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REPORT OF THE SUBTROPICAL FRUIT VARIETIES COMMITTEE - JUNE 6, 1953

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The objectives of the committee on subtropical fruit varieties are to observe and study the subtropical fruits in California other than citrus and avocados; to locate, introduce, and register promising new varieties of these fruits; and to gather information concerning the culture and behavior of these plants and their varieties. The information and data thus obtained are made available to members of the California Avocado Society. The committee invites questions and inquiries concerning its work and results. The members of the committee are especially interested to learn of new specimens and varieties of fruits which are being tried in southern California and will appreciate information concerning the location of such specimens. The committee may be contacted through the secretary of the Society.

During the past year field trips into parts of Los Angeles and Santa Barbara Counties were made by the committee to observe small plantings or single specimens of several fruits which are of interest to the subtropical horticulturist. One of the recent tours included a study of the extensive subtropical fruit variety collection of the University of California, Los Angeles. The material of particular interest during the November tour was the large variety collection of the oriental persimmon *(Diospyros kaki)* which has been assembled during the past twenty years. More than 100 varieties and forms are represented in the collection. While the common varieties of persimmon must be soft to be edible, certain other varieties can be eaten while the flesh is still firm. These varieties are known as "non-astringent" types. Varieties such as Fuyu, Jumbu, Hana Fuyu and Gosho are non-astringent. These varieties can be grown in nearly all parts of southern California. More than a dozen of these non-astringent persimmon varieties are now established in the University collection.

The effects of persimmon rootstock type on the yield of fruit and other aspects of compatibility with the Hachiya and Fuyu varieties was observed in rootstock trial plots. It has been clearly demonstrated that among the two rootstocks commonly used for persimmon in California, namely *Diospyros kaki* and *D. lotus,* the former is preferable because it causes less natural fruit shed and probably provides a longer lived tree, especially when the variety Hachiya is grown as the scion. When *D. lotus* is employed as a rootstock for the scion variety Hachiya it results in a vigorous, large tree, but frequently a considerable percentage of the crop is shed as immature fruit from such trees. Hachiya grafted or budded on *D. kaki,* however, grows somewhat more slowly but generally matures a larger crop of fruit on a tree of comparable age. Another fact observed was that the Fuyu variety is virtually impossible to propagate on *D. lotus* root but proves quite satisfactory when grown on *D. kaki* root-stock. It appears advisable that all varieties of the oriental persimmon be grown on kaki rootstock for most satisfactory

results in southern California.

Among the other fruit varieties examined at the University orchard were the macadamias (Queensland or Australian nut). This collection includes some of the outstanding varieties from Hawaii, such as Pahau (425), Keau-hou (246), Nuuanu (336), Kohala (386), Kakea (508), Ikaki (333) and Wailua (475). Another group of varieties from Australia consists of six varieties known only under the numbers Dl, J6, Fl, J4, J3 and H3. These varieties from other areas have been topworked into seedling trees during the past two seasons. Three or four years will be required before observations can be made regarding their fruiting habits and fruit quality. Other selected seedlings of local origin from various trees in southern California are also topworked into the collection for observation and evaluation. The continued interest in the macadamia as a possible replant tree crop in old avocado and citrus orchards has encouraged the committee to continue its search for additional information on the tree and its response in southern California. Promising seedling specimens are being sought especially so that these may be studied and evaluated. The macadamia nut contest sponsored by the California Avocado Society has brought to the attention of the committee several outstanding specimens which are being observed with considerable interest.

The outstanding variety in the University white sapote collection is Pike. This variety has been a consistent and prolific producer of high quality fruit in the Los Angeles area. The skin of Pike *is* quite fragile hence the variety is recommended primarily for home dooryard plantings. The committee is seeking a sapote which has good quality but with a more durable or tougher skin so that it can withstand handling and shipping.

Among the cherimoya varieties, Bays as an early variety and Booth as a late variety have done well in Los Angeles and are recommended for both dooryard and commercial planting. Hand pollination appears to be necessary for satisfactory yield in the cherimoya under most environmental conditions. In a few areas some trees seem to set moderate crops without hand pollination.

