JOHN F. LLOYD,
President.

G. ONDERDONK, Sr.,
Secretary.

Established in 1870.

.. Mission Valley ..

.. Nurseries ..

Descriptive Catalogue of
Fruit and Ornamental

TREES AND PLANTS

Best Adapted to Southern Texas and Louisiana.

Edition of 1901=1902.

Propagated and Sold by

G. Onderdonk Company

—AT—

NURSERY, Victoria Co., TEXAS.

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First National Bank

VICTORIA, TEXAS.

Capital, - - $150,000.

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EUGENE SIBLEY, Vice-President.

THEO. BUHLER, Cashier.

•• Directors •

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We issue Letters of Credit available in all parts of the World. Buy and Sell both Foreign and Domestic Exchange. Correspondence invited.

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Terms and Conditions.

PLEASE READ BEFORE ORDERING.

Limit of Shipper's Risk—Our packing grounds adjoin the Southern Pacific Railway station, the Wells-Fargo & Co's express shipping point and the Nursery postoffice. We guarantee all stock to be in good condition and up to standard when leaving our hands, but after delivery into the hands of forwarder we disclaim all responsibility for loss, damage or delay.

Express Rates—Purchasers will receive the benefit of special express rates on stock sent from the Nursery. Expressage prepaid on all orders amounting to five dollars or over to any express office within one hundred miles of Nursery, if cash accompanies the order. Orders will be sent C. O. D. (collect on delivery) only when previous agreement has been made.

Orders by Mail—We do not advise sending out orders by mail unless it be in exceptional cases; such as remoteness from railroads or single plant orders. We do not offer for sale the sickly rooted cuttings usually called "mailing size plants." We will select strong small plants, if possible, when it is found best to send by mail. We have supplied orchards by mail that proved highly satisfactory. No trouble to correspond for arrangements.

Ordering—Write your order plainly. A lady should always sign herself Miss or Mrs. to enable us to direct our answers properly. Designate nearest express or postoffice.

Terms—Invariably cash with order on or before ship-

ment. Remittances may be made by draft on Victoria, by money order on Nursesy, or by registered letter. Local checks must be drawn to cover cost of collection, as our prices are *net* at Nursery.

Substitution—In case a variety is exhausted, which happens in all nurseries, we will substitute with variety most closely allied to the one called for, unless substitution is forbidden; in which case we will refund the money.

Errors—We exercise the utmost care in filling orders, striving to do a little more than we offer, yet in every business errors will occur. We will gladly rectify them if we are notified promptly.

Packing—Trees and plants are packed in the most thorough manner to insure their arrival at destination in good condition. When considered advisable the roots are grouted with a paste of clay. No charge for bale or boxes.

Special Prices quoted on heavy orders.

To Our Patrons

For quite half a century the originator of the Mission Valley nurseries has conducted careful investigations in each special branch of Southern Texas horticulture. He has made it the object of his life to glean from the great world's supply of material such as should be found adapted to the demands of our peculiar climate. He has given his time, and incurred expense in travel, and any investment that held out a possible hope of horticultural advancement for his section, and employed his capacity for study in every direction that offered any promise of improvement. He has made a vast number of careful tests in every department of every race or variety that seemed to suggest a favorable outcome towards building up a list of fruits and ornamental plants.

From his success he has learned what to adopt—while from his failures he has learned what to reject. So we think it not extravagant to claim that the trees and plants supplied as a result of a careful system of experiments and study, extending through quite half a century are more reliable than those obtainable from any other source.

We do not claim to sell the lowest priced trees in the world; but we do claim to supply those best adapted to the conditions of our peculiar climate, and that our trees are, in the long run, the cheapest that can be procured by our people.

We are asked why we do not compete with the very low prices of certain nurseries. We would be glad to have everybody understand why we do not; but everybody has not that special information possessed by the expert which en-

ables him to understand these reasons. We make no secret of such matters, and have only ceased to explain them because we have learned that we have so seldom been understood. We take no pride in the exhibition of long lists of nursery goods that are useless to our people.

