

History

The CCA Cherimoya Handbook

Table of Contents

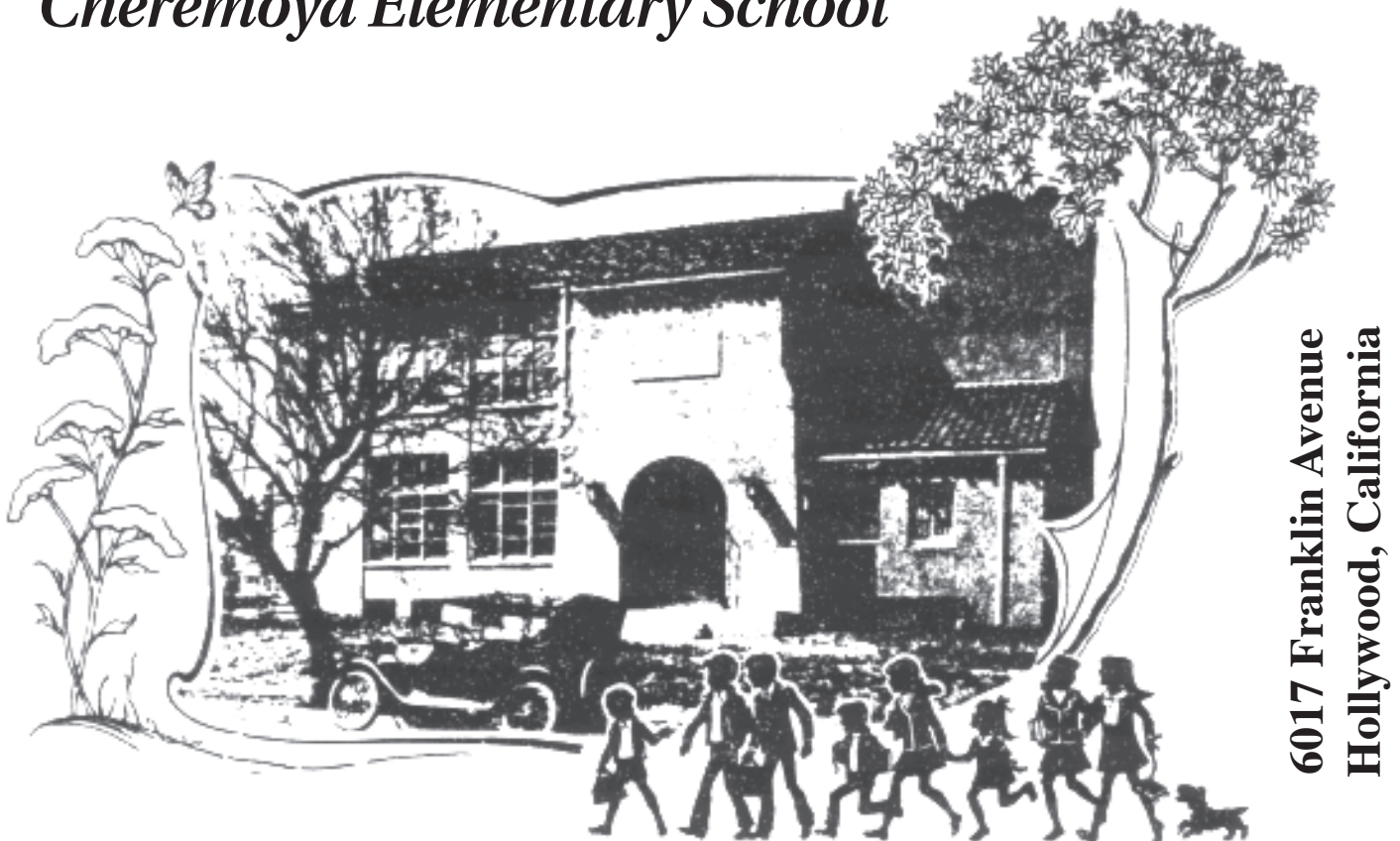
Introduction	2
Origins of the Cherimoya	3
Paleobotany	3
Early History	3
Early History in the United States	4
Cherimoya in California	5
Santa Barbara and Ventura Counties	5
Los Angeles County	7
Orange County	10
San Diego County	11
Registration of New Varieties	13
The University of California	13
California Cherimoya Association	14
References	15



by C.A. Schroeder
Professor of Botany-Emeritus
Department of Biology,
University of California
Los Angeles, CA

Introduction

Cheremoya Elementary School



In 1922 a Hollywood school was named after the cherimoya. Note: A difference spelling was used



Origins of the Cherimoya

Paleobotany

The ancient botanical order Ranales which includes several primitive plant families such as the Annonaceae, Magnoliaceae and Ranunculaceae originated in the Miocene geological period possibly 25 million years ago. These primitive plants are characterized by numerous stamens and pistils arranged in a spiral manner around the receptacle of the fruit. Paleobotanical evidence of these families has been found in Europe, the United States, Mexico, Peru and Chile.

The Goshen site in western Oregon contains fossil leaves of *Annona*. Fossilized leaves of *A. glabriformis* also have been described from Trinidad. Most of the current living relatives in the genus *Annona*, which includes the cherimoya, are presently endemic in Mexico, Central and South America, and in tropical parts of Africa from where they have been introduced into other parts of the subtropical world.

Early History

A “Masterpiece of Nature” was the description of the cherimoya given by the Bohemian botanist Thaddaeus Haenke. He had encountered the fruit in Peru while on the Malaspina Expedition with Captain Berthold-Seemann (1853). Haenke declared that “the pineapple, mangosteen and the cherimoya are considered the finest fruits of the world”. The

great German naturalist and statesman, Alexander von Humboldt (1769-1859), upon encountering the pineapple, tobacco, the Brazil nut, and cherimoya said it “was worth crossing the Atlantic for”.

Mark Twain’s account of his visit to Hawaii in 1866 mentions “we had an abundance of fruit in Honolulu: oranges, pineapple, strawberries, lemon, mango, and a rare and curious luxury called the cherimoya, which is “deliciousness itself”.

Paraphrasing a more recent author, we find Schneider has characterized the delightful fruit as “love at first bite”. Many other superlatives have supplemented the praises of the cherimoya throughout the years. This attractive, exotic, subtropical fruit is one of the major contributions of the New World to the general world of subtropical horticulture.

The species which we know as the cherimoya, *Annona cherimola* Miller, is now considered by most botanists and historians to have originated in the highlands of Peru and Ecuador. Indeed the ancient peoples of those areas depicted the cherimoya as artifacts, and terra-cotta pieces which have been uncovered from many pre-historical grave sites in Peru.

When Columbus arrived in the New World he encountered many new, unknown and attractive plants. Some of these exotic plants, such as the potato and

tomato, were introduced shortly thereafter into Western Europe.

It was not until 1526, however, that Oviedo in his “Natural History of the Indies” described in any detail some of the exotic fruits and otherwise useful plants available from Central and South America. The close botanical relative of the cherimoya, which we know as the soursop or guanabana, was among the fruits mentioned by Oviedo.

Another historian, Ligon, described the “custard apple” from the New World in 1673. The term “custard apple” is somewhat ambiguous as it is an Anglicized adaptation of the Spanish term for apple, the “manzana”.

