

THE AVOCADO IN TRINIDAD AND TOBAGO

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Trinidad and Tobago is one of the young, new, independent nations emerging within the framework of the British Commonwealth of Nations from former British Crown Colonies in the Caribbean region. It became an independent nation on August 31, 1962. In 1967, it joined the Organization of American States.

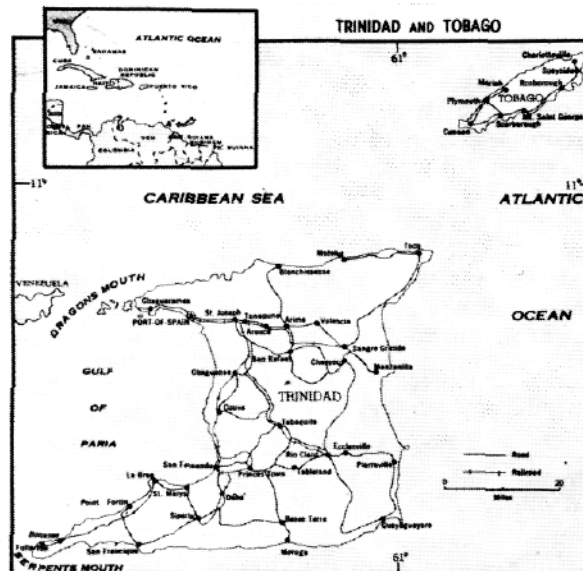


Figure 1. Map of Trinidad and Tobago showing major islands and location in the Caribbean region.

The nation consists of two major islands, Trinidad and Tobago, and numerous small islands. (Figure 1). Port-of-Spain, with a population of about 100,000, is the capital city.

The island of Trinidad is situated off the north coast of South America about 7 miles from Venezuela between 10° and 11° N. Lat. and 61° and 62° W. Long. The island of Tobago lies about 30 miles northeast of Trinidad at 11° 9' N. Lat. and 60° 30' W. Long. Both were discovered by Christopher Columbus on his third voyage to the New World, the former on July 31, 1498, the latter soon after. He named the former La Trinite, keeping a vow he had made on his departure from Spain that he would dedicate the first land he discovered to the Holy Trinity. The name has since become transposed into the

more familiar Trinidad. The smaller island retained the name Tobago by which it was known to the Amerindians before its discovery.

Trinidad is the southernmost of all of the islands of the West Indies. It belongs to the Windward Islands group of the Lesser Antilles. Its climate is tropical and more or less typical of what climatologists classify as the tropical insular type. It has a rainy season that extends from June into January, and a dry season that begins toward the end of January and lasts until May. The average annual rainfall ranges from, about 55 inches on the western side of the island to 100 inches or more on the eastern side. About 90% of the total falls during the rainy months. Relative humidity is always high, averaging around 80% day and night and rarely falling below 60%. Temperatures range from about 65°F to 92°F, with monthly high averaging from 85°F in January to 88°F in September and October. Monthly lows average from 71°F in January to 74°F in June. Life is made bearable, however, by moderate breezes that blow in from the Atlantic Ocean. Climate of this sort is well suited to the production of cocoa, coffee, sugar, banana, nutmeg, sweet potato, taro or eddo, dasheen, mango, avocado, and numerous other tropical crops. Tropical ornamental plants luxuriate on the island.

The climate of Tobago is similar but generally a few degrees cooler, on the average, because of its small size and its location in the Atlantic Ocean farther removed from the continental influence that affects Trinidad.

Trinidad is roughly square in shape, about 40 miles long and 40 miles wide, with an area of about 1680 square miles. It is traversed by three ranges of low mountains and hills, the Northern Range, the Central Range, and the Trinity Hills, with flat or slightly rolling lands in between. Tobago is about 26 miles long and 7 miles wide at the widest point, with an area of 116 square miles. It is low mountainous, the only flat lands being the littoral areas around the perimeter.

At the time of their discovery, Trinidad and Tobago were inhabited by peaceful Arawak Indians, who were killed-off and replaced by the more warlike Caribs. These, in turn, suffered the same fate at the hands of Spaniard colonizers.

Trinidad was colonized successfully by Spaniards in 1592. After numerous battles and changes of possession among European nations it was ceded by the Spanish government to Great Britain under the Treaty of Amiens in 1802. Tobago was ceded to Great Britain in 1814.

