

Horticulture in Lebanon¹

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Lebanon, a country about the size of the state of Connecticut, is located on the eastern shore of the Mediterranean Sea. From the rather narrow coastal plain, picturesque Mount Lebanon reaches rather abruptly to heights of more than 10,000 feet. East of the Mount Lebanon range there is the Bekaa plain, about 3,500 feet above sea level, where there is a fertile farm area about 90 miles long and 10 miles wide. Then, east of the Bekaa plain, the Anti-Lebanon range extends north and south; in this range, Mount Hermon peak, nearly 10,000 feet high, reaches above the other mountains.

Lebanon grows a great variety of fruits and vegetables, including practically every kind grown in the United States. Along the coast grow concentrations of oranges, olives, pomegranates, figs, lemons, loquats, bananas, and a few date palms. Above the coast, in the mountains, there are plantings of cherries, apricots, plums, peaches, quinces, pears, and apples. On the Bekaa plain, the principal crops are potatoes, onions, and cereals. In the southern part of the country, generally, the Lebanese produce winter and summer crops much like those grown in the state of Florida.

Soil erosion is a serious problem in Lebanon. Many crops are grown on narrow terraces on the steep mountainsides.

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In the course of centuries of cropping, the soils have washed down the mountainside and are now being hauled back up, on the backs of donkeys, to fill the terraces. In some areas stone walls are being built, along the contour of the steep slopes, to hold the soil. Most of the soils in Lebanon, incidentally, are alkaline, with a pH of 6.5 to 8.5.

Annual rainfall in most of Lebanon is about 40 inches, nearly all of it coming during the winter months, between November and April. Most crops, therefore, must be irrigated; but grapes, olives, and figs are grown extensively without irrigation.

In fact, heavy yields of grapes are produced on the dry lands of Lebanon. Whole mountainsides are terraced and covered with vineyards. The bunches of fruit are large and of good quality. Much of the crop is used for the making of wine and Arak, a popular liquor among the Lebanese. Some grapes are used for the production of alcohol; some are made into molasses, others into raisins. Only a small part of the crop is sold as fresh fruit, and this is generally of high quality. The plantings are not troubled by the black rot that is so common in the United States, but phylloxera is a serious pest in a large part of the country. To control it, growers have been forced to use the American phylloxera-resistant rootstocks.

The olive is another important crop. One can drive for miles and miles between solid groves of olive trees. Many of the trees are said to be several hundred years old, but they are still producing. Practically all of the olives grown in Lebanon are used for oil; some are preserved for food. Although an olive tree survives and produces some fruit even when it is neglected and seems to grow where prac-

tically no other crop can survive, it is evident that proper fertilizing, cultivating, pruning, and spraying will greatly increase production. The olive fly and olive twig borer are serious pests.

Several different varieties of figs are grown. They ripen over a long season and are consumed as fresh fruit.

Where humidity is high during the growing season, some deciduous fruits and vegetables also are grown successfully under dry-land farming conditions. But in these areas powdery mildew is a very serious problem on cucurbits, and on apples, pears, and peaches. This disease is fairly well controlled on fruit trees with thorough and timely spraying, but it causes great losses in vegetables.

The small Cavendish type of banana grown in Lebanon is of high quality if it is handled properly. Most banana trees are grown as fillers in newly planted orange groves. Oranges, too, are good; most of them are tree-ripened. Some of the mites and scale insects on oranges are not well-controlled.

At present the apple is the most popular and most profitable fruit grown in the country; and the most popular and profitable varieties are Starking and Golden Delicious. For these, growers are receiving as much as \$6 per bushel, without the box, at the orchard. Because of these high prices, many people are enthusiastic about growing apples. It is estimated that 60 per cent of the apple trees now growing in the country are less than 5 years old; and people are continuing to plant apple trees. Land prices are high but man labor is inexpensive, often less than \$1 for a 10-hour day; and many an owner of land on steep mountainsides is spending as much as \$3,000 per acre to build stone-wall terraces and prepare the

soil for planting apples. Most apples are grown at elevations of 2,000-5,000 feet, on steep slopes, where only one row of trees can be planted on a single terrace. [See cover picture of terraced apple orchard.]

Apple trees in Lebanon seem to be plagued with the same insects and diseases as those in the United States; besides, they are attacked by the Mediterranean fruit fly. Some of the most recently developed spray materials are being used to combat these enemies. On the terraces, of course, most work must be done by hand; for instance, instead of large high-powered sprayers, wheelbarrow sprayers, equipped with a motor, are popular. The apple trees are heavily pruned so that it is not difficult to spray the tops, even with hand sprayers or hand dusters.

If they are given reasonable care, fruit trees and vegetables grow faster in Lebanon than they do in most parts of the United States. It is not difficult to produce peaches, quinces, pears, and apples that are from 4 to 4½ inches in diameter. The J. H. Hale peach is well adapted to this climate and produces excellent fruit; the tree seems to be stronger growing here than it is in America. Plums, prunes, and sweet cherries also grow well and produce heavy crops. Walnuts, almonds, chestnuts, and pistachio nuts are grown, and there is some interest in expanding the planting of these nuts. Principal export fruits are oranges, lemons, and apples.

The Lebanese people are friendly, and most of them are eager to increase their crop production. The writer believes that Point IV can and will do much to help the Arab countries and to promote peace on earth and good-will among men.