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NEW GUIDE TO ORANGE CULTURE

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NEW GUIDE TO
ORANGE CULTURE

By E. A. & A. H. MANVILLE

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NEW GUIDE

TO

ORANGE CULTURE

DESCRIPTIVE CATALOGUE AND PRICE LIST

OF THE

MANVILLE NURSERIES

E. A. and A. H. MANVILLE, Proprietors,

LAKE GEORGE, FLORIDA.



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PREFACE.

WE have been engaged in orange culture for the last ten years. During this time we have found it necessary to propagate nursery stock for our own use. The demand for our surplus stock has so increased that we now feel warranted in making this a special branch of our business.

Florida is a growing State, and no branch of industry is attracting more attention than orange culture. A large amount of capital is being invested in this business, attracted no doubt by the large profits realized from bearing groves. The number of groves started in 1879 exceeded that of any previous year. A large portion of these trees died, or were irrecoverably stunted by unseasonable transplantation, improper soil, location, or management. This was largely owing to the ignorance of many respecting the peculiarities of our soil and climate, and the habits of semi-tropical fruit trees.

To afford some reliable information among many conflicting statements we have added to our Catalogue a brief but comprehensive GUIDE TO ORANGE CULTURE. We have avoided all doubtful points, and include only such facts as are generally accepted. To those who wish a more complete work on the subject, we have no hesitation in recommending the "Treatise and Hand Book on Orange Culture," by T. W. Moore, of Fruit Cove, Fla.

THE CITRUS IS OUR SPECIALTY; we endeavor to make our collection in this department as complete as possible. We have carefully studied the nomenclature and classification of this family of plants, which is perhaps more confused than any other cultivated fruit. All the varieties contained in the DESCRIPTIVE CATALOGUE have been obtained from thoroughly reliable sources. We have visited the principal groves in the State, securing buds of the best native varieties from the original trees. Our leading varieties are propagated from bearing trees. In connection with our nursery is a bearing grove where stock is propagated and the different varieties are

tested. While we introduce many new varieties, we recommend for general culture only such as have been thoroughly tried. We give our personal attention to every branch of the business, especially to grafting and budding, in order to insure certainty in our kinds. Our stocks have all been transplanted, and are vigorous and healthy.

Our long experience in growing and shipping the orange has, to some extent, qualified us to choose varieties suited to the various locations and purposes of our customers. We shall be glad to make selections for any who may desire it.

Correspondence from all persons interested in orange culture will receive prompt attention. Those who are not desirous of purchasing trees will please enclose a stamp for reply.

Our nursery is centrally located on the direct route of the St John's River steamers. All through boats stop at Lake George. The mail steamers leave Palatka during the winter months every morning and return the same day, giving about three hours at Lake George.



ORANGE CULTURE.

LOCATION.—A location remote from market, or through line of transportation, occasions great inconvenience and expense in marketing the crop, and in procuring the necessary implements, supplies, etc. The prospective orange grower should locate near a town or village, and, if, possible, upon some navigable stream or railroad. The country along the St. John's River and its tributaries offers especial facilities in these respects. The proximity of muck for fertilizing purposes is an item of importance.

Situation and Exposure.—The orange, when surrounded by the proper natural protection, will stand a considerable degree of cold. In exposed situations, especially after the trees have commenced growing in the spring, sudden frosts often do much damage. More depends upon local conditions than upon latitude. Orange trees in Southern Georgia have escaped injury during severe cold, which killed trees in South Florida. The best situations are protected on the northwest by bodies of water, which are more or less efficacious according to their extent and proximity. These serve to temper the cold winds of winter, which come from this direction. Where there is no water protection, a protection of forest trees is excellent. Unlike the above, this should be arranged to shelter the trees on the southeast; it is the morning sun that injures the trees after they have been frozen. In exposed places, where it is impracticable to leave the native growth, forest trees should be planted for this purpose. Mature trees protect themselves by their dense foliage, and are seldom seriously injured by frost. Young trees without natural protection should be artificially protected from severe cold during winter.

Soil.—Any soil not susceptible of thorough drainage, is unfit for orange culture. Low pine lands, called "flat woods," should be avoided; and all lands which have a subsoil of "hard-pan," or quicksand. The high, grey hummocks and rolling pine lands are best adapted to the orange. It also flourishes in hummocks where clay, sand, shell, or loam predominates. The low, rich hummocks, where well drained, make fine trees, and have some decided advantages; it is probable, however, that the trees will not attain as great age as upon the high lands. This is also the case with dark, loamy pine lands, which are free from "hard-pan," and admit of drainage. Clay or sand affords a good subsoil; marl is especially desirable.

