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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

THE FIG, THE KAKI, AND THE LOQUAT

Botanically, these three fruits are not related to one another. They are here brought together because they have one thing in common: By nature they are subtropical rather than strictly tropical species. In spite of this, fig trees are grown in dooryards throughout tropical America, at elevations from sea level up to 7500 or 8000 feet. Commercially, the future of the fig in this part of the world does not seem too bright, because the fruits need high temperatures to ripen properly, and in most regions where heat is sufficient, rains during the ripening season often cause them to turn sour before they are ready for eating.

The Kaki or Oriental persimmon is seen very rarely in the highlands, even more rarely on the coast. The loquat, completely unsuccessful at low elevations, has attained commercial importance - for local markets - in a few highland regions. This appetizing fruit seems likely to be grown more extensively in the future, provided it is planted in cool, not too wet areas.

THE FIG

The cultivation of this excellent fruit (Ficus carica) dates from earliest antiquity. A native of Asia minor, it reached the Mediterranean region more than two thousand years ago. Theophrastus, the "father of botany" and other Greek writers speak of it; Pliny and other Romans do the same, and it is mentioned several times in the Bible. It came to the New World with the first Spanish colonists, but it did not attain great commercial importance until a century after it was carried to California from Mexico by the Franciscan missionaries in the late seventeen-hundreds.

Like dates, figs are more popular as dried fruits than as fresh

ones. In regions where temperatures during the ripening season are high and relative humidity sufficiently low, their sugar content makes it possible to dry them in the sun, after which they can be stored for months in perfect condition, and shipped all over the world. In the southern United States, and to a limited extent in tropical America, fresh figs of certain varieties are prepared in syrup and sold in cans or glass jars. When grown at medium to high elevations in the tropics, figs do not mature properly. For this reason they are usually picked when green, cooked with sugar, and served as a dessert. Unless they have eaten imported dried figs, most residents of tropical America are thus familiar only with an excellent fruit in an unworthy form.

By nature the fig is a large and broadly spreading tree, which lives to a ripe old age in what is termed a "Mediterranean climate." In tropical America, it rarely attains a height and spread of more than 25 feet. It is deciduous during part of the year. The large leaves are deeply lobed, dark green and somewhat rough above, light green below. The fruit is such a peculiar thing that botanists have had to give it a peculiar name, syconium; it is a hollow, fleshy receptacle on the inner surface of which the flowers are produced. The delicious figs of what is known as the Smyrna type have to be pollinated by insects, because they produce only pistillate flowers and pollen must come from trees called caprifigs, which produce staminate ones. This complex process does not need to concern growers of the common fig varieties known in tropical America: they are parthenocarpic, that is, do not require pollination, and therefore do not produce fertile seeds. In one way, this is regrettable, for the fertile seeds of the Smyrna figs impart a nutty flavor to the fruit, appreciated by everyone.

Normally, fig trees produce two crops a year: fruits of the first or early crop (which are large in size but not so numerous as those

of the later or main crop) are termed brevas in Spanish; those of the main crop, higos (figs). In tropical America, where lack of a cold or dormant season seems to upset the normal biological cycle of the tree, this crop sequence does not seem to be so apparent as it is in real fig country.

Races and Varieties

From the standpoint of the tropical American horticulturist it is scarcely necessary to enter into a discussion of the several races of figs, since he will normally be concerned with only one - what is termed the common fig. But as a matter of interest, the classification adopted by Ira J. Condit of California, an acknowledged authority, is given below:

1. Caprifig type. This, Dr. Condit says, is the primitive type of fig from which the others have been developed. It is of value only to produce pollen required by the pistillate flowers of the Smyrna type, and this pollen must be transferred by tiny insects, known as Blastophaga wasps.

2. Smyrna type. This most important of all figs has been grown for centuries in Asia Minor. It is commonly termed Smyrna because the dried fruits are shipped through that port. In the 1880's horticulturists in California succeeded in bringing the Blastophaga wasp to that State, thus making it possible to produce figs of the same quality as those from Smyrna. The industry has become important. It is not necessary to describe here the complex technique of pollination, or "caprification" as it is called, because there does not seem to be much hope of producing Smyrna figs within the tropics, due to lack of proper climatic conditions. Something might be done on the dry coastal valleys of southern Peru, such as Ica, where date palms produce fruit which is edible but not of ideal quality.

