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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.

as well as those on different branches of the same tree, ~~begin~~^{two} to develop~~ment~~ at various times over a period of a ~~couple~~ of months, hence the brief week in which fruit can set on any one panicle does not limit all fruit setting to the same week. From 10 to 20% of the flowers on a panicle are capable of setting fruit, and usually only 5 to 10% of these ever become mature. Nearly all fruit dropping occurs in the first month after initial setting.

(Above should be rewritten;
it is rather confusing at present)

While the lychee is considered a subtropical, rather than a purely tropical tree, experience has demonstrated that it can be grown successfully in the equatorial regions, even at low elevations, if certain climatic requirements are met. ^{Feb 5-68} It needs a check to vegetative growth which in its native home, southern China, is supplied by the annual cold season. ^{Cool} ~~Good~~ weather during several months of the year, ~~but~~ not cold enough to damage orange trees seriously, followed by a long season of warm weather with rather high humidity, would seem to be optimum for the ~~production of~~ good crops.

At low elevations in the tropics, the necessary check to vegetative growth ^{can} ~~is~~ to a large extent ^{be} supplied by a long dry season, during which very little irrigation should be given the trees. Where such a dry season does not exist (~~and~~ ^{and} around the Caribbean as opposed to the Pacific side of tropical America) there does not seem to be much hope for lychees, ^{at low elevations, at least for} ~~using~~ the finer varieties of the present day. If, during the ripening season, the weather is certain to be very hot and dry, good crops may be produced but the fruit may not ripen properly. It may split open, and the flesh may not be deliciously juicy. It seems quite possible, however, that this situation might be controlled artificially, ~~on a limited basis.~~ Perhaps by ^{enclosing} ~~the~~ the fruit clusters in polyethylene bags.

Efforts to induce dormancy - to check vegetative growth - by chemical means have, of course, ~~been~~ been made experimentally, but so far ~~with~~ with no very satisfactory results. In summing up this problem, it may be said that in Central America, elevations of 3000 or 4000 to 6000 feet provide sufficient chilling, [but the climate must be dry during several months.] Low elevations are ^{only} ~~are~~ satisfactory if they experience 4 to 6 months of really dry weather during the year.

While it used to be thought that the lychee needed an acid soil, experience has shown that this is not the case. It has grown well on volcanic sandy loams with a pH value of about 6.5 in Central America. and it tolerates the calcareous soils of southern Florida and Cuba. On stiff, impermeable sandy clays in Honduras it has not done well, but neither have most other fruit trees. Mangoes are an exception, avocados are not. On the whole, it seems safe to say that the lychee grows well in many tropical and subtropical climates, so long as it is not pushed too far up against the frost line; that it is not exacting as regards soils, if they are well drained; but that it is highly temperamental, if one can use such a term in horticulture - and that much attention will have to be given to the search for ~~the best~~ varieties in any given region. *The tree must be helped to attain proper dormancy so that it can have the proper dormancy to let it build up reserves for fruit production, where this is not provided by an adequate amount of cold weather, which means that we must count on a period of dry weather, and proper control of nutrition.* It seems something like the case of the mango in this regard: Too much water in the soil at the wrong time, too high a nitrogen intake (in some instances to be controlled through the fertilizer program) and most probably, a few other factors not yet fully understood.

Propagation

When a fruit tree of great commercial importance has been propagated for some ²⁰⁰⁰ ~~two thousand~~ years, in a country of highly skillful horticulturists, by a simple and inexpensive vegetative means, it often takes some time to develop improved techniques. This seems to be the case with the lychee. When a fruit has been developed through selection of superior seedlings or valuable mutations, vegetative propagation is of course essential. The Chinese have used the method

known as air-layering or marcottage (called ~~guti~~ in India) which is now well understood in tropical ~~America~~ and subtropical America. The planting of lychee seeds should be encouraged, of course, because from these come new varieties, one of which, ^{occasionally} ~~once in a long while~~, has great horticultural value. But for the establishment of an orchard of a known and desirable variety, ^{marcottage} ~~air-layering~~ is standard practice today. The possibility of grafting on vigorous or otherwise ~~more~~ desirable rootstocks has of course been discussed, and tried. The future may hold important developments in this field. But up to now, the age-old Chinese method has proved remarkably satisfactory, especially since the advent of plastics such as Vinyl film. This is the method as ^{developed} ~~improved~~ by the late Col. William R Grove of Florida:

Select vigorous branches on a tree which it is desired to multiply. These should be of recent growth, but not tender and soft. They should be somewhat thicker than a lead pencil, but not more than ^{an} ~~a~~ half inch in diameter. Remove a ring of bark, about an inch long. Prepare a soft, moisture-retaining rooting medium - moss, light soil, perhaps some well-rotted cow manure, ^{or} ~~and~~ the like. Form a ball around the limb from which the ring of bark has been removed, ^a ball four or five inches in length, three or four in thickness. Tie it in place with string or any sort of soft fiber. Then wrap this ball in plastic, not cellophane, but a plastic of the vinyl type, which permits the escape of gases but not moisture.

The marcot (air-layer) requires no attention ^{for 3 to 5 months} until roots are showing ^{within} ~~with~~ the plastic. This is ^{one} ~~the~~ great advantage of using ~~one~~ of the modern plastics. In the ~~old~~ days, the air-layer, marcot or guti had to be watered regularly until the time came to remove it from the parent plant.

Now comes the important stage in lychee propagation. Marcottes ^{//} can not be removed from the parent tree and planted directly in

the field. The roots are soft, fleshy, and easily dry out. The young plants must be established in pots or other containers for six months - a year is better - before they go into the future orchard. And they must be kept moist during this period. In Florida young lychees are put in a greenhouse or ^{half shade} lath house, and kept from drying-out by a mechanically-controlled spray or "fogging" system. In tropical America, this has been successfully replaced - in humid climates - by holding the recently-potted marcottes in ~~half shade~~ or ~~slat house~~, and sprinkling them frequently. At the risk of repetition, it must be emphasized that the marcottes must not be moved to the field until they have had sufficient time to become thoroughly established, ~~and~~ After going out of the half-shade, they should be given a brief hardening in full sun, with daily attention, before they are exposed to the rigors of orchard life.

Planting and Care

Not much can be said on this subject, because experience is still lacking in tropical America. Planting distance depends somewhat of the variety of lychee and on the fertility of the land - but such statements are platitudes. It is well to keep in mind, however, that the tendency in general is to plant tropical fruit trees too closely together. The planter argues; when the trees begin to crowd I will cut out every second one. This program is rarely carried out, and even when it is, the trees which are left suffer from the drastic change in exposure to light. It has been recommended that lychees be planted 25 to 35 feet apart. On good soils the latter is probably the advisable minimum, and 40 feet ideal.

