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# LAKE NURSERY CO.

Leesburg, Florida.

The Largest Nursery on  
Sour Orange Stock in Florida

## QUALITY CITRUS FRUIT TREES



Valencia Late Orange





CATALOGUE OF  
**LAKE NURSERY CO.**

(INCORPORATED)

Capital Stock \$300,000.00

LEESBURG, FLORIDA

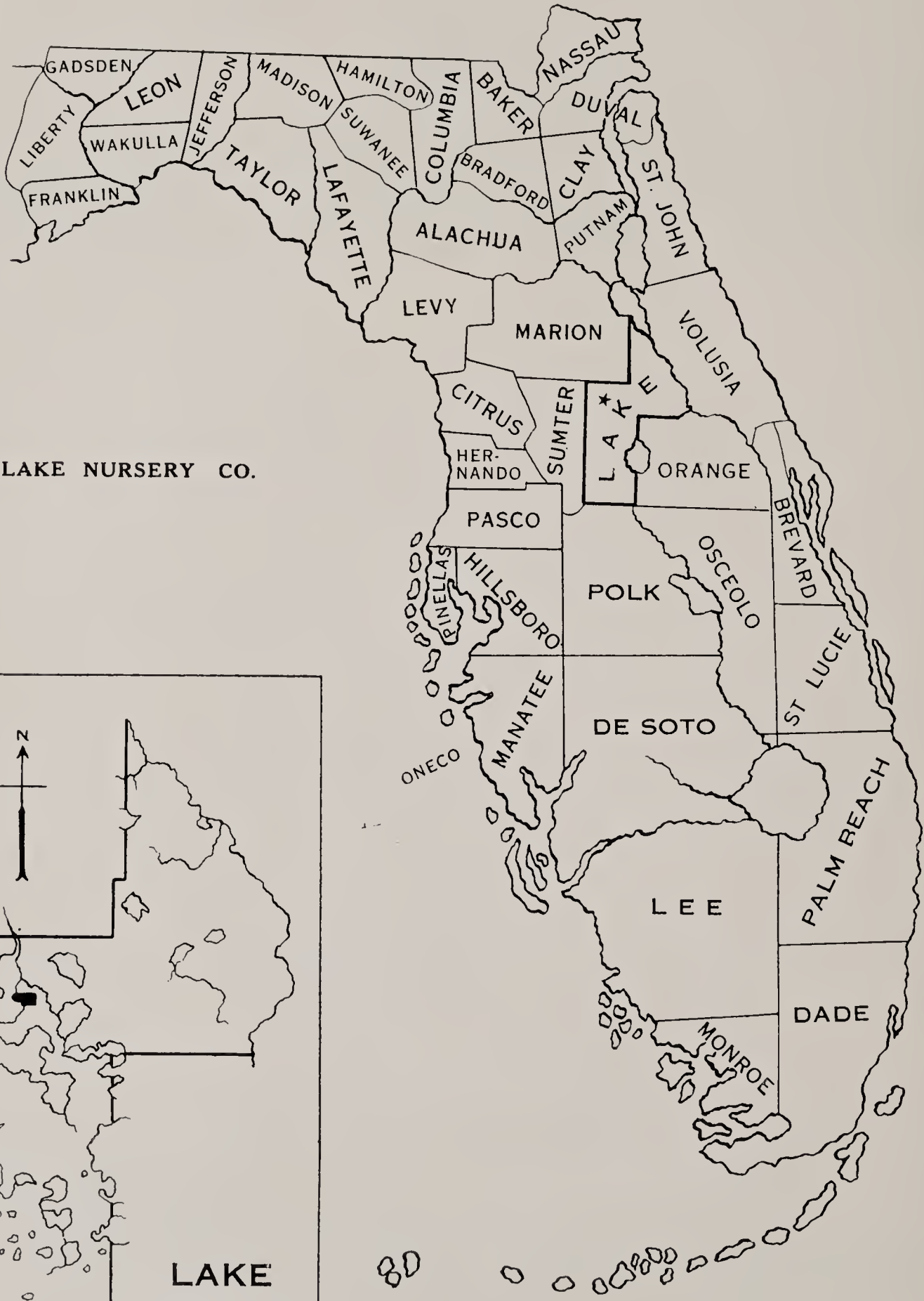
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Nurseries and Shipping Point

LEESBURG, FLA.





\*LAKE NURSERY CO.