Preparation of the Ground.—It is of great importance that the soil be properly prepared. It is more profitable to wait a year, or even longer, than to set trees before the soil has been rendered perfectly friable by cultivation. Orange trees will not thrive upon new, "sour" land, and if set on such

land, may be permanently stunted. Soil intended for orange trees should be thoroughly broken up and pulverized before the trees are planted. If the soil is not naturally dry, it requires draining. Where there is sufficient descent, under-drainage should be used—it is more effectual and less expensive in the end.

Season for Transplanting.—Orange trees should be transplanted during the winter, when they are not making new wood. We begin moving nursery stock and large trees on our own place as soon as they stop growing in the fall—usually in November—and continue the operation until they show signs of starting in the spring. Thousands of trees are lost annually by being moved late in the season, when they are full of sap and growing rapidly. The most favorable time is during the month of January and the early part of February. Trees commence growing in February, and should never be moved after the fifteenth of this month. Some years small trees can be safely transplanted in the rainy season of the summer, but it is better to defer it until winter.

Choice of Trees.—Young, transplanted trees from the nursery should be selected; they have well-developed fibrous roots, are little retarded by moving, and easily adapt themselves to the various circumstances of soil, location, etc. The orange does not reproduce itself with certainty from the seed. Seedling trees are much longer in attaining maturity than budded trees, and have no advantages over the latter. Budded trees should therefore be selected in all cases. So-called “sour stocks” are more hardy and vigorous than the sweet; they are especially adapted to low land, where the latter do not thrive. Sweet stocks are admissible on the high lands, and are preferred by some. A bud of one or two years’ growth on a stock three or four years old, is the most profitable and convenient size and age.

Varieties.—The Navel ranks first, in our opinion, among the different varieties of the orange. It possesses all the desirable qualities of our native fruit; its distinguishing mark will always give it a high market value, and prevent deception on the part of dealers. While not as prolific as some varieties, it is unusually large. The Du Roi, if marketed early in the season before its ribs become indistinct, like the above, has the advantage of a distinguishing mark. During the past few years many fine native varieties have been brought to public notice. These are all very similar, the difference between them being too slight to distinguish them in market, and of little importance to growers generally, though of interest to amateurs. The Peerless, which stands first in our list of native varieties, has no superior among those which have been produced in the State. It has been introduced by ourselves, and, after testing its merits for several years, we recommend it for general culture. The Magnum Bonum, Homosassa, and Nonpareil, named and classified by the Nomenclature Committee of the Florida Fruit Growers’ Association, have acquired a deservedly high repu-

tation. Old Vini, Arcadia, Sweet Seville, etc., are also excellent varieties. The Egg and Tardiff are especially valuable for home consumption, the former being very early and the latter very late. No grove is complete without a few Mandarin trees. The Bijou is the best for general culture and home use. The China is very ornamental, and may be regarded as the type of the species. We regard the French's Seedling Lemon as being the best grown in the State. It is in no way inferior to the European fruit, and we have no hesitancy in recommending its culture for market. The Lamb Lemon is an excellent fruit, regarded by many as the best. The Florida lime is superior to the lemon as an acid fruit for home use; it is also a profitable market fruit.

Distance Apart.—Sweet Seedlings grow larger than budded trees, and budded trees on sweet stocks than those on sour. Sweet seedlings should be set thirty feet apart; budded trees on sweet stocks, twenty-five feet, and on sour, twenty feet apart. Trees can be set much closer in garden culture, where root pruning is periodically practiced, or where dwarf trees are used.

Planting.—In its normal condition the large brace roots of the orange tree are exposed above the ground at the collar. Deep planting is a prolific source of disease, and, if the tree survives, there is little prospect of its ever becoming vigorous. This occasions more of loss and failure in orange culture than all other causes combined. After the trees have been set out they will settle several inches, and should therefore be raised three or four inches above the surface, even on the highest land. On low land they should be raised even higher, and it is a good plan to place the trees on a ridge sloping down gradually to a water furrow in the center of the row. In our practice, we never dig a hole for a tree, but thoroughly pulverize the soil and spread the lateral roots above the surface; when the trees have settled they remain but little, if any, above their former level. Before planting, the broken roots should be removed with a sharp knife, and the branches cut back fully half their length. Immediately before putting the trees in the ground it is well to dip the roots in a thin mud made of rich soil. The earth should be pressed carefully and firmly about the roots with the hand, giving them as nearly as possible their former position. The use of water while planting hinders the operation, but if the ground is dry, should be plentifully applied when the work is finished. It is better to select a cool, wet time than to depend on watering. Trees from the nursery should be "healed in" when received, and planted out at leisure. In the winter they will remain safely in this condition for several weeks.