Practically nothing can be said about fertilizer requirements in tropical America. Some experience has been gained in Florida, but

soils in that State are so unlike those of most parts of the tropics that it would be unsafe to recommend fertilizer formulas which are recommended there. Probably the sort of program which has been found satisfactory for citrus fruits, in any given region, would prove desirable for lychees, keeping always in mind, however, the danger of encouraging vegetative growth at the expense of fruiting.

Once the young tree is formed, practically no pruning is required, except the standard treatment for most other tropical fruits - cutting out dead or malformed limbs. Since lychees are borne on the periphery of the tree, no thinning out is ^{necessary} ~~required~~, as it is with a few fruit trees, and most certainly ^{no} ~~no~~ useful purpose is served by "heading" the tree high - that is, cutting off all the branches which are within ⁴ ~~five~~ or ⁵ ~~six~~ feet of the ground. This vicious practice has been mentioned in connection with citrus culture. Especially in dry climates it is desirable to have a dense canopy of shade over the area in which there are feeding roots.

Trees set in the orchard should come into bearing four or five years after planting. Irrigation practices will have to be worked out in accordance with climatic conditions - cool weather, ^{or} ~~on~~ the necessity of withholding water to induce dormancy. Practically nothing is known, as yet, about the pests which may attack lychee orchards in tropical America.

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THE RAMBUTAN

This tropical relative of the lychee is native to Malaysia, and is a favorite dooryard tree in many parts of ^{southeastern Asia} ~~that region~~. It was brought to Central America from Java in 1927, and has proved so successful in the wet rain-forest coastal area that it eminently deserves wider dissemination. The fruit is nearly as good as that of the lychee; the tree annually produces large crops, and its cultural requirements are easily met. While native to regions with heavy rainfall practically throughout the year, it has been demonstrated in Central America that it can be grown, with irrigation, in semi-arid climates, from sea level up to 2500 or 3000 feet elevation.

As seen in cultivation, the rambutan (Nephelium lappaceum) is a tree 30 or 40 feet high, with ~~2 to 4 pairs of~~ leaves resembling those of the lychee, except that the 2 to 4 pairs of leaflets are ~~obtusely~~ ^{obtusely} ~~instead of acute at the tip and are gray-green on the lower surface.~~ ^{larger, shining and dark green above, paler beneath.} The flower panicles are ~~are~~ axillary ^{or} terminal, loose and spreading in form, the flowers small and inconspicuous. Some seedling trees bear only male flowers. Externally the fruits are quite different from lychees, being covered with soft, ^{slender} fleshy protuberances or "spines" which give the common name to this fruit, rambutan meaning "hairy" ^{the} in Malay. The color varies from yellow to dark red; the ~~form~~ ^{fruit} is oval; the size from 1-1/2 to 3 in. long. The thick pericarp peels away readily from the ~~the~~ white, juicy pulp which clings tenaciously to the large seed. The flavor is subacid, much like that of the lychee, ^{It is considered} ~~almost as good as the latter fruit, in spite of the fact that~~ ^{though the} pulp is slightly "raggy" — it does not melt in the mouth, ^{as lychee flesh does.} ~~as does that~~ of the lychee. The ripening season in Central America extends from July through August and September.

language.

Several named varieties are cultivated in Malaysia, which are propagated in the same manner as the lychee, that is, by marcottage, (~~air layering~~). This method has proved quite satisfactory in Central America, when sufficient attention was given to establishing the young plants in pots under shady, moist conditions before setting them in their permanent positions in the field. It is best to place the marcots on the trees shortly after the beginning of the warmest season of the year. Roots will form within 3 ^{to 5} months. Grafting by the approach method, and Forkert budding are said to give satisfactory results, but more skill and care are required than with the older method of marcottage.

Two or three of the good Malaysian varieties have been established experimentally. Others will be developed locally, as time goes on, and seedlings come into production. Cultural practices are ~~practically~~ the same as for the lychee, except that the problem of a dormant season does not exist. No pruning is required. Seedlings come into bearing at the age of 4 or 5 years; marcots at least a year earlier. The rambutan is considerably more susceptible to cold than the lychee; it does not tolerate frost.

THE PULASAN

Perhaps not quite so delicious as the rambutan (though opinions differ on this point), the pulasan (Nephelium mutabile) is very similar in its climatic adaptations. It comes from the same part of the world as the rambutan, ^{and} ~~it~~ is of considerable interest to residents of tropical America because it is another of those fruits which thrives and produces fine crops of fruit in the hot, humid, rain-forest coastal regions, or others at low elevations.

~~Native to~~

Indigenous in Borneo and perhaps the southern Philippines, it is cultivated in that region and adjacent ones, as a dooryard tree rather than in orchard form. This is no reflection upon the fruit itself; orchard plantings of even the choicest fruits are rare in the tropics. It was introduced into Central America at the same time as the rambutan - 1927 - and has proved wholly successful, on the Caribbean littoral. The tree is somewhat smaller than the rambutan, but the leaves are very similar and so are the inflorescences. The only notable difference is in the fruits. These are of about the same size as rambutans, ^{with} and the same range of colors, but instead of the long, soft, slender "spines" which characterise the latter, the ~~mutant~~ fruits are covered with short, blunt protuberances, somewhat pyramidal in form. The pericarp is considerably thicker than that of the rambutan. Since the fruits are of approximately the same size, this results in less ~~fresh~~ flesh, which is yellowish-white, juicy, with a little more "rag" than the rambutan. The flesh may or may not cling to the ~~seed~~ large seed; this depends upon the variety, for in this case, as with the rambutan, several named varieties have been established in southeastern Asia, which are propagated by marcottage but are not yet well known in tropical America.

Because the fruits produced in Central America are not as juicy as ~~rambutans~~, and because the flavor of the latter is somewhat more sprightly, it would seem preferably to devote major attention to the rambutan.

THE LONGAN

Opinions differ regarding the value of the longan (Euphoria longan), a close relative of the lychee, much cultivated and esteemed in these parts of southern China where ~~the~~ lychee is an important crop. Though it is more cold-resistant than the lychee, is easier to grow,

and does not have the erratic bearing habits of the latter, not much attention has been devoted to it in the New World. Numerous Chinese horticulturists, as well as Westerners who have lived and worked in China, have expressed the opinion that there are varieties of the longan which are definitely worthy of cultivation in tropical America.

The longan is, like the lychee, a tree which grows to 30 or 40 feet, ^{but is much more upright in habit.} The leaves are compound, with ³ ~~two~~ to ⁷ ~~six~~ pairs of elliptic, lanceolate, glabrous, ^{dull} ~~glossy~~ green leaflets. The flowers, ~~are~~ borne in terminal and axillary panicles, are small and unattractive as in other members of this family. (~~Guadalupe~~). The fruit is round, ~~1 in.~~ ~~1 1/2 in.~~ or a little less in diameter, light brown in color, with a thin shell-like outer covering and white flesh (aril) similar in character to that of the lychee but less sprightly in flavor - at least in the seedling forms which have been grown in tropical America. The single large seed is dark brown and shining.