LAKE  
COUNTY

## . . . Introduction . . .



IN presenting our catalogue to the public, we do so with that feeling of explicit confidence in our nurseries which assures us that every tree we send out to the growers will give entire satisfaction. The reason for this confidence is the fact that the stock we furnish is grown under possibly the best conditions of any nursery in the State, as regards climate, soil and preparation, and that our nurseries have been handled by competent and practical men in every department of the work, thus giving to them the advantage of the best care as well as the widest range of knowledge that it is possible to apply.

With us the growing of citrus trees is not a side issue. It is our chief aim to keep the Nurseries second to none in the entire State. We grow our own stock, devote our entire time and energy to the details of the work, and have now the satisfaction of knowing that we are prepared to give each and every customer the highest benefits of our labor and experience.

The clean bill of health received after every visit by the State Nursery Inspectors is only one proof of the great care that we are constantly giving to the raising of our citrus stock. Our nurseries have also been visited from time to time by leading men of the citrus industry, who, having no interest whatever in our nurseries, were entirely free and unbiased. They unhesitatingly stated that the standard of our nurseries is the very best of Florida.

Recognizing the importance of the proper selection of stock on which to bud the trees, a conscientious study was made of the results in various groves all over the State, and even in California. This investigation and the exchange of views with the most prominent citrus men, seemed to point so clearly to the superiority of Sour Stock for most of the Florida conditions, that we decided to make a specialty of Sour Trees in our nurseries. We admit that in some few localities or for certain conditions the Rough Lemon Stock will give satisfactory results and we therefore can supply Trees on Rough Lemon.

However, these trees on Rough lemon stock are grown at a considerable distance from the Sour Orange nurseries and are not handled in the same packing house, making assurance doubly sure that the two varieties of root system will never get mixed, which is liable to and has occurred many times where the various root systems have been grown in the same nursery or packed in the same packing house. But we want it understood that unless other stock is expressly desired by our customers, we will always furnish our high grade Sour Stock trees from our nurseries.

Convinced of the value of our high-quality Sour Stock trees, we do not feel the necessity of meeting prices lately quoted by some nurseries on lots of trees on inferior stock, on account of the decreasing demand for such trees. But we do offer to our buyers the same conservative prices and advantages as the other big and well-reputed nurseries of the State are offering their customers for trees of the same quality. We extend to you a cordial invitation to visit our three large nurseries. In accepting this invitation, you do not place yourself under the slightest obligation to purchase.

Knowing that the high quality of our stock and the painstaking way in which it is always handled will give you the results you desire, we feel justified in earnestly soliciting your patronage.

Respectfully,

LAKE NURSERY COMPANY,  
LEESBURG, FLORIDA

## **OUR TERMS AND METHODS**

**LOCATION:** General Offices and Nurseries at Leesburg, Lake County, Florida.

**TERMS:** Cash with order if for immediate shipment. Trees ordered to be held for some weeks after shipping season opened should be accompanied by full payment. Orders booked in advance of shipping season 20% down, balance due when trees are shipped. Catalogue price is f. o. b. Leesburg.

**PACKING:** We guarantee delivery in good condition as far as packing is concerned. We spare no expense to have trees properly packed, no charge being made for same.

**APPLYING PRICES:** 5, 50 and 500 of one size at 10, 100 and 1,000 rates, respectively.

**SUBSTITUTION:** When ordering state whether you wish to substitute some similar variety in case those ordered are not in stock.

**CLAIMS:** All claims will be promptly rectified if claim is made within ten, days after the receipt of goods.

**SHIPPING SEASON:** We always prefer to wait until trees are dormant which ordinarily is about November and continues into April. Citrus trees, if properly handled, can be transplanted every month of the year, but we ship during growing season only at the purchaser's risk. We guarantee all stock sent out to be well rooted, well grown, true to name, properly packed and shipped according to instructions. While we exercise the greatest care to have trees true to label and hold ourselves prepared on proper proof to replace any that may prove otherwise, or refund the purchase price, we do not give a warranty, expressed or implied, and in case of error on our part, it is mutually agreed between the purchaser and ourselves that we shall not at any time be held responsible for a greater amount than was paid for the trees.

**SELECTING VARIETIES** suited to localities is of vast importance and can often be more advantageously done by us than by purchaser. We are always glad to assist our customers in their selections when so desired, and will, upon request, cheerfully furnish additional information in regard to the adaptability or desirability of particular varieties, care and culture of same.

**SHIPPING ORDER:** State whether you want trees shipped by Freight or Express. In most cases we recommend express service.