Mulching.—Whether the season be wet or dry, the trees should be well mulched at the time of planting. This is always a benefit to newly-planted trees, and in dry seasons, serves to keep the ground moist and the trees fresh until they are firmly established. Grass, leaves, or other light litter, makes the best mulch. Nothing containing woody fiber will do, as it breeds

wood-lice, which are liable to girdle the tree. The ground for several feet around the tree should be covered to the depth of four or five inches with this mulch. Mulching trees during the hot, dry months of summer protects the roots from injury by the sun.

After-Culture.—While the trees are young, the space between the rows can be cultivated with the plow, and a light, inexhaustive crop raised. Care must be taken, however, to narrow the area plowed each year so as not to disturb the roots of the trees. The trees will suffer materially if their roots are injured. Among older trees where the roots have extended themselves over the surface, the best implement for cultivating is the "sweep." This keeps down the weeds and grass, yet does not run deep enough to reach the roots of the trees. The orange requires thorough cultivation, and the soil should be constantly stirred during the growing season. In the fall, cultivation can be suspended until the following spring; many prefer to keep their groves free from grass and weeds the year round.

Pruning.—Although the orange tree requires but little pruning, the skillful orange-grower will find something to do in this department every year, at least until the trees reach the bearing age. This tree should be encouraged to form a low head, as the foliage protects the stem and roots from the sun and frost. The interior of the tree should be kept open by removing surplus limbs, to admit light and air; and, by extending the lateral branches, to increase the bearing surface of the tree. "Water" shoots, and unshapely, diseased or dead branches should be removed with a sharp knife. When large trees are to be moved they should be root-pruned several months before they are taken up to secure an abundance of fibrous roots. Root-pruning can also be applied with advantage in the management of dwarf or garden trees, and to promote fruitfulness.

Fertilizing.—The orange tree responds generously to a judicious application of fertilizers. It is better not to apply these when the trees are planted, but to wait until they have taken root. Some commercial manures are said to produce good effect—we have had little experience with them. Turning in green crops is a practical and inexpensive method of fertilization, particularly on the high pine and other light, dry soil. The cow pea is especially valuable for this purpose. When a more immediate effect is desired, the pease or other growth can be "listed" in around the trees. Muck, composted with animal manures, or with lime, is an excellent fertilizer. A well-rotted compost of muck, succulent vegetable tissue, and lime and salt, is, perhaps, the best fertilizer for the orange. The above can be scattered broadcast, or, if this be too expensive, can be spread around the trees at the extremity of the lateral roots. In applying fertilizers the orange-grower should be guided by the nature and condition of his soil, supplying those elements which are lacking. Nitrogenous manures should be used sparingly, and never until thoroughly decomposed.

Diseases and Insects.—Trees planted correctly, and kept in a healthy, vigorous condition by proper cultivation and management, will not suffer seriously from insects nor be liable to disease. The most common and pernicious disease that effects the orange tree is known as the “die-back.” There are many forms and modifications of this disease, produced, perhaps, in as many different ways. Whatever may be its specific character, its causes are apparent and the prevention easy. Deep planting, disturbing the roots by plowing, a soil saturated with water, “hard-pan” or quicksand subsoil in contact with the roots, and the application of partially decayed nitrogenous fertilizers, are all prolific sources of this disease. Where the trees are planted too deep, or the fault is in the soil beyond remedy by drainage, the trees must be raised or moved. In all other cases the trees will speedily recover on the removal of the immediate cause. The most formidable insect enemy of the orange is the scale insect. It seldom attacks vigorous healthy trees, and its ravages need not be feared where the trees are in good condition. The application of strong soap-suds is the most efficient means of removing them; whale-oil soap is preferable for this purpose.



SPECIAL NOTICE.

To Correspondents.

 ORDER early before our stock has been reduced or any of our varieties exhausted. In the height of the season, when orders are pressing, delays will inevitably occur.

Remittances should be made by registered letter, check on Jacksonville, draft on New York, or post-office money-order on Palatka P. O., Florida.

Addresses should be distinctly written, and explicit directions given as to manner and route of shipment.

Transportation is at the expense of purchasers. Our trees are packed securely, labeled distinctly, and delivered on board river steamboats free of charge. No responsibility will be assumed after shipment.

Terms.

Our terms are STRICTLY CASH IN ADVANCE. Our customers will please favor us by sending no orders unaccompanied by the cash, or its equivalent, as we make no deviation from the foregoing rule.

DESCRIPTIVE CATALOGUE.