In the Uplands of Honduras, the longan has shown that it can tolerate heavy soils and severe drought. In Guatemala it has grown well at elevations of 5000 feet. It may be slow to reach bearing age, but when it does, ~~xxxxxxxxxx~~ abundant annual crops seem to be the rule. Until ~~xxxx~~ the best varieties available in southern China, and perhaps elsewhere, have been planted experimentally in tropical America, it certainly is wise to believe that the longan may have good possibilities in this part of the world.

The Mamoncillo

Melicocca bijuga L.

This American relative of the lychee has never gained favor outside the American tropics, but is widely popular within them, from southern Mexico to Colombia and Venezuela, and all through the West Indies. In Florida it is usually called Spanish-lime, from the resemblance of its fruits to small limes, in Cuba mamoncillo, in Puerto Rico quenepa, and in Yucatan guaja. It is vigorous on a wide variety of soils and under various rainfall patterns.

The tree reaches a height of 60 ft. and is a handsome evergreen. Leaves consist of 2 pairs of leathery leaflets, the upper pair usually somewhat larger, 4 to 5 in. long. Seedlings are either monoecious, with both pistillate and staminate flowers, or staminate only; the latter never bear any fruit, of course. Fruits are borne in a small cluster, ^{Certain} like muscadine grapes, at the twig tips. Each fruit is about 1 in. across, round, and has a tough, green pericarp surrounding a juicy, yellowish aril. The flesh is usually somewhat tart but pleasantly so, and imbedded in it is a fairly large, round seed. The ripening season is July to October in the West Indies. There is much variation among seedlings as to acidity, from almost as acid as limes to the blended sweet and acid of oranges. Unripe fruit is not only acid but also astringent. No varieties have been named.

Propagation is usually by seeds, which germinate and grow readily when fresh but lose viability quickly. Because seedlings may bear no fruit, or fruit of poor quality, it is desirable to propagate good seedlings vegetatively. ^{However, in} ~~However, in~~ marcottage has not been ~~anywhere nearly~~ so successful as with the lychee, and approach-grafting on mamoncillo seedlings has been uncertain in results. ^{Little} ~~Nothing~~ is known of cultural requirements, ^{Since} ~~as~~ only dooryard trees have been ^{grown} ~~planted~~. ~~However, pests are reported~~ ^{as rarely troublesome.} X

THE LYCHEE, AND SOME OF ITS RELATIVES

In southern China, where it is native and has been cultivated for more than two thousand years, the lychee (Litchi chinensis) is considered more delicious than either the orange or the peach. The provinces of Kwang-Tung and Fukien produce more lychees than all the rest of the world together, though in relatively modern times northern India has become an important center of lychee culture, and quite recently, orchards have been developed in South Africa.

Commercial production in southern Florida, where this tree does not seem to have been introduced much before the end of the past century, has reached the point ^{where} there is a Lychee Growers Association which in 1967 handled about 30,000 pounds of fruit. In Hawaii also there is much interest in lychee culture. About two centuries ago the lychee was planted at the Botanical Garden in Bath, Jamaica, and perhaps elsewhere in the West Indies, but it has never been propagated extensively in the Antilles. Since 1900, ~~strees~~ ^{where} received from nurseries in Florida have been planted on an experimental scale in Mexico, in Guatemala, Honduras and El Salvador, and in western South America as well as in Brazil. One or two small plantings were made in Cuba, but did not prove profitable.

The Chinese name of this excellent fruit is said to be derived from two words, li, to cut, and chee, a twig, referring to the habit of harvesting the fruits by cutting the clusters from the branch-tips. In northern China the pronunciation is lee-chee, but in the Cantonese dialect of the south it is lychee. This spelling, and this pronunciation, has been adopted in Florida. Numerous orthographical variants occur in the literature - lichee, lichi, litchi (the specific botanical name) and so on.

The native home of the lychee is a region of very cool winters and warm moist summers. These conditions are not easily duplicated in most parts of tropical America. Lychee trees have failed to bear good crops - or have not produced any fruit at all - in the rain forest area of the Central American littoral. Inland, however, but still close to sea level, good crops have been produced, though ^{not} with satisfactory regularity, in regions where the climate is marked by a severe dry season of three to five months' duration.

X The lychee is almost as frost-resistant as the orange but not quite. In Central America, its chilling requirement seems to be met, in part at least, at elevations of about 5000 feet. Regions where it has been planted at such elevations are often characterized by dry periods which assist in deterring vegetative development. Even under such conditions, the lychee has thus far proved to be a very erratic bearer. Not only is there a strong tendency toward alternate bearing, but sometimes fruit will develop on one side of the tree, not on the opposite one, or twigs which arise from one of the main branches may be the only ones to produce a crop.

This unsatisfactory situation has been the subject of much investigation, especially in Florida and Hawaii. Trees have been sprayed with chemicals which induce dormancy and permit the accumulation of nutrients in the twigs and branches which will result in fruit-bud ^{ti} initiation. Girdling large limbs has been tried in numerous regions, with gratifying results; but this is a practice which can not be continued indefinitely and therefore is not commercially feasible. F.A. McClure, an able horticulturist who lived for years in the vicinity of Canton, China, makes this comment regarding girdling or "ringing": "Of course it cannot be used habitually, for obvious reasons, but the Chinese have another method, which I have seen used. This method consists of judicious hacking (making small open incisions)

in the bark of the trunk and/or larger branches. It has the immediate effect of impeding the flight of nutrients downward from the periphery branches by damaging the phloem locally. This damage is slight and is promptly repaired by a healthy tree."

This is the same technique which is commonly used in connection with mango trees in parts of tropical America. Its beneficial effect is so generally recognized as to have given rise to the West Indian saying, "A woman, a mule, and a mango tree, the more you beat them the better they be" and it is the custom to carry out this practice (as regards the mango) toward the end of the fruiting season, which seems physiologically sound.

Any deep, well drained soil seems satisfactory for lychees, though with adequate fertilization they do well on the shallow, calcareous soils of southern Florida. It was formerly thought that an acid soil is essential, but experience on volcanic sandy loams with a pH of 6.5 or 7.0 in Central America has shown that this is not true. On stiff, impermeable sandy clays in Honduras lychees have not done well, but neither have most other fruit trees. The soils should not be wet throughout the year, as has been pointed out above. If the dry season is too severe, an occasional light irrigation can be given. Rain during the blooming period may interfere with pollination, and on the other hand, if the weather during the ripening season is hot and dry the fruits may split open and lose their delicious juiciness. It is possible that this last-named danger might be avoided by some such measure as enclosing the maturing fruit-clusters in polyethylene bags, which in recent years have become so abundant and so inexpensive.