We do not run after *novelties.* We continue to enrich our stock by every improvement learned by our tests to be valuable. We do not want peoples' money for things that may be ever so valuable elsewhere, but of no value here. We run a *Southwest Texas institution.* We run a horticulture built up here by ourselves at an enormous outlay of labor, care, study, experiment, and financial outlay of a lifetime. We have never become rich by our enterprise, except that kind of wealth which one enjoys from a satisfaction of having benefited his country, and being prepared to leave the world better off for having lived in it.

The ownership of this nursery has passed into the hands of JOHN F. LLOYD, who has been connected with it for many years. The change will make no difference in its management nor character. The business will continue to be conducted under the designation of the G. ONDERDONK CO. Mr. G. Onderdonk will continue to act as professional correspondent, and to give the establishment and its patrons the benefit of his long experience, his rich and varied information, and of every new discovery.

This Catalogue will be SENT FREE to any applicant. For any information not found in our Catalogue,

Please address, **G. ONDERDONK CO.,**

Nursery, Victoria Co., Texas.

. . Peaches . .

25 cents Each; $2.50 per Dozen; $15.00 per Hundred.

The Spanish Race.

This race of peaches is distinctly Southern, and occupies a wider zone than any other Southern race. It succeeds well from the coast to beyond the center of Texas, and upon the elevated lands of Mexico, and comprises a satisfactory list of good bearing varieties.

Our Spanish List of Peaches.

Alice—Large, yellow, carmine blush on sunny side; flesh yellow; good quality, freestone. This variety is an accidental product from the orchard of Mr. Amery of this county. Among a lot of trees from our nurseries was one of which the budding failed, and a shoot from the stock developed into a tree bearing this peach. We present it under the name of a member of Mr. Amery's family. Ripens about July 15th to 20th.

Cabler—An Indian clingstone of decided merit. Medium size, purple; of Texas origin. July 20th.

Galveston—Large, white, juicy; an excellent freestone for home use and near market. August 5th.

Guadalupe—Large, white, sub-acid; good clingstone. August 10.

Indian Free—A freestone counterpart of the Cabler, and ripens about the same time. A seedling from the orchard of Louis Carpenter, of Nursery, Texas.

Lilly—A seedling of our own. It is the earliest Spanish peach we have ever seen. A small, pretty, red-cheeked peach, well flavored. We introduce it on account of its earliness. It will please some of our South Texas people who do not like the very sweet flavor of the South Chinese varieties, and who live where the early Persian sorts are unproductive. June 20th. We expect to supply trees of the Lilly in the fall of 1902.

Lula—Large, yellow, freestone. July 25th.

Maggie Burt—Large, yellow clingstone of decided beauty and quality. July 20th.

Onderdonk—Large, yellow, juicy and sweet, best combination of appearance, quality and productiveness. Decidedly our favorite. Freestone. July 25th.

Orman—Medium large, round, yellow clingstone. September 1st.

Rowena—Very large, yellow, washed with carmine; red near the seed. September 10th.

Rupeley—Large, clear yellow, with faint blush; very juicy and sweet. Clingstone. July 15th.

Texas—Large, dim green, shaded with red. Flesh white. August 15th.

The South Chinese Race.

This race of peaches is thoroughly at home in Southern Texas; succeeds as far north as Austin, and even beyond. It is also giving fine satisfaction in moderate elevations in Mexico, where we have sent trees that are now in bearing. If grown too far north the fruit is liable to be of defective flavor. The fruit of all of this race of peaches is deficient in acid, but in Southern Texas and at moderate elevations in Mexico it contains a very large excess of sugar. The varieties of this race are noted for their heavy bearing qualities while young, but are not as long lived trees as those of the Spanish race. They have hitherto comprised the only really successful early varieties in the lower parts of Texas. They are all beautifully colored. We arrange them in our list about in their order of ripening.

Our South Chinese List.

Early China—Large, elongated with recurved point; sweet, creamy white washed with carmine. Freestone. June 1st.

Waldo—Small, round; ripens here with Early China, is not so good a peach; blooms very early, but its blooms withstand considerable frost. Waldo is not a pure South Chinese variety, being a cross be-

tween South Chinese and Teen To, and showing some properties of each race. Some tastes prefer it to any pure South Chinese variety, and we propogate Waldo to supply those who prefer it. On account of its very early blooming it is not as sure a bearer as any of the pure South Chinese. Freestone.

