

CHERIMOYA GROWING IN CHILE

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The cherimoya grown in Chile is the *Annona Cherimola Mill*, which is one of about 50 species of the annonaceous fruits grown in many places of the world.

Grown under favorable climatic conditions and picked at the right time, it certainly is one of the most delicious fruits. In his manual of "Tropical and Sub-Tropical Fruits" written in 1919, Wilson Popenoe quotes Dr. Seemann that "the pineapple from Guayaquil, the mangosteen from the Indian Archipelago and the cherimoya from the slopes of the Andes are considered the finest fruit in the world, and if he would be called to choose among the three he would give the cherimoya the distinction of being the best fruit in the world."

Its taste has been described as a mixture of pineapple and banana or strawberry and pear, but this does not help. The cherimoya has a taste of its own. The best recipe to eat cherimoyas is to cut it into slices and pour a little fresh orange over it. This makes a dessert which in Chile is called "Cherimoya alegre," the "Merry Cherimoya."

The cherimoya or chirimoya originates from the slopes of the Andes in Ecuador and Peru. It is essentially a subtropical fruit, very tender to frost, but does not produce well in a hot and humid climate. In its original surroundings, it grows at elevations of 3000 to 6000 feet, where the tropical climate is set off by altitude and the strong rays of the sun are tempered by clouds and fog.

The name cherimoya stems from Quechua, the native language of the Peruvian Andes. In Popenoe's manual this is translated as "cold seed," as "chiri" or "cheri" means cold. However, according to the Chilean author Benjamín Vicuña Mackenna, who wrote about the cherimoya groves in the lower Aconcagua Valley in Chile around 1857, "moya" means bosom, so in the imitative Quechua language cherimoya means "cool bosom."

The cherimoya is not a native to Chile, but has been introduced by the Spaniards who had to sail down the long coast of Chile and around Cape Horn on their long way to Spain.

According to Benjamín Vicuña Mackenna, around 1763 a ship's captain brought from Peru one rooted tree as a present to the Marques de la Pica, don Santiago Yrarrazaval, who planted it in the backyard of his house by the Plaza of Quillota, where years later it bore delicious fruit. When he rented his house to a neighbor, called don Antonio Valenzuela, he did not ask for more rent than having sent every year half a dozen cherimoyas to Santiago where he lived. This was not cheap, because in 1812 a big cherimoya fruit was sold for 12 Pesos which was the price of a pair of oxen in those days.

According to the author, this tree was still bearing and in good health when he visited the small town, Quillota, in 1877, and today the tree is still shown to visitors interested to see it. When Robert W. Hodgson, the late Dean of Subtropical Horticulture of U.C.L.A. visited Chile in 1958, I took him to Quillota to show him this tree which, according to the owner of the house, is the same one planted in 1763.

As a matter of fact, the cherimoya is the longest living fruit tree we know in Chile, and there exist a number of trees which are far over a hundred years old and still good bearers. Of course they are all seedlings, because no grafting was done in those early days. Among them are trees whose trunk measures two to three feet in diameter and they support a crown fifty feet wide.

Today about 1000 acres are planted with cherimoyas in Chile, mostly near the small towns La Cruz and Quillota, and some in the narrow valleys further to the north. It is, however, difficult to talk about acres since they are mostly planted in small holdings of a few acres called Quintas and associated with other fruit-trees, especially avocados. There are some commercial groves in La Cruz which produce nearly 200,000 pounds in a good year. The fruit is all sold in the country. Few and not very successful exports to Argentina have been attempted but never to the northern hemisphere on a sizable scale.

The cherimoya tree gives fruit of very different sizes which vary from a few ounces to four or six pounds. Its skin is tender and can be art easily when the fruit is ripe. All this makes it difficult for packing and shipping. The fruit is picked in spring which here is between August and November, and ripens within one to two weeks after picking. No cold storage is used, because the quality of the fruit suffers from cold.

Since the cherimoya ripens in spring time it has very little competition and sells for prices which are five to six times higher than the peaches and cherries that arrive on the market later. However, a cherimoya grove does not produce as many tons per acre as peaches. Production varies very much, and a crop of 3,000 pounds per acre is considered normal, but under good conditions it is possible to produce 8,000 pounds per acre.

To increase bearing, hand pollination can be applied, following the method developed around 1940 by C. A. Schroeder from U.C.L.A. With careful hand pollination the production of fruit can be increased over a hundred percent and besides, due to a more perfect pollination, the fruit is better formed. Botanically, the fruit is a Syncarpium or a composed ovary, and natural pollination sometimes results in irregular shaped fruit. However, hand pollination is tedious work and has been used only experimentally. Besides, a hand pollinated tree might get so exhausted by a big crop that it fails to bear the next year.

Trees are produced in nurseries from seeds and later grafted. There are different strains with local names like "bronceada," "concha" and others. The trees come into bearing about seven years after planting and the trees keep growing as long as they meet favorable conditions and do not get crowded.

Since the wood is soft and the branches are very spreading, most growers give their trees strong support with poles and cross-beams all around the tree. This, of course, is

expensive and prevents the movement of farm equipment near the trees. However, experiments have shown that this support is not necessary if the trees are kept in shape from the start with moderate pruning.

The cherimoya is a strong rooted tree which resists somewhat better than the avocado drought and moisture, but it is as sensible to frost as the most tender avocado varieties. A heavy frost can kill a cherimoya tree and it does not come back as readily as a frost damaged avocado tree. The cherimoya grows best in places where it does not freeze but near to places where it freezes.

Because of these very special demands on climate, the areas where cherimoyas can be grown are very restricted, and attempts to plant them in other places have met with failure. Nobody uses orchard heaters or windbreaks, because they are not made in the country and imports would be too expensive.

Our cherimoyas suffer from few pests and hardly anybody uses a regular pest control. The principal pest is *Pseudococcus Citri* and there are also some *Acaros*. Trees also suffer from root fungus, but no exhaustive studies have been made yet regarding root fungus in cherimoyas. The Mediterranean fruit fly has been kept out of Chile so far. In general, the sanitary conditions of the cherimoya groves can be considered satisfactory, and the principal hazards are occasional frosts which damage the trees and crop.