THE LYCHEE, AND SOME OF ITS RELATIVES

In southern China, where it is native and has been cultivated for more than two thousand years, the lychee (*Litchi chinensis*) is considered more delicious than either the orange or the peach. The provinces of Kwangtung and Fukien produce more lychees than all the rest of the world put together, though in relatively modern times northern India has become an important producer, and quite recently commercial orchards have been developed in South Africa.

Since the lychee is not strictly a tropical tree (it closely approaches the orange in its resistance to cold weather), ~~neither~~ ~~Florida~~ commercial production ~~of~~ in southern Florida, where this tree was ~~only introduced~~ does not appear to have been introduced much before the beginning of the present century, has reached the point where the Lychee Growers Association ~~markets about 30,000 pounds of~~ ~~fruit annually~~ ~~markets, during the months~~ of June and July, about 30,000 pounds of fruit. ~~Lychees obtained~~ ~~from Florida~~ ~~plants in tropical America~~ About two centuries ago a few trees were planted in Botanical Gardens in the West Indies; ~~in~~ since 1900, trees received from nurseries in Florida have been planted ~~experimentally~~ on a slightly larger scale in Cuba, in Mexico, in Guatemala, Honduras, El Salvador, and in western South America as well as in Brazil.

The erratic bearing of the lychee, even when grown under what appear to be favorable climatic conditions, has retarded commercial development in this part of the world. Much attention has been devoted to this problem in Florida, ^{and in Hawaii} without results, as yet, which have provided a solution completely satisfactory from the standpoint of the commercial grower. The situation somewhat resembles that of the

THE LYCHEE, AND SOME OF ITS RELATIVES

In southern China, where it is native and has been cultivated for more than two thousand years, the lychee (Litchi chinensis) is considered more delicious than either the orange or the peach. This ~~praxixxxxxx~~ excellent fruit was mentioned in Chinese ~~xxxxxxx~~ literature as early as 200 B.C., when the Emperor ^{Chin} ~~Su-Tung-Po~~ extended his conquests south of the Yangse-Kiang. Somewhat later the poet Su-Tung-Po, while living in exile at Canton, declared that lychees would reconcile one to eternal banishment. The provinces of Kwang-Tung and Fukien produce more lychees than all the rest of the world put together, though in relatively modern times northern India has become an important center of lychee culture, and quite recently orchards have been developed in South Africa

THE LYCHEE AND ITS RELATIVES

It is only in recent years that the lychee, botanically Litchi chinensis, has begun to receive serious horticultural attention in our part of the world. Its erratic bearing (suggesting, in this respect, the fine East Indian mangos) even when planted in ~~tropical American~~ climates which are highly favorable to vegetative growth, has been discouraging. But the relationship between climate and fruitfulness is beginning to be understood, and in addition, newly introduced varieties seem likely to prove better adapted than those which came to us in the early days.

In southern China, where it is native and has been cultivated for more than two thousand years, the lychee ^(Litchi chinensis) is considered more delicious than either the orange or the peach, which is saying a great deal. It was mentioned in Chinese writings about 200 B.C., when the emperor Chin extended his conquests south of the Yangtse-kiang, and somewhat later the poet Su-Tung-po, while living in exile at Canton, declared that lychees would reconcile one to eternal banishment. ~~It is significant that in China the first treatise on the culture of any fruit was written in 1056 A.D., devoted to the varieties of lychee.~~

The Chinese provinces of Kwangtung and Fukien produce more lychees than all the rest of the world put together, though northern India ^{there are} has some 25,000 acres devoted to this crop, and South Africa, ^{large plantings in} ~~has become an important producer~~ where the species is of recent introduction, has about 700. Both Hawaii and Florida, now have commercial plantings of respectable size. Scattered trees are growing in many parts of tropical America - in Cuba, in other parts of the West Indies, in Mexico, in Guatemala, Honduras, El Salvador, and in western South America as well as in Brazil, ~~though it is only in recent years~~

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The lychee grows to an ultimate height of 35 or 40 feet, if environmental conditions are favorable, and forms a handsome round-topped crown of glossy light green foliage. The ^{leaflets} leaves are compound, with ~~two~~² to ~~four~~⁴ pairs of elliptic-oblong to lanceolate, sharply acute, glabrous leaflets ~~two~~² to ~~three~~³ inches long. The flowers, which are small and unattractive, are borne in terminal panicles sometimes a foot in length. The fruits, which have been likened to ^{large} strawberries in appearance, are produced in loose clusters of ~~three~~³ to ~~twenty~~²⁰ or even more; they are oval to obovate in form, an inch to an inch and a half in diameter, with an ^{thin} outer covering which is hard and brittle, yet easily peeled off the ripe fruits. The surface is divided into small, rough areas, sometimes with short protuberances. The dark brown seed varies greatly in size; it is obvious that efforts have been made, during the centuries, to propagate varieties which have small seeds. It will commonly be observed that there is much variation in seed size among fruits from the same tree. The white, translucent juicy flesh (technically the aril) is subacid in flavor, somewhat similar to that of a fine Muscat grape.

As a matter of technical interest (eventually many such ~~technical~~ data are found to have practical applications), the lychee shows a complex sequence of flower forms during the 30 to 40 days of development of each panicle. For the first 10 to 15 days of flowering, only male (staminate) flowers are produced. Then after a few days of transitional forms, the flowers are apparently perfect but actually only female (pistillate) in function for 5 to 9 days, since the short-filamented stamens do not shed pollen. After another brief transitional period, for the final 10 to 15 days of ~~development~~ the flowers are functionally staminate though apparently perfect, the pistils never being ^{reactive to} capable of pollination. Panicles on different trees,

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THE LYCHEE AND ITS RELATIVES

In southern China, where it has been extensively grown ~~for two millennia~~
~~since time immemorial~~, the lychee (Litchi chinensis) is considered a more delicious fruit than either the orange or the peach. Though introduced into the West Indies by the British as early as 1775, it is not yet commonly cultivated in that region, nor on the mainland, where its introduction ~~however~~, is of much more recent date. This tardiness in popularizing such an excellent fruit may be due to the fact that it is not so easily grown, nor so productive, as ~~another~~ ^{several} Asiatic fruits, ^{for example} the mango, which has almost run wild in many parts of tropical America. "Lychee nuts"

It is only in recent years that the lychee has begun to receive serious horticultural attention in ~~the~~ ^{our} ~~part~~ ^{country} of the world. The erratic bearing habits of the tree, even in climates which are highly favorable to vegetative growth, have posed a problem. Perhaps this will be solved, ~~at least~~ in part, ~~through~~ selection of varieties. It seems curious that no mention of unsatisfactory productiveness is ~~mentioned~~ ^{found} in writings such as the classic book "The Lychee and Lungan", which resulted from twelve years' study of this tree by Professor G. Weidman Groff in ~~the~~ ^{that} greatest of all lychee-producing regions, the Canton district ^r in southern China.