### **The Stock We Use.**

The first question confronting you as a prospective citrus grower is: "On what stock do you want your trees to be budded?" Let us answer this question by emphatically advising "Sour Orange Stock." Here are the reasons: The Sour



Orange is the native orange of Florida and its entire nature has adapted itself to the conditions of that State. Primarily this will be seen in the root system, which has the tendency of growing downward instead of spreading out six and more feet, and as a natural consequence the trees are far less subject to the suffering from long droughts which are so frequent in Florida. The deep-root system, furthermore, permits the tree to get the full benefit from the fertilizer even after the fertilizing ingredients have been washed to greater depth. This insures a more constant and even growth of the tree, while trees with a hollow and spreading root system, as such Rough Lemon Stock trees show, have a far more erratic growth, thriving immediately after fertilization but suffering as soon as the fertilizer has reached depths to which roots do not go.



TREE ONE YEAR OLD



TREE TWO YEARS OLD

The Sour Orange Stock tree, we admit, is of slower growth during the first few years than the Rough Lemon Stock tree, but we consider this the best argument in favor of the Sour Orange Stock, as the slower and steadier growth has proven to be productive of trees that are much hardier not only against frost, but also against disease. Time and again it has been observed that in groves planted in mixed stock, all trees on Rough Lemon Stock had suffered severely from frost, Sour Orange Stock trees had not been touched at all. And the frequent attacks of die-back, lemon scab and similar diseases in comparatively young Rough Lemon Stock groves have very rarely been found in Sour Stock groves. Foot-rot is entirely unknown in groves planted on Sour Orange Stock. This fact has of late been very strongly brought be-

fore the public by gentlemen connected with the U. S. Department and by authorities in the citrus industry. One further, and perhaps the greatest, advantage of the Sour Stock tree is the fact that on account of its more or less dormant stage during the winter months the sap is not so soon drawn back into the trees thus allowing the fruit to remain in perfect condition on the tree, when fruit on trees on other stock have become dry and unfit for the market. With all these arguments in favor of the Sour Stock trees, we firmly believe it to be in the interest of the Florida citrus industry that in new groves the Sour Orange Stock should be used preferably and that the use of the Rough Lemon stock be limited to the few cases where soil conditions or the necessity of making a great show of the growth in the first few years favor this stock.

### **Our Bud Selection**

Anyone familiar with horticulture knows the great importance of proper



TREE THREE YEARS OLD



TREE FOUR YEARS OLD

bud-selection. It is the bud that gives the tree the fruit-bearing quality, hence the best results can be obtained only if the tree has been budded with wood coming from a first-class bearer.

Our nurseries were fortunate enough to establish permanent connection with some of the best Florida groves; groves that bring crop after crop with remarkable regularity, the fruit of which invariably commands the highest market price. It is from these groves that we get our bud wood, and this is the reason why trees from our nurseries prove to be such prolific bearers. It has often been remarked by visitors, that even our young trees in the nurseries show an exceptional amount of bloom. Proper bud-selection is the answer.

Buyers of trees from our nurseries will be delightfully surprised at the

dollar-and-cent result which our bud selection will show as soon as the trees are old enough to be permitted to hold the fruit.

### Root System

One of the most important points in a citrus tree is a good system of roots, and we have not overlooked this point in locating our nurseries. We selected light land on which to make our nurseries because of the fact that there we get a better root system. We do not push the growth of the trees by over-fertilizing, and we therefore force the tree to develop the maximum root system in order to get sufficient nourishment from the ground. By heavy fertilization we could easily obtain marketable sizes of trees in a much shorter time; but the root development would suffer and we prefer to go to the expense of taking care of the tree one year longer rather than to sell our customers trees that are not perfect in root system. Trees grown in our nursery will do well on any land that will grow citrus trees. If transplanted to light land they are



TREE TRIMMED FOR SHIPMENT



TWO-YEAR BUD AS IT GROWS  
IN NURSERY

at home and know just what to do. If set on rich land they will do extra well because of the excellent root system through which they take their nourishment from the soil.

If, in digging trees in our nurseries for shipment, there should be found a tree without sufficient roots to make it a good tree after being set to grove form, we would discard it as a cull and not allow it to be shipped.

Many of our customers, in acknowledging receipt of trees, mention the remarkable strength of their root system; and the thriving condition of groves planted with our trees shows what such root system will do for the citrus grower.

## HANDLING TREES



Much of the labor attached to the growing and shipping of nursery stock is entirely unknown to the purchaser, and yet it is this unknown service together with the painstaking care in growing that has pleased and always will please our customers.

