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# TROPICAL FRUITS

FOR

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*E. S. L. Co.*



The Taft Avocado

## WEST INDIA GARDENS

F. O. POPENOE, *President and Manager*  
T. U. BARBER, *Secretary and Treasurer*

IMPORTERS AND GROWERS OF

## SUBTROPICAL PLANTS AND TREES

MARENGO AVE. AND CALAVERAS ST.

ALTADENA, CALIFORNIA

April 1, 1913

Telephone Fair Oaks 1577, Pasadena Exchange

# THE AVOCADO



The famous Montezuma Avocado Tree, in Mexico. Said to be 200 years old. Measures 4 feet across at the base, and yields an annual crop of 3000 delicious fruits weighing one pound each.

## A Fruit of the Tropics



HE avocado is the most valuable fruit grown. This statement, a fact not yet appreciated by the majority of the people of the United States, will be better understood and believed as the development of the industry progresses and as the opportunity is given to become familiar with it. It is so understood and valued in the American tropics, where it has been grown as a staple food product for centuries.

It is quite unique in being not only a most valuable article of diet, taking the place of other less delicious vegetable products or meat, but is one of the most delicious and satisfying of vegetable foods. A fair sized avocado will make a substantial and appetizing meal for one person. It is most easily digested, wholesome, of high nutritive value, and a builder of blood, bone and muscle.

Six avocado trees on the home grounds, of varieties to ripen their fruits at different periods and cover the twelve months of the year, will do more to sustain a family and help solve the high cost of living than any other six trees that can be grown.

As the commercial production is provided for by extensive orchard planting, the avocado will be placed on the markets of the entire country and become a staple article of diet for millions of people.

The many ways in which it can be prepared for eating, the delicious, appetizing character of the fruit, and the oil content which makes it a perfect substitute for meat, are the qualities which make it unrivalled and place it in a class by itself.

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The avocado is not confined to the tropics, but is found in the high and frosty parts of Mexico, where it reaches perfection as well as in the hottest countries.

There is no doubt that in the establishing of avocado orchards, and the production of good varieties of it, lies a very rich field for our intelligent orchard man.—J. M. Goulding.

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**THE MOST VALUABLE FRUIT ON THE AMERICAN MARKET.—Egbert Norman Reasoner.**



Fruit from the Montezuma Avocado Tree shown on the preceding page. Weighs about one pound. Is of good form and flavor, has a small seed tight in the cavity, and a thick, green skin.



The Redondo Avocado. A hardy variety of first quality. Being as round as an orange it packs particularly well. The fruits average from one to one and a fourth pounds in weight.

## The Avocado in California

Southern California is one of the two localities in the United States in which it is possible to grow the avocado. The other district is southern Florida.

In this restricted area must be grown the future avocado supply for the country. Competition from Mexico or the West Indian Islands will never be greater than it has been from those countries in the matter of the orange and other fruit productions. Tropical countries are not given to the rapid or successful development of their possibilities.

That the avocado will succeed splendidly in Southern California has been proven so conclusively that it is no longer questioned. There are probably one hundred bearing trees scattered over the southern end of the state from the cool sea coast to the hot and dry interior valleys. These range from five to thirty years in age, and though they are all seedlings, and the fruit produced by them is in many cases rather small and inferior, they have demonstrated beyond the possibility of a doubt that the avocado is pre-eminently adapted to this climate and a complete success in it.

It is, indeed, a reasonable statement and entirely within bounds to say that Southern California may fairly be regarded as possessing the conditions required for the highest development of this valuable fruit.

By reason of our rich, well-drained soil, our mild climate which will allow the growth and ripening of the fruit during the entire year, and the energy and enterprise that is a marked characteristic of our horticulturists and orchardists, the avocado will reach its perfection of development with us.

A mature budded tree should produce an average of five hundred fine fruits each year. While the price of such fruits now is from 25 to 50 cents each, with a large acreage this must decrease; but allowing a price of ten cents per fruit to the grower, which in view of all circumstances may safely be regarded as the minimum price for all time to come, the profit per tree may easily be forecasted.

The commercial orchards which are now being planned or planted, by some of the most successful orchardists of the state, indicate plainly that the industry is already on a sure footing, Southern California will lead in avocado production and the profit from the industry will be greater than that to be had from raising any other fruit.

## Food Value of the Avocado

As a food product, the avocado is unquestionably an important factor to be reckoned with. Economists who have the ability to grasp matters horticultural are figuring it into the future food supply of the country at large as a competitor of meat, and are estimating its possibilities for replacing animal products with a wholesome and delicious vegetable food. As eminent and practical a horticulturist as Mr. Parker Earle, formerly president of the American Pomological society, is convinced of an immense future for the avocado. In a recent letter to the editor of the Pacific Garden, Mr. Earle says:

“An acre of land can produce, let us say, one quarter of a ton of beef, or other animal food, per year. It can produce one ton, or possibly two tons, of food in wheat, or corn, or rice. It can produce five, ten, or possibly twenty tons of an incomplete food ration in the form of apples, or grapes, or bananas. And there may be from one to two tons or more of very rich food in the form of nuts—notably pecans—from one acre of land. But with avocados there would seem to be a possible yield of food of very high nutritive value, in tonnage equal to apples with their low nutritive value.” Mr. Earle goes on to state that if men can produce many tons of food of best value from an acre of land in trees that can only yield a fraction of a ton in the form of animal food, it is pretty certain that they are going to plant trees. The crowding of men together in dense population will compel this. “In primitive conditions men turned to animals for food. It was a state of savagery. We are outgrowing it. Very soon there will be no room for animals that are grown to be eaten. It is compulsory. It is nature’s way. We must get our food in greatest quantities from a minimum area of land. And we must have food containing the same elements that animals have been giving us. Among these substitutes does not the avocado offer itself as one of large possible importance?”