To facilitate selection, the most desirable of the following varieties are marked with an asterisk, [*]

THE SWEET ORANGE, (*Citrus aurantium.*)

Trees of moderate size and compact form ; foliage dark green ; leaves oblong, acute ; leaf-stalks winged, shoots whitish, flowers white, fruit round, of a deep yellow color. It has received more attention than the other species, hence the many varieties.

The Sweet Orange is divided into two classes—the orange of Portugal, and the China Orange. The former may be regarded as the type of the species, and is the common sweet orange of Florida. The latter is distinguished by the smooth, thin skin, and the exceedingly sweet and tender pulp of the fruit ; the foliage is less dense than that of the Portugal orange, the leaves are more elliptical and acute, and the branches slender and straggling. The Sweet Seville and Egg Orange of Florida are examples of the China Orange; the Navel and St. Michael's present some of the characteristics of this class, and may perhaps be included in it.

The Navel, *C. A. Umbilicata*; the Du Roi, *C. A. Costata*; the Blood, *C. A. Sanguinea*; the Egg, *C. A. Pyriformis*, are all distinctly marked varieties. With these exceptions those varieties which have been fruited in Florida have few distinctive characteristics.

Arcadia.—Size large ; form somewhat flattened ; color deep ; skin smooth ; grain coarse, pulp melting, juice slightly sub-acid, quality good.

Supposed seedling raised at Arcadia, Florida, and introduced by the Rev. Wm. W. Hicks.

Buena Vista.—Synonym, *Sweet Seville*.—Size medium, slightly flattened, color dark crimson, skin smooth, pulp coarse, but melting ; juice sub-acid, sprightly, with vinous flavor ; quality good.

Seedling raised by Col. F. L. Dancy, Orange Mills, Florida.

Beach's No. 3.—Size medium, shape flattened, color light orange, pulp tender, juice sub-acid, ripens December 1.

Introduced and raised by A. J. Beach & Son, Palatka, Florida.

Botelha.—A variety from Mr. Rivers', the well-known nurseryman of Sawbridgeworth, England. Fruit said to be of superior quality, having a thin rind and rich pulp.

Bell.—Size large, form pear or bell-shaped, skin thin and smooth, color light orange, pulp melting and delicious. Except in the size of the fruit it closely resembles the Egg, q. v.

Creole.—A large, fine orange of delicious flavor and excellent shipping qualities. It was introduced into Florida from Louisiana, by Mr. J. L. Burton, of Crescent City, Florida.

Du Roi.—A medium sized orange, with tender pulp and delicious flavor. While growing, the fruit is marked by longitudinal stripes of light and dark green; when ripe is ribbed like a muskmelon. This appearance gradually becomes indistinct if allowed to remain long on the tree after ripening. The skin is firm. The tree a strong grower and prolific bearer.

Imported and introduced by Mr. S. B. Parsons, the well-known nurseryman of Flushing, N. Y. It has been fruited for several years in Florida.

Dulcissima.—Synonym, *Dulcis*. Fruit small, very sweet, generally seedless. A prolific bearer. Well known in Paris.

Imported by Mr. A. I. Bidwell, Jacksonville, Florida

Excelsior.—Medium sized, round, sweet, delicious, slight pine-apple flavor.

Imported by Mr. Parsons.

Exquisite.—A thin rinded, rich and juicy fruit. A variety from Rivers, not yet fruited in Florida.

Egg.—Small size, oval, thin skinned, very sweet, and lacking the sub-acid of other varieties. It is very early, and then at its highest perfection. Tree hardy, leaves elliptical, acute, and scattering; branches slender and thornless.

It has long been grown in Florida, and is valuable as an early variety for home use.

Egg, (St. Michael's.)—A very large, thick rinded, oval orange; remarkably juicy, but not rich; a great bearer.

Imported from the Island of St. Michael's, and not fruited in Florida.

* **Homosassa.**—Size about medium, somewhat flattened, very heavy, color bright; skin very smooth, thin, tough, and dense; pulp fine, sweet, and juicy; flavor full, vinous, and sprightly; membrane covering segments of pulp very thin and small in quantity; ripens very early, and keeps and carries well. One of the best for general cultivation.

Seedling raised at Homosassa, Florida.

Maltese Blood.—Fruit large, sweet, juicy, and seedless. It is distinguished by the blood-red color of the pulp. This appears in the form of flakes when the fruit begins to ripen, which gradually increase until the entire pulp is colored. The tree is thornless.

Introduced from the Island of Malta, where it is largely cultivated.

* **Magnum Bonum.**—Size large to very large; flattened; color light, clear orange; skin smooth and glossy; grain fine, tender, and melting; fruit heavy and juicy; juice sweet, rich, and vinous; quality best.