As orders are received through our business office, they are promptly acknowledged and transferred to the Superintendent of one of our nurseries with exact instructions as to grade of stock, number, caliper, etc., also complete shipping instructions with shipping tags, Nursery Certificates, or Inspection Tags sufficient for the entire order.

### **Digging Trees**

All our trees are freshly dug for each order and no trees are permitted to be dug and held for filling orders yet to be sent in.

It is possible to spoil absolutely or permanently to injure a good tree by improper method of digging. Our digging is done by trained men in such a way that the growth of the tree is neither injured nor its future development impaired.

### **Selecting Trees to be Dug**

When the order is received by the Field Foreman, he selects competent men who go over the growing stock and select the proper size and caliper ordered. These are marked and another crew follows, defoliating the marked trees, while the digging crew follows, removing only those that have been selected for shipment.

### **Packing for Shipment**

Each tree, before being packed for shipment, is properly pruned ready for planting and thoroughly washed and inspected by the Nursery Inspector, and every tree that does not come up to the requirements is discarded as a cull and not allowed to be placed in the shipment.

### Checking

The trees are again carefully counted and checked against the order sheet to make sure that the order is complete in every detail, as to number, variety, and grade of trees ordered. Classification labels are then attached and left on the trees to go to the grower.

### Packing

Our packing boxes are made of thin cypress boards. The trees are carefully wrapped and baled in our private packing stations at our two railroad depots in such a manner as to insure absolute protection, both to roots and tops of trees, while in transit. Our past record is that invariably our trees arrive in good condition, as we give the same careful consideration to both short-distance and long distance shipments, knowing that there might occur some delay in transit.

### Planting Distances

To ascertain the number of trees required to the acre at any given distance divide the number of square feet (43,560) in an acre by the number of square feet you desire to devote to each plant. For instance trees planted 25x25 feet will occupy 625 sq. ft. making 69 trees to the acre.

14 by 14 feet	-	-	-	222	18 by 18 feet	-	-	-	134
15 by 15 feet	-	-	-	193	20 by 20 feet	-	-	-	108
16 by 16 feet	-	-	-	170	22 by 22 feet	-	-	-	90
15 by 25 feet	-	-	-	112	25 by 25 feet	-	-	-	69
15 by 30 feet	-	-	-	96	20 by 25 feet	-	-	-	80
20 by 30 feet	-	-	-	70	30 by 30 feet	-	-	-	49

## FERTILIZERS

Practically all the soils in Florida must be enriched by means of commercial fertilizers and cover crops. The kind and amount of fertilizers to use depends upon the soil and the age and size of the trees, and since there is a variation in the different soils, every grower should determine what fertilizer will give the best results as will be shown by the behavior of the trees and the character and quality of the fruit. Most of the soils are deficient in nitrogen, potash and phosphoric acid, but some of the deficiency in nitrogen may be overcome by use of leguminous cover crops.

It has been found best not to apply fertilizer to the tree at the time of planting; light applications should, however, be given every time the growth hardens during the first summer, ordinarily about four times, using about one pound at each application. Barnyard manure and organic sources of nitrogen, such as cotton seed meal, blood and bone, tankage, etc., are not considered good form of fertilizer to use in citrus groves. The fruits produced by nitrogen from this source are usually large, coarse, thick skinned, with abundant rag and of inferior quality. The use of such fertilizing agents is almost certain to cause "die back."

If leguminous or other cover crops are used, they should be allowed to thoroughly mature before plowing under.

The second year the first application should be made in February and then

in June and September, using a pound and a half at each application per tree. From the second year on the trees should be treated as individuals, the amount of fertilizer to be applied depending on the growth of the tree. Problems on the fertilizing question will be continually coming up and any help we can render the grower will be cheerfully given. The fertilizer companies of the state have as good experts as money can procure and they will gladly assist if you ask their help.

## **SPRAYING**

The citrus growers have their insect pests and plant diseases to combat the same as the fruit grower of other states, but he is fortunate in that these pests and diseases are not so hard to combat. Diseases such as "die back" are caused by improper feeding. The various fungus diseases are controlled by standard sprays and by the use of the beneficial fungi found in the grove, or if absent, introduced to help control matters. The insect pests are likewise controlled by standard sprays and beneficial parasitic and predaceous insects.

The Florida State Experiment Station at Gainesville has worked out all these problems and you have only to ask their assistance to get the proper information. The insecticide companies, spraying machine companies, horticultural publications and ourselves, are always ready to help you solve any of these problems that may puzzle you.