3. Common type. These are the figs grown in tropical America (see list of varieties below). They are parthenocarpic, that is, they do not need the stimulus of pollination to produce edible fruits.

4. San Pedro type. Varieties of this group combine the characteristics of the two first-named groups; brevas or first-crop figs develop without the stimulus of pollination, second-crop fruits are of the Smyrna type and drop unless "castrified."

Most of the figs grown in tropical America are of one variety, the Mission, but there are several other good ones which have been planted here and there. Hundreds of varieties have developed during the long centuries the fig has been in cultivation. The synonymy is endless; Dr. Condit says that Brown Turkey, for example, is known under at least 14 different names. The following list includes the most interesting varieties for this part of the world:

Mission. Probably the most widely known fig of its group; Dr. Condit says that it had been cultivated in Spain for centuries before it was brought to the Americas about 400 years ago. This is the fig which was carried to California by the Franciscan padres about 1770, and planted along the coast all the way from San Diego to San Francisco. It is a black-skinned variety, of good size, and excellent quality. It is extensively utilized as a fresh fruit; it can be dried, but for this purpose its color is against it.

White Adriatic. Said to be grown to a considerable extent in northern Mexico, and believed to be in tropical parts of northern parts of South America as well. As a fresh fruit it is not considered as good in quality as Mission, but in California it is preferred for drying because of its color.

Kadota. A fruit of fine quality. It has been planted in tropical America but no information is available. It certainly should be tested

in regions where weather conditions make it possible to produce well-ripened figs. This variety is considered excellent for canning.

Celeste^e. A small to medium-sized, violet-colored fruit, with firm juicy flesh of excellent quality. It is popular in the southeastern United States where it is considered one of the best for canning and preserving. It has been recommended because the fruits turn downward upon ripening, thus lessening the danger of souring. It has done well in tropical America.

Brown Turkey. A large fig, not considered suitable for drying, but this defect is of little importance in the tropics. Popular in California for the fresh fruit market. The first crop, brevas, are large, pear-shaped, and brownish black; the second crop fruits are usually smaller, with less flavor than the brevas. The flesh is light strawberry red.

Climate and Soil

In tropical America, fig trees are most commonly seen in door-yards at medium elevations - 3000 to 6000 feet. The winters are cool and dry, the summers cool and moist, in comparison with the rather cool winters and long hot dry summers of the great fig-producing countries of the world. While they grow well, trees of large size and great age are never seen. Figs grow in low-lying hot valleys here and there, but the ripening season usually coincides with the period of most rain, which is not favorable. Sometimes really luscious figs are produced in such areas, however, especially when trees are grown in patios where they are surrounded by high walls which intensify the heat. This is the case, at least, in the northern hemisphere.

In equatorial regions (Ecuador, for example) figs are grown at elevations as great as 7500 or 8000 feet. In Mexico and Guatemala they are occasionally seen at similar elevations, but it is useless

to expect well-ripened fruits in such cool climates. It is interesting to note, however, that crystallized green figs are popular.

It is generally believed that fig trees prefer deep clay loams, but they may be grown successfully on soils of many types. The volcanic sandy loams of recent origin, which are characteristic of so many regions along the Pacific side of Central and South America, are excellent for figs. The tree thrives on plenty of moisture, yet it resists drought well, as proved by its behavior in the great fig producing countries. Its habit of sending roots deeply into the soil is useful in this connection.

Propagation

One of the reasons for the popularity of the fig as a dooryard tree is the ease of propagation. Cuttings of mature wood - branchlets which have lost their green color strike root readily, whether planted in the open ground (with adequate moisture at all times) or in propagating boxes filled with clean sand or light soil. It is customary in tropical America to take branchlets half an inch in diameter, cut them into lengths of 8 or 10 inches (with a clean diagonal cut at the base, just below a node) and set them in the rooting medium, leaving not more than one-third of the cutting extending above the surface. It is best to take cuttings during the dormant season. It is essential that the soil or sand be kept moist, but not waterlogged, at all times. It takes several months for a good root system to develop, after which the young trees can go into the open ground - if not already there.

Planting and Culture

Orchards of fig trees are practically unknown in tropical America. The time may come when small ones will be established, to supply fruit for local markets. In all probability, places can be found where such varieties as Mission and Brown Turkey could be produced

satisfactorily on a small commercial basis.