Stanley—Medium, formed and colored much like the Honey peach, said to ripen before Honey in Florida, but here it is close to Early China and Waldo. We believe it to be a cross between South Chinese and Teen To. A fine bearer. Clingstone.

Coleman—Medium in size, oblong, yellowish white washed with carmine. Freestone.

Pallas—Large rounded form; dim green with carmine wash, juicy, and succeeds over a wide area.

Climax—Has less recurved point than Honey; color pale yellow, washed with red; flesh yellowish white, fine grained, melting, sprightly, with a distinct trace of acid lacking in the Honey; quality good. Freestone.

Imperial—Above medium to large; pale green, with sometimes a faint blush; blooms later than any other variety having Peen To blood.

Honey—Medium in size, elongated with recurved point; the sweetest of all peaches, and colored like the rest of the race, of which it is the original variety. Freestone.

The North Chinese Race.

We are too far down for the best results with this race, and the trees are short lived and unproductive. The fruit is large and very fine, and is wonderfully successful one hundred miles to the north.

Our North Chinese List.

Carpenter—Large, white, blended with carmine; sweet and juicy. Clingstone. July 15th.

Cleveland—Large, cream-colored with exquisite carmine markings. Very tender for marketing, but of good quality and best appear-

ance. Clingstone. Ripens with Honey peach, and bears better in this section than any other of its race.

Rogers—Another early peach of this race that will not bear heavily here, but is too good not to be represented by one or two trees in every good orchard. Will bear well a hundred miles up the country. Large and beautiful, washed freely with carmine. Ripens close upon Cleveland.

Sylphide—Large and beautiful, good quality; oblong, dim white. Freestone. July 15th.

Thurber—Large, white with crimson wash; very fine. Freestone. July 20th.

MISCELLANEOUS PEACHES.

Peen To—Resembles in form a flat tomato, both ends being flattened, and the pit also partaking of the same form; white, washed with carmine on the sunny side; when fully ripe is of a delicate waxen yellow; flesh pale yellow, juicy, a slight Noyau flavor. May 20th here. This peach is too far north here. It blooms so very early that we generally lose the fruit by late frosts killing the crop. And yet people continue to call for it and we therefore continue to propogate it for them. Away down south of every other peach, among the oranges and bananas, the coffee farms and rubber orchards of Mexico the Peen To and its progeny will produce peaches, where no other race of peaches are found. In its growth it seems to require no period of rest as all of the other races of peaches do.

JAPAN PEACHES.

Our experience with the Chinese races led us to presume upon the value of introductions from Japan. Years of experiment has modified our expectations. Instead of a character analogous to the Chinese varieties we find a strong affinity with the Persian race, if not identity with it. This unfits them for the orchards of Southern Texas. It will likely be valuable but a short distance above us. We describe only one variety:

Japan Dwarf—Tree of decidedly dwarf habit; might be planted

very closely; fruit medium; slightly oblong; cream white; flesh melting and well flavored. Freestone. May be said to ripen with Alexander.

Our Lists of Peaches.

We have rearranged our lists of peaches that they may be in better harmony with the progress that has been made in southern peach culture. The developments of the different races of the peach in our low latitudes, and the comparative position which each is found to occupy upon a scale of isothermal lines, seem to require that we should not ignore the distinctions that have been made by nature, and which so persistently force themselves upon our attention by their practical relations to an important department of our business life.

The development of the Spanish and Chinese races of peaches promises vast results to southern pomology. We have reached that point in the study of peach culture for this region that we recognize a very unexpected amount of difference in the very narrow zones that succeed each other from the coast country to the mountains. Our communications are extending—our trade has ceased to be purely local—and we realize that we must meet the growing demands of more extended intercourse. We have, therefore, separate lists of peaches to accommodate climate conditions of different sections.

Some of the boundaries given may need correction, but we are satisfied that the accompanying chart quite correctly states the relative position of these races. While all careful students of physical geography must admit that on account of the unequal distribution of heat during the extremes of the year, the isothermal lines of the world generally are not a sure guide in estimating the possible productions of a climate, yet for our purposes, in speaking of the products of Texas, such are the conditions that we may take these lines as a general guide in our remarks about our peach culture.