## **VARIETIES**

In colder or more exposed sections it is best to plant those that mature early, such as Parson Brown. The fruit will not stand the same amount of cold as the tree, and if it is sufficiently matured to pick before the cold comes on it is a decided advantage.

Green fruit should not, however be shipped just because the market happens to be good. It is ruinous to the reputation of any section that carries on the practice. So if you want to supply the early market, plant only Parson Browns. Our nurseries are located in the heart of the Parson Brown territory and our bud wood is "time-tested."

Groves in sections farther south and more free from effects of cold should, however, pay more attention to late varieties such as cannot safely mature further north. As a matter of fact either very early or very late fruit brings the most money in the market and by growing late varieties competition with sections growing early varieties would be obviated.

## **TIME TO PLANT**

Citrus trees are not periodic in their growth. Several growths are made each year and so long as they are transplanted during their dormant periods they may be set out at almost any season of the year, but we strongly advise setting trees in November, December, January, February and March for reasons that they are more dormant and there is not so much strain on the vitality of the trees. June is also a good month for setting trees as this is usually the beginning of our rainy season. We have, however, set citrus trees every month of the year and had good results, simply because they were properly cared for.

## LOCATION

In selecting a suitable location for a citrus grove several things must be considered. The grower should select a place as free from cold as possible, and it is a well known fact that some places are more subject to cold than others even tho they are only a few miles apart. Many factors, such as altitude, latitude, air drainage, wind breaks and large bodies of water have this influence. The last named factor plays a very important part in cold prevention. Good air drainage is essential, and as a rule the higher lands are better drained than the low lands for cold air being heavier than the warm air sinks to the lower places. For this reason it is better to locate a grove on the side of an elevation or the top of it. Pockets, that is, low lands so situated as to receive cold air from a higher place, should be avoided.

Transportation facilities should not be overlooked in selecting a location for good roads are highly desirable and the distance from a grove to shipping station should be duly considered.

## SUGGESTIONS FOR SETTING TREES

As it is impossible for the Nursery to know the kind of land on which the trees are to be planted, we offer the following suggestions which should be followed by the grower in setting trees: Where trees are to be set on high, well-drained land, a good long tap root should be left; where the land is low and the water comes close to the top, or in contact with the tap root, the latter should be cut off short, possibly to about four to five inches. This is absolutely necessary in order to get the best results in any part of the State.



Trees should be set by experienced men who will carefully spread the laterals, working the dirt well around the roots with the fingers, and water them in the process. If the trees are to be planted where they will be exposed to strong winds, we would suggest staking them, tying the stakes on the side next to the wind. The

land where the trees are to be planted should be well worked before planting, so that when the trees begin to grow the roots will not come in contact with hard soil to check their growth.

In setting out trees on high, well-drained land, care should be taken that the crown root is about on the level with the top of the ground after the mounds settle, which they always do. We believe that more trees are ruined from setting too deep than from any other cause.

It is not a bad plan to drape the tops of the trees loosely with moss as they are set, to protect them from the hot sun if planted in hot weather. If the moss is too tight it will interfere with the young growth or cause it to be broken off when the moss is removed.

When trees are received they should be unpacked immediately and "heeled in" in a shady place. Plow out a furrow of sufficient length to accommodate the trees when spread out singly, with a shovel slope off the furrow at an angle of 45 degrees, place roots of trees in furrow, spread out the roots, pack the earth about them and water, covering tops with sacks.

Everything having been arranged for planting, remove the trees from the furrow, a few at a time as needed for setting, trim the roots and wrap them in a damp blanket for carrying to the field. Under no circumstances should a strong sunlight or the wind be allowed to strike the roots as the roots of a citrus tree are very susceptible to injury. We always trim the top and root ready for planting, but should any of the roots be broken, cut them off smoothly. The advantage of a smoothly cut root end over a torn and ragged one is that it calluses and heals much more readily. From the root just back of the callus, large numbers of small roots grow out which soon take the place of those removed. Where a double tap root is found, it is generally best to leave one a little longer than the other.