Origin and History

~~It is generally believed that the lychee is native to southern China and adjacent regions.~~ ^{northern Viet Nam} It was ^{first} mentioned in Chinese literature shortly after 200 B.C., when the Chinese extended their conquests south of the Yangtse-Kiang. Chang Chow-ling, an illustrious statesman

of the 8th century A.D., praised it as the most luscious of all fruits. ~~and~~ The first published work devoted to fruit culture, ^{in 1087 A.D.,} treated of nothing but ~~the~~ varieties of the lychee. This was in the year 1059 ~~of our era.~~

The Chinese provinces of Kwangtung and Fukien ~~are considered to~~ produce more lychees than all the rest of the world put together, but India has some 25,000 acres devoted to this fruit; South Africa, where the lychee is of recent introduction, has about 700 acres; and Florida, in the United States, about 200 acres, all planted since 1925. Scattered trees are growing in many parts of tropical America, notably in Mexico, Guatemala, Honduras, El Salvador, ~~and~~ on the western side of South America, and in Brazil.

The Chinese name of this fruit is derived from two words, li, to cut, and chih, a twig, because the fruits are not harvested singly but are cut in clusters from the branch tips. In southern China, where the Cantonese dialect is spoken, the name is pronounced ly-chee, but in the Mandarin tongue of the north it is lee-chee. This difference has led to some confusion in the literature, where the name is variously spelled lichee, lychee, leechee, lichi and laichi; and in addition, the spelling of the specific botanical name, litchi, is ~~often~~ used.

Varieties

The best lychees of southern China (where more than ~~40~~ ³⁰ kinds are grown) have been described by Groff. Several others are grown in northern India. In modern times a few have originated in Hawaii, ^{Florida,} and South Africa.

In 1907 the Chen Purple variety was introduced into southern Florida by the U.S. Department of Agriculture. Under the name Brewster, which was given it because the first trees were sent from China by

a missionary of that name, this has become the basis of the lychee industry in Florida. It was carried to tropical America about 1925, and is up to now the only variety which has received widespread trial in that part of the world. It is handsome fruit, of delicious flavor, but with a rather large seed. The tree, unfortunately, has shown the same erratic bearing habits in tropical America which have given growers so much concern in Florida. ~~It must be added, however, that~~ This same defect characterises all other varieties which have been tested in Florida a sufficient length of time to permit even a preliminary evaluation of their commercial value.

No Mai and Haak Ip are two other varieties, famous in southern China but not yet adequately tested anywhere in the Americas. A variety known as Mauritius, which had its origin in South Africa, forms the basis of commercial lychee culture in that country, but is considered to be an "alternate bearer". Bedana of India is noted for its small seed. Another lychee from that country, known as Rose Scented, has borne fruit in Florida where it has been given the name Bengal. Groff is a variety of Hawaiian origin.

In 1927 a variety was brought to Honduras from southeastern Asia under the name Amboina. This is the only lychee which has produced abundant crops practically every year under the hot, humid conditions of the Caribbean coast. The fruit is not as delicious as that of the Chen Purple (Burmese), but its productiveness in a region where all other lychees have been unsuccessful renders it interesting. Perhaps it is not a true lychee, ~~but~~ ^{but} a hybrid.

Like many of the finer varieties of the mango (especially the monoembryonic ones from India, the tendency to alternate bearing, or erratic productivity may be due mainly to the following two factors: first, genetic constitution, and secondly, the carbohydrate/nitrogen ratio in the ^{top of} tree; in other words the accumulation of those ~~nutrients~~ ^{elements} which encourage the production of flowers rather than vegetative growth.

Rt. 2. Box 1061.
Nokomis, Florida
September 8, 1966

Dear Dr. Popenoe: -

Thank ^{the} you for your
letter of August 30.

I have delayed answering promptly
because I wanted to look up some
material and check several sources.

I'm answer to your question -
about the erratic bearing habits
of the Brewster Lychee - and the
same problem in China.

I can find nothing relating to
this directly.

I reviewed Mr. Yen-Hsun Chai's
article in Proceedings of Florida State
Horticultural Society 1949 - on
"The culture of the Lychee."

He says nothing about regularity
of fruiting.

Also reviewed Circular or Bulletin 39
University of Hawaii, Aquacultural
Experiment Station, April 1953.
"Quote" "A new variety of Lychee"

2

Quote - So far, crops of Groff have consisted almost entirely of fruits with shrivelled, "chicken tongue" seeds. Seed abortion has always been one of the criteria for selection by the Chinese people because the fruits having abortive seeds are no smaller than those with normally developed seeds so there is correspondingly more of the fleshy, edible aril.

"There seems good reason to believe that the high quality of the fruit of Groff - coupled with its observed tendency toward regular annual bearing may make it a leading variety for commercial planting in Hawaii."

End quote.

The underscoring is mine.

Perhaps you have seen this bulletin.

I find Vol. VI - Florida Lychee Growers Association year Book - 1959 - 63 very interesting and progress is

being made along many lines
of research.

Most important is - not to get
discouraged. Citrus culture
required years and years of work
and study - before it became a
success.

I hope the interest in Lychee
growing will increase each
year.

Sorry not to be more helpful.

Best wishes for success with
your new book - "Fruit culture
in Tropical America"

Sincerely

Eva B. Groff.

Mrs. G. Wideman Groff.

Eva B. Groff

Nokomis

Florida

33 555

Rt. #2, Box 1024

Wilson — we have been kidding ourselves, too, for not saying we'd "driv right down
and get you where the pleasure of our conversation face to face!" Next time!! Next time!!
Affectionately, Eva

1722 N W 2nd Avenue
Gainesville, Florida, 30 August 1966

Dear Mrs Groff:

I am working on a book, "Fruit Culture in Tropical America", and just came up with a problem. I wrote Floyd McClure about it and he suggested that I write you also, because you were so closely in touch with Weidmann's work on lychees in China - and here too, I imagine.

As you know, they are discouraged, here in Florida, by the erratic bearing habits of the Brewster lychee - the only one we have in quantity. It seems to be as bad as the fine East Indian mangos. What I would like to know is this: do they have the same problem in China? I do not find any mention of it in Weidmann's book (a real classic!) and I am told by people from northern India that they get good crops in that country - presumably every year.

Can you give me any information on this point? McClure tells me they used to hack the trunks of the trees sometimes - we do the same thing with mangos in tropical America. We are coming to believe that there may be varieties which produce crops more regularly - which also is true of mangos. I will greatly appreciate anything you can tell me.