We invite a careful examination of our chart here presented :

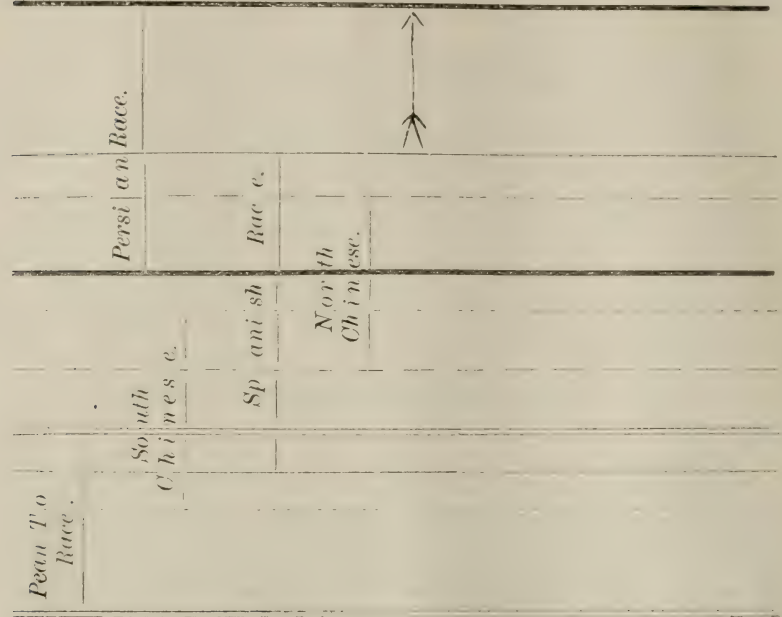

CHART SHOWING RELATIVE POSITION OF THE DIFFERENT RACES OF PEACHES.

. . Plums . .

No variety of European plums has succeeded in Southern Texas. When our nurseries were begun in 1870 there was no superior variety of plum known to succeed here. We devoted a few acres to experiment with the plum. About five hundred seedling varieties resulted. A few of these varieties became of recognized value. Our collection was improved by valuable additions till we secured a fair lot of plums for Southern Texas.

American pmoology has become enriched also by introductions from the Orient. And while few of the varieties have proven free from some serious objection, yet oriental hybrids that have resulted are likely to prove to be an important enlargement to our list of reliable

plums. Our plum trees are all upon Mariana stocks, and therefore cannot send out suckers unless planted so very deep as to cover the budding joints.

Our List of Plums.

Single Rate, 25c; Dozen Rate, $2.50; $15 Per Hundred.

African—Large, round russet, with blush when ripening; dark flesh color when ripe. June 1st. American.

Abundance, or Yellow-fleshed Botan—Large, round, yellow, washed with carmine. June 10th. Japan.

Burbank—Large, round, cherry-red, mottled yellow. July 15th. Japan.

Caddo Chief—Medium, oblong, red, and our earliest plum. May 15th. American.

Coletto—Large, round, pale carmine. May 20th. American.

Golden Beauty—Medium to large, yellow and productive. August 15th. American.

Hale—Large, round, orange over-spread with red; soft, delicious, cling. June. American.

Hope—A new seedling of our own that we hope to find worthy of propogation on account of its season of ripening, when plums are scarce, of good size, flesh-colored, firm flesh. July.

Indian Chief—Large, round, red. Bears young, and is very productive. July 1st to 20th. American.

Jennie Lucas—Large, clear, bright yellow. May 20. American.

Kelsey—Largest and most remarkable plum known. We have raised samples measuring nine inches in circumference. Middle of July to end of August. Japanese.

Marianna—Large, round, red; tree vigorous. May 25th. Used as stocks.

Munson—Large, oblong and vermillion. May 20th. American.

Martha—A seedling of our own. Seems to be a hybrid of American and some Japan plum. Very healthy grower, late bloomer, sets a heavy crop; has a leaf as large as most Japan varieties; has such a remarkable appearance that we shall be disappointed if its quality does not come up to a good standard. We name it for a grand-daughter of our Secretary and originator of our nurseries, Martha Onderdonk, who resides in Mexico.

