the EEC market. Prices to most extra-EEC carnation suppliers peaked in February and again in June when supplies reached their lowest level.

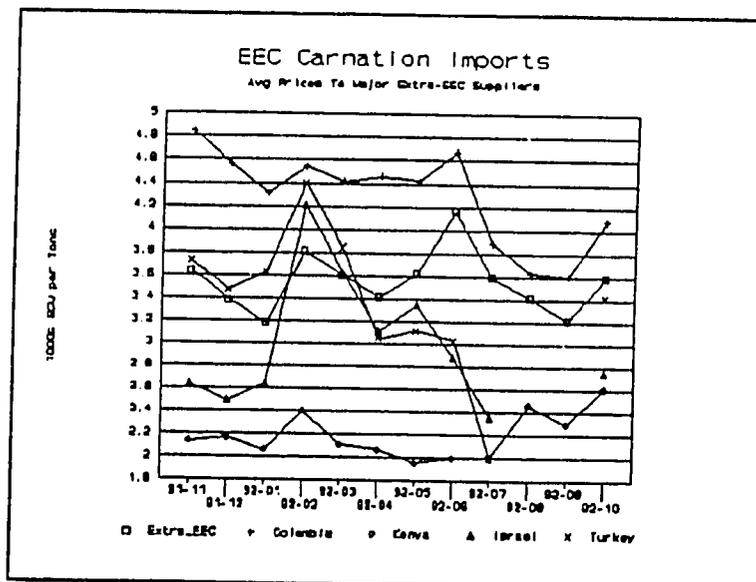


Figure 23

Major Importers

As seen above (Figure 17), the largest EEC importers of carnations are Germany, the UK, and Holland.

Germany and the UK, which had a similar pattern of imports, also paid similar prices throughout the season (Figure 24). Holland, on the other hand, paid prices that were less than half of the other two. Its prices paid for carnation imports remained in a band between 2,200 and 2,800 ECU per ton, rising above 3,000 ECU per ton only in August. Germany and the UK's prices remained in a band between 4,000 and 4,600 ECU per ton for most of the year. Both Germany and the UK paid their lowest prices for carnations in September and their highest prices in February.

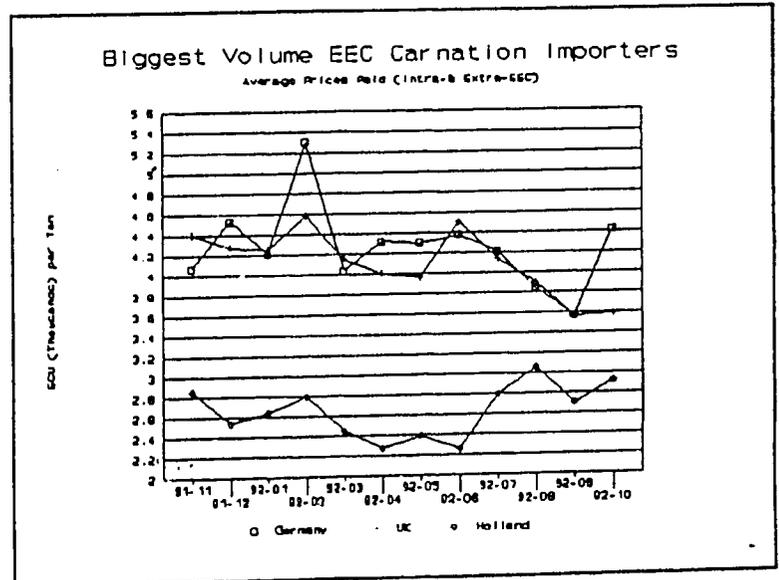


Figure 24

MARKETS

Holland

Holland imported most of its carnations prior to June. Its major supplier from February to June was Spain, whose exports to Holland rose progressively from November through May and then plummeted in June. Kenya's exports to Holland peaked just as Spain's began their surge. Israel's exports to Holland peaked just previously to Kenya's. All of Israel's exports were concentrated during just two months: December and January. Colombia's share of the market matched Israel's, except Colombia remained in the market through March.