Due to the small size fig trees attain in the tropics, an orchard spacing of 20 x 20 feet would be about right. Little pruning is required, and it does not seem likely that much fertilizer will be needed, unless the soil is poor. Trees should commence bearing at 3, or at the most 4, years of age; annual crops may be expected. In this respect, the fig has the advantage over several more important fruit crops.

Nematodes are a serious pest in some countries, especially on sandy soils. Heavy mulching will control them but this method is of course useful only where there are a few trees to be protected, as in door-yard plantings. Practically no information has accumulated locally regarding pests of the fig tree and its fruit, due ~~of course~~ to this situation: Pests of horticultural crops become serious in proportion to the expansion of areas planted. When avocados first began to attract attention in California, it was thought that this tree had few serious enemies, but with the development of thousands of acres, new pest control problems appeared. A parallel case is that of the banana in the Caribbean region.

THE KAKI

It is difficult to say just why the Oriental persimmon or Kaki (Diospyros kaki) is still such a rarity in the American tropics. One reason may be that it did not reach the western world until the 1870's. Another is that it must be served at just the proper stage of ripeness if it is to be acceptable as a dessert fruit. If eaten before it is in prime condition it is astringent and unpalatable - with the exception of a few non-astringent varieties, none of which seems to have met with great popular favor.

It is native to China, where it is considered one of the best

fruits. It did not reach Japan until about the 6th century A. D., but met with such a welcome in that country that much attention has been devoted to its culture and many varieties have been developed. In tropical America it has shown itself to be well adapted to the highlands, especially those regions which have well-marked dry seasons. Annual rainfall of 40 to 60 inches appears to be about right but irrigation may be required during long dry periods. While it is generally considered that kakis will not grow and produce fruit in the lowlands, occasional trees in Central America have done well, almost at sea level, when on good sandy loams, well irrigated during the dry season. It has become pretty clear, however, that this is not a tree of the tropical rain forest zone.

The kaki is a small deciduous tree, forming a shapely crown with abundant ovate-elliptic or oblong-ovate acuminate leaves, 3 to 6 or 7 inches long, glabrous above and finely pubescent below. While it is often stated that the species is dioecious or polygamous, it was shown by Hume, many years ago, that the distribution of the sexes is very irregular. During the early years of Kaki culture in the United States, many varieties were planted, some of them requiring cross-pollination, others not. Still other varieties were parthenocarpic, that is, did not require pollination at all. Commercial cultivation of the kaki has now settled down to such varieties. This development has two advantages, firstly, no attention has to be given to the problem of pollination, and secondly, parthenocarpic fruits are practically seedless.

Any fruit of which so many varieties are cultivated is bound to show a wide range of forms and sizes. Kakis may be slender conic to oblate, and from one to three inches in diameter. The skin is thin and membranous, as tender as that of an apple. Since the fruit is

not eaten until it is very soft, this makes commercial handling difficult; the fruit must either be sold while still hard, and ripened in the home, or sold when soft and handled with great care. The outside color of the fruit does not vary greatly; it ranges from deep yellow to orange red; the flesh is yellow or orange colored, of almost gelatinous consistency when ready for eating (with exception of the non-astringent varieties, which are eaten before the flesh softens). Seeds, when present, may be as many as eight in number; they are flattened, dark brown in color, about half an inch long.

Varieties

Eight hundred varieties are said to be known in Japan, but ^{T.} Ikeda does not consider more than 90 of these really valuable. In tropical America, the prospective kaki grower will probably do well to limit himself to three, Hachiya (the favorite in kaki-growing regions of the western world), Tane-nashi, and Fuyu, a non-astringent variety.

Hachiya. Perhaps the largest. The form is oblong-conical, with a short point at the apex; length up to $3\text{-}\frac{3}{4}$ inches; color bright reddish orange, with occasional dark spots and rings near the tip; flesh deep yellow, rich in flavor. Usually, but not always, seedless. Astringent until fully ripe. The tree is a vigorous grower, but an alternate or erratic bearer - as are most other varieties. Commercially the most popular kaki.

Tane-nashi. This is a roundish-conical fruit, very symmetrical in form, and up to $3\text{-}\frac{1}{2}$ inches in diameter. The surface is smooth, bright yellow to reddish orange in color, the flesh yellow, of sweet and pleasant flavor. This is a seedless variety, which ripens earlier than Hachiya. The tree is vigorous, prolific, and self-fertile. Considered to be an alternate bearer. Probably the most highly esteemed of the light-fleshed varieties.