Probably a seedling raised at Homosassa, Fla.

Navel.—Synonyms, *Umbilical*, *Bahia*, *Embiguo*. Fruit very large, seedless or nearly so; sweet, juicy, and highly flavored. It is distinctly marked by a peculiar, constant, umbilical formation at the summit or end of the fruit opposite the stem. The tree is thornless, and bears very young. Although not as prolific as some of the native sorts, it is by no means a shy bearer, and the fruit is uniformly large and fine. The best variety grown for general cultivation. Origin, Bahia, Brazil.

It was introduced in 1835, by J. D. Browne, author of "Trees of America," and planted in the grove of Z. Kingsley, on Drayton Island, Lake George, Fla. It was also imported by Mr Parsons in 1869, and has since been widely disseminated throughout the State.

* **Nonpareil.**—Size above medium, somewhat flattened, color ordinary, grain fine, pulp melting and tender, juice sub-acid and vinous, quality good.

Seedling raised by Mrs. Mary Richard, Arlington river, Duval Co., Fla.

Osceola.—Size large, slightly flattened, skin smooth and glossy, grain coarse, pulp rather melting, juice sweet, quality good.

Seedling raised by L. H. Van Pelt, Mandarin, Fla.

Old Vini.—Size above medium, slightly flattened, color dark orange, skin rough, grain coarse, pulp melting, juice sub-acid and remarkable for a sprightly vinous property, quality good.

Seedling raised by Col. F. L. Dancy.

Prata.—Synonym, *Silver Orange*. Color of rind pale yellow, flesh pale, rind very thin, flavor piquant and delicious.

A variety from Rivers.

* **Peerless.**—Very large; round; color light, clear orange; skin smooth and thin; fruit heavy and juicy, juice sub-acid; flavor delicious. The tree a strong grower and prolific bearer. Highly esteemed by all who have tested its merits. One of the best native varieties for general cultivation.

This variety originated at Lake George, probably in the old Kingsley grove on Drayton Island, and has been introduced by ourselves.

Sweet Seville, (Hicks').—Size small, slightly flattened, color comparatively deep, skin smooth and thin, grain fine, juicy and melting, juice sweet and sprightly, superior in every respect except size. Foliage differs slightly from the type, the leaves being markedly obovate.

Supposed Seedling raised at Arcadia

Sustain.—Large and remarkable for its sweet juices. A variety from Rivers.

St. Michael's.—Size medium, round, pale yellow, seedless, skin thin, pulp sweet and delicious. Tree prolific. One of the best.

Imported from the Island of St. Michael's, one of the Azores.

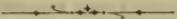
Tahiti.—Large size, round, pale yellow, skin very thin, grain fine, pulp tender and melting, juice sub-acid and delicious. Tree thorny and prolific.

Origin, Tahiti, one of the South Sea Islands, from whence California formerly received its supply of oranges. Introduced by Mr. Wm. Newbold, of Crescent City, Fla.

Tardiff.—Synonym, *Hart's Late.*. Size medium, skin smooth and thin, grain fine, with a brisk and racy flavor; ripens late, and remains in full perfection until July 1. Desirable.

Seedling raised by E. H. Hart, of Federal Point, Fla.

White.—Large, color pale yellow, flesh very pale, flavor rich and good. A variety from Rivers.



THE BIGARADE ORANGE, (*C. bigaradia*.)

The Bigarade, Seville, or Bitter Orange, is distinguished from the Sweet Orange by the lighter color of its foliage, spiny branches, and broader winged leaf-stalks. Flowers very white and sweet-scented. Fruit round, rough, of a dark reddish yellow color, filled with a sour or bitter pulp. It is the hardiest of all the species.

Many varieties are cultivated in Europe, chiefly for the perfume obtained from the flowers.

Sour.—Fruit large, round, color dark, grain coarse, pulp less bitter than usual, juice very acid. Retains its perfection until very late in the season, and is much prized during summer for its refreshing acid juice. It is also used in making marmalade and conserves. The young trees form the best stocks on which to propagate the other species; it also makes a desirable and ornamental shade-tree.

A variety of the native or wild orange of Florida.

Bitter Sweet.—Medium size, round, color light, juice sweet and pleasant when separated from the inner bitter rind. Highly esteemed as a stomachic and tonic. It is much used in summer as a substitute for the sweet fruit.

Like the above, one of the native wild varieties of Florida.

Variegated-Leaved.—Not yet fruited in Florida. Leaves mottled with white, pale straw color, and several shades of green.

An imported variety.

Myrtifolia, (Myrtle-Leaved.)—Fruit small and slightly flattened. Fla-

vor resembles that of the Bitter Sweet. Fruit useless. A handsome dwarf tree with small, dense, dark green, glossy leaves. A beautiful shrub for ornamental grounds. Imported.

