The Tuna or Prickly Pear in California

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Although native to Mexico, whence it was taken to Europe, for centuries the prickly pear or tuna fruit of several species of the cactus (particularly **Opuntia tuna**) has been highly esteemed by peoples of the Mediterranean basin countries, where it is a common and important item in their diet. Primarily a curiosity for most people in the United States, the tuna fruit is readily sought by those of Latin extraction in California, New York, the southern border states and other areas of Latin populations, who are acquainted with the unique and delicate flavor of the fruit.

The tuna plant or cactus thrives in many parts of the world where the temperature does not get much below 20° F. Hence the species is found commonly in the arid subtropical areas of the world. Throughout the Mediterranean basin and Mexico the plant is grown as a dooryard specimen and as a dual purpose fruiting plant and protective barrier in place of ordinary fencing. Formal orchard plantings are made in some places, such as California, where the fruit forms the basis for a small commercial enterprise.

The history of the tuna in California dates back to the early days of the Mission fathers who brought the fruit from Mexico. More recently the best varieties from Spain and Italy have been introduced and now comprise the basis of our commercial plantings. While the tuna plant was not cultivated in the formal orchard, it nevertheless was widely grown and utilized by the early Spanish settlers and Mexican workers. Within recent times a few large acreages have been planted to tuna in California, but several factors have contributed to the reduction in size of these plantings, until at present a total of approximately 100 acres is still found within the state. In 1928 there were about 100 acres in the San Jose area alone, which provided about eighty carloads of fruit yearly for the eastern market in addition to the local supply (1). The Lo Bue family has been and still is the foremost grower and shipper of tuna in San Jose.

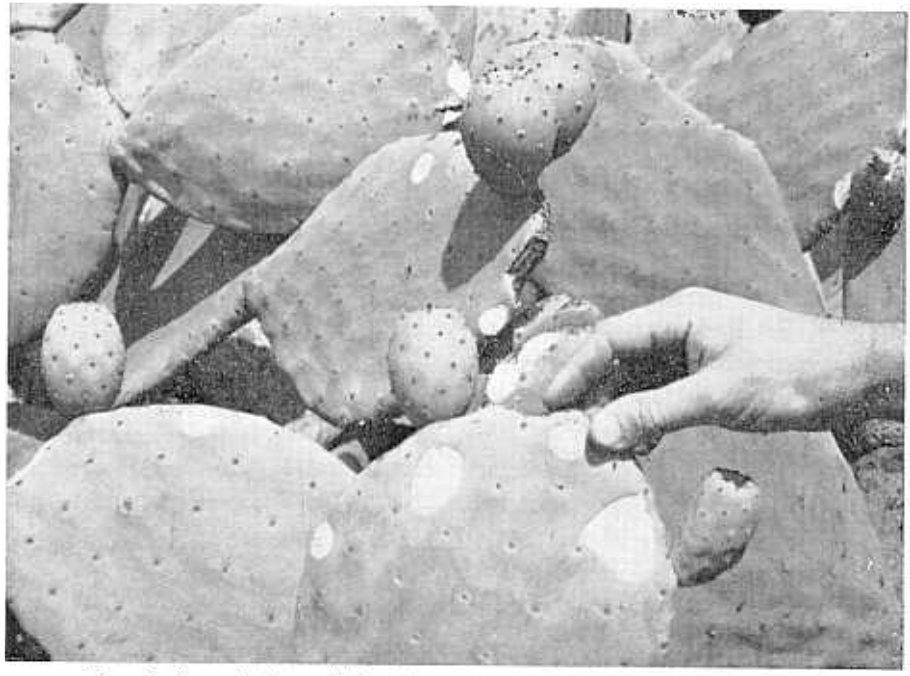
There remain two centers of tuna production in California—one at San Jose in Santa Clara County, just south of San Francisco, and the other at Lakeside, a few miles east of San Diego. The latter planting has been developed during the past twenty-five years by Mr. Bernardo Maniscalco and his sons. Located in the moderately cool coastal zone, this tuna orchard now occupies approximately 30 acres of gently sloping hillside and flat land. The fruiting plants, reaching to a height of

eight or more feet, are planted at 8 foot intervals in rows spaced 15 feet apart and are kept under control by pruning and cutting. The tuna cactus will withstand considerable neglect, but good commercial production requires adequate fertilization and irrigation, practices which are diligently performed in this planting. As the result of good orchard management practices, the annual production of the Maniscalco garden ranges from 10 to 25 cars or more per year.