The one answer that can be made to Mr. Earle’s inquiry is—it does.

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As this fruit becomes known in northern markets the demand for it will become almost limitless, and the portion of the country where it can be successfully grown is limited. We advise planting avocados in this southern section and planting them in large acreages. It is the coming fruit.—The Home-seeker.





An Avocado Salad, made from a single fruit (the fruit shown below) enough for from four to six persons.



W. I. G.'s "Nineteen", an exceptionally fine pear-shaped fruit weighing one and one-half pounds. The strong, thick skin can easily be seen. This fruit has an unusually large proportion of meat to seed.

## The Mexican Avocado

While the avocado is grown extensively in South America, the West Indies, Hawaii, and other tropical countries, it has been grown in Mexico for centuries in vast numbers and at all altitudes from sea-level up to 8000 feet, and this Republic may well be called the great avocado country. Like other fruit trees grown from seed, the avocado comes true in only a small percentage of cases. Sometimes a seedling will be more valuable, sometimes less valuable, than the parent.

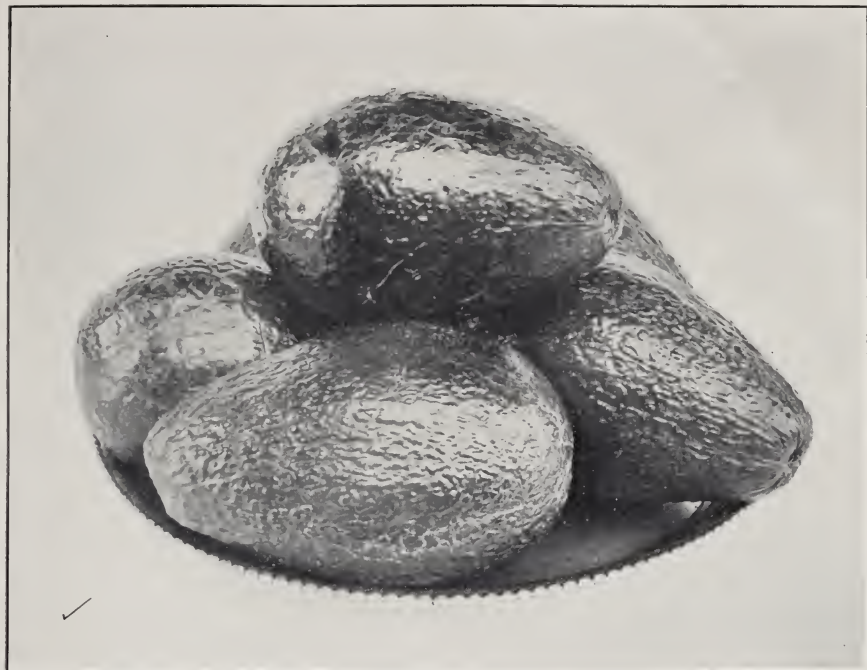
This natural variation from seed has led to the existence of innumerable varieties, embracing all seasons of fruiting and all sizes and characters of fruit. While the majority of avocados are good, and worth growing, some are so much more to be desired than others that it is well worth while to go to great trouble to secure the best; and some of these Mexican varieties are of such superior quality and value as to leave almost nothing to be desired.

To the search for the ideal fruit we have given much time and have invested a considerable sum of money. Our own explorers have visited the principal avocado districts, searching the markets for superior fruits, and tracing them back to the place of growth,—often a most difficult matter. When found, the qualifications of the “ideal avocado” are applied, and if the tree seems up to the requirements, samples of the fruit are forwarded and the tree marked. Subsequently budwood is sent us, if we decide to propagate that particular variety.

Thus Mexico may be considered a great experimental garden, in which have originated the choicest varieties of this most valuable fruit, and we are enabled by resorting to it to produce at once budded trees of the finest varieties,—fruits whose development, by the usual processes of plant breeding or selection, would take many years of time and the expenditure of a very large sum of money to secure.

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The ahuate (avocado) is a great favorite in all tropical countries and does remarkably well in Southern California.—Dr. Franceschi.



W. I. G.'s "Thirty-Nine," a Mexican Avocado of first quality. Weighs one and one-half pounds.



The California Trapp, one of the finest Avocados of Mexico, found after much search by a West India Garden Explorer.

## Avocado Recipes

(When ready for use the fruit will yield to slight pressure of the thumb. The flesh of the ripe avocado is about the consistency of well made butter.)

**AVOCADO AU NATURAL.** Remove the skin and slice the fruit the desired thinness. Serve on a plate garnished with celery hearts, tomato, or sweet red pepper. To be eaten with a fork, with or without salt or pepper as preferred.

**COSTA RICAN STYLE.** Cut the fruit in half and remove the seed. In the cavity place one tablespoon of vinegar or lime juice; salt and pepper to taste. Serve one half fruit on plate, with spoon, to each person.

**DICED AVOCALO.** Remove skin and cut fruit in small squares. Add salt, pepper and vinegar, or any kind of salad dressing desired.

**MEXICAN SALAD.** To two parts of the diced fruit use one part of chopped Bermuda onion; salt, pepper and vinegar to taste. Sweet peppers, red or green, may be added if desired. Prepare two hours before serving.