THE MANDARIN ORANGE, (*C. nobilis.*)

It is regarded by some botanists as a distinct species, and by others as a marked variety of the Sweet Orange. It is also called the Tangierine Orange.

The Mandarin, or Mandarin Orange, is a very beautiful tree, distinguished by its small, lanceolate leaves; slender, flexible branches; dwarf and somewhat formal habit of growth, and the aromatic odor of the fruit and foliage. The flowers are white and smaller than those of the Sweet Orange. The fruit is small, flattened, of a deep saffron color, with loosely adherent rind. It is very highly esteemed in the markets of Europe.

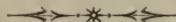
China.—Synonym, *Willow-Leaved Orange*.—It is sometimes erroneously called the Bergamot Orange, and may be regarded as the type of the species. Fruit small, flattened, color deep yellow, skin thin, skin and segments loosely adherent, flesh dark orange colored, spicy and aromatic. Trees dwarf, with willow-like foliage. Very hardy. Ornamental and desirable. Was probably introduced into Florida from Louisiana.

St. Michael's.—Synonym, *St. Michael's Tangierine*.—Has not been fruited in this State. Tree resembles the above, and is doubtless identical with it, or very similar. Variety from the Island of St. Michael's.

Moragne.—Synonym, *Moragne's Tangierine*.—Fruit large, flattened, of a deep crimson color, flesh dark orange, pulp adhering by few filaments, juice sweet and highly aromatic, superior in quality to the type. Tree remarkable for its size and foliage, which somewhat resemble the Sweet Orange, retaining, however, the aroma peculiar to the species.

Introduced from Bayou Sara, La., by Major Atway, and growing in the grove of Dr. Moragne, at Palatka, Fla.

* **Bijou.**—Synonym, *Dancy's Tangierine*. A seedling from the Moragne variety, grown by Col. Dancy, of Orange Mills, Fla. The fruit resembles that of the parent stock, but is superior in quality. It is decidedly the best variety for general cultivation.



THE LEMON, (*C. limonum.*)

Trees of straggling, irregular habit; foliage light green; leaf-stalks wingless, shoots purple, flowers tinged with violet externally; fruit oblong, pale yellow, with swollen point, and acid pulp.

Largely grown for market in Europe, and promising good returns in Florida.

Bitter.—Fruit medium sized, rough, coarse, with bitter acid pulp. Leaves small. Valueless except for variety. A native of Florida.

Bijou.—Fruit large and flat, thin skinned, and said to be superior to the Sicily Lemon. An imported variety.

Sicily.—Medium sized, smooth, thin skinned and juicy.

This variety is not a Florida-raised seedling, but the genuine imported Sicily lemon.

Everbearing.—Fruit resembles the Sicily. Tree blooms and bears constantly. Very desirable for home use.

* **Lamb.**—Size above medium, skin thin, very juicy, flavor excellent. Seedling raised by James H. Lamb, Beresford, Fla.

* **French's Seedling.**—Small, somewhat flattened, very thin skinned, skin tough and dense, heavy, membrane covering segments of pulp thin and small in quantity, pulp fine and juicy, highly flavored. Fully equal to the imported Sicily fruit, and decidedly the best lemon yet brought to public notice in this State. It took the premium at the last Orange Co. Fair.

A Seedling raised by Dr. Seth French, of Orange County, Fla.

Mammoth.—Exceedingly large, the fruit often nine or ten inches in length, and weighing over a pound; skin smooth and thick. Valuable as a curiosity. A native seedling.

Moore's Seedling.—Medium sized, thin skinned and juicy. Quality superior.

Seedling raised by the Rev. W. T. Moore, of Fruit Cove, Fla.

Sweet.—Same as Dulcis, or Sweet Lime, q. v.



THE LIME, (*C. limetta*.)

A shrub, with small ovate leaves and spreading prickly branches; flower small and entirely white, fruit small, roundish, pale yellow, with a slight protuberance at the end.

It is cultivated both for its fruit and for hedges. The fruit is used for the same purposes as the lemon, and is of a more agreeable flavor.

* **Florida.**—Medium size, skin thin and smooth, acid juice rich and abundant. Best for general cultivation.

Seedling grown in the Kingsley grove on Drayton Island.

Dulcis.—Synonym, *Sweet Lime*. Size Large, skin thick, pulpy, juice insipidly sweet. Tree slightly resembles the lemon in habit. Valuable only as a variety, and for preserving.

Imported from Europe.

THE CITRON, (*C. medica*.)