Fuyu. Oblate in form, size medium large, about $2\frac{1}{2}$ inches in diameter. Color deep orange-red, the skin thin, tough. The flesh is firm, meaty when ripe, deep carrot-orange. The flavor is sweet, with no astringency even in the unripe fruit. The seeds are few, $\frac{3}{4}$ inch long. It comes into bearing at an early age and produces good crops.

Climate and Soil

Little needs to be added to what has already been written about climatic requirements. The kaki will withstand more cold than is experienced in fruit-growing regions of tropical America, but on the other hand, it will probably do best at elevations between 4000 and 6000 feet in Central America, one or two thousand feet higher near the equator (this seems to be about the usual difference; apples do well at 6500 feet in Guatemala but need 8000 in Ecuador).

Experience in California has shown that the kaki does not need a high degree of atmospheric humidity, provided it is amply supplied with water at the root. It must, however, have good drainage. It is widely adaptable with regard to soil; in Central America it has been planted mainly on sandy loams of recent volcanic origin, which are fine soils for almost any fruit tree. In California it has done well on heavy soils, when well drained, while in Florida it has been successful on light sandy soils, provided they contained a goodly amount of organic matter. Soils should be deep, since the kaki develops a long taproot.

Propagation and Culture

A good deal remains to be learned about best rootstocks for kakis. There are three which must be taken into consideration, and very little experience with any of them has accumulated in tropical America. The one which seems most likely to be suitable is Diospyros kaki itself. In China and Japan a closely related species, D. lotus,

is commonly used; while in Florida the native D. virginiana is preferred. This has been tried experimentally in Central America and does not seem as promising as D. kaki. It suckers very freely; it is not rare to find root suckers appearing 20 or 30 feet away from the kaki tree which was grafted on a rootstock of this species.

Trees may be shield budded like citrus, or cleft grafted. For shield budding, stocks should be about half an inch in diameter and buds somewhat more than an inch in length. When cleft grafted, it should be remembered that in the tropics generally it has been found that scions should not be too long; they should not protrude more than a couple of inches - one or two nodes - above the graft.

So few kakis have been planted in tropical America, that cultural data based on experience are lacking. It seems obvious, however, that the trees will not need to be planted farther apart than 18 or at most 20 feet. For planting in the orchard, George C. Roeding of California writes: "The tap-root should be cut back to 18 inches, and fresh cuts made on all the fibrous roots. After the trees are set, head them back at least one-half. In the second, third and fourth years pruning of the tree should be continued to fashion it into the typical goblet form."

On poor soils, it is recommended to fertilize the trees, nitrogen being the element most needed. Probably a program suitable for oranges would be better, in order to play safe. While it has been stated that grafted kaki trees should come into bearing at four years of age, this has not been the case in tropical America. Because they usually are planted at considerable elevations, they do not have hot summers to produce the rapid growth which is characteristic of important kaki-growing regions.

Kaki fruits cannot well be left on the tree until fully ripe

because their weight may cause them to pull loose from the stem and fall to the ground. Furthermore, birds, bats and wasps are very fond of them. The grower will soon learn to recognize mature fruits: they begin to change color slightly. Picked at the hard-ripe stage, they carry well to market and are ready for eating after two or three weeks. They should always be cut from the short fruit stem, not pulled.

THE LOQUAT

This is an Asiatic fruit which merits more attention than it has received at the hands of tropical horticulturists. Perhaps it has been neglected because it is rather ^{exacting} particular in its climatic requirements. It is not particular as to soils; it is not cursed with the habit of alternate bearing; and it is of simple culture; but the fruit only attains perfection in just the right climate. Ideal conditions seem to be found in Central America at elevations of 4000 to 6000 feet; somewhat higher, of course, near the Equator. On the coast, little if any fruit is produced; at elevations which are too high, the flowers may be destroyed by frost.

Though formerly considered to be native to Japan and China, it is now believed that it originally came from the latter country, where it is highly esteemed and widely grown. In fact, T. Ikeda lists forty-six varieties which are cultivated in Japan, though only nine of them are important. Fifteen varieties have been described from Algeria - a good loquat country - and half a dozen have originated in southern California. The loquat is widely distributed throughout the subtropical world. It would have made more progress in the tropics of this hemisphere if attention had been given to the selection and propagation of superior seedlings, or the introduction of grafted varieties. The average seedling loquat is good enough so that the average man does not take the trouble to look for better ones!