**CUBAN SALAD.** Cut a small fruit in half and remove the seed. Prepare a dressing of a teaspoonful of sugar dissolved in the juice of a lime or half a lemon. In the cavity of the fruit place three stuffed olives and the desired quantity of dressing. Serve on a lettuce leaf, with spoon, one half fruit to each person.

**HAWAIIAN SANDWICH.** Remove skin and seed from one avocado. Mash the flesh, add salt, pepper, and a dash of vinegar or lime juice, and spread liberally on lettuce leaf between thin slices of buttered bread. This is a dainty way of serving the avocado, and a most delicious one.

**SANTIAGO SALAD.** Peel the fruit, remove the seed, and cut the flesh in cubes. Mix with mayonnaise or with chopped onion, lime juice and salt. Put it on a platter, piling it high in the center, and sprinkle finely chopped boiled egg over it.

**AVOCADO WITH COD FISH.** A most appetizing form of serving the avocado is to mix equal parts of cold salmon or lobster with the diced fruit, and serve with mayonnaise.

**AVOCADO ON THE HALF SHELL.** Divide the fruit in half, and carefully remove the meat, to which add the yolk of a hard boiled egg and one tablespoonful of French dressing for each fruit. Pass through a sieve, and pile back in the shells as in bowls. Garnish the tops with the boiled whites of the eggs chopped fine, with a sprig of parsley, or with boiled small red pepper. This is only practicable with thick skinned varieties of the avocado.

**SIMMONS SALAD.** Half a medium sized fruit, two boiled potatoes, cold, half a small onion, one tart apple. Slice all very fine and place

in layers; pour over it two tablespoonsful of vinegar. Let it stand and just before serving add mayonnaise dressing mixed with one half table-spoonful of curry powder and one tablespoonful of sugar.

**HAVANA STYLE.** Take the meat of three avocados, add three toma-toes, having first removed the skin and core of these; add half a green pepper cut into fine shreds. Crush and pound this mass to a smooth mix-ture, and drain off the liquid. To the pulp add a teaspoonful or more of onion juice, a teaspoonful of salt and a tablespoonful of lime juice or vinegar. Mix thoroughly and serve at once.

**COMBINATION SALAD.** One large avocado, sliced thin; same amount of cold boiled potatoes, sliced thin; onion and parsley minced fine; two hard boiled eggs, sliced. Season with salt, pepper, oil and vinegar.

**WITH CABBAGE.** Chop the cabbage fine. Cut up as many avocados as desired, mash with a fork until light and creamy, mix with the chopped cabbage, season with salt, pepper and vinegar and stir thoroughly.

**WITH BANANAS.** Cut bananas and avocado meat into cubes and serve seasoned with salt, pepper, vinegar and onions as desired.

**WITH NUTS.** Take two ripe avocados and a half cup of nut meats. When ready to serve, pare and dice the avocados, add the chopped nuts, and mix with any good dressing.

**WITH DATES.** Peel the avocados and cut the meat into small cubes, adding an equal quantity of chopped dates. Mix with mayonnaise dress-ing and serve on lettuce leaf.

**BRAZILIAN STYLE.** Mash ripe avocados and mix smooth with port wine or lime juice to taste.

**AVOCADO BUTTER.** Pare the fruit and extract the seed. Mash the meat smooth and rub in one teaspoonful of olive oil to every two fruits. Season with salt and pepper to taste, and spread on bread.

**IN SOUPS.** The avocado is used extensively in the tropics in all kinds of meat soups. Cut in small cubes and add to the soup just before serving.

**AS A BREAKFAST FOOD.** The avocado is a particularly acceptable breakfast food, being very nourishing. Serve with salt, pepper and lime or lemon juice. In this form it is most easily digested.

**AS A DESSERT.** The avocado makes a delicious dessert cut in cubes and served with sugar and lemon juice or wine.

**FOR INVALIDS.** The avocado is recommended by physicians as a most desirable form of food for invalids. It is highly nutritious, containing as high as 18 per cent. of fat in the best varieties, according to Govern-ment statistics, and yet is very easily digested, so that the most delicate person can eat it freely.



Lath House, containing 40,000 Avocado Trees in four-inch pots,  
at our Nurseries, Altadena.

## **Plant Only Budded Trees**

For commercial purposes no consideration should be given to any but budded trees of known varieties coming up to the commercial requirements of this fruit. The orchardist would not consider for a moment the planting of seedling trees of the orange, the peach, the apple or any other of our commercial fruits, and the inferiority of seedling trees is just as true with the avocado. The variation in time of fruiting, in size, character and quality of fruit would make the seedling trees unprofitable commercially, nor can they be entirely depended upon to bear at an early age or to bear prolificly.

BE SURE, however, that the tree you buy has been budded from absolutely first class stock.

Attention is called to that portion of this pamphlet entitled "The Commercial Avocado" for the characteristics that should be required in budded trees.

For home use, by a proper selection of varieties it is pos-



Budding Avocados in the lath house, West India Gardens.

sible to have fruits of good quality maturing the year round.

Where a tree is planted solely with a view to the production of choice fruit in good quality, the budded tree is the only one to consider.

## Seedling Trees

The planting of seedling trees is strongly recommended where the double purpose of ornamentation and fruit-bearing is desired. They have been and are being used for this purpose in public parks and private gardens with marked success. As an ornamental shade tree the avocado will rank with any that are in general use; and when to their value in this respect there is added the production of fruit of very fair quality, the advantage of the free use of the seedling avocado is evident. The planting of a seedling tree not only beautifies the landscape, but adds to our food supply a desirable product, and viewed in this way it will be seen that the overplanting of seedlings is an impossibility.