If it is possible to so arrange the work, the holes should not be dug until just before planting as the soil will still contain its natural moisture when placed about the trees and in some soil the sides of the holes become hard and compact, so much so as to necessitate their being shaved off before setting the trees in them. Dig the hole, making it large enough and deep enough to hold the root system without cramping, holding the tree in the hand and fill with the other hand. The surface soil should be kept separate and placed in first in filling up the holes. Water should be applied using plenty, two buckets full when the hole is about filled in, working the soil thoroughly around the roots with the hands. Form a basin around the trees to hold water that may be added later during the season; mulch the surface with dry leaves or grass. Be sure that the trees never suffer for lack of water especially during the first year after planting. If trees show signs of needing water, put on plenty and recover with the mulch, and do this as often as the trees show the need of it.

A citrus crop is a surer one than most fruit crops if the grower has a thorough knowledge of its culture. The principal cause of crop failure is probably the use of insufficient fertilizer. Feed a citrus tree well and it will bear regularly. Drought damage can be largely overcome by proper methods of soil culture and entirely overcome by irrigation. Growers in some sections of the state have quite a simple irrigating system; free flowing artesian wells furnishing the supply and ditches distributing the flow where needed, but no matter what the system is, be sure the trees get enough the first season or two.



## VARIETIES TO PLANT

Marsh Seedless Grapefruit  
Duncan Grapefruit  
Parson Brown Orange  
Valencia Late Orange  
Pineapple Orange

Lue Gim Gong  
Ruby Blood Orange  
Dancy's Tangerine  
King Orange  
Persian Limes

Satsuma  
Villa Franca Lemon  
Tardiff

### **Marsh Seedless Grapefruit**

This is a fruit of good form, color and quality, an excellent shipper, medium to large in size, very smooth, uniform and attractive, excellent flavor and very popular with hotels and restaurants. It is the best variety for all seasons, usually ready to ship with the first and owing to the scarcity of seeds which sprout and thereby absorb the juice of the fruit, it will remain on the trees in fine condition

until late spring or early summer. After years of test, it has proven beyond doubt that it bears more regularly than any other grapefruit known. We advise all who are planting a grove for commercial purposes to plant this variety and they will make no mistake.



MARSH SEEDLESS GRAPEFRUIT BUDS

### **Duncan Grapefruit**

Of large size; quality very best; regular old-fashioned grapefruit flavor. Strong grower and regular and prolific bearer. One of the finest, also one of the hardiest varieties. Hangs on trees until late spring or early summer.

### **Parson Brown Orange**

No other orange in Florida has become more popular with the public than the Parson Brown. It is of fine texture, excellent flavor, keeps and ships well. It begins to ripen as early as October and the crop comes on in a very uniform way. It is



VALENCIA LATE BUDS

one of the few oranges that is ripe before the color changes from the green to the golden yellow. It colors well in transit if packed early. This fruit will hang on the trees in good condition until March. The fruit is medium sized, slightly oblong, smooth, thin skin, fruit very heavy, solid and juicy. We unhesitatingly recommend the Parson Brown as the *best* of the very early varieties. It will pass the acid test when others will not; consequently, will sell for better prices in early season than others do later. It should be made a leader for early shipping as it is always the first orange ready to ship.

It frequently occurs that inferior varieties are sold by irresponsible parties representing same to be Parson Brown when in fact they are entirely different fruit. Being located in the region where the Parson Brown originated, we have the genuine strain of Parson Brown. Our bud-wood is carefully selected from old, tested, bearing trees, and we are therefore in a position to know that every tree sent out is positively true to name.



### **Persian or Tahiti Limes**

This fruit grows about the size of an ordinary lemon with greater quality of juice which is acid in flavor and much more agreeable to the taste. The skin is quite smooth and very thin. It is slow to color; in fact the fruit is ripe while the skin is green. Another pleasing feature is that it is practically seedless. This fruit is destined to become a universal favorite for cold drink stands as well as for home use. The tree is almost constantly in bloom, which results in fruit being in different stage of development throughout the year. It is a good shipper and in demand.

### **Villa Franca Lemon**

This is one of the best lemons grown, both for home use and for commercial purposes. The fruit is medium sized with thin and smooth rind. It is a very juicy, acid fruit of fine appearance, practically seedless and has long been a leading variety. The tree is a vigorous upright grower and very prolific. The Villa Franca is frequently called the ever-bearing lemon.

### **Valencia Late**

This orange we regard as the best of the late varieties. The Valencia Late orange comes into the market when practically all other Florida fruit is out. It is good and juicy up to June. The fruit is slightly oval, a good shipper, very desirable both in size and appearance. It produces an abundance of juice; in fact, no other orange can compare with the Valencia Late in this respect. The tree is a rapid grower, exceedingly prolific and begins to bear when quite young. Besides this the Valencia Late is very hardy and does not lose its juice and quality if frosted while on the trees, as most other varieties do. This variety should be planted exclusively for late crop. The high prices the Valencia Lates have brought on the market during the late years have made this orange one of the most popular oranges of Florida and we cannot too highly recommend it as a real money maker.