The loquat tree (Eriobotrya japonica), a member of the family Rosaceae to which so many of the fine northern fruits belong, does not attain great size; specimens more than 20 or 25 feet high are rarely seen. It has a short thick trunk, usually branching two or three feet from the ground to form a round, oval, compact crown, densely clothed with elliptic-lanceolate to obovate-lanceolate leaves, rather thick and stiff, with dentate edges. The fragrant white flowers are borne in terminal racemes; the fruits, which are carried in large, loose clusters, are round, oval or pyriform in shape, an inch to almost three inches in length (where grafted varieties are concerned), pale yellow to deep orange in color. The skin, about as thick as that of a peach, encloses the juicy flesh, white to deep orange in color, of a sprightly subacid flavor. Commonly the seeds are three to five in number, ovate in outline, light brown in color, and about $3/4$ inch long.

Races and Varieties

There are two distinct races of loquats, the Japanese and the Chinese. These have long been recognized by Japanese horticulturists, not so long by those of the Occident. This is an important matter, not because of differences in adaptability to climates or soils, but because of characteristics useful to the grower.

Japanese group. The fruits are commonly pyriform in shape, not quite so large as those of the Chinese group. The skin is yellow, the flesh whitish, very juicy, more sprightly in flavor (subacid) than in varieties of the Chinese group. The fruits ripen early to mid-season - another important point - and do not withstand rough handling as well as the Chinese. For this reason, growers in the region of Antigua, Guatemala (5000 ft.), have shifted completely to the Chinese group. The larger size of the Chinese varieties has also been a factor.

Chinese group. The fruit is round to pear-shaped, with a thick orange-colored skin and deep orange-colored flesh, less juicy, more "meaty" than in the Japanese varieties. In keeping quality and resistance to rough handling (as has been mentioned above) varieties of this race are excellent, and they ripen after the Japanese varieties, thus extending the season during which loquats can be sent to market.

It does not seem necessary to describe in detail the best varieties which are presently available; a few notes should suffice. Champagne, of the Japanese group, is one of the juiciest and tastiest, of good size, attractive yellow color, but easily bruised if roughly handled when put on the market. The fruit clusters are large and handsome; the tree is productive. Advance is another good variety of the same group, not considered quite so precocious as Champagne. Tanaka is the leading variety of the Chinese group, if it is really a variety, and not a mixture of several very similar varieties, of which Gold Nugget and Thales of California are two. Tanaka is ^{of} pear-shaped form, Gold Nugget roundish; both are deep orange-colored, with firm, not very juicy flesh, and somewhat smaller seed cavity than in varieties of the Japanese group. They ripen a month or six weeks after the latter. The varieties of the Chinese group tend to produce larger fruits than Japanese varieties, and are popular in the markets.

Climate and Soil

Climatic requirements have been covered above, in a general way. Cool weather during part of the year, and a rainfall of 30 to 60 inches seems satisfactory. During the long dry periods characteristic of many parts of tropical America irrigation is necessary; it should be about the same as for citrus fruit. It has been noted in Japan and California that the best loquat regions lie close to the seacoast. This probably means that humidity should not be low, and temperatures

should not be extremely high - heat, bright light and low humidity result in the fruit becoming "sunburned."

A rather heavy soil is considered best for loquats, but the tree has been grown successfully on many other types; light sandy ones (which will require plenty of irrigation during dry periods) and even stiff clays, if well drained. The volcanic sandy/and clay loams so abundant all down the Pacific side of tropical America have proved excellent.

Propagation

There is no excuse for planting seedling loquats, unless one wishes to grow a large number and select out the best for vegetative propagation. It is as easy to graft loquats as it is to graft citrus - easier than avocados or mangos. The most popular rootstock is the loquat itself, though quince may be used if a dwarfed tree is desired. Loquat seeds can be kept for some time, but it is best to plant them shortly after they are removed from the fruit. Quince is propagated by means of cuttings.