Cordially yours,

Wilson Popenoe

HARVARD UNIVERSITY
MARIA MOORS CABOT FOUNDATION
FOR BOTANICAL RESEARCH

F. A. McCLURE
Consultant in Tropical Forestry

SMITHSONIAN INSTITUTION
WASHINGTON 25, D.C.

** for 2 1/2 years
while writing The Bamboos*

August 27, 1966

Dear Wilson:

You have touched a weak spot in my competence in horticultural matters -- but I think that you may be able to get some useful information from Mrs. Groff, whose address, written down for you by Ruth, I enclose. Eva always followed Weidmann's work very closely, and they retained their interest in the Lychee for many years, first in China, and later in Florida. They knew Col. Grove very well, and were acquainted with his efforts to establish the cultivation of the Lychee in Florida.

You have, in the No Mai -- pronounced in Cantonese "Naw My" ("my" as in "my own") THE elite variety, from the point of view of the Chinese connoisseur. Its fruits have what the Chinese consider to be the best combination of features, including a very small seed. I do not have a copy of "The Lychee" but I imagine that it gives detailed descriptions of at least the leading varieties well-known around Canton. I would hazard a guess that it is a "shy bearer," as the best kinds of things often are. The earliest, and most prolific bearer, is what the Cantonese called "Yuk Hoh Pau" -- ~~"Fat Purse"~~ ^{"Fat Purse"} which is a fine, large, and highly colored fruit with a large seed, -- ~~what might be called the "Ben Davis" among Lychees.~~ ^{It is the earliest to ripen.} "Hock Yip" -- "Black Leaf" (i.e., Deep-Green Leaf) is probably rated in quality as next to No Mai, by the Cantonese. It is a smaller fruit, with firmer flesh and a somewhat larger seed than No Mai. I suspect that the Brewster is very similar to it, if not identical.

With regard to the solution of the on-and-off habits of at least some of the Lychee varieties under some conditions, I think that the Chinese meet this by maintaining several varieties under culture at the same time. This would be my approach to the solution of the problem. -- I would bring together a systematic collection of every available variety or strain and propagate them, either by layering, or by Mr. Goucher's method of rooting young wood in an atmosphere saturated with moisture at a somewhat elevated temperature. Then I would distribute a pair of each to trusted collaborators for trial in as wide a range of ecological conditions as could be found within the limits of the known or suspected climatic tolerance of the known kinds. This is not a project that you or I would undertake at this late date in our lifetime, but you may wish to ponder it as an approach to the problem recommended in your book. -- *But this is "old stuff" to you, already.*

As for "ringing" -- of course it cannot be used habitually, for obvious reasons; but the Chinese have another method -- which I have seen used on other trees, and which I would try on the reluctant No Mai tree. This method consists of judicious hacking (making of small open incisions in) the bark of the trunk and/or larger branches. It has the immediate effect of impeding the flight of nutrients downward from the peripheral branches by damaging the phloem, locally. This damage is gradually or promptly repaired by a healthy tree. A safety measure against infection would be the systematic spraying of the injured bark with a formula combining insecticidal and fungicidal components.

I am still interested in the potentialities of *Arundinaria amabilis* for cultivation in the Western Hemisphere. I will write you later about this when I have had an opportunity to get xerox copies of pertinent correspondence, and a copy of *The Bamboos*, for you.

RARE FRUIT COUNCIL OF SOUTH FLORIDA, INC.

Meeting.....Friday, October 13, 1967

Time.....7:30 P.M.

Place.....Museum of Science, 3280 South Miami Avenue, Miami, Florida

Topic....."Fruits of Central America" by Dr. John Popenoe

MEMBERSHIP MEETING -- SEPTEMBER 8, 1967

The monthly membership meeting of the Rare Fruit Council was brought to order by President William Richardson at 8:00 P.M., Friday, September 8th.

Dr. C. C. Humphries treasurer's report was not ready as he had just returned from his vacation.

Mrs. Val Mayfield made a motion that we send Mrs. Sam Mauro \$125.00 at this time for the plants. Any additional funds will be sent to her after the spring sale. It was moved and seconded and passed unanimously.

Mr. Albert A. Will, Jr. recommended that any trees fruiting for the first time in Florida be brought to his attention using the form in the back of the yearbook. These would be filed in readiness for next year's yearbook.

Mrs. Peg Gorman, attending Museum activities and meetings, suggested that all affiliates such as the RFC increase monetarily or with volunteers their participation in the Museum. Members of the RFC were encouraged to join the Museum.

Plants were distributed by Mr. Raymond Turner to members who placed their names in the plastic containers in front of each group of plants. They included: the *Annona squamosa* (sugar apple), Apple Banana, *Blighia sapida* (akee nut), 4 *Coccoloba* sp. (sea grape), *Cyphomandra betacea* (tomato tree), date palm, *Diospyros digyna* (black sapote), Papaya seedlings, *Pouteria campechiana* (egg fruit), 10 *Psidium friedrichsthalianum* (Costa Rican Guava), *Punica granatum* (pomegranate), *Syzygium jambos* (rose apple), *Tamarindus indica* (Tamarind), *Terminalia catappa* (tropical almond), *Rollinia deliciosa* (Biriba).

Mr. Bernard Bowker distributed 100 Lychee seedlings for members to grow for the Spring Sale.

Mrs. Emmett Betts, corresponding secretary, read a letter inviting the RFC to an open house at the Plant Introduction Station at 13601 Old Cutler Road between 10 A.M. and 4 P.M. on Friday, September 29, in celebration of National Agricultural Science Week.

Guests at the meeting included Dr. Landis of the University of Miami, Mr. West, Joe Baron, Walter Murray and Fred Schilling of the Miami Herald. In view of the publicity on the Caribbean fruit fly and other subjects that we have received through Mr. Schilling's articles it was suggested by Mr. Raymond Turner that he be made an honorary member of the RFC. As the Council does not now have any honorary members it was suggested that the board take it under consideration.

Seymour Goldweber reported that although the eradication of the Caribbean fruit fly was out of his domain he was able to glean some information to report to the RFC. In Hialeah there are 5 test plots of 1 square mile each, one test plot going untreated for comparison purposes. Each plot is sprayed at weekly intervals with three different treatments. One type of bait used is the sauce bait No. 7. 37 traps are put out which have to be inspected at regular intervals. California has slapped an embargo on any host fruit of the fruit fly entering their state, more specifically the guava.

New members announced were Miss Birgitta Bastrom, O. R. Willingham, Donald Wheeler and Jean Lindsey. As there was no further business the meeting was closed and the lecture on lychee culture was presented by Dr. T. W. Young.

DR. T. W. YOUNG -- LYCHEE CULTURE

Dr. Carl Campbell introduced his colleague, Dr. T. W. Young of the Sub-Tropical Experiment Station located at Homestead, Florida. Presently Dr. Young lives at Vero Beach and is experimenting with mangoes and lychees on sandy soil. He received his master's degree at Purdue University and his doctorate at Cornell. At one time he taught botany at the University of Miami. He was also associated with the Florida Forest Service and the American Fruit Growers.