The present population of Trinidad and Tobago is just under one million. It is constituted approximately as follows: 44% of persons of African descent; 36% of descendents of immigrants from India; 16% of racial mixtures; 2% of European racial origin; 1% Chinese; 1% Amerindian and various other races.

The avocado is grown and the fruit used extensively in Trinidad and Tobago by persons of all races. It is grown only as a home garden crop, however. At present, there are no commercial orchards, so all fruit sold in private and public markets and used by housekeepers, restaurants, and hotels is supplied by individual peddlers.

The avocado is not native to the islands, consequently it has no Amerindian name. It is known locally as "zaboca", which is a transposition of the Aztec name *ahuacatl* into Trinidadian patios by way of the Spanish "aguacate", and the French "l'avocat".

Excepting a few trees of the Florida varieties Simmonds, Waldin, Lula, Pollock, and Collinson which were introduced fairly recently, all avocado trees in Trinidad and Tobago are seedlings of the West Indian race.

The avocado must have been introduced into Trinidad early in the period of exploration of the Caribbean region and colonization of the islands by Spaniards. Furthermore, there must have been only one or two introduction of seed into the island at the time, followed by virtually no importation of seeds or trees since, for there is remarkable uniformity in the type of fruit coming from the seedling trees. This uniformity probably is the result of selection of seeds from good fruits or good trees through several generations. The majority of fruits are green-skinned, but some trees are to be seen with fruits having skins that are yellowish-green, yellow, mahogany, reddish, and purple.

A typical tree illustrated by Figure 2, A, and its fruit by Figure 2, B.

Figure 3 illustrates a typical green-skinned fruit. It has the thin, smooth, shiny skin, with no conspicuous lenticels, characteristic of the West Indian race. It weighs approximately one pound. The seed is fairly large, accounting for about 25% of the weight of the fruit. The seed coats adhere to the seed, in contrast with many West Indian types encountered elsewhere in the tropics which have the annoying characteristic of the seed coats sticking tightly to the flesh. The flesh is greenish-yellow, and smooth and buttery in texture. The flavor is bland, but good, due probably to its oil content which probably does not exceed 10% and is low according to California standards. It does not give one the impression of being watery, however.

In supermarkets, the fruit retails for about 15 cents in terms of British West Indian (B.W.I.) dollars, which with today's devalued British pound is about 8 cents U.S. Fruit can be bought from house-to-house peddlers and in public markets for about 10 cents B.W.I. or 5 cents U.S.

Handling of the fruit leaves something to be desired, for when harvested it is usually dropped into boxes or gunny sacks. Upon delivery to the market it is simply dumped into a bin or left in the box for display. It is not even uncommon to see a 55-gallon steel oil drum filled full of fruit for sale.

An interesting characteristic of the West Indian race of avocado in this climate is that its flowering and fruiting cycles are influenced by the alternating wet and dry seasons, rather than by changes in temperature or by any influence of photoperiod. In Hawaii, trees of this race tend to lose virtually all of their leaves in December and January, just prior to blooming. They bloom in February and March at the same time as trees of the Guatemalan race and of hybrids between the two races. Fruit maturity begins in June and extends into August, rarely into September. In Trinidad, however, the trees tend to drop their leaves in December and January with the onset of the dry season. Flowering does not usually commence until April or May, and maturity of the first fruits generally does not occur until July. The crop season extends to November, with its peak in September. By the first of December it is almost impossible to find a fruit in the market.

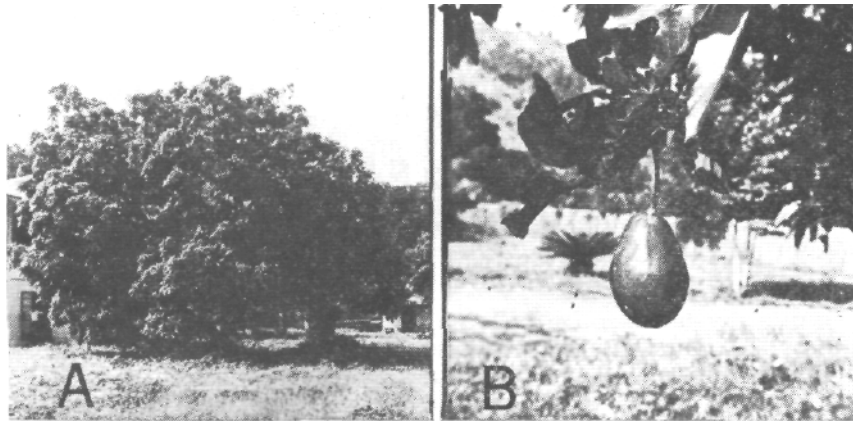


Figure 2. A. Large West Indian Race seedling avocado tree in Trinidad. B. Fruit of the tree shown in A.