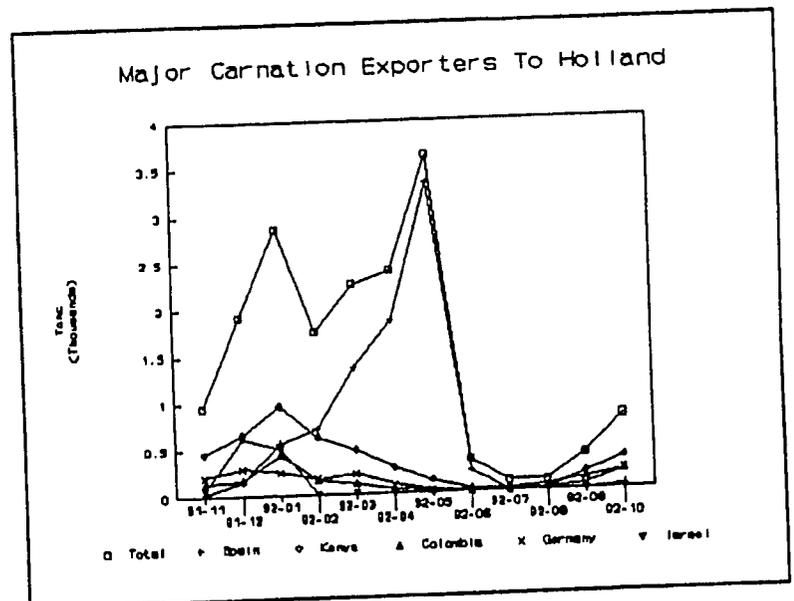


Figure 25

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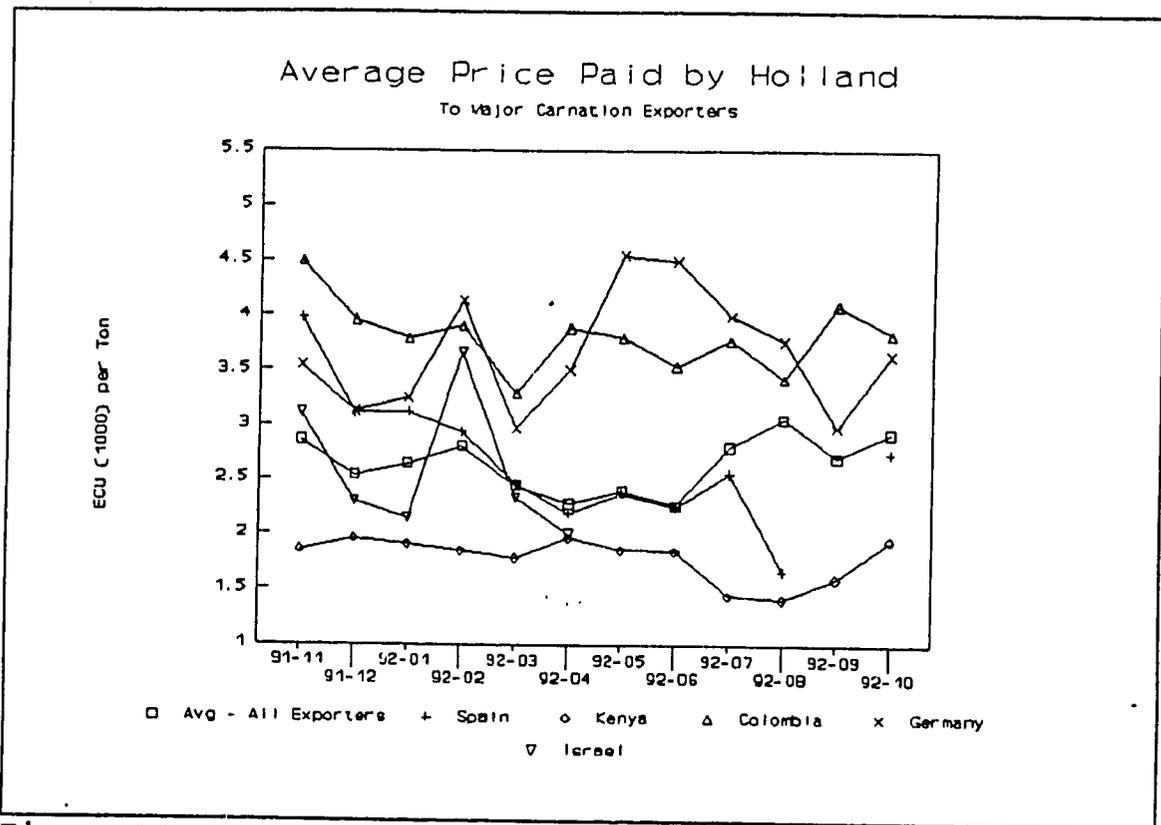


Figure 26

As seen above (Figure 24), Holland paid the lowest prices for its carnation imports. Colombia captured the highest prices that Holland paid during all but May through August when Germany received higher prices for its exports to Holland. Kenya received the lowest prices Holland paid, receiving below 2,000 ECU per ton for 11 months. Prices received by Spain fell progressively from a high of 4,000 ECU per ton in November to less than 2,000 ECU per ton in August.