RESUME OF LECTURE

In 1945 there were approximately 350 acres of commercial plantings of lychees in Central and South Florida counties. Due to heavy freezes in 1957 and 1962 these were virtually wiped out and there have been no new commercial plantings since 1962.

The erratic bearing of the most common variety, the Brewster, placed the annual amount sold commercially at between 11,000 pounds for a low year and 61,000 pounds produced in 1958.

Although it is insect and disease free it does need nutritional spray when grown in rock. In areas such as deep marl fertilizing does not seem to make much difference one way or another it was pointed out. Test plots have been made using fertilizer of three different nitrogen sources and with graphs Dr. Young pointed out that sulphate of ammonia seemed the most efficient. There was less frost damage than with any other fertilizer containing the other sources of nitrogen. On an average a two year old tree would receive 3/4 pounds of 4-7-5-3. More or less fertilizer seemed to show no appreciable difference.

At the present time there are 30 varieties at the Homestead Station.

Several attempts have been made by Dr. Young to break the erratic fruiting of the Brewster. Girdling the branches with a pruning saw would increase the yield 2 and 3 fold in some cases. Girdling entire trunks was also tried. Root pruning showed no effect

whatsoever. An accidental grass fire helped produce more fruit one season but experiments with an acetylene torch proved more disastrous to the branches than the benefits derived from this experiment.

Topping and hedging were tried but proved to be more work with little effect. Hat-racking the trees produced innumerable branches but this was also not advantageous to more fruiting.

Slides were shown of the Brewster which in everyone's opinion is the most beautiful lychee. Several other varieties including the Grove Special, Kwai Mei, The Groff, Mauritius, the Yellow Red, and the No-Mai Tsz.

After the lecture Dr. Carl Campbell brought in two jakfruit, one of which weighed in at 24 pounds. Members who really dug into it were told ammonia would help eliminate that sticky situation. In spite of this it was practically unanimous that it was the best fruit members had ever tasted.

Mrs. Fleischer brought in canned lychees, and a jar of antidesma jelly.

Other contributors of fruit whose names we did not get brought in the velvet apple, the carambola, Spanish lime and Lady Finger bananas.

Respectfully submitted,

Wanda Wasilkowski, Assistant Secretary

A Note of Appreciation

Mrs. Wanda Wasilkowski took over all the work for the September and October Rare Fruit Bulletins during the absence of the editor. As you can see from reading these two bulletins, we couldn't have found a more talented and diligent assistant. Thank you most sincerely, Wanda.

Deadline for submitting material for the next bulletin is Friday, October 27, 1967. Send your entries to the editor, Mrs. Woessner at 7901 S. W. 54 Court, Miami 33143 or phone 661-4829.

RARE FRUIT COUNCIL OF SOUTH FLORIDA, INC.

Maintaining Market Quality of

FRESH LYCHEES

During Storage and Transit

Marketing Research Report No. 770

Agricultural Research Service

UNITED STATES DEPARTMENT OF AGRICULTURE

FLORIDA
新鮮荔枝
LYCHEE



Keep fresh Lychees refrigerated. They keep
better and taste more delicious.

Issued by
FLORIDA LYCHEE GROWERS ASSOCIATION
P. O. BOX 156 VENICE, FLORIDA 33595

FLORIDA LYCHEE GROWERS ASSOCIATION
NEWS BULLETIN NUMBER 31
March 1967

1. 1966-67 OFFICERS AND DIRECTORS (See enclosed list)
2. COMMITTEE ASSIGNMENTS - 1966-67 Year (the first named member on each committee is the chairman).

RESEARCH

Young
Hanskutt
H. I. Johnston

MARKETING

Van Sickler
Grove
W. A. Johnson

FISCAL

Van Sickler
Lynch
Grove

PUBLICATIONS

Mustard
Grove
Lynch

RESOLUTIONS

Ware
Lynch

VARIETIES

Knight
Campbell
Young

3. LIST OF MEMBERS EMERITUS, REGULAR AND PROFESSIONAL MEMBERS - enclosed.

Please report missing Zip Code numbers and errors to the secretary.

4. NEW MEMBER - Tom B. Swann, Box 232, Winter Haven, Florida.
5. LYCHEE STORAGE AND TRANSIT - enclosed is a copy of Marketing Research Report No. 770 U.S.D.A. furnished by Mr. T. T. Hatton. It is worthy of our attention.
6. NEXT MEETING OF BOARD OF DIRECTORS - 9:00 A.M. on Saturday, May 6, 1967, at the home of Wallen A. Johnson, 7950 S.W. 152nd Street, Miami. Directions to reach the Johnson home - traveling south on US 1, go one half mile beyond the Dixie Drive-In Theater (on east side of road) to traffic light at 152nd Street (Rockdale Liquor Bar is on east side of highway), turn left and proceed 1.1 miles to the Johnson lychee orchard.

ALL members and prospective members are cordially invited to this meeting.

7. ANNUAL DUES - of Three Dollars (\$3.00) are now due. (Professional Members do not pay dues).

Wm. R. Grove, Jr., Secretary
P. O. Box 156
Venice, Florida 33595

FLORIDA LYCHEE GROWERS ASSOCIATION
(November 14, 1966 to November 15, 1967)

OFFICERS

President:	Don C. Hanskutt 515 Plantation Road, Merritt Island, Fla. 32952
First Vice President:	Wallen A. Johnson 7950 SW 152nd St., Miami, Fla. 33157
Second Vice Presidents:	S. John Lynch 1643 So. Lakeside Road, Sarasota, Fla. 33579
	Roy Nelson 9688 Dogwood Ave. Palm Beach Gardens, Fla. 33403
Secretary:	William R. Grove, Jr. P. O. Box 156, Venice, Fla. 33595
Treasurer:	Donald R. Van Sickler P. O. Box 38, Laurel, Fla. 33545
Assistant Treasurer:	William R. Grove, Jr. P. O. Box 156, Venice, Fla. 33595

DIRECTORS

District 1:	Wallen A. Johnson 7950 SW 152nd St. Miami, Fla. 33157
District 2:	Don C. Hanskutt 515 Plantation Rd. Merritt Island, Fla. 32952
District 3:	Major General John K. Rice Rt. 2, Box 36, Clermont, Fla. 32711
District 4:	Harold I. Johnston 1409 Ave. K, NE, Winter Haven, Fla. 33881
District 5:	Donald R. Van Sickler P. O. Box 38, Laurel, Fla. 33545
District 6:	Doctor Marvin Silver Rt. 1, Box 475, Bradenton, Fla. 33505
At Large:	S. John Lynch 1643 So. Lakeside Rd. Sarasota, Fla. 33579
	Doctor T. W. Young 785 Azalea Lane, Vero Beach, Fla. 32960

FLORIDA LYCHEE GROWERS ASSOCIATION 1/1/67

PRESIDENT EMERITUS - Rice, Maj. Gen. John K.