Price of seedling trees, 2 to 3 ft., 50 cents each.

## The Commercial Avocado

At the present moment the question of greatest importance to prospective avocado growers is "What are the best varieties for commercial purposes?"

### 1. SEASON

When the avocado comes to be known and valued as a food product, there will be a steady demand for it throughout the twelve months of the year. At present, however, there is the greatest demand during the winter months, when other fruits are scarce. The Florida growers have almost ceased to plant anything but winter bearing varieties, and it will be advisable for California orchardists to plant mainly of winter and early spring bearing sorts.

### 2. HARDINESS

While there are doubtless limited areas in Southern California where avocados from the West Indies and Hawaii will thrive, our experience leads to the belief that for general culture in California we must have hardier varieties than those localities ordinarily produce. Avocados from the Mexican highlands have proved to be hardy almost anywhere in Southern California, and suited to as large an area as the orange. There are many locations in Mexico where avocados are produced in quantity, where fully as low temperatures are experienced as are ever felt here. Indeed, it is stated by G. N. Collins, a well known authority that he found in one locality in Mexico avocados growing and thriving where snow fell every winter. There are many fine Mexican and Central American varieties which possess the requisite of hardiness in a very satisfactory degree.

### 3. YIELD.

Through the propagation by budding a great difficulty experienced with the seedlings has been done away with, namely the liability of the tree to bear sparsely. The orchardist does not, of course, want to plant a tree on which he cannot depend for a good crop. While the smaller types of avocados are almost invariably prolific bearers, the larger varieties when grown from seed are inclined to considerable variation in this respect. Through budding the prolific varieties may be propagated and all danger from this source done away with. The avocado is ordinarily a good bearer. It is not unusual for mature trees of larger varieties to produce a crop of five hundred to one thousand fruits each season, and the small purple varieties are sometimes extraordinarily prolific, a single tree bearing as high as four thousand fruits in one season, in some instances.

### 4. SIZE.

A mistaken idea which is held by many prospective avocado growers is that the larger the fruit the better. The experience of



the Florida growers has proven conclusively that this is not the case when it comes to a question of marketing the fruit. A two or three-pound avocado is certainly a regal fruit, but will not prove half so profitable commercially as a smaller and consequently more prolific variety. From fifteen to twenty ounces would seem to be the most desirable size.

#### 5. FORM

It has been found very desirable for shipping to have fruits of oval or round form. The necked varieties necessitate considerably more care in packing, and are much more liable to injury in transit. For local consumption, however, a pear shaped or "bottle-necked" fruit is as good as any other form.

#### 6. UNIFORMITY

To facilitate packing, the product should be uniform in size as well as in form, and this also improves the appearance of the fruit as it lies in market.

#### 7. COLOR

The attractiveness of a fruit is affected considerably by its color. Locally the purple varieties have sold somewhat more readily than the green ones, but when the people are thoroughly familiar with the avocado the color will probably make little difference, unless some particular color or shade is found to denote a particularly good fruit.

#### 8. SKIN

A skin sufficiently thick and tough to stand shipment to great distances is a prime essential. This is found in many of the Mexican varieties.

#### 9. FLAVOR

As with all other fruits, there is considerable difference in flavor and quality of avocados. This is, of course, a point which must be given first consideration, as a fruit of inferior quality would be undesirable in the extreme, even though it possessed all the other essential characteristics. Those containing the highest percentage of oil are naturally the most desirable from an economic standpoint, and having the highest percentage of fat they are ordinarily the finest flavored. The ideal avocado should have a nutty flavor with a smooth texture.

#### 10. SEED

The seed should be tight in the cavity. It has been found that in shipping loose-seeded fruits, the seed in transit pounds the walls of its cavity and causes considerable injury to the flesh. This is a difficulty seldom met with in Mexican varieties. In size the seed should, of course, be as small as possible. In time a seedless variety will no doubt be developed, as has been done with the orange and other fruits.

## Orchard Planting

Experience in Florida, where budded avocados have been grown for ten years, has shown that budding tends to dwarf the tree, and that budded trees require much less space than seedlings. They should be planted about 25x25 feet, and cultivated in the usual orchard fashion. Prune to form a symmetrical head, cutting out all weak and undesirable growth each year. The top may be kept trimmed back to facilitate picking.

The tree thrives best in a loose, well drained, sandy loam. A clay or heavy adobe soil that is not well drained is not suitable for its best development.

It is advised to fertilize the first three years with 1 to 3 pounds per tree of commercial fertilizer containing 3% nitrogen, 5% phosphoric acid, and 5% potash. After the third year, when the trees have come into bearing, a fertilizer containing 5% nitrogen, 6% phosphoric acid, and 12% potash should be used in about the same amount, increasing the amount each year until the full bearing capacity is reached.

Irrigate the same as for oranges.

Transplanting is best done in early spring, after the cold weather of winter has hardened the wood and before the trees have started into new growth,—usually from March 1 to April 15, according to locality and season.

Mexican avocados will stand as much frost as the orange,—some varieties a little more. If planted in locations subject to heavy frosts, some winter protection should be given the trees for the first two years. The danger from frosts lies not so much, however, in the injury done to the trees as in the freezing of the blossoms of the early-blooming varieties. In frosty districts, therefore, plant only the late-blooming (winter bearing) varieties, and in this way safety will be secured.

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What better investment could be made than a large and scientifically managed avocado plantation, with only the best and most approved stock planted therein?—David L. Crawford.