Early explorers and historians referred to many of the new fruits as the “apple” of the particular region regardless of the botanical correctness or relationships of the species as we now know them.

The common or vulgar term “cherimoya”, as applied to the species *Annona cherimola* Miller, was described by Wester in 1910 as derived from the Peruvian Quechua language and translated as “cold seed”. However, an earlier article by Vicuna Mackenna (1875) points out the derivation of cherimoya, also of Quechua origin, but translates it as chiri (cold) and moya (woman’s breasts), thus, cold breasts.

Don (1831) listed 45 species of “Anona”, each of which was given



the common name “custard apple”. The term “anona” was an early name associated with the syncarp fruit of cherimoya by natives of the island of St. Domingo (Dominican Republic).

Johnson (1863) suggested that “anona” was derived from a local name “nenona” in Benda (Indian-Moloucas). Asa Gray (1895) also indicated that the name anona was a corruption of the Banda (Malaya) word “menona” or “manoa” and not derived from the Latin “annona”, meaning annual provision or harvest of the year.

Webster’s International Unabridged Dictionary defines “annona” as of Roman antiquity, referring to the produce of a year. It was the grain distributed to Roman citizens and to the Roman army. The term identifies the Goddess of fertility, represented by cornucopia.

Linnaeus (1754), the great botanist who named many of the plants we know and use today, probably utilized the latter interpretation in his assignment of the botanical designation to the genus of the cherimoya (*Annona*) and to the name of the botanical family (*Annonaceae*) to which all of these interesting and delightful fruits belong.

The formal botanical description of the cherimoya was made in 1768 by the botanist Miller, who named the plant “Annona cherimola”.

The earliest account of the cherimoya as a fruit recognized in the Western World possibly was that in 1629 when Cobo sent seed from Guatemala to Peru. He also is reported (Morton) to have sent seed to Mexico.

These events would suggest that the cherimoya was then endemic in Central America. The more convincing evidence of Popenoe (1921) now indicates that the cherimoya probably

originated in Peru-Ecuador highlands.

Ligon in 1673 described a “custard apple” in his account of the Natural History of the Barbados, but it is not certain that he had the cherimoya at hand.

Following the early Columbian contacts with the New World and the increase of Spanish and Portuguese explorations, the cherimoya, as a recognized, identifiable fruit, spread throughout the Caribbean area and was introduced on several occasions into southern Europe.

Apparently cherimoya was cultivated under glass in England in 1789. Some records indicate that it was introduced into Spain in 1757. In 1785 it was brought into Jamaica by Henton East. It reached Hawaii in 1790 and Italy in 1797. Specimens were reported in Ceylon in 1880.

Early History in the United States

The earliest records indicate that the cherimoya was first introduced into the United States by Dr. H. Perrine of Florida in 1833. While *Annona cherimola* will survive in the generally high humid climate of Florida, it does not thrive well under those tropical conditions. The species is much better adapted to the more arid and cooler subtropical climate of many areas in Southern California.

With the great migrations of many persons into the western areas of the United States following the Civil War, some of the settlers became fruit farmers in the milder temperate zones of Washington, Oregon and California. The agreeable and attractive climate in many parts of Central and Southern California, in particular, provided an environment for pleasant living and conditions

to grow most of the historically well known deciduous fruits of that period, such as apples, pears, peaches, plums, grapes, and other species. These temperate zone species were found to yield good crops and produce high returns.

The introduction about 1850 of citrus fruits into the southern part of California, where the mild, arid, subtropical climate prevailed, directed the pioneer farmer’s attention to several other untried, exotic and tropical fruit species, including the avocado and cherimoya.

An early interest of the general American horticultural community in the cherimoya and some of its close botanical relatives is reflected in the reports of the United States Department of Agriculture (USDA) by P.J. Wester, who in 1910 described his observations of several *Annona* species and indicated some aspects of their pollination problems in Florida.

In 1914 W.E. Safford, also working with the USDA, described several new species of *Annona* and *Rollinia* from Central and South America. Wilson Popenoe and David Fairchild, plant explorers in the USDA at that time, introduced several species of *Annonaceae* into Florida. Attention was called to these attractive fruits through several books and articles.

Popenoe’s *Manual of Tropical and Subtropical Fruits* (1924) has been for many years the classical reference for basic information on avocado, persimmon, mango, cherimoya, and several other exotic fruits.

David Fairchild traveled extensively particularly to tropical regions, to collect many fine exotic tropical and subtropical fruits. He introduced and established many of these exotic fruits in the USDA Plant Introduction Garden near Miami, Florida. His observations on these fruits are de-



scribed in *The World Was My Garden* (1938) and in *The World Grows Round My Door* (1947).

Some of the *Annona* species and botanical relatives collected by Fairchild were eventually introduced into California and established in the horticultural collections of the University at Los Angeles. These included *Annona diversifolia*, *A. muricata*, *A. senegalensis*, and *A. purpurea*.

The Cherimoya in California

California has developed a leadership in the knowledge and technology of large scale, commercial production of nearly all fruits which can be grown under its wide range of environmental conditions.

This leadership dates from the introduction and development of modern citrus and other subtropical fruit crops beginning about one hundred and fifty years ago. California has not only developed improved cultivars in many fruit species by seedling selection and breeding, but additionally has developed the associated techniques to propagate the species and to market their products.

The propagation and distribution of the superior quality cultivars of many fruit species has resulted in repeated requests from many other subtropical fruit growing countries of the world for the best and latest California selections.

A casual review of the historical records of many foreign subtropical fruit industries show that the Armstrong Nursery of Ontario, California, possibly was responsible for the distribution throughout the world of more of California's horticultural treasures than any other organization. This situation is well docu-

mented by frequent statements in the literature regarding the exchange of cherimoya cultivars.

Some historical aspects of the availability of cherimoya cultivars can be traced in the early listings of cultivars which appeared in the Armstrong Nursery catalogues.

The Armstrong catalogues carried the cherimoya as: 1909 (seedlings), 1916 ('Golden Russet'), 1918 ('Deliciosa'), 1920 ('Anaheim', 'San Diego'), 1922 ('Booth'), 1928 ('Whaley'), 1935 ('McPherson'), 1942 ('White') and 1947 ('Ott', 'Chaffey'). These cultivars were sent to New Zealand, Australia, Israel, Spain, Italy, and other countries where they established the basic cherimoya industries in each of those countries.

Several other California nurseries also became responsible for the promotion and distribution of cherimoya cultivars throughout the many latter years, e.g., Williams and Macpherson Nursery at Encinitas, the M and N Nursery near Fallbrook, the Exotica Nursery at Fallbrook, and the Atkins Nursery near Vista.

The Pacific Tree Farm Nursery at Chula Vista and the Durling Nursery near Fallbrook have dis-

tributed numerous cherimoya cultivars throughout the years.

The old Coolidge Rare Plant Garden in Pasadena and the West India Garden at Altadena both of which no longer exist, were among the earliest nurseries to distribute the cherimoya in California.

Rancho Sespe Nursery of Ventura County at one time promoted the macadamia and cherimoya. The Brokaw Nursery at Saticoy in Ventura County is perhaps the largest current source of cherimoya cultivars in California which ships plants to many foreign countries..