Piram—Large, round, pale green. May 20th. American.

Red June—An American plum of some year's reputation in Eastern and Northern Texas. Medium size, good bearer, of the Chickasaw type. We have taken it upon its recommendations without having fruited it.

. . Pears . .

We began to experiment in pear culture in Southern Texas in 1868. We procured about eighty varieties and planted them in an orchard of about seven hundred trees. We then knew nothing of the oriental varieties. We cultivated and watched this pear orchard with keen interest for about twenty years.

During the last few years of the experiment, as the Leconte came into our notice, we included it in our collection. Then we added the Kieffer, and later the Garber.

The final result was that we threw away every one of the old varieties, and now we have got down to our list below as containing our really profitable pears for this portion of Texas. We shall describe each variety according to our own experience here in the Southwest. We have never had a case of blight.

Our List of Pears.

Single Rate, 25c; Per Dozen, $2.50; $15 Per Hundred.

LeConte—A seedling of the old Chinese Sand Pear. Large, pyriform, smooth; will yellow if left too long on the tree. If ripened on the tree it is a poor fruit. If gathered before it begins to yellow—perhaps hardly grown—then confined in its own atmosphere in boxes or barrels (we use bushel boxes) for a week, or, at longest, ten days, it is ready for use, and is a fine pear. For distant markets LeConte pears should be gathered before fully grown, boxed up WITHOUT WRAPPING SINGLY IN PAPER, and started at once. They will be ready for use at the end of a journey of five or six days. If intended for preserves they should be used before softening. The tree is a fine bearer. July.

Kieffer—Another seedling of China Sand Pear. Fruit large to very large; skin yellow, vermilion cheek, marked aroma. If left to ripen on

the tree is not fit to eat. But if gathered about October 1st and stored in a cool dark room for four or six weeks, it becomes one of the most delicious of pears. If gathered at any time from the middle of July to October 1st and worked up into preserves, we consider them second to none. Kieffer comes into bearing when very young. We have, in vigorous bearing, our first Kieffer tree. When it was ten years old it had paid us $31 in cash, and we ceased to keep accounts with it. We have gathered nine bushels at a crop from this tree.

Smith—Uniformly large and perfect, very smooth and handsome, similar in form and color to the LeConte; melting and juicy, with smooth, creamy texture; quality very good when properly ripened. Ripens with, or just ahead of the LeConte. An early, annual and prolific bearer, and exceedingly profitable. Tree equals the LeConte in luxuriant growth. We have not had the Smith long enough to verify what has been written of it by others, but its origin suggests success.

Tokio—Core small; skin golden yellow, with many russety spots; flesh melting, juicy, with a sprightly, vinous, delicious flavor. The tree is a vigorous grower, like the LeConte.

Garber—This pear, in growth of tree, closely resembles the rest of the oriental strain, but probably is more like the Smith in this respect than any other. Fruit closely resembles the Kieffer in size, shape and color, but ripens three weeks later than LeConte. It has not been so thoroughly tested, but it is quite promising, and bids fair to become very valuable. We have one objection to the Garber. Its fruit and growth is all that can be desired. It blooms later than any other of our oriental pears and would hardly ever miss a crop from late frosts. But its blooms do not seem to us to be SELF-FERTILIZERS, and we have no other pear that blooms with Garber. Perhaps if we had a swarm of bees near by, the bees would fertilize the blooms and make our Garber productive. As it is our Garber is a poor bearer.

. . Apples . .

25 Cents Each; $2.50 Per Dozen; $15 Per Hundred.

We have tested, in the rows of our experimental apple orchard, over eighty varieties of apples. We have found that the apple here becomes a dwarf, apparently because it never gets a suitable period of rest. After closely watching our tests for about a quarter of a century we have got down to only four varieties that we consider best adapted to the conditions of our dry, Southwestern climate.

Our List of Apples.

Stevens—A native of South Texas. Small, oblate, sweet, well covered with red. Productive. June and July.

Lincoln—Large, green, juicy, somewhat acid. Our best apple August.

Jones' Favorite—Medium to large, oblong, yellow when ripe. Does better to the north of us. September.

Yellow Sweet—Large, yellow, sweet. Bears well, sometimes heavily. A good apple. July 1st.