### **Pineapple Orange**

The Pineapple Orange is indeed the mid-season orange, following close to Parson Brown in ripening. The tree is a strong, vigorous, upright grower and is exceedingly prolific. The fruit is medium to large in size, well rounded. Its color is deep orange with reddish tinge showing when fully ripe and well colored. Its flesh is medium grain with an abundance of juice. This orange ripens in December and will remain on the trees in fine shape until March. It is one of the best all-round oranges ever produced in Florida and can be highly recommended, especially for planting on heavy hammock land.

### **Ruby Blood Orange**

This is a universal favorite blood orange; medium sized, well rounded, thin and tough rind; juice highly colored and has a delicious, spicy flavor. As the fruit ripens it becomes streaked with red and when fully ripe the inner pulp becomes a strawberry or ruby red. It frequently occurs, however, that the blood markings do not appear in fruit on young trees but develops as trees advance in age and when trees mature the markings are very distinct. It ripens in December and is a fine shipper. Every grower should have at least a few of this most excellent variety.

### **Dancy's Tangerine**

This tangerine is familiarly known as the "Kid-glove" member of the orange family. It is a most desirable fruit. The color is almost a Tomato Red. The skin is easily removed with the fingers and the sections separate easily, thus making it very popular. The tree is a vigorous grower and a prolific bearer.

### **The King Orange**

The King Orange is called "The Monarch of the 'Kid-glove' family," on account of its size and striking appearance. The skin is very tough and heavy and adheres loosely to the flesh. The skin can be removed easily with the fingers, the same as the tangerine. The flesh is full of the delicious and delicately flavored juice and sections separate easily from each other. The fruit ripens late and is at its best in March and April, when it brings fancy prices.

# CITRUS STOCK

(A portion of a Lecture delivered by Horticulturist S. F. Poole at the meeting of the Lakeland Highlands Horticultural Society, held on November 11, 1915.)

We have but two stocks left to mention: sour orange and rough lemon. These are the two stocks most universally used throughout Polk County. In fact, if we take the different citrus-producing sections of the world, California, South America, South Africa, Europe and portions of Asia, we find that a majority of the trees will be budded on sour orange stock. It is because the sour orange stock will adapt itself to a far greater range of soils than rough lemon. Rough lemon is not adapted at all to low-lying lands such as we have in the hammocks and flatwoods and even the high hammock type of land. It is in the heavy clay or even adobe soils of California we find sour orange stock. There it does very much better and also in the soils of Spain. Portions of Europe, South America, Africa, Australia, are of this same type, rather heavy and at times very moist and on this kind of soil sour orange stock has been used.

The first year after it is planted the greater part of the strength and life seems to be devoted to making root system. One of the young men told me this afternoon that he found roots on his trees, only planted last winter, reaching out 8 and 10 feet from the trunk of the tree, thus showing where the energy of the tree has been going. But when the root system gets pretty well established, sour orange stock will then go ahead quite rapidly. Even then it does not make a top as large as rough lemon stock will produce, especially not for the first two years. Oranges and grapefruit budded upon sour orange stock withstand more cold than those budded on rough lemon. The fruit produced upon trees budded on sour orange stock will be of first class quality on a four and five year old tree, that is, the first crop produced will have smooth thin skins and have good flavor.

At the same time that fruit will hold well on the trees, retaining its flavor and juices until late in the season. I have seen grapefruit off four-year-old trees budded on sour orange stock taken in the month of June, still showing no signs of drying out. That is not to be expected of young trees, and yet the sour orange stock, under these conditions, does produce very good fruit. It was on a type of land that is lighter than land we have here. With heavier types of soil it is much easier for the sour orange stock to produce those results. Contrary to the usual statements, trees budded on sour orange stock, fruit earlier. A great many advocates of the rough lemon stock claim that it will bear earlier than the sour orange stock, but all the evidence I have in hand seems to indicate the opposite. \* \* \* \* \*