## The Future of the Avocado

It may seem to be making a strong statement to say that within the next quarter of a century the avocado will rank with the orange as a commercial fruit in Southern California. But there is a foundation of fact underlying this statement, and the reasons seem sufficient, indeed, to warrant the belief that it may become even more important.

First, the adaptability of the avocado to this climate has been proved beyond the possibility of a doubt. There are one hundred or more trees now bearing, ranging in age from three to twenty-five years, scattered over the southern end of the State from the cool sea-coast to the hot and dry interior valleys. These trees embrace a number of widely different types, sizes and characters of fruits. This test of adaptability ought to be sufficient to satisfy the most skeptical.

Second, the food value of the fruit is the main basis for the foregoing statement. It presents in a most easily digested and assimilated form as high as 12 to 18 per cent of fat, which places the fruit in a class with the staple food products, instead of being a mere luxury as is the case with many fruits. The taste for the avocado is not always acquired upon first trial, but a few repetitions are usually sufficient to make anyone extremely fond of it. The price is now prohibitive to most and only a few have had opportunity to acquire the taste, but as the production becomes greater and the price lower, an almost unlimited demand will be created throughout the whole country. Culture of the fruit in the United States will be restricted to limited areas in Southern California and South Florida, and consequently the danger of over-production will be eliminated. As rapidly as the price and production will permit, the avocado will become an important and indispensable part of the daily food of the majority of the people of the United States.

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The avocado industry will become the most profitable fruit industry in the United States. A bearing avocado orchard will be of greater value than a national bank.—E. V. Blackman.

# Budded Avocados



The Dickey Avocado, grown at Hollywood,—an ideal fruit.

Our stock was not sufficient to fill the orders received, and we have now no trees ready for delivery, but will have for delivery during the fall of 1913 a fine stock of budded trees of the following varieties:—

- ✓ **TAFT**—A royal ahuate. We place the Taft at the head of the list. It is in our judgment the most valuable variety yet fruited in this country. Pear shaped, with a green thick skin. Weight about one pound. The meat is thick, fine grained, rich and nutty, without a trace of fibre, string or discoloration. The seed is rather under the average size and is tight in the cavity. The Taft is a spring ripening fruit, beginning to ripen in May and hanging on through June and July. A good bearer, vigorous and hardy. (See illustration, page 1)
- ✓ **DICKEY**—Parent tree from a Mexican seed, growing at Hollywood. At 8 years old had 300 fruits weighing about one pound each; pear shaped, bright green, very attractive in appearance; seed not large, and tight in cavity; skin strong; meat delicate, smooth, flavor exquisitely fine. That the Dickey meets the requirements of the ideal avocado may be positively stated. The tree is hardy. We predict for the Dickey a future high standing among avocados in California.



The Meserve, a variety originated near Long Beach, Cal., a fruit of unusually rich flavor.

- ✓ **DICKINSON**—Is an attractive ahuate. It has the corrugated, thick skin of the true Guatemalan type. Ripens in April and May; remains green until shortly before maturity, when it turns a dark purple. The fruit will average eight or ten ounces in weight. A prolific bearer, and a vigorous growing, hardy tree. The meat is clean and clear, is perfectly free from fibre, flavor good, seed tight in cavity; is in every respect a first class ahuate.
- ✓ **MESERVE**—Being very nearly round, will pack and ship like an orange. Skin green and sufficiently thick and strong to withstand shipment long distances. Weight about one pound. Seed tight in cavity. A spring bearer, maturing in April and May. Flavor unusually rich and buttery. Tree vigorous, hardy and prolific.
- ✓ **W. I. G's "NINETEEN"**—An exceptionally fine Mexican pear-shaped fruit, weighing one and one-half pounds. A strong, thick green skin. An unusually large proportion of meat to seed. A delicious fruit. Bearing season, early spring.
- ✓ **MURRIETA**—A smooth, large, round, dark-green fruit. Weight from 16 to 24 ounces. The only hard-skinned, large fruit ripening in the fall, of local origin, that we know of. Color of meat, creamy yellow, dark green next to skin, flavor fine, very oily. Fruiting season, September and October. An excellent variety of the ideal shipping form.
- ✓ **W. I. G's SINALOA**—A large fruit, weight over one pound. Skin green in color, thick and strong. Flesh of smooth texture and excellent flavor. Seed medium, tight in cavity. Fruiting season, December to March. A desirable commercial variety.
- ✓ **COLORADO**—Weight 14 to 18 ounces. Skin thick and strong; color, dark red or maroon. Flesh, deep yellow, free from fibre and delicious in flavor. Small seed, season April and May.
- ✓ **LYON**—A smooth-skinned Guatemalan ahuate; form, broad pyriform; size, medium to medium large, 16 to 18 ounces; skin thick and woody; flesh light yellow, absolutely free from fibre, very buttery; seed medium small, tight in cavity; spring bearing.
- ✓ **FAMILY**—A Florida variety; a strong growing tree; shape of fruit somewhat variable, from pear-shaped to oblong; color purple with scarlet streaks, very attractive; flavor good; bearing season in Florida, July to October.



The Dickinson Ahuacate, a true Guatemalan type.