Harvesting of the crop must be done carefully because of the spines on the slabs and spicules on the fruit and stems which are of potential danger to the workers, and because of the delicate and tender nature of the fruit itself. Pickers wear heavy canvas aprons, leg protectors and heavy leather gloves while harvesting the fruit. Each fruit is cut from the slab with a segment of the slab attached. This segment eventually dries and shrinks onto the fruit to form a natural seal, which prevents entrance of molds and rots in the otherwise succulent stem end. The fruit is harvested slightly immature and carefully placed in pails, which in turn are emptied into field boxes, each holding about 30 pounds. In the packing shed the fruit is run through a peach de-fuzzing machine, which removes all the small hair-like spicules except a few in the depressed ends of the elongated oval fruit. The fruits are wrapped and packed by hand from a belt conveyor and placed in two-layered flats which hold about 20 pounds each. These flats are trucked to the railroad dock, where they are shipped to eastern markets in refrigerated cars or held in cold storage until needed.

Shipments are made from San Diego during August and September. The fruit at San Jose matures somewhat later because of the cooler climate and thus is marketed in late September and early October. Production in the San Jose area is 25 to 30 cars annually.

While a large number of tuna fruit types are found as dooryard specimens, there are only three good varieties or kinds of commercial value in California. These have been imported from the Old World, primarily from the Mediterranean area, and especially Italy, where selection within this fruit has been practiced for centuries. The better fruit types have no varietal names but are simply designated by their flesh color. The two types of importance in California are the red and orange fleshed fruits. These are characterized by good size, color and general eating and keeping qualities. A light colored or white fleshed type is grown to a small extent, but does not withstand shipping and handling well. While the plants are termed spineless, actually they bear a few sharp spines. Some of these better varieties were introduced from Italy at the beginning of the century by Marco Rancadore, grand-



Tuna fruits and slabs. (This photo and one on cover by C. A. Schroeder.)

father of the Lo Bue brothers of San Jose. From these introductions most of the California plantings have developed.

The principal use made of the fruit is that of eating out of hand. This is done by deftly cutting off the ends of the fruit, making a single longitudinal cut through the skin and rolling back the cut rind to expose the rather seedy and succulent interior, which is the edible portion. The fruit is especially delectable when chilled.

The tuna is also used fresh in salads or may be made into jelly when fully ripe. The juice of the red varieties is very good for coloring ices and confectionary. The fruit contains 6-14% sugar, a small amount of protein and fat, and some aromatic substances which give it flavor.

The tuna fruit is a botanical berry which is enclosed in a stem-like structure the outer surface of which is spirally dotted with clusters of small hair-like spicules. These fruits are borne along the upper edges of the younger slabs. Each fruit consists of a long oval or pyriform structure 2 to 5 inches long and 1 to 3 inches in diameter. It is yellow-green to dark purple in color. Generally only a single crop of fruit is produced each year. If the early fruits are removed at an immature stage, however, a late second crop may be produced. The edible

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pulp has a distinctive and pleasant flavor, though not pronounced. The mature plant itself consists almost entirely of stem structure. The very small leaves which consist of bract-like structures are found only on very young slabs and soon become detached. The varieties are readily propagated by means of cuttings by simply breaking off one of the "ears" or "slabs," allowing it to dry slightly and then planting in well drained soil or sand.

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(2) Cameron, S. H. The tuna or prickly pear in California. California Countryman 14(5): 12, 22. 1928.

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