Rt. 2, Box 36, Clermont, Fla. 32711

MEMBER EMERITUS - Ware, Charles E.

Rt. 1, Box 858, Largo, Fla. 33540

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Curtis, Raymond M.
Freke Hayes, J. J.
Groff, Mrs. G. W.
Grove, Wm. R. Jr.
Grove Management, Inc.
Hall, H. Duncan
Hamilton, Mrs. Carl
Hanskutt, Don C.
Johnson, Wallen A.
Johnston, Harold I.
Johnston, Julian A.
Johnstone, Mrs. Sophie
Lindsey, Raymond G.
Lynch, S. John
Miami, University of
Mitchell, C. C.
Nelson, Roy O.
Pinkerton, Mrs. James B.
Porter, Mrs. Bella T.
Silver, Dr. Marvin
Sub-Tropical Experiment Station
Swann, Tom B.
Van Sickler, Donald R.
Wirt, Mrs. Erle, Jr.
Wood, H. E.

P. O. Box 695, Clermont, Fla. 32711
4040 Kiaora St. Coconut Grove, Fla. 33133
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Rt. 2, Box 1061, Nokomis, Fla. 33555
P. O. Box 156, Venice, Fla. 33595
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7950 SW 152nd St. Miami, Fla. 33157
1409 Ave. K, NE Winter Haven, Fla. 33881
P. O. Box 811 Winter Haven, Fla. 33881
P. O. Box 206, Laurel, Fla. 33545
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Coral Gables, Fla. 33124
3204 Mitchell Dr. Largo, Fla. 33540
9688 Dogwood Ave. Palm Bch. Gdns, Fla. 33403
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Rt. 1, Box 475, Bradenton, Fla. 33505
18905 SW 280th St. Homestead, Fla. 33030
Box 232, Winter Haven, Fla. 33881
P. O. Box 38, Laurel, Fla. 33545
Babson Park, Fla. 33827
7260 Grove Ave. Kendall, Fla. 33156

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Fairchild Gardens
Popenoe, Dr. John
University of Florida

A. Provost for Agriculture
York, Dr. E. T. Jr.
B. Agricultural Exp. Stations
Beckenbach, Dr. J. R.
Sites, Dr. John W.
C. Citrus Experiment Station
Koo, Dr. Robert C. J.
Reitz, Dr. H. J.
Suit, Dr. Ross F.
D. Sub-Tropical Exp. Station
Campbell, Dr. Carl W.
Conover, Dr. Robert A.
Young, Dr. T. W.
E. College of Agriculture
Dennison, Dr. R. A.
Joiner, Dr. Jasper N.
Kuhn, Dr. G. D.
Thompson, Dr. B.D.
F. Agricultural Extension Service
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Norris, Robert E.
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Dekle, George W.
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Mustard, Dr. Margaret J.
University of California
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Storey, Dr. W. B.

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Cooper, Dr. William C.
Gardner, Dr. Frank E.
USDA, Winter Haven, Florida
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USDA, Coconut Grove, Florida
Knight, Dr. Robert J.
USDA, Puerto Rico
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Mounts, M. U.
Popenoe, Dr. Wilson
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New York City
Lee, Peter
Ohio State University
Howlett, Dr. Freeman S.
India
Singh, Dr. L. B.
Union of South Africa
Marloth, Dr. R. H.
Van Der Meulen, Dr. A.
Costa Rica
Wilson, Robert G.

FLORIDA LYCHEE GROWERS ASSOCIATION

NEWS BULLETIN # 32

July 1967

1. 1967 MARKETING HIGHLIGHTS

a. Total crop (12 growers) - 28,064 pounds.

b. Origin of Fruit - by County

<u>County</u>	<u>Pounds</u>	<u>Per Cent</u>
Brevard	3,150	11
Dade	4,275	15
Manatee	12,442	45
Polk	7,095	25
Sarasota	1,102	4
	<u>28,064</u>	<u>100</u>

c. Fresh Lychee Distribution

	<u>Pounds</u>		<u>Pounds</u>
Arizona	150	Mississippi	270
Arkansas	225	Nebraska	150
California	1,995	New York	10,125
Dist. of Columbia	540	Ohio	615
Florida	4,687	Pennsylvania	1,740
Georgia	300	Rhode Island	45
Illinois	975	Tennessee	270
Kansas	135	Texas	630
Louisiana	180		
Maryland	375	British Columbia	1,035
Massachusetts	1,950	Ontario	900
Michigan	435	Quebec	60
Minnesota	165	Saskatchewan	45
Total of above sales	27,997		
Total research	35		
Total advertising	32		
Grand Total	<u>28,064</u>		

d. Largest daily shipment - June 28, 3,030 pounds.

e. Extent of season - May 29 through July 6.

Wm. R. Grove, Jr., Secretary
P. O. Box 156
Venice, Florida 33595

FLORIDA LYCHEE GROWERS ASSOCIATION
NEWS BULLETIN NUMBER 33
January 1968

1. 1967-68 OFFICERS AND DIRECTORS (See enclosed list).
2. COMMITTEE ASSIGNMENTS - 1967-68 Year (the first named member on each committee is the chairman).

RESEARCH

Young
Hanskutt
H. I. Johnston

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Van SICKLER
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FISCAL

Van SICKLER
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PUBLICATIONS

Mustard
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RESOLUTIONS

Ware
Lynch

VARIETIES

Knight
Campbell
Young

3. LIST OF MEMBERS EMERITUS, REGULAR AND PROFESSIONAL MEMBERS -enclosed.

Please report missing Zip Code numbers and errors to the secretary.

4. NEW MEMBERS: Carl J. Strang, Box 820, Winter Haven, Florida 33880
R. S. Van Benschoten, 560 Plantation Rd., Merritt Island, Florida 32952
Websters' Nurseries, Box 248, Osprey, Florida 33559
5. ANNUAL DUES - of Three Dollars (\$3.00) are now due. (Professional Members do not pay dues).

Wm. R. Grove, Jr., Secretary
P. O. Box 156
Venice, Florida 33595

FLORIDA LYCHEE GROWERS ASSOCIATION
(November 21, 1967 to November 12, 1968)

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MEMBER EMERITUS - Ware, Charles E.

Rt. 2, Box 36, Clermont, Fla. 32711
207 Flamingo Dr. Clearwater, Fla. 33516

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Curtis, Raymond M.
Freke Hayes, J.J.
Groff, Mrs. G. W.
Grove, Wm. R. Jr.
Grove Management, Inc.
Hall, H. Duncan
Hamilton, Charles A.
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