All the data I have in hand seems to indicate that sour orange stock will bear earlier. In fact, we have trees on the property that are not three years old that would have borne anywhere from one-fourth to two and one-half boxes to the tree. I have never seen rough lemon stock do that. Sour orange stock does not produce as great quantity of fruit perhaps as rough lemon stock, but it certainly makes up for it in quality over the other stock. The sour orange itself is a late maturing variety, that is, the seedling sour orange does not mature its fruit until late in the spring, while rough lemon will mature its fruit early in the season. By the middle of winter at least you will find all the fruit on rough lemon trees, that is, of regular bloom, will be thoroughly matured. And it is thought that the stock upon which the tree may be budded influences the keeping quality of the fruit produced in this way. If your trees are budded on stock that matures its own fruit late in the season, that will be the tendency of the fruit budded upon that stock. That is true of the sour orange stock. It matures late

and that may explain why oranges and grapefruit budded upon that stock will keep better on the tree until a late period. This is a decided advantage to shippers of citrus fruits. You can hold your fruit until a late market, which is usually the best paying market of the season. The early market sometimes pays very well, but there is always a lower level of prices prevailing through the middle of the season. If you do not ship your fruit early, you can hold it until April or May and even into June. Last year when prices were so poor all through the season, they took a decided increase during the last six weeks, and the man who was in a position to hold his fruit until that time was able to make money. I know growers that made as high as \$300 per acre simply because they were in a position to hold the fruit. I simply throw that out as an indication that those whose trees are budded on sour orange stock in this neighborhood may expect to hold their fruit late, if they find the market will justify it. The growth of the tree produced upon sour orange stock is more upright and spire shaped. Rough lemon stock is a stock that reaches out long distances in the soil, even further than sour stock does. The bulk of the root system is within ten inches of the surface. There are, of course, quite a number of large roots that are sent down deep in the soil to serve as anchors, but the root system of the rough lemon stock is not so deep as that of the sour orange. It is on this account that rough lemon stock will produce greater growth in the top. Neglected trees will recover quicker on rough lemon stock than on sour orange stock on account of the greater forging power of the root systems. It has been intimated before that fruit produced on buds of rough lemon stock dry out early in the season. The top of the tree is more droopy in appearance. It is more spread out in proportion to its height than is true of buds on sour orange stock. The trees are larger and will also produce greater quantities of fruit. The fruit has a slightly thicker skin, slightly rougher, and does not have the same flavor. Anyone who is familiar with fruit produced on this stock can readily detect the difference in flavor and certain brands on the market in the north are more sought after than others simply because of their superior flavor. This difference in quality of flavor and keeping is not so marked as the trees become older. In fact, there are a great many who claim that they can produce as good fruit on rough lemon stock when the trees are fifteen or twenty years of age as they can upon sour orange stock. However, in regard to that statement, the difference is there. Of course, it is not so marked as when the trees were young, but yet the difference is great enough so they can easily be detected. There will be the difference in peel and in the flavor that cannot be entirely overcome by age. Then again trees on rough lemon stock are more subject to attacks of die-back than those on sour orange stock on account of the greater forging ability of the root system. It takes up so much more nourishment and in case of sweet orange budded on rough lemon stock that amount of food brought up is sometimes more than the top can take care of, that is, the sweet orange is not such a heavy feeder as the rough lemon is. When you have them brought together upon the same plant you will find that there is a tendency to ammoniation and splitting of fruit, which is particularly true of the Valencia Late variety, more so than others. This is a topic of vital interest to the citrus grower because it spells the difference between success and failure on account of the stock you may have your trees budded upon.

UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF PLANT INDUSTRY  
WASHINGTON, D. C.

January 2, 1936

DIVISION OF  
FRUIT AND VEGETABLE CROPS AND DISEASES

Proprietor,  
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Leesburg, Fla.

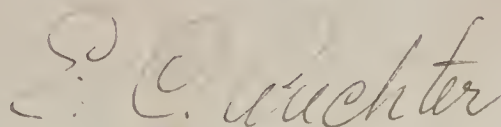
Dear Sir:

Continuing an arrangement of many years standing this Division is cooperating with the Department Library in the upbuilding of the Department's collection of the catalogs and other trade lists issued by nurserymen and seedsmen. This collection, possibly the largest of its kind in existence, now numbers more than 55,000 and forms a permanent part of the Department Library. As a student's and research worker's collection it is invaluable in investigations concerning the history, nomenclature, characteristics, and distribution of varieties. As a buyer's collection it is in constant use in answering inquiries as to sources from which plant material may be obtained and as to varieties being introduced to the trade. The collection as a whole is open to the public for reference use, and the information in it is made readily available by means of indexes.

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3/4 inch, 4 year root .....	.80	7.00	65.00	600.00
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