Germany

Germany's major supplier was Holland. Italy, Colombia, Kenya, and Israel shared the remainder of the market (Figure 27). Imports from most suppliers peaked in April. Imports from Holland hit a low in February when Germany paid one of its highest prices.

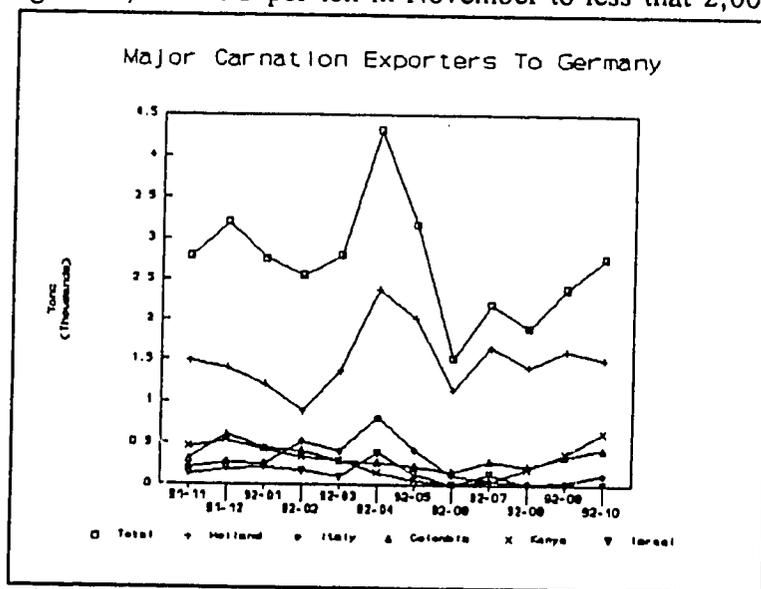


Figure 27

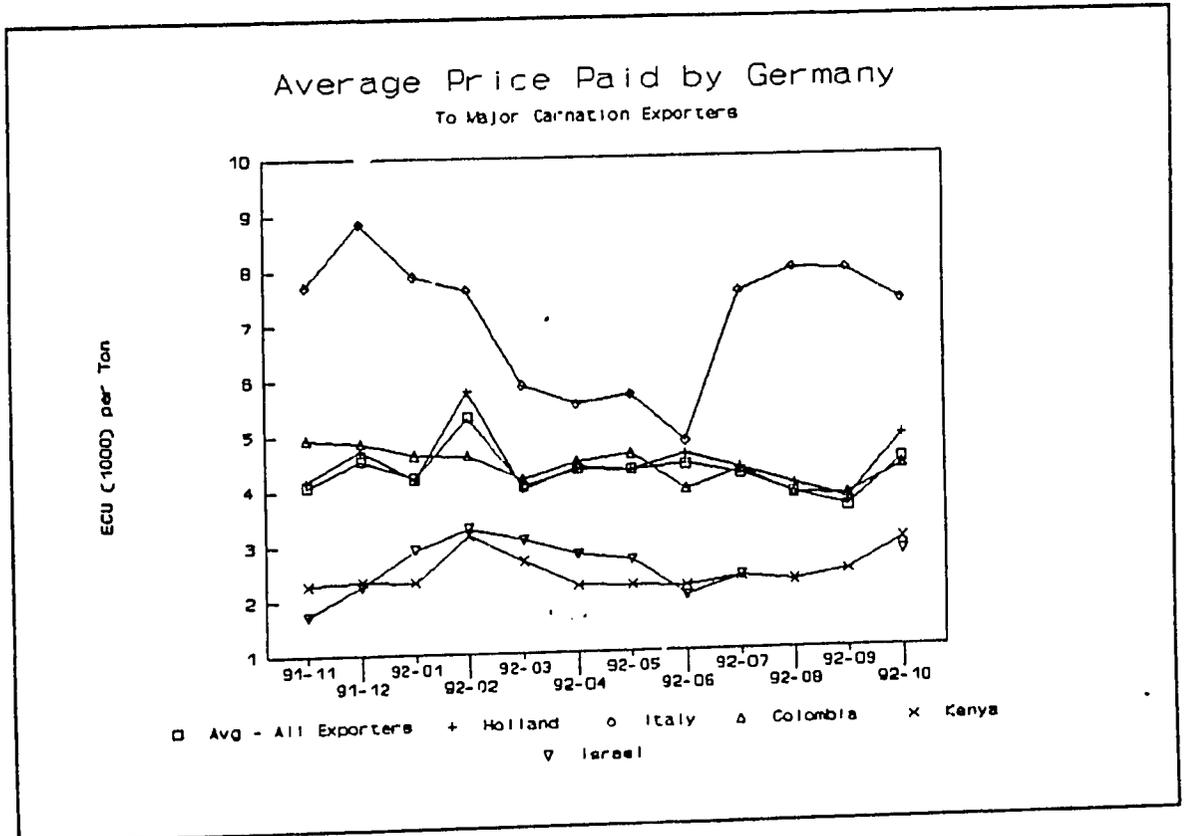


Figure 28

Italy received high prices for its carnations. Those prices fell when its exports to Holland peaked, but they were still above the prices received by other suppliers during March, April, and May.

United Kingdom

Unlike the other two major EEC carnation importers, the UK obtained most of its supply from extra-EEC sources throughout the year (Figure 29). Its major supplier was Colombia, followed by Holland. Turkey and Israel supplied significant quantities of carnations to the UK market during November through May. Imports peaked in December and March and remained relatively stable during the other months.