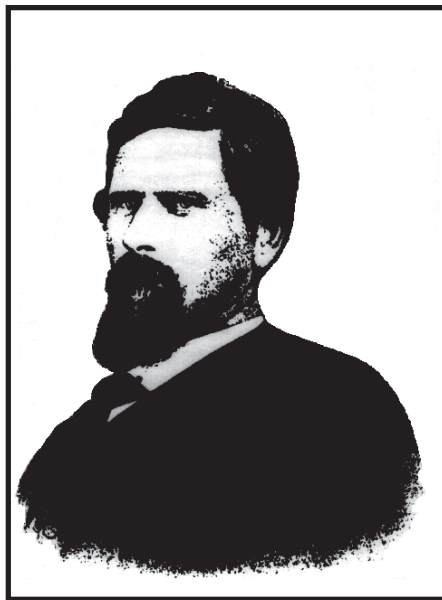
Santa Barbara and Ventura Counties

Judge Robert B. Ord of Santa Barbara in 1871 planted the first avocado tree in California which he had obtained as a small seedling from Mexico. He established, in that same year, a collection of other exotic fruit trees on De La Vina Street, which included the first two cherimoya trees, also obtained from Mexico.

Mr. Albert Packard apparently had 18 cherimoya trees growing on his property at 510 West Canon Perdido Street in Santa Barbara in 1870-71. While Judge Ord pursued gardening and horticulture somewhat as a hobby, it was Mr. Packard who maintained a vineyard and a small silkworm farm in addition to practicing law and serving as the city attorney.

Without doubt, other cherimoya trees were planted at that time in the Santa Barbara area as direct imports from Mexico or as offspring seedlings from the Ord or Packard trees.

Joseph Sexton, who settled in the Goleta area near Santa Barbara in 1867, became a recognized gardening expert and horticulturist. He eventually introduced and established many subtropical fruit species, includ-



Judge Ord



ing the Santa Barbara soft shelled walnut.

In 1890 his collection was reported to have many fruiting specimens of both the avocado and cherimoya. None of the original trees planted by Packard, Ord, or Sexton have survived the subdivisions and other developments in this area.

The cherimoya cultivar, 'Mira Vista', was selected by Walter Beck from a tree on the Mira Vista estate of the Monticeto community near Santa Barbara. Walter Beck lived in La Habra Heights in 1946 where he had developed a small cherimoya orchard of 40 trees that were then 14 years old.

The cultivars in Beck's collection were 'Booth', 'McPherson', 'Mira Vista', 'Whaley' and 'Bays'. Walter moved to Fallbrook about 1950 where he became well known for his skills in propagation of all the subtropical fruits especially the avocado and cherimoya.

Beck served the California Avocado Society in many capacities throughout the years and as president of the organization in 1965-1966. Many cherimoya trees which were grafted or propagated by Walter still exist in orchards and door yards of San Diego County.

Dr. Francisco Francheschi (1843-1924), an immigrant from Italy after whom a public park in Santa Barbara was named, became a prominent local horticulturist. He selected at least one cherimoya cultivar which was recognized as outstanding by the U.S. Department of Agriculture.

Seed of this selection "from the first tree planted in Santa Barbara 40 years ago" was distributed under the Plant Introduction Number (P.I. 27483-1910). Budwood from this tree apparently was also grown under the name *Annona macrocarpa*.

In 1940 Peter Riedel, a botanist and horticulturist with the

Santa Barbara City Parks Department, published an extensive list of observations on many subtropical plant species which had been introduced into Santa Barbara. This list also includes records and observations regarding historical aspects of the cherimoya from several locations throughout Southern California.

Dr. Horace F. Pierce was a medical doctor of the Santa Barbara area well known for his many contributions to our knowledge of human nutrition. He was especially concerned with the value of the avocado in the human diet.

Pierce's wide interests in nutritional aspects of fruits resulted in the planting of many of these species, including the cherimoya, in his ranch orchard near Goleta. After many years of observations Dr. Pierce selected and propagated one of his outstanding cherimoya seedlings which was named after him.

The 'Pierce' has proved to be a valuable selection for the California cherimoya industry, especially in San Diego. Unfortunately, following Dr. Pierce's death several nurserymen attempted to obtain budwood from the unmarked orchard without careful identifica-

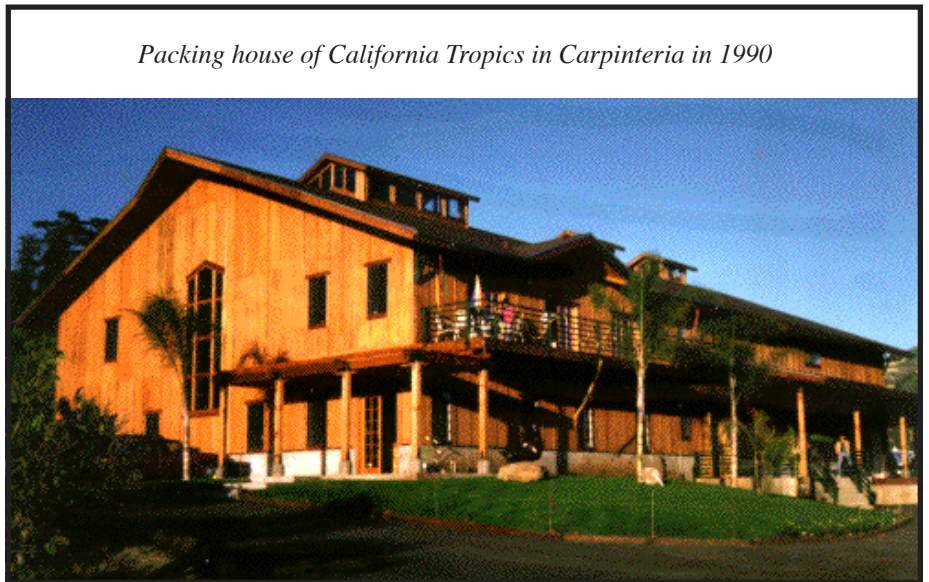
tion of the parent trees. Thus bud selections from several nearby cherimoya seedling trees have been introduced inadvertently into the trade under the cultivar name 'Pierce'. The authentic 'Pierce', which can be identified by the isozyme technique, is still available from some nurseries.

The development of several citrus and avocado orchards in the Carpinteria area of southern Santa Barbara County between 1920 and 1940 attracted the attention of Stanley Shepherd whose family had settled in the Rincon Canyon area in 1920, primarily to grow citrus and avocado.

Stanley continued with the family farm and extended his operations to properties in the Carpinteria area where he explored the possibility of growing macadamia and cherimoyas in this delightful climate. He planted several cherimoya trees "on the mesa" and induced some of his neighbors to do likewise.

Tony Brown, who lived near Stanley developed a "hand shake partnership" with Stanley as they attempted to grow the cherimoyas and avocados. Tony also visualized the potential of the cherimoya as a commercial crop.