. . Apricots . .

This fruit has not done well in the coast country, but to the north of us in the range of counties including Austin and San Antonio it has succeeded admirably. We offer the variety that has done best with us.

Moorpark—We have found this variety superior to others in all points, and therefore confine ourselves to it. 50 cents each; $3.00 per dozen.

. . Japan Persimmon . .

50 Cents Each; $4.00 Per Dozen.

We have given the Japan Persimmon a thorough test in our experimental orchard, and pronounce the following varieties a complete success. The trees are of dwarf habit, very productive and ornamental, and the fruit finds a ready market at high prices.

Hyakume—Very large, rounded, three inches in diameter; skin light yellow and flesh dark; sweet, crisp and meaty; free from astringency and palatable while yet hard. Free bearer.

Tsuru—Longest in proportion to size of all varieties; slender, pointed, long; skin bright red; flesh orange colored, seeds few. Astringent until fully ripe, which is usually after the first frost. It can be plucked and house-ripened.

Yeddo Ichi. Large, oblate, and very smooth. Color of skin dark red, and flesh dark brown; seedy, rich, sweet and good to eat while hard. The best bearing variety here.

. . Grapes . .

15 Cents Each; $1.50 Per Dozen; $10 Per Hundred.
(Except where noted.)

Since 1860 we have maintained an experimental vineyard and have thoroughly tested all varieties of grapes that promised to thrive in Southern Texas. The Herbemont and Lenoir always bear abundantly, and of these we propogate a very large stock. There are several varieties which are successful, formed by hybridizing the native post-oak grape with the Herbemont. This useful work of hybridization was accomplished by our friend, T. V. Munson, of Denison, Texas.

Our List of Grapes.

Big Extra—Berry large, black, rich flavor, clusters large and showy, shouldered, a big extra surely. One of Prof. Munsen's hybrids. 25 cents.

Carman—Berry large, cluster large and shouldered, rich flavor, pleasant aroma. Another of Prof. Munson's new grapes. 25 cents.

Herbemont—This has been our great favorite for quality and productiveness. Berry deep purple, medium, sweet, juicy and excellent for wine and table.

Lenoir—Another reliable wine grape, often known as Black Spanish. Berry medium and black; cluster long and shouldered. Very profitable.

Meunch—A hybrid with the post-oak. Berry large; shouldered. 25 cents each. Munson.

Medora—A seedling crossed by us between Croton and Lenoir. Berry medium, white, translucent with an exquisite quality; cluster small, shouldered. 25 cents each.

Perry—A hybrid between Herbemont and post-oak. A much finer grape than the Herbemont, but will not grow from cuttings. All our stock grafted. A most desirable grape for home use. $1.00 each. Munson.

Sweety—Another hybrid between post-oak and Herbemont. Berry small, black, with unusual sweetness; cluster long, very compact and shouldered. 25 cents each. Munson.

. . Figs . .

25 Cents Each; $2.50 Per Dozen.

Brunswick, or Madonna—Very large, violet; good and productive.

Celestial—Small, pale violet with bloom; prolific and hardy.

Magnolia—Large, yellow, sweet, prolific.

. . Pomegranates . .

25 Cents Each.

Spanish Ruby—Large, yellow with crimson cheek; meat purplish crimson, sweet and of best quality.

Sour—Medium to large. Much esteemed in the preparation of cooling beverages.

. . Mulberries . .

The mulberry is at home in the South. It grows so rapidly that it is highly esteemed as a shade tree, and it is not easily broken by high winds. The fruit is of great object.

English—We have not found the proper nomenculture of this tree. An excellent producer, and spreads into a fine shade tree. The berry is long, black, acid and adheres well to the stem. 25 cents each; $2.50 per dozen.

Russian—(Seedling). May be of any habit of growth and fruit. They are usually of rapid growth and are one of the most desirable of shade trees. 25 cents each; $2.50 per dozen.

Ramsey—A small white fruit and rapid grower. 25 cents each; $2.50 per dozen.

Tee's Weeping—As its name indicates it is of weeping habit, the limbs being pendulous. We propogate them by budding on the Victoria mulberry of any height desired; usually 6 to 8 feet. Fruit not desirable. $1.00 each.

