

The Nursery Stock Industry in Greece

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INTRODUCTION

The nursery industry in Greece has flourished since before the age of Homer because of the vast range of climatic conditions favouring the cultivation of species ranging from tropical to hardy and alpine types. During the last 20 years, the nursery industry has achieved significant progress which has established the acceptance of the Greek nurseryman and his propagation skills in many other countries. There are many possibilities for further development, for example, the localization of extended geothermal fields and the use of solar energy will add a new dimension to the nursery technology.

FRUIT SPECIES

Fruit production has a prominent role in the national economy. The range of fruit crops varies from the tropical (bananas and papayas) and sub-tropicals (such as feijoas, avocados, citrus and olives), to temperate deciduous fruit species.

Plant production nurseries are found throughout the country near farming areas. In the county of Imathia, which is one of the major fruit exporting centers in Europe, almost 90% of the deciduous fruit tree nursery stock is produced. Shield budding with or without backwood is the propagation method, except for walnuts propagated by patch or flute budding and kiwis propagated almost exclusively by leafy cuttings. If budding is done in late May or early June with some species like peach, almond and apricot, trees develop to salable size in the same year.

The clonal rootstocks used for deciduous fruit species, such as peach × almond hybrids stocks and some *Prunus insititia* selections, are propagated by tissue culture. Clonal rootstocks for all the other deciduous species are imported. It is costly to keep rootstock mother-plants and until tissue culture laboratories cover the whole range of clonal rootstocks for deciduous fruit species, Greek nurserymen will prefer to import them.

Nurseries for citrus species exist mainly in Peloponese and secondarily on the island of Crete. There are two types of nurseries. The first produces apomictic seedlings for supply to the second type, which propagates the commercial fruiting cultivars. Olive tree nurseries operate throughout the country near coastal areas. Olive trees are propagated mainly by leafy cuttings except a very few cultivars which are difficult-to-root. Starting from cuttings olive trees can be saleable in one year. Grapes are the only machine grafted species. Grape propagation nurseries exist wherever viticulture—either for fresh consumption or for wine making—flourishes (i.e., Macedonia, Thessaly, Sterea, Hellas, Peloponese and Crete).

Nursery stock production of fruit species is supported by a national variety and virus certification scheme.

POT PLANTS

Flowering and foliage pot plant nurseries are located near big cities, such as Athens and Thessaloniki, and along the national road connecting these two cities. On the mount of Pelion, near the city of Volos, climatic conditions are ideal for growing azaleas, gardenias, hydrangeas and camellias. Propagation is by seeds, cuttings and, for the last five years, tissue culture. Export to other European countries depends on innovations such as the compact gardenia at full bloom. Compact gardenia as a house plant has worked successfully and in spite of some problems in its production it is now exported to other European countries.

CUT FLOWER STOCKS

There are not many nurseries included in this trade but those which do exist include some of the best of all Greek nurseries. They are highly equipped and specialized in the production of carnation, rose and *Gerbera* nursery stock. Carnation stock production is carried out under controlled environmental conditions from start to finish. Mother plantations are established on benches under cover. After tests for genetic stability, cuttings can be taken and sold as they are or rooted. Rose propagation is carried out in the field and in tissue culture laboratories. *Gerbera* cultivars are almost exclusively propagated by tissue culture. Carnation and rose are grown widely in Greece while *gerbera* cultivation is rapidly increasing. The production capacity of cut flower plant nurseries greatly exceeds the needs of the country. Exports of carnations and roses have been established and, in the last year, *Gerbera* has joined the list of exported species.

FIELD PRODUCTION

Field production includes large scale timber production nurseries and woody ornamental nurseries—both private and state owned. The ministry of agriculture has authorised local services in each county to establish nurseries for the production of seedlings used for reforestation purposes and landscaping public areas including national roads. Most of the seed is produced in seed orchards and only seed of a few species is imported. Most of these nurseries have been operating for longer than 60 years, producing millions of trees each year.

TISSUE CULTURE

There are six commercial tissue culture laboratories, four of them in northern Greece and the other two in Athens and Crete. Of those in northern Greece, two are specialising in the production of fruit tree rootstocks, mainly peach. The third is operating in the area of ancient Pella and specialises in the production of roses. The others are mainly involved in the production of foliage pot plants, gerberas and pot roses.

Since the Greek market is limited, tissue culture laboratories are trying first to expand the range of species produced and establish collaboration with nurserymen and growers abroad. They are already establishing the propagation of apple and pear rootstocks, bananas, grapes and orchids and two of them have already arranged the first exports of house plants.

STRUCTURES

Pot plant and cut flower nurseries are equipped with modern fully automated

glasshouses. Oil is used for heating glasshouses during winter while summer cooling is achieved by the use of fans, humidification and shading. Light intensity throughout the country is more than adequate even in the winter and during propagation it must be closely controlled.

Olive, citrus and kiwi nurserymen are favouring plastic houses of various types and construction, usually tunnels. These houses are mainly necessary for frost protection during winter and, depending on the area they may be slightly heated or not at all. Greenhouses based on solar and geothermal energy have been established in various parts of the country