Packing house of California Tropics in Carpinteria in 1990



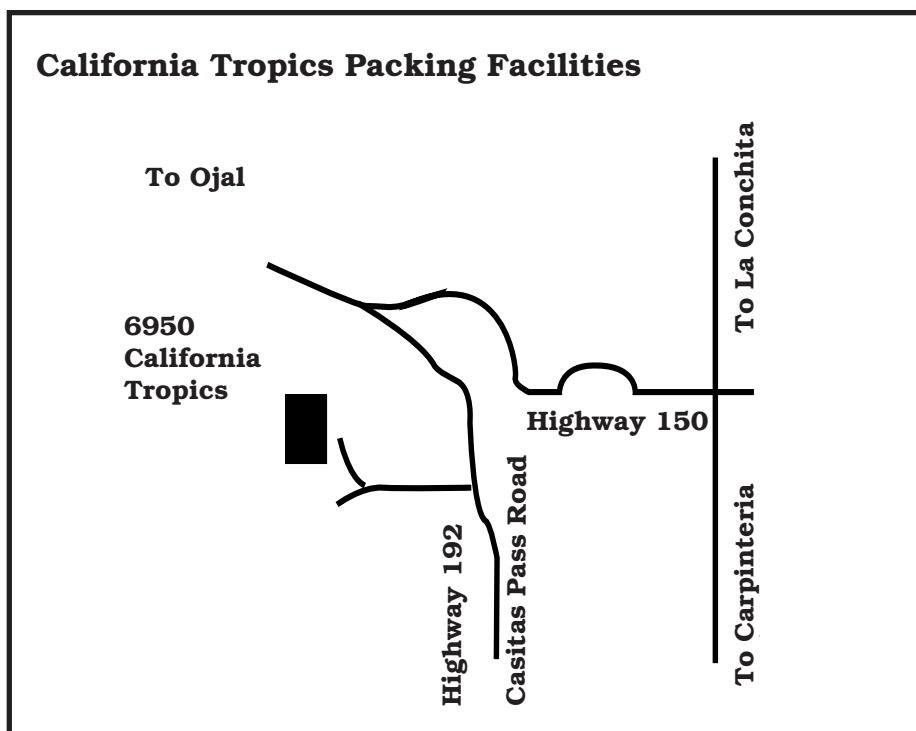
He suggested to the Brown family that they set up a farm corporation "California Tropics", which they did. Tony and his twin brother Jonathan have supervised the field work; Peter Nichols, a half brother, and their sister Emily Miles with husband Bradley have conducted the packing house operations. Rosemary Brown, the mother, is president of the organization which now is devoted to the production, packing, and marketing of subtropical fruits, particularly the cherimoya, feijoa, passionfruit, and the white sapote.

This corporation was founded in 1972; it consisted of 50 acres of the original C.D. Hubbard Fruit Company, which was founded by the grandfather of Tony Brown. The present corporation now operates about eighty acres. Jonathan Brown served for a period as president (199 to 199) of the California Cherimoya Association.

The original galvanized tin packing shed at California Tropics was replaced in 1988 by a modern two-story redwood frame structure with sophisticated modern computer controlled packing belts and current state of the art cooling and storage facilities.

This packing house serves more than 50 growers of the neighborhood who market their fruit through the facility. It is one of the largest and most modern packers of these specific subtropical fruits and is located on Las Casitas Road near Carpinteria, California.

The annual packout production of cherimoya fruit from this facility is approximately one and a quarter million pounds, approximately three quarters of the state wide production. Most of this fruit is shipped to the markets in Los Angeles and San Francisco. About 20 percent of it is sometimes marketed in Japan.



One of the well established and valuable cherimoya cultivars, the 'Bays', was selected from the collection of several subtropical fruit species on the property of the late James H. Bays on Telephone Road just south of the Ventura Community College.

It was here that Bays grew a fine macadamia tree, some guavas and avocados, feijoas and several cherimoyas. In 1913 thirteen seedling cherimoya trees were received by Jim Bays from the Riverside area. Only two of these trees proved to be of any value. Mr. William Weber, a nurseryman, selected one of the Bays trees and introduced it into the trade in 1920.

This cherimoya, of unknown parentage, has indeed proved to be outstanding. The fruit has several desirable characteristics: an almost spherical form which packs nicely, a smooth, mostly fingerprinted surface which is not easily injured while handling, a fine flavor, and good keeping quality.

The high degree of self pollination provides good yields. The

parent tree was in good condition in 1942, but now no longer exists. The Bays has been widely propagated both in California and in many countries abroad.

Los Angeles County

Jacob Miller, born in Germany in 1836, came to the Los Angeles area in 1872. Skilled in marble working, he eventually founded the Pioneer Marble Works on Main Street. In 1877 Miller purchased about sixty acres of farm land (with only half of the water rights), located at the mouth of the present Miller Canyon at the junction of North Ogden Drive and Hollywood Boulevard. Miller moved to Hollywood in 1888. He had married Dora Greick from Germany.

Mrs. Millers' uncle had visited in Guatemala where he encountered a number of exotic fruits which impressed him. Greick brought back to California young plants and seeds of several of these species which included avocado, cherimoya, mango, tamarind, plumeria, coffee, and rose apple.



The newly introduced plants and seed were eventually shared with Miller and planted in the Hollywood orchard.

The avocado cultivar 'Miller' was among the first cultivars selected and introduced into the young California avocado industry.

It became popular and provided a stimulus for the development of the struggling avocado industry at the turn of the century. Several cherimoya trees were simultaneously established on the Miller property and distributed to friends in other nearby communities in Southern California.

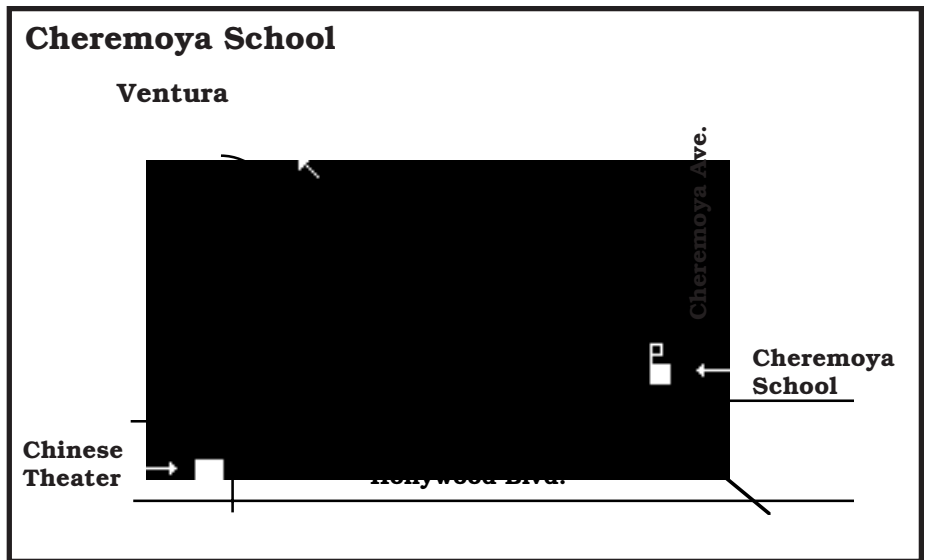
The fruits attracted much attention among horticulturists. Eventually Miller sold the Hollywood property to A.Z. Taft, an entrepreneur and business man who built the Taft Building on the corner of Vine and Hollywood Boulevard, the first 10 story structure in that part of the city.

F.W. Popenoe, the father of Wilson and Paul Popenoe and the developer of the West India Garden Nursery in Altadena, was a highly respected horticulturist. He described (1912) the Taft orchard in Hollywood as "having eighty, fifteen year old cherimoya trees, the largest grove at that time".