An irregular, branching, strong-shooting tree, with full head ; shoots purplish ; leaves large, thick, oblong, wingless, and toothed ; flowers tinged with violet externally ; fruit very large, warted, and furrowed ; rind white, fragrant, and very thick ; pulp sub-acid.

Used mainly for making conserves. The preserved citron of commerce is made from the rind.

Orange.—Shape round like the orange ; size large ; skin pale yellow and uneven ; inner skin white, thick, and coarse. Desirable.

* **Lemon.**—Shape oblong like the lemon ; size very large ; color light yellow ; skin irregular and glossy ; inner skin thick, spongy, and aromatic. Best variety for general cultivation.

THE SHADDOCK, (*C. decumana*.)

A strong-growing tree, with thick spiny branches, distinguished by its large leaves and broadly-winged leaf-stalks. Flowers large and white. Fruit very large, globular, of a pale yellow color. More showy than useful.

* **Mammoth.**—This may be regarded as the type of the species. Size very large ; skin smooth and glossy ; rind thick, white, spongy, and bitter ; pulp green, watery, and sub-acid. The most desirable.

Blood.—Same as the above, with blood-red pulp.

Pomolo.—Synonym, *Grape Fruit*. It is classed by some as a distinct species, (*C. Pompelmouse*.) It is undoubtedly a variety of the Shaddock.

Size small ; skin smooth ; color pale yellow ; pulp sub-acid and refreshing.

THE BERGAMOT, (*C. bergamia*.)

This fruit is also known as the Bergamot Orange and the Bergamot Lemon. It is regarded by some as a variety of the Sweet Orange, and by others as a variety of the Lime or Lemon. It is elevated by Risso to the rank of a distinct species.

The tree is of dwarf habit ; branches long, pliant, and spiny ; leaves resemble those of the Sweet Orange in shape, and of the Lemon in texture ; flowers white ; fruit pear-shaped, pale yellow, with a green, sub-acid, firm, fragrant pulp.

It is largely grown in Europe to obtain the fragrant oil of bergamot, which is manufactured from the rind.

Vulgaris.—The type of the species, as described above. Valuable only as an ornamental variety.

EAST INDIA SPECIES.

Many varieties of the citrus have been recently introduced from the East which do not belong to the species heretofore classified by botanists. The following are of this number.

Citrus Japonica.—Synonym, *Dwarf Orange*. Fruit small, slightly obovate; color deep orange; skin thin; fruit regularly ribbed or lobed; color of flesh dark; grain fine and tender; juice very acid.

Useless except as an ornamental fruit.

Otaheite, (*Taitensis*.)—A very pretty, rather dwarf variety, bearing an abundance of reddish flowers, and small, showy fruit, sweet and thin-skinned.

Valuable only as an ornamental shrub.

Sinensis.—A small acid fruit resembling the lemon in shape and the Sour or Bigarade Orange in color and the flavor of the pulp. A dwarf shrub with small leaves.

Kumquat.—A small species of the orange, a native of China and Japan, and much cultivated in those countries. It has been introduced into Australia. It endures more frost than any other of the genus, and will probably prove a valuable acquisition to many parts of Europe and America. The plant is a shrub sometimes six feet high, but in cultivation it is not allowed to exceed the height of a gooseberry bush. The fruit is oval, and about the size of a large gooseberry; the rind is sweet, and the juice acid. It is delicious and refreshing. The Chinese make an excellent sweetmeat by preserving it in sugar.



PRICE LIST.

Botellia, Dulcissima, Excelsior, Exquisite, St. Michael's Egg, Maltese Blood, Prata, Sustain, Tahiti, White, St. Michael's Mandarin, Bijou Lemon, Sicily Lemon, Sweet Lime, Blood Shaddock, Bergamot, Citrus Japonica, Otaheite, Sinensis, Kumquat, 75 cents each.

All the varieties described in our Catalogue, except the foregoing, 50 cents each, \$5.00 per dozen.

Navel, Peerless, Lamb Lemon, French's Seedling Lemon, etc., will be furnished at wholesale rates. (See Special Price List.)

Trees by Mail.

Smaller trees or dormant buds will be sent by mail, postage prepaid, at the above retail rates.

Diospyros Kaki, or Japanese Persimmon.

HIS delicious and valuable fruit is being grown in various parts of the country, and its successful culture fully established.

It commends itself to the public as follows:

1. The tree is highly ornamental, a prolific bearer, as hardy as the pear, and fruits as early.
2. Its fruit may be safely transported to any part of the country.
3. It is in season from October to March, when other fresh fruits are scarce. When dried it is equal to figs, and can be kept a long time.

