

The Floriculture Industry in Malta

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Abstract

The floriculture industry in Malta is relatively small when compared to that of other European countries. However, despite several constraints, a number of growers deal exclusively with the production of floriculture products for local use. In the early 1970s, a locally based company was much involved in the export of floricultural products to the United Kingdom. This year (2002), four local growers initiated the growing and export of gladioli flowers to Italy.

INTRODUCTION

The Maltese Islands are situated in the centre of the Mediterranean basin. The archipelago is situated 93 km south of Sicily, about 350 km due north of Tripoli and about 290 km east of Tunisia coast. Malta, Gozo and Comino are the three inhabited islands. Malta is the largest island, with a land area of 245.7 km², Gozo with 67.1 km² and Comino with 2.2 km². Geologically, the islands are composed almost entirely of marine sedimentary rocks, mainly limestone of Oligo-Miocene age. At present the total population is of about 400,000 inhabitants.

The climate of the Maltese islands is typical Mediterranean with a characteristic biseasonality. For a detailed analysis of the Maltese climate, the work of Chetcuti *et al.*, (1992) should be consulted. The average annual precipitation is about 530 mm. Air temperatures are moderate and never fall too low. The mean annual temperature is 18.6°C. January is the coldest month (mean daily minimum 9.2°C) while August is the warmest (mean daily maximum 30.7°C). Relative humidity is consistently high throughout the year being mostly in the range of 65 % to 80 %.

AGRICULTURAL LAND AND RESOURCES

The total agricultural land is made up of three components, namely irrigated land, dry land and garigue. Sources of water for agricultural land include bore holes, natural sources such as springs, water reservoirs or sources of public water. Most agricultural landscape consists mainly of small terraced, fragmented parcels of land on sloping ground with retaining walls made of limestone rubble. Due to this factor soil run off and erosion is experienced especially during heavy rainstorms.

The census of Agriculture held in 2001 by the National Statistics office established the total agricultural area in the Maltese Islands at 10,013 hectares

(tables 1 & 2). Malta accounts for 8,081 hectares while 1,932 ha are situated in Gozo. Agricultural land is very much fragmented. About 73 % of agricultural holdings are made up of less than 1 hectare of land each; 16 % are made up of between 1-2 hectares; 9 % between 2-5 hectares, while the remaining 1.5% individually account for over 5 hectares of land area (National Statistics Office, 2001). Three hundred and three hectares of irrigated land lie in 1,245 holdings that measure less than one hectare per piece. On the other hand 1,195 hectares of irrigated land are contained in 1,147 holdings (National Statistics Office, 2001).

Table 1. Agriculture area - Holdings

	Malta	Gozo and Comino
Total Holdings	8,735	2,546
Holdings with Irrigated Land	2,098	294
Holdings with Dry Land	8,718	2,540

Table 2. Agricultural Area - Hectares

	Malta	Gozo and Comino
Total agricultural Area	8,081	1,932
Irrigated Land	1,369	131
Dry Land	6,712	1,801

The total arable land is less than 11,000 hectares. About 55 hectares are covered by polythene or glass and less than 10 % are used for the floriculture industry.

There was a decline of nearly 50 % of agricultural land in the last 45 years. In 1956, the agricultural land was of about 20,000 hectares, while nowadays this figure has almost diminished by half (Meli, 1993). The number of full time growers in the Maltese islands is of about 1,200 (a decline of about 80 % in the last 35 years) while the number of part time growers is about 13,000 (an increase of 42 %) (Meli, 1993). Another major problem is that very few young growers are full time growers. Besides, the size of the fields are already small, therefore, the use of large machinery is often not possible or can be done only in large fields. Therefore, agricultural work in Malta depends a lot on manpower and small machinery, and production costs are often high when compared to costs in other European countries.

FLORICULTURE PRODUCTION IN MALTA

In Malta, floriculture production in greenhouses started in the late 1950s with the introduction of polyethylene film which was suitable to cover small structures such as self made wooden lean to large greenhouses constructed against a south facing existing farm wall. Several wooden glasshouses of the guernsey type were constructed by growers as single units to produce high value crops (Agius, P. *pers. comm.*). Crop cultivation in glasshouses gained popularity very quickly in Malta. Tomatoes and cucumbers were grown to produce out of season crops namely from December till June, when the weather conditions were not favourable to produce these crops in the open. Tomatoes were also exported to Covent Garden in the United Kingdom until the early 1970s, when, due to

higher costs of production and increased air freight rate, it was no longer profitable to export horticultural produce from Malta by air transport.

In the following years, there has been an increase in greenhouses and diversification of cropping. The following vegetable crops and flowers are currently being produced in Malta all year round. These include in order of importance: tomatoes, cucumbers, aubergines, green peppers, vegetable marrows, courgettes, strawberries, melons and water melons. The flowers are mainly carnations, chrysanthemums, gerbera, lilies and roses. Pot plants such as poinsettias, pot chrysanthemums, fuschias and geraniums are also produced and locally marketed.

During the late 1980s and early 90s growers showed considerable interest in protected cropping. It is estimated that in the Maltese Islands, about three hectares of greenhouses are being constructed each year. In fact, the total area of land under cover in Malta until 1987 was about 17 hectares. Nowadays, this figure increased to about 55 hectares.