Popenoe continued his remarks about the Hollywood area "the (cherimoya) tree grows to perfection and is found in larger numbers than in any locality in the state — certainly it could not be more at home anywhere than it is here".

One of the early cherimoya selections made at the Miller place was described as "the finest tree in all of Southern California. It was listed in the U.S.D.A. Plant Introduction Inventory under the Number P.I. 33184 in 1912.

Popenoe also mentioned that the cherimoya tree was common in door yard orchards and was



frequently used as a street tree throughout Hollywood " where the tree reaches good size and the fruit ripens perfectly"

Near the Taft property, was the home of C.F. Wagner at 1295 Fairfax Avenue where several cherimoya trees were planted. John Armstrong, founder of the Armstrong Nursery in Ontario, California, visited the Wagner property to discover and name one of the cherimoyas the 'Deliciosa', an outstanding cultivar at that time.

'Deliciosa' was first listed in the Armstrong catalogue in 1917. It was distributed widely in California and exported to several countries overseas including, New Zealand and Australia. Armstrong also visited the A.F. Booth orchard in Hollywood where he selected the cultivar 'Booth' and introduced it into the trade in 1921. The cultivar 'Whaley', also selected by Armstrong from the Whaley garden in Hollywood, came into the trade in 1927.

Another point of horticultural interest in Hollywood is the Cheremoya Elementary School located at Cheremoya Avenue and Franklin Avenue, one block east of Beechwood Drive. The school was built about 1910.

The spelling of "cheremoya" in this case possibly can be explained on the basis of poetic license. Modern usage and spelling would require that the name be spelled as "cherimoya". It is of interest that Jacob Miller's daughter, Mrs. Theresa Burdett, was a teacher at the Cheremoya school during the early years.

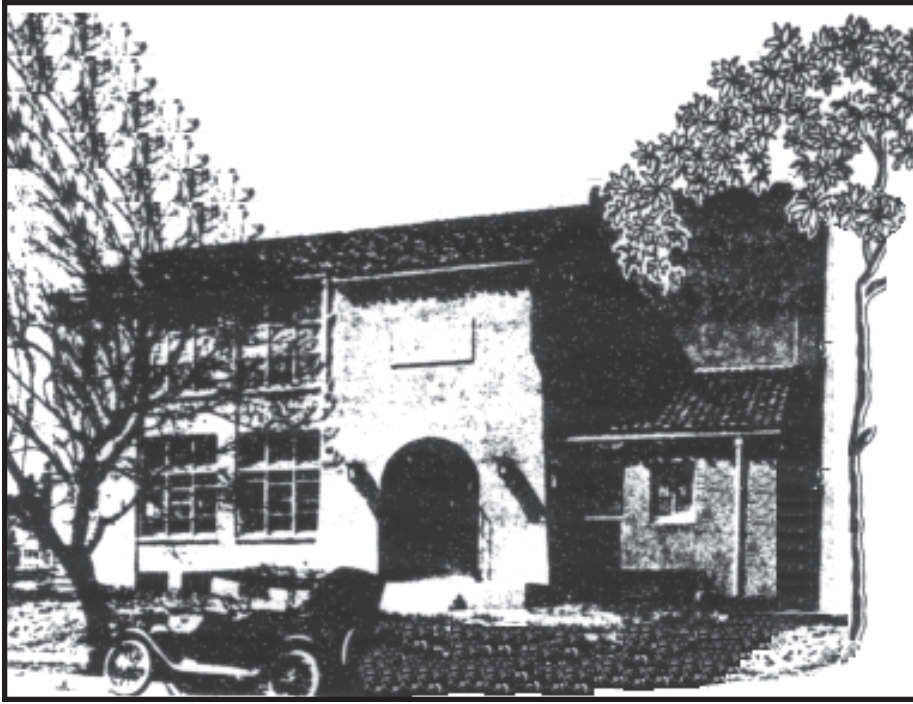
While cherimoya trees were probably common along the streets of Hollywood during the period 1890 to 1910, there are few if any to be found in that area today.

On Arbor Day, April 29, 1994 the California Cherimoya Association presented and planted on the Cheremoya School grounds a specimen of the Chaffey cherimoya. This planting ceremony was to commemorate the naming of the school and to symbolically reintroduce the cherimoya into the community, where it once flourished.

Some of the students assisted in the planting of the tree. A former student of the school of the class of 1922, Natile Emerich, wife of the president of the California Cherimoya Association (1995), was present on the Arbor Day occasion.

The 'Chaffey' cultivar planted at the Cheremoya school originated on the estate of A.W.





Cheremoya School in Hollywood, California

Chaffey, who developed a large property in 1917 on Oakmont Drive in the Brentwood area near Los Angeles.

The Chaffey estate was located about 10 miles west of Hollywood and a mile north of Sunset Boulevard. A.W. Chaffey was president of the Bank of America. He was the grandson of a prominent Canadian engineer, George Chaffey, who came to California in 1875.

George Chaffey was responsible for the development of the water supply and irrigation system which resulted in the founding of the farming community of Ontario, California in 1880. Following his outstanding successful engineering project in California

In 1885, George Chaffey and his brother were contracted by the government of the state of South Australia to design and develop a comparable irrigation scheme for the Murray River district between the communities of Mildura and Renmark.

George Chaffey returned to California in 1890 after his second great accomplishment in Australia to redesign the Imperial Valley Canal and develop the present All American Canal, which now provides water for most of the Coachella Valley and Imperial County.

It was the wife of A.W. Chaffey, Maude Chaffey, who planted a door yard orchard of several fruit tree species on their Brentwood property. She was particularly fond of the cherimoya.

Additionally Mrs. Chaffey later selected one of her best trees to be registered with the California Avocado Society Committee on Subtropical Fruit Varieties (Registration No. 10). The 'Chaffey' cherimoya cultivar has proved of considerable value to the industry not only in California, but also in other countries such as New Zealand, Australia, and Spain.

Several horticulturists in the Los Angeles area during the 1930 to 1940 period retained an active

interest in the cherimoya and did much to improve its culture. Bill Ott, who worked in the electrical trade, was also a keen amateur horticulturist living in La Habra Heights, just east of Los Angeles.

Ott developed a fine collection of several subtropical fruits including mango cultivars, feijoas, jaboticaba, and a number of species of *Annona* including *A. senegalensis*. He was especially proud of his cherimoya trees.

In 1933 Ott planted 300 cherimoya seedlings of which only three proved of superior quality and worthy to be retained. One of these was the cultivar 'Ott' which was patented under Plant Patent No. 656 (1946). This cultivar has been planted in many orchards in California, New Zealand and in Australia.

Another cultivar from Ott's orchard is the 'Bayott' which is still available in the trade. In 1940 Bill Ott reported that he had several trees of 'Bays' and some specimens of 'Esbo' and 'Guad'; the latter probably were local cherimoya seedlings. None of Ott's original trees exist today.

When Will Rogers, the cowboy philosopher, author, actor, and all around gentleman developed his ranch along Sunset Boulevard in the Pacific Palisades near Los Angeles, he purchased some adjacent properties which included door yard orchard plantings of many kinds of subtropical fruits, including guavas, persimmons, avocados, and cherimoyas.