4. It is of a bright yellow, orange or vermillion color, is unsurpassed for the table, and is considered equal to the peach or pear. It ranges in weight from eight to twenty ounces. Some grown by Col. Hollister, of Santa Barbara, Cal., averaged three-quarters of a pound each.

5. Four of the best varieties are offered for sale.

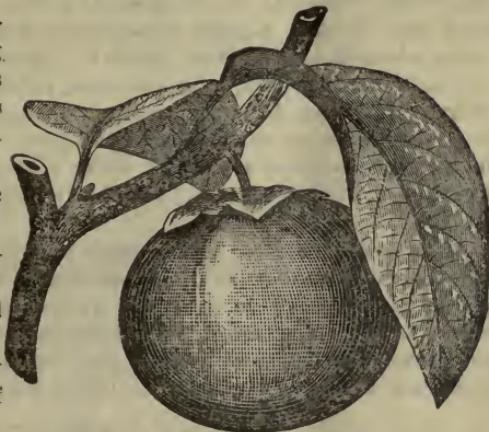
6. All are grafted, and reliable, and will fruit in from one to three years.

The persimmon should be planted like the apple. A gravelly or light soil is preferable. It grows to a large size, and is said to attain the age of a hundred years. It is not affected by the curculio.

There is no fruit in Japan more popular than the Date Plum or Persimmon. It has been crossed and recrossed until it is to Japan what the apple is to America. The fruit is found in the same varieties of climate as the wild Persimmon of the Eastern and Southern States, and appears to be equally as hardy. The seedling trees fruit in about ten years, and, like the apple or peach, are not reliable.

There are two principal divisions of the many varieties, the first of which is large, round, shaped like Rhode Island Greening Apple. The flesh of this resembles the pear or apple, and is eaten in the same manner. Its color is rich golden, and the meat "juicy, vinous and firm." This variety should be enclosed for a few days in a tight cask to render it perfect.

The second variety is oblong, resembling in shape a minie ball. This has a deeper, darker shade than the other; is soft, sweet, and custard-like; is eaten with a spoon, and with cream and sugar is one of the most delicious



fruits that is known. The fruit attains a very large size. It is the variety mostly dried and prepared like figs for market.

Prof. W. E. Griffis, the author of "The Mikado's Empire," writes, "As regards the value of the Japanese Persimmon, there can be but one opinion, the tree itself is one of the handsomest of fruit trees, and in the fall, with its golden-hued fruit hanging to the branches after the leaves have fallen, forms a beautiful and striking picture in a landscape."

"As to the fruit itself, it is nutritious, palatable, and to a high degree charged with those chemical ingredients which give most fruits their value in preserving the health and purifying the blood. This fact is insisted upon by the Japanese doctors, some of whom I have known to cure their patients by a 'persimmon cure' like that of the 'grape cure' of Southern Europe.

"The large amount of 'grape' sugar in this fruit has set some persons experimenting on them to determine whether sugar could be extracted in paying quantities. I do not know whether satisfactory results have yet been obtained. The fact of their containing so much saccharine matter is the reason of the ease with which they may be dried or cured, in which form they are sold as sweetmeats in Japanese shops."

VARIETIES.

DAIMIO—Slightly oblong; reddish color with dark point; medium size; flesh soft; ripens in October. Called "Yedo's best Persimmon."

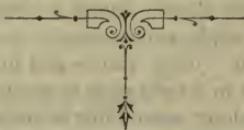
MIKADO—Flat, or like a tomato in shape; medium size; bright yellow color; flesh solid. This is a very common and popular fruit in the vicinity of Yedo. It is not much used for drying. Some of the specimens have no seeds, and especially when the trees are young.

NIHON—Slightly oblong; yellowish red; black spots on the surface and in the flesh; flesh solid; very early.

TAIKON—Round, pale or greenish yellow color; fair size; ripens in October. A great favorite in Western Japan, where it grows to a large size.

PRICE.

Two years' old trees.....75 cents each.



MISCELLANEOUS.

WE MAKE THE CITRUS A SPECIALTY, but shall offer for sale, from time to time, such useful and ornamental trees and plants as we may have in surplus stock. The following are of this number :

FIGS.—Black Ischia; Brown Turkey; White Mar-
seilles. 25 cents each.

POMEGRANATES.—Sweet. 25 cents each.

GUINA GRASS.—75 cents per 100, \$5.00 per 1000.

PAMPAS GRASS.—25 cents each.

OLEANDERS.—White; Pink. 25 cents each.

CALADIUMS.—Batariensis; Gibsoni; Javanica; 15
cents each, \$1.50 per dozen.

TUBEROSES.—White Italian; Pearl; 10 cents each;
\$1.00 per dozen.

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