- ✓ W. I. G's **ATLIXCO**—A December to March fruit of medium size, 8 to 12 ounces, sometimes reaching one pound; oblong; tough, thick skin, green, tinged with purple; flesh, light-cream in color, green near skin; a mild, nutty flavor.
  - ✓ **CARDINAL**—The foliage of this tree is exceptionally handsome. Skin of fruit thick, red, slightly mottled with yellow; flavor good; a Florida variety; season, October; pear shaped.
  - ✓ **STERLING**—Skin thick, color dark bronze; quality good, seed filling cavity; medium large, season October in Florida.
  - ✓ **QUALITY**—A Florida variety of high standing; size large, color green, skin thin and smooth; seed medium large, loose in cavity; flavor good; season September.
  - ✓ **EL PRESIDENTE**—Weight, 14 to 18 ounces; green, pear-shaped. Skin thick and smooth; flesh of good quality and fine flavor, texture smooth; seed tight in cavity; productive; spring fruiting.
  - ✓ **QUERETARO**—A fall fruiting variety of long season, August to October, skin rough, form oval, quality good, seed tight in cavity, prolific, a fine fall-bearing variety.
  - ✓ **PUEBLA**—Another fall fruiting variety, season September and October; a thick-skinned, purple fruit of medium size and fine flavor, with small seed. A good commercial variety.
  - ✓ **TRAPP**—The leading Florida variety; season, October to January, quality good, roundish in form, large in size. Nearly all of the commercial orchards in Florida are of this variety.
- Prices of above varieties, 1 tree, \$4.00; ten, \$3.75 each; one-hundred, \$3.50 each; five-hundred, \$3.25 each; one-thousand, \$3.00 each.



The Northrop, a good variety of the smaller, thin-skinned, purple Ahuacate.

- ✓ CHAPPELOW—A summer and fall fruiting variety; a good type of the thin-skinned, purple, Mexican ahuacate: flesh solid, meaty, oily, and of excellent flavor; keeps well after being picked; tree a vigorous grower and unusually hardy, a fine family fruit.
- ✓ HARMAN—A thin-skinned, oval, light-green fruit, flesh deep yellow in color and of excellent flavor and quality, seed often loose in cavity; season, October and November, productive, weight, 8 to 10 ounces.
- ✓ WALKER—Extremely prolific. The parent tree at Hollywood often yields 2,000 fruits a year, weighing 7 to 10 ounces. Pear-shaped, skin thick and woody, flesh pale cream, slightly fibrous, seed tight in cavity, season, March to May.
- ✓ GANTER—An unusually prolific variety. A thin-skinned, green fruit of fine flavor, weight, 7 to 10 ounces, oval or ovate in form, fruiting season, October and November, flesh yellowish cream, changing to pale green near the skin.
- ✓ NORTHROP—A purple thin-skinned Mexican ahuacate. It is valued for its fine flavor. Is not regarded as a shipping fruit, but is fine for the home garden. Weight six to eight ounces, meat free from fibre, and of good quality and flavor. This variety yields two crops a year, a large crop in September, October and November, and a smaller crop in May and June. The tree is hardy and vigorous.

The prices of the above varieties are: One tree, \$3.00; ten, \$2.85 each; one-hundred, \$2.75 each.

Reservations will be made and trees delivered as soon as ready, where one-fourth the price is paid when order is placed.

## PASSIFLORA EDULIS

### PASSION VINE

The Passion Vine thrives in California. It is not yet well known, however, and hence its fruit has not come into general use. In Australia it is extensively grown.

The fruit is the size and shape of an egg, and contains a pulp of exceedingly good flavor. It is consumed much in the same manner as an egg,—that is, by cutting off one end and removing the contents with a spoon. The pulp is also used as a flavoring for cakes, ice-creams, drinks and sweet-meats, and is a much appreciated addition to fruit salads. It packs and ships well.

The vine is a vigorous grower, and well suited to use on trellis or screen frames. It is quite hardy.

Price, small plants in 2-inch pots by mail, 25 cents each; by the hundred by express, 20 cents each.

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## FEIJOA SELLOWIANA

### THE PINEAPPLE GUAVA



FEIJOA—Natural Size.

**I**N growth and character the Feijoa (pronounced, according to the Century Dictionary, Fay-zho-a, accenting the middle syllable) much resembles the common guavas. It is, in fact, closely related to the guavas, all being members of the natural order Myrtaceae, or myrtle family. The plant grows to an ultimate height of eight or ten feet, making a very



ornamental shrub, with brilliant and attractive flowers, silvery white in color, with a tuft of crimson stamens tipped with golden anthers. The foliage is of a pleasing combination, glossy green above and silvery white beneath. Planted as a hedge or border it combines utility with beauty.

The fruits are about the size and shape of a hen's egg, green in color, with sometimes a touch of crimson on the cheek. Next to the skin is a layer of granular flesh, which surrounds a quantity of white, translucent melting pulp, in which the seeds are embedded. The fruit is one of the most delicious imaginable, combining the flavors of pineapple, raspberry and banana. This flavor combined with the aromatic odor which the fruits possess, is sure to be a winning combination. The seeds are from thirty to fifty in number, and so small that they cannot be felt in the mouth, being in fact no larger than strawberry or fig seeds.

The fruit is commonly eaten out of hand, but it can be cooked in almost any way, crystallized, made into jams or jellies, or prepared in numerous other forms, in any of which it is delicious.

The season of ripening is from November to January. The fruits keep for a remarkable length of time, and can be shipped to any part of the country in perfect condition.

The culture of the plant is simple. While frequent irrigation during the dry season greatly encourages growth, the Feijoa is a great drought resister. One of the original plants introduced from France ten years ago, growing on Dr. Franceschi's place at Santa Barbara, has never had a drop of water except from the skies, and yet has made a good growth and is bearing regularly. The plants usually come into bearing the third or fourth year from the seed.

While native to southern Brazil and Uruguay, it has proved hardy wherever tried in California, standing without harm a temperature as low as 12° above zero. The area in which it can be grown in this country is a large one, and the question of hardiness, always an important one with introductions from tropical countries, is satisfactorily disposed of. It has been grown in California for ten years, and has thoroughly proved its adaptability to the climate in every respect.