A rather unusual planting of pistachio nuts was visited by the committee on the W. F. Beachy place near Canoga Park in San Fernando Valley. This twelve-year-old orchard of seventeen acres has not proved entirely satisfactory for commercial production, however, because of the light and irregular yields, a maximum of 150 pounds having been obtained in a single crop. The failure to produce adequate crops has been attributed to a series of very mild winters which has failed to provide sufficient winter chilling for the deciduous pistachio tree *(Pistachio vera).* The problem is similar to that condition which develops in some temperate climate fruits, such as certain varieties of peaches, when grown in our warmer areas, i.e., the trees do not leaf out well in the spring and form few or no flower buds because of inadequate chilling during the preceding warm winter. Another reason for the inadequate fruit set in this pistachio orchard has been the failure of the male and female flowers, which are borne on separate trees, to mature simultaneously, a condition which has resulted in incomplete and irregular pollination. The pistachio nut varieties in this orchard are the Bronte and Red Aleppo. The pollinator variety is known as Caz.

A small planting of the tropical guava, *Psidium guajava,* is under cultivation on a trial basis in the San Fernando area in the orchard of Dr. Walter Elerath. He has assembled

in the two-acre plot some of the selections made several years ago by the late Dr. H. J. Webber of the Citrus Experiment Station, Riverside, who was enthused concerning the possibilities of this tropical fruit in California. Among the varieties under trial are the Arrons, the Rolfs, and the Webber. Several seedlings of promise also are being propagated and observed. The trees are growing well and have produced fruit of excellent quality. The productive capacity of the young orchard is not known. The fruit now available in small quantity is being used in therapeutic experiments in a local hospital. The tropical guava is one of the common fruits of the tropics which is exceptionally high in vitamin C, hence one o-f the objectives of the enterprise is to provide fresh fruit of high vitamin content for local health food stores.

Santa Barbara County is the area where many of our subtropical fruits were introduced into California; hence it harbors many fine old specimens of fruit trees and has provided trial grounds for many crop plants during the past century. The origin of the southern California walnut industry was in Goleta in 1884. The first cherimoya was reported imported by Judge Orr of Santa Barbara in 1870. The earliest records of avocados, feijoas, and other exotics likewise come from Santa Barbara. The remains of some of these early introductions may be found today in dooryards and in the orchards of old estates.

Among the more recent subtropical horticultural enterprises is the cherimoya orchard of Dr. H. F. Pierce at Goleta. This hillside planting of approximately 500 trees is now 20 years old. The original sixteen trees were obtained for 50 cents apiece from Mr. Knight of Orange, who had previously imported scions of seven selected trees from Mexico. Three selections from the original sixteen trees now constitute the major scion varieties in the present large orchard. These selections, unnamed as yet, are characterized by large, smooth fruits of outstanding quality. The crop is marketed locally from March 1st to the middle of April. Apparently the climatic conditions are favorable for adequate natural pollination at this location, for good yields have been obtained with the assistance of hand pollination.

Some of the oldest macadamia tree specimens in California are located in the Montecito district near Santa Barbara. A beautiful specimen was observed on the old Yates place on Mountain Drive. The most recent interest in the nut is demonstrated in a two-acre planting of seedling macadamia at the John Free place at Montecito. This young orchard, set out two years ago, represents three seedling types of thin-shelled nuts imported directly from Australia. The seedling progenies are known as Tamaris, Sharp, and Petri. The parent trees from which the seed were obtained are reported as prolific bearers of large, thin-shelled nuts. The Petri tree is thought to be especially tolerant to wet soil conditions. It will be five or six years, in all probability, before this orchard will begin to produce fruit. This, one of the largest plantings of macadamia in California at present, is being watched with great interest by the committee and other persons.

The carob tree, *Ceratonia siliqua,* known also as St. John's bread, provides many of the fine shade trees which adorn the streets of Santa Barbara. One of the outstanding plantings of this species in the city is found on La Loma street. It consists of several blocks of exceptionally uniform pistillate trees, which apparently were budded or grafted and presumably comprised of a single scion variety. Dr. J. E. Coit has selected this clone for his variety collection at Vista and has given it the name La Loma.

Again the subtropical fruit varieties committee urges that outstanding fruit tree specimens be called to its attention so that members of the California Avocado Society may know of them.