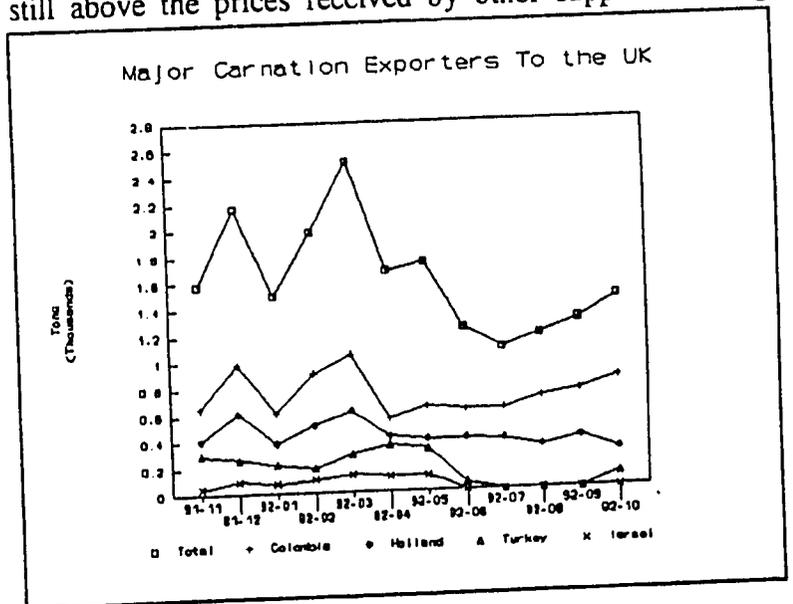


Figure 29

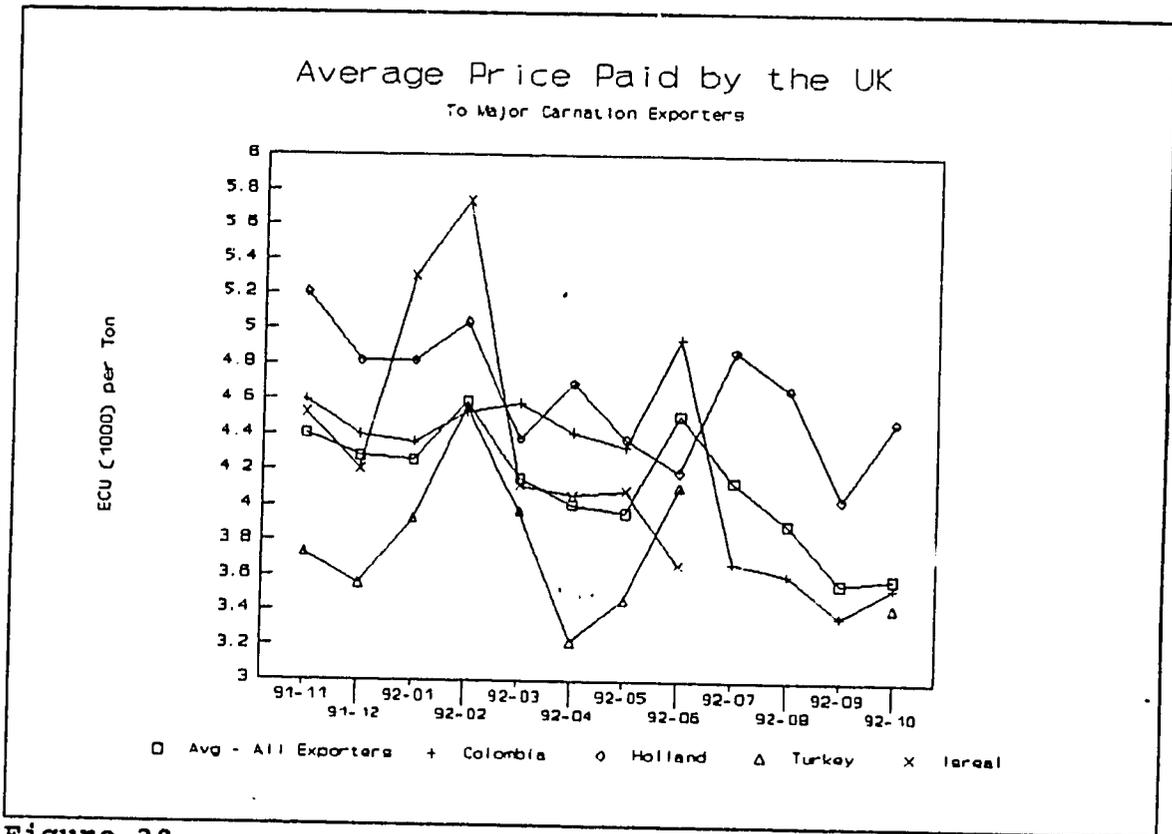


Figure 30

Average prices paid to exporters peaked in two months, February and June and hit their low in October. Prices paid to Holland were generally above those paid to other suppliers while those paid to Turkey were below the average paid to all exporters.

United States Market Share

The United States had no appreciable share of the market at any period during the year. Its total carnation exports to the EEC were 46 tons out of the more than 75,000. Therefore, USAID assistance to Moroccan carnation exporters towards Europe will not compete with any U.S. grower/exporters.

Opportunities in the "Commodity" Markets of the EEC

Compared with the suppliers mentioned above, Morocco was only a minor player in the EEC carnation market during November 1991 to October 1992. With just over 1 percent of total EC imports and 2.2 percent of extra EEC imports, there is significant room for expansion of Moroccan exports to the leading importing countries: Germany and the UK. Its largest export outlet was the United Kingdom which imported 488 tons of its total 958 tons of carnation exports. It exported carnations to the EEC market in November through July. Its exports in June fell when overall exports to the EEC market were also at their lowest and prices reached a peak. If Morocco could target the EEC market in June it might capture a large market share when prices are high.

ANNEX ELEVEN

SYSTEM FOR THE CONTROL OF FLORAL IMPORTS

Before all export operations to the USA, it is necessary to deposit with the USDA/APHIS a list of all floral products to be exported, since there are many ornamental plants which are excluded from importation into the USA, such as Eucalyptus.

A. SECURITY AT THE AIRPORT

Systematic controls are carried out with sophisticated equipment which allow the customs and DEA agents to identify illicit drugs or other fraudulent items.

B. PLANT HEALTH CONTROLS AT CUSTOMS

Two percent of all flowers are verified by the APHIS and Plant Quarantine inspectors at the airport. Inspection is carried out on the buds as well as the leaves and stems. If the merchandise does not present any symptoms of maladies and does not contain insects, it is delivered to its importer. If the agents detect any maladies or insects on the merchandise, two possibilities arise:

1. If the malady already exists in the U.S., the agents proceed with a fumigation of the entire merchandise.
2. If the malady does not exist in the U.S., the product is either returned to the country of origin or destroyed on the spot.