Our stock is grown from selected fruits from the best trees in southern France, where the Feijoa has been cultivated for twenty years and superior forms have originated. Price, field grown, balled, 1½ to 2 feet by express, \$1.00 each. By the hundred, 75 cents each, (not ready till fall 1913). Pot grown, 8 to 10½ inches, by mail postpaid, 60 cents each; by express, 50 cents each. By the hundred, 35 cents. Ready now.



The first Feijoa planted in Europe. Parent of the majority of Feijoas in both Europe and North America.



## THE CHERIMOYA

The Cherimoya (*Anóna Cherimolia*) has been classed as one of the three finest fruits in the world, the other two being the pineapple and the mangosteen. Forty years of cultivation in California have shown it to be eminently adapted to this climate, which is, indeed, not unlike that of its native home, the highlands of Central America. The tree is a handsome one, with broad, velvety, bright green leaves, frequently deciduous during the winter months. It is sufficiently hardy to be grown wherever the orange thrives. While best suited to a light sandy soil, it can be grown successfully on adobe if it has good drainage.

The fruit is heart shaped or oval, green or brown in color, and ordinarily about the size of a navel orange. The skin is usually covered with small conical protuberances, and encloses a mass of white, melting, custard-like pulp, in which twenty or thirty brown seeds are embedded. The flavor of the pulp is similar to the pineapple, and is liked by everyone. As a dessert fruit the Cherimoya, when grown in a climate such as that of California, is without a superior. It ripens during the spring months.

Our stock is grown from large, delicious fruits from hardy and productive trees selected by our own representative in the Mexican highlands. We have the finest stock ever offered in California. Price, 6 inch pots, 75 cents each. By the hundred, 60 cents each.



## THE QUEENSLAND NUT

This Australian tree (*Macadamia ternifolia*) is, from several points of view, one of the most valuable additions that has been made to California horticulture. Aside from the value of its fruit, the tree is a highly desirable ornamental for the lawn or dooryard, as well as for streets and avenues, for which purposes its drought-resisting qualities make it particularly desirable. It is an evergreen, with dark green, serrated leaves greatly resembling those of the holly.

The nuts are abundantly produced in clusters of from three to fourteen, enclosed by a hull similar to that of the hickory nut. They are round, smooth, light brown in color and about an inch in diameter. The shell is thick, and encloses a round kernel, similar to the filbert, but larger. The flavor is like that of the Brazil nut, but greatly superior to it.

The tree comes into bearing when seven or eight years of age, and thrives best on a heavy soil. It requires but little care and for this reason is very desirable for dooryard planting. Trees have been in bearing in California for a number of years, and are as perfectly at home here as in their native country.

Price of two year old trees in 6-inch pots, 2 feet or more, fine specimens, \$1.50 each. By the hundred, \$1.25 each.

One year old, 4-inch pots, 50 cents each.



## THE WHITE SAPOTE

A Mexican fruit (*Casimiroa edulis*), introduced to California by the early Mexican settlers. Several old trees in Santa Barbara have been in bearing for years, and the fruit is much liked.

The White Sapote has been shown to be much hardier than the majority of semi-tropical fruits. It withstands quite low temperatures and will doubtless succeed in milder portions of the Gulf states as well as in the Southwest. In Mexico it is found at altitudes of 7000 feet, where the winters are quite severe. The tree is spindling when young, but in time forms a beautiful umbrageous head and is very ornamental. The leaves are palmate, glossy green, and sometimes quite large. Extremely drought-resistant, and will stand more neglect than almost any other tree we have.

The fruit is very similar in appearance to a quince, and of about the same size. The skin is thin, and surrounds a quantity of soft, melting pulp, very sweet and of a flavor almost impossible of description, since it resembles no other cultivated fruit. The seeds vary from two to five, and are quite large in size. There is a vast difference in the product of different seedlings, the fruit of some being entirely worthless. Our stock has been grown from trees known to produce the best quality of fruit only. Will grow in almost any soil, but does not come into bearing until seven or eight years old.

Price, 2 feet, 6 inch pots, 75 cents each.

## THE NATAL PLUM



A South African shrub (*Carissa grandiflora*), worthy of cultivation in every California garden for its ornamental value as well as for its fruit.

The leaves are oval, thick and leathery, and of a beautiful glossy green. The plant, which does not grow over a few feet in height, is a solid mass of foliage and very shapely. In spring and summer it bears a profusion of white, star-shaped flowers of an inch and a half in diameter, which have the fragrance of the tuberose. The flowers are followed by bright scarlet fruits about the size and shape of a plum. These are of a peculiar acid flavor, and are used for the preparation of jelly.

The Natal Plum is particularly recommended as a hedge plant. It is hardy, remarkably tolerant of abuse, and thrives with almost no attention. The thorns with which the shrub is supplied make the hedge practically impenetrable, and it has the added advantage of ex-

ceptional beauty of foliage and flower, and production of fruit.

Small plants, 4-inch pots, 40 cents each.

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## THE LOQUAT

The Loquat is now quite widely grown in California. The tree is evergreen and handsome; for this latter reason as well as for the fruit, it has been extensively planted in parks and gardens. In the improved varieties now being brought to the attention of the public, it promises to become a fruit of much greater importance than formerly.

The fruit of the best loquats is from two to three inches long, and considerably over an inch in diameter. It varies in color from light yellow to orange, according to variety. The delicious subacid flavor is agreeable to everyone, and for the preparation of jelly it is a prime favorite.