In the Maltese Islands, there are only about 30 full and part-time growers who are involved with the production of floricultural products. In total, they have a workable surface area of 90,656 m² in open fields and about 62,561 m² under cover. The most common floriculture products include carnations and chrysanthemums. Carnations are grown as annuals and are grown both in the open fields and under cover. They are grown both for pot plants and for cut flowers. The propagation material is mainly imported from Italy. The following are some varieties, which are commonly used locally: Leopardi, Nancy, Basilo, Puccini, Tico Tico, Milord and Morandi. Chrysanthemums are grown both in the open fields and under cover. The main season for Chrysanthemums in the open fields is November when there is a very high demand for this flower. However, for high quality flowers, Chrysanthemums are cultivated under cover. They are cultivated both for pot plants and for cut flowers. Most of the propagating material is imported from England. These are some of the varieties which are commonly used locally: Albany, Kent, White fresco, Yellow fresco, Dark pink gin, Sitton pink gin, light pink gin, White reagan, Fatima white and Viking. Shiina is propagated as a spider chrysanthemum. The production of roses is very limited in Malta. The propagation material is mainly imported from France and the plants are grown in peat bags. Some varieties, which are locally grown, include: Ambassador, Lovely red and pretty woman. In Malta a number of growers are involved with the propagation of poinsettias to be marketed during Christmas time. Several varieties are used and the growers import the cuttings mainly from Holland. Other flowers, which are propagated in Malta, include Gladioli, Statice, Gerbera, Poinsettias and others. The following lists include most of the flowers and pot plants that are propagated in Malta under cover and in the open fields: Chrysanthemums, Gerbera, Lilies, Carnations, Gladioli, Statice, Roses Sempre Viva, Geranium, Pelargonium, Bouganvillae, Hibiscus, Honeysuckle, Laspers, Dahlia, Gypsofia, Poinsettias, Geranium, Marigolds, Asters, Tulips, Alstroemelia, Iris, Schaffera, Impatient, Celosia, Zinias, Stock, Obelia, Cosmos, Petunia and Ortensia.

EXPORT OF FLOWERS

During the early 1970s a locally based company (Mediterranean Flower Power) started exporting flowers and flower products to England. On average about 40 million cuttings of Chrysanthemums, 40 tons Narcissus bulbs (Paper White), 3-4 million chrysanthemum flowers, 100,000 Gladioli cut flowers and one million lilies were exported every year to England (D. Caruana, D. pers. comm.). Unfortunately, this export industry had to stop due to a number of factors such as presence of *Liriomyza* spp. on Chrysanthemum, fungal infections and *Uromyces transversalis* on gladioli. Other factors which had a negative effect on the industry included the high transport costs and the poor exchange rate of the Maltese lira versus the British pound. Moreover, there was great competition from Holland who started to export to the United Kingdom at cheaper prices. This export industry was then terminated in the early 1990s.

In 2002, with the aid of the Ministry of Agriculture and Fisheries, four Maltese growers initiated a project for the growing and export of gladioli during December and January. The bulbs were imported from Holland, and five different varieties were used (Chinon, White Friendship Bresil, Friendship Bresil, Peter Pears and Mascagni). The first results indicated a very good product (Figures 1 & 2) and in fact more than 4,000 gladioli were already exported to Italy 15 days prior to the planned time schedule.

LOCAL FLORICULTURE PRODUCTS IN 2001

The following figures represent floricultural products, which were locally produced in 2001:

- 3,282,358 stems of carnations;
- 855,400 pieces of Chrysanthemums;
- 171,800 Bulbs;
- 27,215 Roses;
- 517,500 pot plants;
- 250,324 other flowers and ornamental plants.

FLORICULTURE IMPORTS IN 2001

Malta is also importing a lot of floricultural products such as cut flowers, pot plants, seeds bulbs and other flower products mainly from Holland. Following is a list of all the imports recorded in 2001:

- Ornamental plants 113,160;
- Rose bushes 12,719;
- Kalanchoe cuttings 3,500;
- Seedlings: Begonia 4,156; carnations 33,2300; Catharanthus 18,000; Fuchsia 6,600; Gerbera 8,760; Hibiscus 6,700; Hortensia 3,958; Kentia, 800; Pelargonium 99,846; Petunia 147,123; Poinsettia 71,290 and Vinca 50,760;

- Cut Flowers: Chrysanthemums 174,720; Dianthus 181,025; Gerbera 18,150; Gladioli 30,885; Liliium 89, 879; Misc 190,522; Orchids 9,890 and Roses 30,2844;
- Flower seeds 779 Kg;
- Bulbs: Dahlia 71,324; Gladioli 489,275; Liliium 261,791 and mixed bulbs 611,430.

TISSUE CULTURE PRODUCTION

The Plant Biotechnology Centre within the Ministry of Agriculture and Fisheries includes a tissue culture laboratory. In this laboratory, propagation of virus free plants, ornamentals, indigenous plants and rootstocks are carried out. Some rare endemic plant species such as *Cremnophyton lanfrancoi* and *Helichrysum melitensis*, which have a very restricted distribution in the Maltese Islands, were successfully propagated by the mentioned technique and reintroduced in the wild (Zammit, 1999). Tissue culture may be used in future for particular floriculture products.

MAJOR CONSTRAINS

There are several constrains which are currently hindering the floriculture industry in the Maltese Islands:

- Limited agricultural land area in the Maltese Islands which is always declining due to buildings and other developments;
- Fragmentation of land and thus restrictions on the use of heavy machinery;
- Lack of water;
- Number of full time growers decreasing;
- Numerous imports which compete with the local products;
- Relatively high investment costs of greenhouses and irrigation equipment.

References

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Fig 1. 50,000 gladioli plants cultivated in one field in Gozo (Xaghra).
(photo A. Zammit)



Fig 2. Bundles of 20 gladioli plants, ready for export.
(photo A. Zammit)