C. QUALITY CONTROL SYSTEMS

The test sample usually represents two to three percent of the shipment. The tests are carried out on the quality of the packaging used, the stems and the floral buds. Each wholeseller has a team who are in charge of sampling the quality of imported flowers and to test the performance of newly introduced varieties.

1. Testing the Packaging

This includes inspecting:

- the placement of the flowers in the box,
- the number of stems per bunch (normally 25)
- the length of the stems and their uniformity
- the color composition
- the placement of the sleeves
- the placement of the flowers inside the bunch
- the label of the size of the stems and the name of the variety

2. Judging the stems and the leaves

This entails:

- measuring the length of the stem without leaves (it should not have leaves on the first 10-12 cm)
- detecting the presence of insects on the leaves
- the coloration of the leaves (burning or discoloration)
- checking for traces of maladies on the leaves (the tolerable surface area does not surpass 0.5 cms per leaf)
- the presence of pesticide residues

3. Control of the floral buds

- evaluate the damage from the packaging and the transport (not more than one stem per bunch);
- evaluate the opening of the buds (not more than 3 flowers per bunch can be open more than 2 cms, including those which have had petals removed);
- evaluate the tightness of the buds (not more than 3 flowers per bunch can have an opening of less than 1 cm);
- count the number of flowering buds which are broken (not more than one bud per bunch);
- the size of the floral buds; and
- looking for symptoms of botrytis attack.

ANNEX TWELVE
MOROCCAN FLOWER EXPORTERS

LIST OF MOROCCAN FLOWER EXPORTERS

FIRM	MANAGER	PHONE	FAX
ABAZ	ABUOU	222 06 91	229 40 59
AFRIQUIA ROSES	CHIAOUI	442 63 27	442 69 49
ARBOR SUD	BENCHEKROUN	235 55 81	235 72 71
ATLAS 2000	MOUMILE	884 44 13	236 26 26
BENIFLOR	BENIYAYOUNE	240 50 12	240 50 16
DOMAINES ROYAUX	CHEVALLIER	774 22 34	774 23 67
EXMORA	DANEY	774 22 22	774 22 22
FINE FLOWERS	ZEROUALI	231 21 59	231 45 60
FLEURS MERLET	MERLET	774 20 34	774 25 99
FLORALINE	ATTAR	774 02 15	-
FLORAMI	LOUFI	884 11 15	884 59 78
FLORASUD	TAARJI	224 46 59	240 90 54
FLORIMA	KARAM	884 11 40	884 12 34
FLORIMAR	AMEGLIO	236 78 01	239 89 36
GHISLANE	TERKMANI	233 71 15	233 74 65
MAROFLEURS	MZALI	884 20 96	884 30 83
MOROCCO ROSE	TAKKALI	332 88 33	332 88 34
NILA	CHOUHOU	444 81 84	444 82 60
PLANTATLAS	BOUZIANE	443 35 71	443 04 79
PRIM'ROSE	BENNANI-SMIREB	235 55 55	235 56 51
ROSAFLOR	PUECH	882 19 25	884 32 14
ROSALIE	LANGER	770 66 56	770 83 45
ROSE MAROC	BERRADA	225 74 52	225 62 16
ROSERAIE HABIBA	BERRADA	443 03 90	443 03 90
ROSES MARRAKECH	BOUCHTA	443 19 90	443 68 87
SAADIA ROSE	AZELMAT	777 62 83	777 33 59
S. PIAMA	BOUSSAAD	884 42 46	884 35 70
SARY	SARY	236 48 78	237 48 78
SOUSS FLEURS	MEZIANI	824 18 98	824 13 87
TARGA FLOR	TINTI	230 30 20	231 64 78
TOUBKAL FLEURS	KABBAJ	240 11 45	224 76 83
YSSIL FLOR	BENSLIMANE	767 29 61	777 24 84

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Development Alternatives, Inc.
7250 Woodmont Avenue
Suite 200
Bethesda, MD 20814 U.S.A.

January 24, 1994

S. Wade DeWitt
Acquisitions Manager
PPC/POL/CDIE/DI Acquisitions
SA-18 Room 303
Washington, D.C. 20523-1803

Re: Morocco Agribusiness Promotion Project
Contract No. 608-0210-C-00-2044-00

Dear S. W. DeWitt,

Per our contract requirements, please find enclosed copies of the Olive Subsector Study, the Moroccan Flower Subsector Study, and Quarterly Reports I, II and III.

Sincerely,

Rebecca A. Army
Project Monitor