Shield budding is the usual method of propagation. Seedling loquats are ready for budding when the stems have a diameter of about one-half inch; buds should be cut larger than is usually practiced with citrus; an inch and a half is not too long. After a union between bud and stock has taken place, the latter can be lopped (a cut made half way through the stem, after which the latter is doubled over), or it has sometimes been found desirable to cut away the stock-plant completely two or three inches above the bud. It is not always easy to start the latter into growth. Budded trees should be stake-trained in the nursery, and headed 24 to 30 inches above the ground. Budded or grafted trees should not be moved to the field with bare roots; they should be "balled" and wrapped with burlap or other material.

Veneer grafting and cleft grafting are also successful. if

difficulty is experienced in getting the buds to "break" - commence to grow after the stock is lopped or topped - the veneer graft may be used.

Planting and Culture

Based on experience in Central America, a spacing of 20 x 20 feet seems appropriate. Trees may be planted in the orchard at any time of the year, if given after-care, but the beginning of the rainy season is usually preferred. Little need be said about cultural attention; it should be about the same as for citrus. During the dry season monthly irrigations are right, unless the soil is very light and sandy, when they should be more frequent. Nothing can be said about fertilizers on the basis of experience in tropical America. Very little pruning is necessary, except to cut out dead twigs and small branches. The loquat usually forms a shapely, compact crown, with fruit borne at the ends of the branchlets.

Where conditions of growth are favorable, the trees should come into bearing not later than three or four years after planting. Loquats may be harvested individually or by clusters; the former way is usual in tropical America. Little is known about diseases and pests; the fire-blight of pears (Erwinia amylovora) attacks loquat trees in some regions, but nowhere seems to be a serious pest. Birds and bats may destroy some of the fruit.

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DEPARTMENT OF HORTICULTURAL SCIENCE
RIVERSIDE, CALIFORNIA 92502

October 21, 1966

Air Mail

Dr. Wilson Popenoe
1722 N W 2nd Avenue
Gainesville, Florida

Dear Dr. Popenoe:

I am glad to hear from you and to know of your interests. My wife and I spent the month of September touring England, Scotland and Wales with a nephew and niece doing the driving and navigating along the narrow and curvaceous roads. I even took a color shot of a fig tree in London but mostly behaved like a tourist.

Now for notes on your manuscript. I am reminded of the time when I visited the Oaxaca market with a friend who bought two kilos of green or slightly colored Missionfigs. She cooked them in syrup two or three times and produced a preserve sweet but not especially delectable to a California fig nut. Mission figs are produced extensively in Chile for fresh and dried fruit. The latter makes a potable wine.

Page 2. Fig trees seldom reach the age and proportions of olive trees, except in fertile soil along foothill streams. They usually succumb to root troubles when planted in orchard soils. There are two or three nematodes other than the root knot.

Page 4. Bottom of page. Changed as follows: In California the Adriatic is very susceptible to spoilage and infestation by dried fruit beetles and vinegar flies but still ranks second to California in production of dried figs.

Page 5. Brown Turkey grown in California is synonymous with San Piero of Italy.

Seedling figs being produced in California show great promise both for production of fresh and dried fruit. They should be tried in experimental plots.

Page 7. See my book "The Fig" page 180 on Lepidopterous bore²s. Trees in Mexico are commonly infested and branches killed.

Pages 11, 12. See my Bulletin 316, California Station, pages 253-255, on propagation, stocks and pruning. Also page 257 on processing or artificial ripening.

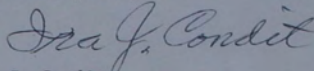
October 21, 1966

Page 16. You might mention bagging of fruit clusters for protection and proper maturing of the fruit as practiced extensively in Japan with loquats as well as other fruits.

I have always regretted the fact that I did not undertake a project on loquat breeding when I came to the Riverside Station 30 years ago. I remember visiting Dr. Fairchild at his Coconut Grove kampong when he was I believe over 80 years of age. He said the doctor gave him hope of many more years so he thought of starting a project on breeding of Anonas, of which he had several species.

Saturday next (October 22) I plan to attend the annual meeting of the California Avocado Society in Orange County.

Cordially yours,



Ira J. Condit
Professor, Emeritus

IJC:mj

Circular 311

April, 1967

Growing Figs In Florida



APR 28 1967

Agricultural Extension Service
Institute of Food and Agricultural Sciences
University of Florida, Gainesville

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THE WOLFE LOQUAT

CARL W. CAMPBELL

AGRICULTURAL EXPERIMENT STATIONS
Institute of Food and Agricultural Sciences
University of Florida, Gainesville
J. R. Beckenbach, Director