The former Rogers estate has now been converted to a State Park. A remnant of an original cherimoya orchard still can be seen along the winding drive at the park entrance. The University at Los Angeles was permitted to conduct some of the early pollination studies on the cherimoya trees in the Rogers orchard before the property was converted to the State Park.

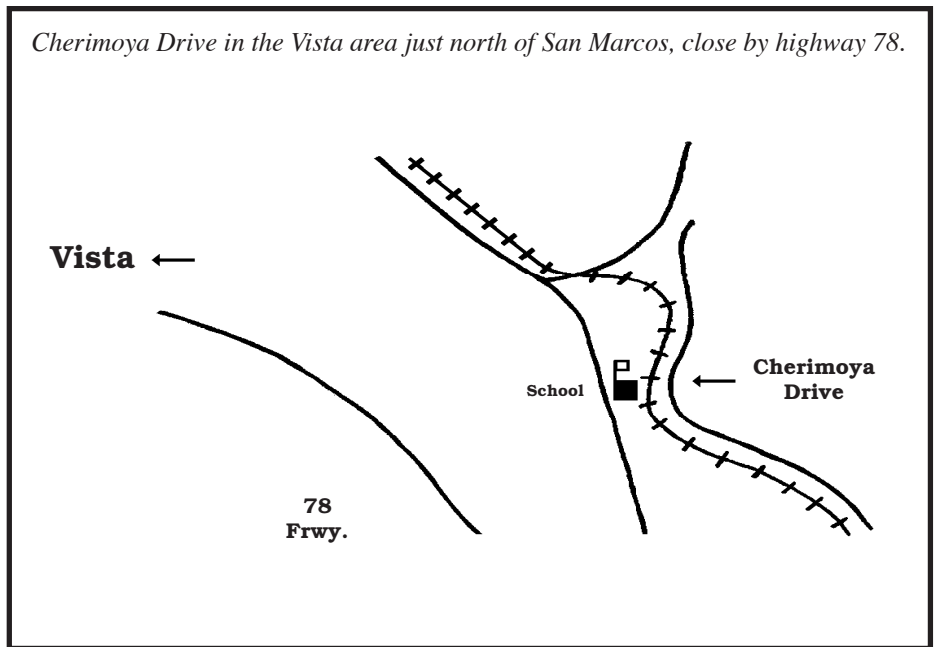


Orange County

The cherimoya had been established and grown in Orange County prior to the early part of the century. It was C.P Taft of Orange who first demonstrated in California that shield budding could be used to propagate cherimoya cultivars. Taft planted several trees among which a selection called 'Golden Russet' possibly became the first named and accepted cherimoya cultivar in California. Apparently this cultivar has been lost.

The 'Golden Russet' was received in the form of two budded trees from London, England by Mr. Burgess of Villa Park, California. It was propagated by Taft who had a number of the trees in bearing at one time. Another cultivar popular at that time, the "Mammillaris", a seedling selection from the orchard of A.C. Calkins of Altadena, also has been lost to the trade.

A trial planting of several dozen cherimoya trees near the headquarters of the Irvine Ranch



Company near Tustin in the late 1920's apparently proved unsuccessful for some unknown reason.

Nearby in the community of Orange the McPherson brothers, Joe and William, were successful horticulturists producing oranges and avocados. In their

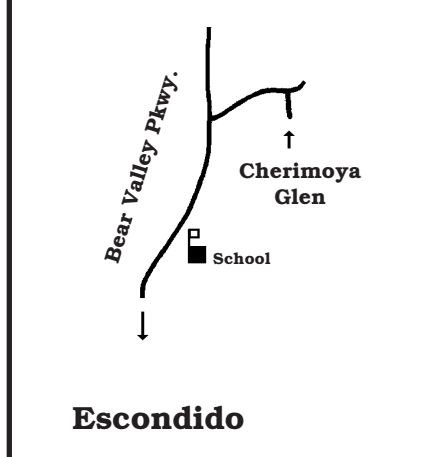
door yard orchards were many other exotic fruits including olives, feijoas, walnuts, persimmons, guavas, and cherimoyas.

Bill McPherson was also a prominent amateur historian who developed a sizable reference library which he eventually donated to the community his-

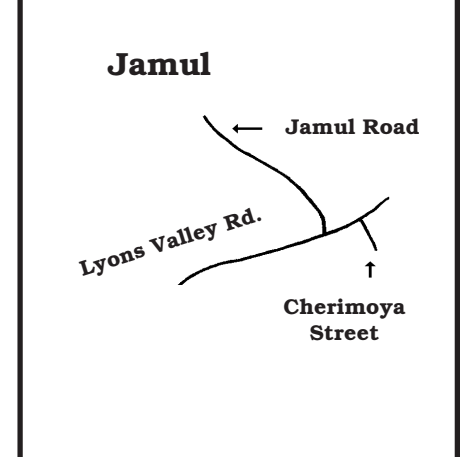
Packed box of cherimoya fruit from the Ben Needham orchard, Vista 1943.



In the northern and eastern part of San Diego County, in the Carson Park community of Escondido, a short road is named "Cherimoya Glen".



In the eastern part of San Diego County near Campo, in the Jamul community between Indian Springs and Jamaca, a street is named "Cherimoya".



torical society. McPherson bought a cherimoya tree from the West India Garden, Altadena, in 1912

A Bill Webber visited the McPherson property where he recognized, selected, and introduced the 'McPherson' cultivar in 1933. The 'McPherson' is still propagated and planted by growers in California and other countries. It produces a high quality fruit in good quantity and has been well received in the market. The parent tree of 'McPherson' has been lost in the urban development of the old farm site on Prospect Avenue in Orange.

Nearby in the Lemon Heights east of Santa Ana, Frank V. Crane developed a small cherimoya orchard which for many years shipped a special wooden carton of cherimoya under the label "Sunnyslope Orchards". These gift packs were "shipped to anywhere within continental United States from December through April".

San Diego County

The early American settlers of San Diego County encountered a number of exotic fruit species which had been introduced from Spain and Mexico by the Mission Fathers. The olive, grape, pomegranate, tuna (cactus pear), peach and several other species were commonly grown along the coastal area and inland in some of the valleys wherever water was available.

There are no records of either the avocado or cherimoya growing in that area until the 1880s. While the Catholic missionaries were the major early promoters and developers of horticultural crops near the mission churches, the very attractive climate eventually brought to the San Diego area a number of other religious groups and sects who also sought to become self sufficient in providing the necessities not

only for their followers but for the general market as well.

One of the more prominent and generally successful groups in this respect was the Universal Brotherhood and Theosophical Society which became established at Point Loma in 1898. This group, under the firm and persuasive direction of Madame Tingley, acquired a property of about 150 acres with a commanding view of the San Diego harbor.

The objectives of this influential organization was to extend the teachings of its oriental philosophy and to promote a self sufficient society within the property bounds. Substantial orchards were established of deciduous fruits — apples, peaches, pears, and other species together with the more exotic, subtropical fruits — citrus, avocados, guavas, loquats, persimmons, and several others including the cherimoya.

Among the very successful superintendents of the farming operations were Orange I. Clark and his brother. Orange Clark developed a special interest in the cherimoya which was known fairly well since specimen trees had been planted throughout Southern California by the more informed and experienced horticulturists.