Home growers may have fruits in December and January from the Florida varieties that have been introduced. These have not been propagated and distributed very much, however, because of what Trinidadians regard as their indifferent quality.

Horticulturists of the Ministry of Agriculture surveyed the seedling population about 10 years ago and selected a number of the best trees for propagation and distribution by the government nursery at St. Augustine. About 2,000 grafted trees are produced annually. These sell for the nominal price of \$1.00 B.W.I. (about 50 cents U.S.).

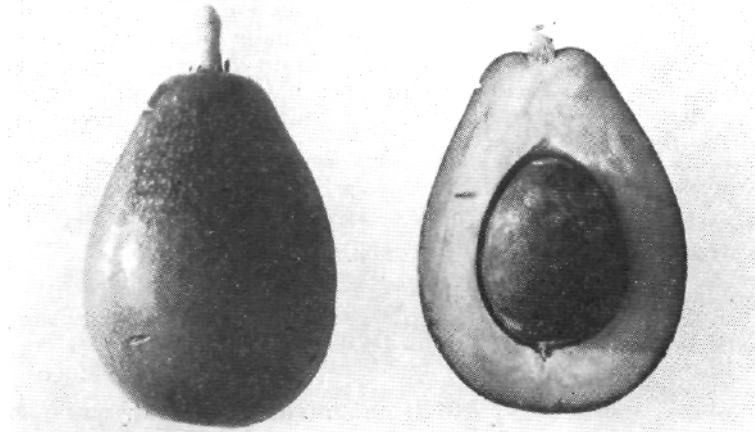


Figure 3. West Indian Race avocado fruit of the type most commonly grown in Trinidad.

A common complaint about the avocado in Trinidad is the comparatively short life of the tree, which is said to be no more than 10-15 years. From my own observations, however, I have formed the opinion that the complaint stems from the fact that most of the trees have been planted on the flat lands which are underlain with a bed of heavy clay, are poorly drained, and are subject to periodical flooding. Numerous healthy old

trees are to be seen along the foothills of the mountains where the soils are sandier, better drained, and well aerated. Tree decline on the flat lands almost certainly is caused by the root rotting fungus. *Phytophthora cinnamomi*, which is known to occur on the island.

During my ten months in Trinidad, I made a point of looking for diseases and injurious insects. Excepting root rot, I found neither. I never found a single case of the diseases which are familiar in California, such as sun blotch, dothiorella canker, anthracnose spotting, end spot, and corkiness. Nor did I find a fruit damaged by insects despite the fact that a fruit fly of the *Anastrepha* species is present which infests guavas, and is sometimes found in mangoes, citrus fruits, and Barbados cherries.

In the summer of 1967, Professor Egbert A. Tai, Chairman of the Division of Crop Production in the Department of Agriculture, Faculty of Agriculture, and Director of Crop Science Research at the University of the West Indies, St. Augustine, Trinidad spent several weeks in California. During his visit he collected scionwood of about a dozen late-maturing varieties and hybrid selections which he sent to Trinidad for trial. He also sent about 50 pounds of seeds to be planted to serve as a source of selections for late-maturing types.

The primary purpose of Prof. Tai's project is, of course, to establish varieties in Trinidad which will extend the crop season well beyond its usual termination date of about December 1. It has two important implications: 1) It will provide the people of Trinidad with avocados for most of the year, if not the whole year around. Presently, the crop season barely stretches from July 1 to December 1; 2) It could introduce an era of commercial production which would enable Trinidad to supply off-season fruit to virtually all of the islands of the West Indies and to the adjacent South American countries of Venezuela, Guyana, Surinam, and French Guiana which, presently like Trinidad, suffer from a plethora of fruit in summer and a paucity during the rest of the year.