We propagate not only the standard budded varieties, (Advance, Premier and Champagne) but also the Thales, an unusually large fruit of rich orange color. We also propagate the rare Tanaka, largest of all loquats.

Price, for any variety, \$1.50 per tree.



## THE GUAVA

Besides the popular Strawberry Guava (*Psidium Cattleianum*) found in almost every garden in Southern California, other species of this highly esteemed tropical fruit are well adapted to our climate. Some of these are so valuable as to warrant extensive use. Only those who have eaten the guava jelly of the tropics know how vastly superior it is to that made from the strawberry guava.

### **PSIDIUM GUAYABA**

Tropical America,—the common guava of the tropics. Variation from seed has led to the existence of many different forms, which have been given little systematic attention as yet.

### **PSIDIUM LUCIDUM (syn. *P. chinense*)**

Brazil,—yellow strawberry guava. It is identical with the strawberry guava, except in the color of its fruit, which is bright yellow instead of red. It is considered by some to be of finer flavor than the last named, and it is also as hardy.

### **PSIDIUM GUINANENSE**

Guiana,—This is the Guiana guava, the largest guava cultivated here; the fruits attain a diameter of four inches in some instances. It is similar in growth to *P. guayaba*, and, like it, somewhat tender and affected by heavy frosts. The fruits are round to pear-shaped, light yellow outside, with white flesh, and extremely few seeds. The flavor is very good, not as musky as the guayaba type, and hence more generally liked.

### **PSIDIUM ARACA**

Brazil,—the araca, a recently introduced species, is somewhat similar in growth and fruit to *P. Cattleianum*, but superior to it. The leaves are broad and very glossy, the fruit is spherical, an inch to an inch and a half in diameter, with few seeds, and of good flavor; the plant does not grow to a large size, but is a very prolific bearer. It is as hardy as *Cattleianum*.

Price of any variety, in 4-inch pots, 50 cents each; 10, 45 cents each; 100, 40 cents each.



## THE MANGO

Five hundred years ago Amir Khrussu, one of the greatest of Hindi poets, wrote in Persian verse: "The mango is the pride of the garden, the choicest fruit of Hindustan; other fruits we are content to eat when ripe, but the mango is good in all stages of growth."

The verdict of present day philosophers is an even stronger endorsement of the mango than that of 500 years ago, and in all parts of India it is now in such high esteem as to be almost sacred. English writers have called it the "King of Fruits," and the "Apple of the Tropics," and it is of such supreme importance and superb merit as to be worthy of these titles.

It would be hard to imagine a more attractive fruit than, for instance, a mango of the Alphonse variety,—oval and plump in shape, of a beautiful deep golden color, and exhaling an aroma that makes one's mouth water. By making a longitudinal cut around the fruit, the skin can be readily removed, exposing the rich golden flesh, of about the same consistency as a well-ripened peach and dripping with juice. Dipping your spoon in and placing it on your tongue, it fairly melts in your mouth,—a fruit of most delicate, spicy flavor, with just a trace of acidity to make the proper combination to please the palate.

BUT, for California such mangos are a thing of the future,—not of the present. Only seedlings of uncertain value are now to be had. We have such seedlings for sale at 50 cents each; but having secured through our own explorers the choicest varieties grown on the slopes of the Himalayan Mountains in a climate similar to that of Southern California, we expect in the course of another two years to be able to furnish our patrons with the choicest of mangos that will be hardy in this climate.





# DATE GROWING

IN

## CALIFORNIA AND ARIZONA

**D**ATE palms have been fruiting in California and Arizona for a quarter of a century. More than 200 of the world's best varieties have been imported by the U. S. Department of Agriculture and most of them are now fruiting. Several hundred acres have been planted by individuals, and every test ends in the same proof; that the industry is one of the best adapted to the Coachella valley, Imperial valley, Colorado river country and some parts of Arizona. In these regions the date thrives as well as in Asia or Africa and is far more profitable.

We are importers of offshoots from the date gardens of Algeria, Tunis, Egypt, Arabia and Persia. Our importation for the spring of 1913 included 15,000 offshoots valued at \$100,000, being by far the largest importation ever made. Our special date pamphlet may be had upon request, by those interested.



At the Office of the West India Gardens

A cordial invitation is extended to you to visit our nurseries on any day of the week but Sunday. Take the Altadena car, going north on Fair Oaks Avenue, in Pasadena, get off at Calaveras Street, Altadena, and walk one block and a half east.

We can furnish the following publications concerning subtropical fruits:  
**THE PACIFIC GARDEN**, March 1912 issue, devoted especially to the Avocado. Price 10 cents.

Bulletins by F. W. Popenoe, reprinted from the Pomona College Journal of Economic Botany:

**FEIJOA SELLOWIANA**, its History, Culture and Varieties. Illustrated. Price 15 cents.

**THE DEVELOPMENT OF AVOCADO INDUSTRY**. A pamphlet describing the progress of the avocado industry in the United States, and especially in Southern California; illustrated. Price 10 cents.

**THE MANGO IN SOUTHERN CALIFORNIA**. Covering the importance and value of the mango, its present status in California and future possibilities; illustrated. Price 25 cents.

**THE CHERIMOYA IN CALIFORNIA**. Illustrated. Price 15 cents

**DATE CULTURE IN SOUTHERN CALIFORNIA**, by George Wharton James, Paul B. Popenoe and Ralph D. Cornell; 33 pages, illustrated. Price 50 cents.

All of the above for \$1.00.

Evening in the Date Garden, Coachella Valley, California