From the time of its introduction in 1871, the production of fruit on individual cherimoya trees was generally irregular and was dependent entirely on the natural pollination process. Clark made a study of the problem of sparse fruit set of the cherimoya.

Following several seasons of extensive careful observations and recordings of floral behavior, he concluded that there were no natural insect pollinators at Point Loma which could induce fruit set in the cherimoya.

Occasional trees, however, would set satisfactory crops al-

most each year. Most of the other seedling trees and the grafted trees could be induced to develop a satisfactory crop only if hand pollination was provided.

Clark had concluded that pollen transfer by hand was possible, but he did not pursue the problem. From among the many seedling and grafted cherimoya trees in the Point Loma collection, a few were selected because of their outstanding fruit quality and good production. The best of these cultivars was 'Loma' which was named by Clark in 1926. This cultivar probably is still be found in some collections.

Among the several cherimoya cultivars which originated in San Diego County is the 'Carter', which James H. Macpherson, of Williams and Macpherson Nursery, Encinitas, selected in the N.E. Carter orchard, also in Encinitas. The parent tree, of unknown origin, was planted in 1931 by a Mr. Summerville; it was selected in 1938 and introduced in 1941. The fruit is conical with a smooth skin, much like the Ryerson, and is hardy.

The cultivar 'Ryerson', grown by William H. Sallmon from an unknown seedling in his orchard near Chula Vista, was selected by Dr. J. Eliot Coit in 1928 and named in honor of Knowles Ryerson, Dean of Agriculture at the University of California, Davis.

'Ryerson' was introduced in 1935. Another cultivar, 'Sallmon', was selected and introduced in 1931 by Dr. J. Eliot Coit from the Sallmon orchard near Chula Vista. The generally poor quality of the 'Sallmon' fruit, under some conditions, has limited its use in the industry.

Perhaps among the more valuable cultivars in California is the White or Dr. White, which originated on the 'White' ranch near Lemon Grove, California. The original tree of unknown parentage, was selected by James H.



Macpherson of Encinitas in 1928 and introduced in 1930.

In 1915 C.O. Nichols arrived in Bostonia on the outskirts of El Cajon to purchase a hilltop property which was to be named Rancho Alta Vista. Nichols was an amateur horticulturist who had traveled widely. He developed the objective to grow many of the exotic fruits he had encountered in various countries of the tropics in California. His hilltop property was ideal for frost tender species.

In 1945 Nichols' beautiful home on the hilltop was surrounded on the southern side by a contour row of two dozen litchi trees about 15 feet tall; they bore excellent quantities of beautiful pink-red fruit.

In adjacent contoured rows around the house were a tree or two each of avocado, macadamia, capulin cherry, pitanga, white sapote, olive, Natal plum, several cherimoya, and several dozen orange and lemon trees. Among the several cherimoya cultivars apparently the 'Booth' and 'Whaley' were most satisfactory in that area.

Stanley Andrews, a sporting goods distributor in San Diego, purchased the old Nichols place in 1942 and maintained it for several years as his residence. Professor Roy Butler, retired from San Diego State University, purchased the property in 1987.

The problems of an inadequate water supply in the El Cajon area during recent years resulted in a neglect of the estate; regardless, some of the fine old specimens, including the cherimoya, are still surviving.

Another property of historical cherimoya interest near El Cajon was the H.H. Howell conservatory. This was a large glasshouse approximately one acre in area, built near the dam which presently forms a small lake near the summit of Mount Helix. Howell

was a successful, retired oil man from Texas who decided to move to California and grow mango, papaya and cherimoya, three fruits of which he was very fond.

Upon the choice of the hilltop site which was exposed to the cool winds of the Pacific ocean, he was advised that he might need to protect his plants under glass to obtain good fruit quality. His answer "I'll cover the entire hill with glass if necessary".

Howell's access to 100,000 feet of oil drilling pipe and command of a trained crew of welders resulted in a unique framework of pipes held together by 5,000 welds to support 20,000 panes of glass.

An overhead sprinkler system maintained a satisfactory humidity for the tropical garden. This extensive horticultural structure, built in 1950 at a cost of \$35,000, was located near the hillside lake. It was removed many years ago and now has been replaced by several fine homes. Howell did produce some fruits of cherimoya, mango and papaya.

In his opening address before the annual meeting of the California Avocado Association (Society) in 1919, president William H. Sallmon, suggested "that California avocado growers develop an interest in other subtropical fruits", among which he mentioned "loquat, cherimoya, chayote, passionfruit, mango, feijoa, date and guava".

Sallmon himself had a particular interest in the cherimoya. Moreover, Dr. J. Eliot Coit discussed the cherimoya with Sallmon at his Chula Vista orchard and eventually selected one of Sallmon's better seedlings to be registered and propagated under that cultivar name.

Possibly the better known and largest commercial cherimoya production orchard in San Diego County, aside from the Point

Loma project, was that of Ben Needham of Vista. He had been a successful avocado grower in Glendora.

Ben moved to Vista about 1938 to purchase a young hilltop avocado orchard, which included about three acres of cherimoya trees. The cherimoya trees were about 17 years old and consisted of several trees of each of the cultivars 'Booth', 'Bays', 'Chaffey', 'Carter', and 'Deliciosa'.

The problem of irregularly shaped fruits and poor yields eventually was solved when Ben followed the advice of the University to try hand pollination. This approach resulted in the production of substantial quantities of well shaped fruits which were marketed under the logo "NEED-UM-CHERIMOYA".

The early production by Needham was handled by Calavo, the major avocado packing and marketing organization at that time. Calavo divested itself in 1956 of marketing most subtropical fruits other than the avocado. Needham's fruit was subsequently sent to the Los Angeles wholesale market for several years; much of it was handled by Frieda Caplin.

Presently several small fruit packing houses in the Vista and Fallbrook community are packing and marketing the local cherimoya crops from the several small growers of San Diego County.

Among cherimoya personalities of San Diego County, Elwood Trask is remembered for his many contributions through the grafting of many trees, giving lectures, and publishing articles on the fruit and its culture. Phillip Clark of Chula Vista had a small door yard orchard where he demonstrated that the cherimoya could be trained as an espaliered tree and provide good crops.



Registration of New Varieties

Resurgence of interest in the cherimoya as a potential commercial crop in San Diego County from 1930 to 1940 was promoted by several people of that area.

Dean F. Palmer served for many years as Agricultural Commissioner for San Diego County. Dean gained a wide experience with and was very knowledgeable about all the fruit, vegetable and other crop plants crops of California which came under his jurisdiction.

He served for many years as chairman of the Subtropical Fruits Varieties Committee of the California Avocado Society in which position he personally registered many new fruit cultivars including the cherimoyas:

- 'Ott' (registration No. 1)
- 'Chaffey' (registration No. 10)
- 'White' (registration No. 11)
- Sallmon' (registration No. 12)
- 'Loma' (registration No. 13)
- 'Ryerson' (registration No. 14)
- 'Carter' (registration No. 15).

Later, under the chairmanship of C.A. Schroeder the Avocado Society registered the cultivars 'Whaley' (registration No. 28) and 'Booth' (registration No. 29).

Upon termination of the activities of the Subtropical Fruits Varieties Committee of the California Avocado Society in 1956, the California Rare Fruit Growers developed a registration list for all subtropical fruits. Among the cherimoya cultivars registered by CRFG were:

- 'Dorothea Wilkman' (1971)
- 'Bonita' (1973)
- 'Honeyhart' (1976)
- 'Sabor' (1979)
- 'Big Sister' (1979)
- 'Nata' (1985)
- 'El Bumpo' (1986)
- 'Libby' (1986).

A national Registry for New Fruit and Nut Varieties was initiated by the American Society for Horticultural Science in 1944.

Some of the cherimoya cultivars previously registered only in California were then given national recognition. These included:

- 'Bays' (1920)*
- 'Booth' (1921)
- 'Carter' (1938)
- 'Chaffey' (1945)
- 'McPherson' (1933)
- 'Ott' (1946)
- 'Ryerson' (1928)
- 'Sallmon' (1931)
- 'Whaley' (1927)
- 'White' (1920).

*The date indicates the first commercial recognition of each cultivar

The University of California

The University of California at Los Angeles and at Riverside has always been associated with the cherimoya in its horticultural instructional programs and in research projects concerning the plant and its products.

Among the earlier University investigators at Riverside were Dr. H.J. Webber, former director of the Citrus Experiment Station; Professor R.W. Hodgson, Dean of the College of Agriculture at Los Angeles; Dr. J. Eliot Coit of the Berkeley campus, who founded the Division of Citriculture in the College of Agriculture; and Dr. I.J. Condit, Professor of Subtropical Horticulture at University of California at Los Angeles (UCLA) and Riverside (UCR).

In later years the major staff members who worked with the cherimoya at UCLA were Professors F.F. Halma, W.E. Lammerts, J.B. Biale, and C.A. Schroeder.

Programs of instruction and research on subtropical fruits, including the cherimoya, were directed from the Berkeley campus from 1912 to 1929. There is a record of cherimoya trees growing on the campus of the University of California at Berkeley in 1880, but the fate of these specimens is unknown.

The Division of Subtropical Horticulture was moved to the Los Angeles campus in 1929, where the cherimoya investigations were conducted until 1960. Upon the development of a section of the University at Riverside in 1960, the responsibility for instruction and research on subtropical fruits was transferred to that campus.

Many contributions were made by several University staff at Los Angeles through publication of articles concerned with the botany and culture of the cherimoya. Professor R.W. Hodgson was responsible for the establishment of the instructional programs at UCLA for which he had assembled the first cherimoya cultivar collection in 1929.

Hodgson was also responsible for and promoted much of the investigations on all aspects of the cherimoya from 1929 to 1960 at Los Angeles. These projects included the early cherimoya breeding program directed by Professor Lammerts, the pollination studies and cultivar evaluations by Schroeder, and the post-harvest investigations by Biale.

The University cherimoya cultivar collection was transferred in 1960 to the South Coast Field Station near Tustin in Orange County where it has formed the basis for the present more extensive collection.

Many articles concerned with the cherimoya in California have appeared, primarily in two California journals, The Yearbook of the California Avocado Society



has carried 14 articles during the years 1924 to 1970.

The California Rare Fruit Growers Yearbook and Newsletters has published 60 articles on cherimoya during the period 1969 to 1989.

Mimeographed circulars published by the University were:

- "The Cherimoya in California" (Cir. No. 2. 1925)
- "Cherimoya Culture in California" (Cir. No. 15.-1945)
- "Hand Pollination of the Cherimoya" (Cir. No. 14. 1943).

The results of still other cherimoya investigations have appeared in other recognized journals such as Proceedings of the American Society for Horticultural Science and the California Citrograph.

A survey of all known cherimoya growers at that time was made in 1946 by the Division of Subtropical Horticulture. This revealed much valuable information regarding the origin and location of parent cultivar trees and the history of many cherimoya cultivars.

More recent industry surveys made from the University Riverside campus have brought much of this information up to date.

California Cherimoya Association

Interest in the cherimoya in California was promoted in the early 1920's with the support of the California Avocado Association (Society), founded in 1915, and later by the California Rare Fruit Growers.

In the autumn of 1987 a group of several individuals from these organizations who had expressed a special interest in the cherimoya assembled in an informal meeting on October 30th in Summerland. Dr. Ron Bekey, farm advisor for Ventura and Santa Barbara Counties suggested the meeting.

The organizational committee, composed of Edward Atelian, Walter Barrows, Robert Brokaw, Jonathan Brown, Edward Copley, George Emerich, and Scott Van Der Kar, conducted a number of informal discussions that resulted in the formation of the formal body, the California Cherimoya Association, which was officially established as a nonprofit corporation on January 22, 1988.

Rob Brokaw served as coordinator of the Steering Committee. The elected officers were Scott Van Der Kar, president, George Emerich, vice-president, Rob Brokaw, secretary, and Craig Waddle, treasurer. The Board of Directors consisted of nine members.

A group of 53 members was organized during the first year. Two very successful field tours, first to the California Tropics, the specialty packing facility for subtropical fruits in Carpinteria, and the second, a visit to the packing and marketing facilities of Frieda's Finest, in Los Angeles were attended by many of the original members.

The Association has continued to increase its membership and to influence the young industry. The publication of a quarterly Newsletter has provided the members with current information on many aspects of the cherimoya as a unique plant and fruit and has kept them informed of the several problems of marketing and handling of the fruit.

The California Cherimoya Association has financially supported several research projects conducted within the Agricultural Experiment Station of the University of California at Riverside. These investigations have resulted primarily in the development of information regarding the problems of pollination and of the identification of cherimoya cultivars by utilization of isozyme techniques.

Much of the field research for the Association has been conducted at the University of California South Coast Field Station near Irvine in Orange County where the most extensive collection of cherimoya cultivars in California is maintained.



References

- Clark, Orange I. 1925. Cherimoya investigations. California Avocado Association Annual Report 1924-1925: 14-17.
- Cobo, P. 1891. Historia de Nuevo Mundo. Rosco, Seville, Spain 4 Vol.
- Don, G.A. .1831. General History of Dichlamydous Plants
- Ewan, J. 1976. The Columbian (Humbolt) In: First Images of America. F. Chiapella (ed.) Univ. Calif. Press, Berkely pp. 807-812
- Francheschi, Fernando. 1896. Santa Barbara Exotic Flora
- Palmer, E.O. 1978. History of Hollywood. Garland, NY
- Popenoe, F.W. 1921. The Native Home of the Cherimoya. Jour. Hered 12:331-336
- Popenoe, F.W. 1912 The cherimoya in California. Pomona College Journal of Economic Botany 2(2):277-311.
- Popenoe, Wilson 1924. Manual of Tropical and Sub-tropical Fruits. Macmillan CO., NY pp.474
- Riedel, Peter 1957. Plants for Extra Tropical Regions. California Arbor Foundation. Los Angeles, CA 763 pp.
- Seemann, Berthold. 1853. Narrative of the Voyage of H.S.M. Herald. Vol.2. No.2. Reeve and Co., London 2 Vol.
- Vicuna Mackenna, Tomado de B. 1875. De Valparaiso a Santiago
- Wester, P.J. 1910. Pollination experiments with Annonas. Bulletin of the Torrey Botanic Club 37:529-539.