Victoria—This is the best mulberry for general purposes; is of upright habit and produces an enormous crop of large, black berries during April and May, and a second crop in October. It was originated at our nursery and named after this county. 25 cents each; $2.50 dozen.

Miscellaneous Fruits.

Dallas Blackberry—Long experience has not been favorable here with blackberries. We have finally settled upon this Texas variety as combining the largest number of qualities. $1.00 per dozen; $4.00 per hundred.

DEWBERRIES.

Perfectly Adapted. $1 Per Dozen; $4 Per Hundred.

Black Mammoth—

May's Prolific—

White Dewberry—

STRAWBERRIES.

25 Cents per Dozen; $1.50 per Hundred.

Mitchell—

Fremelat—

Lady Thompson—

Citrus Trifoliata—A hardy species of Lemon, which withstands a cold of zero. Of bushy and very thriving habit; leaves trifoliate, dark, glossy green, very thorny; flowers large, white, the first appearing in March, and others following less profusely during May and June; fruit similar in shape and size to the lime; very acid, and unfit to eat. As a hedge plant it is destined to become very popular; it will grow in almost any soil, and will stand great extremes of temperature, moisture and dryness without injury. As a single tree in ornamental grounds it is desirable. In the fall, with its full crop of yellow fruit, presents a beautiful appearance. Price, single trees, 25c each; $10 per hundred; at wholesale for hedges we will quote on application.

Satsuma, or Oonshin Orange—The hardiest orange. Medium size, flattened, skin thin; very sweet; seldom has seed. The trees are thornless and should be trained to its natural bushy habit, branching as low as possible. It should be hilled up a foot or more every fall with earth, that an extra freeze may not kill it to the ground. It will then sprout freely after being bitten down, and will soon be in bearing again. We have a bearing tree that we would like to show those interested. 50 cents each; $5.00 per dozen.

Nagami Kumquat—A small citrus fruit, grows in clusters, bears very young, a native of Japan; as hardy as satsuma orange; should be treated like the satsuma. 50 cents each.

Currants, Gooseberries and Cherries have been repeatedly tried and as often failed. They do not belong here.

Ornamental Department

DECIDUOUS SHRUBS.

ALTHEA.

Rose of Sharon—One of our most desirable shrubs; the plants lasting a lifetime, and blooming profusely during three months of the year. The new European varieties are a great improvement on the old fashioned sorts, and are usually of dwarf growth. Colors white, pink and variagated. Double and single, 25 cents each; $2.50 per dozen.

CHILOPSIS LINEARIS.

Flowering Willow—A tall growing native Texas shrub of great value in this climate, as it is in full bloom during the warm season when flowers are scarce. It has been improved in our nurseries, and several varieties added by cultivation. Leaves linear, pendulous and very graceful. Flowers in terminal racimes and very showy, with long tube, separating into five crimpled petals at end. 25 cents each.

White—A distinct white flowering variety, introduced by ourselves.

Purple—The native color, but greatly improved by cultivation; being beautifully shaded with lilac, white and yellow.

Major—The largest flowering variety. A beautiful shade of lilac and white.

Yellow Flowering Willow—A new variety which we offer for the first time. Our stock is limited. $1.00.

LAGERSTORMIA.

Crape Myrtle—Deservedly one of the most popular shrubs in America. In the South it takes the place of the lilac of the North, but is far more beautiful. It produces masses of delicately crimpled flow-

ers from June until frost. Can be pruned as a shrub or tree. 25 cents each.

Pink—The standard variety.

White—Blooms quite young. Very beautiful.

Crimson—Vivid crimson. Fine for massing.

Purple—A most unusual and rich color.

PUNICA GRANATUM.

(Pommegranite).

A very handsome, tall growing shrub, producing great numbers of brilliant double vermilion flowers. Both flowering and fruiting. 25 cents each.

HIBISCUS ROSA SINENSES.

(Chinese Hibiscus.)

Valuable free blooming plants, nearly allied to the hollyhock. Should be cut back and mulched during winter, or thoroughly protected during northers. One of the most showy of flowers. 25 cents each.

Brillantissma—The largest flowered of all single varieties; a brilliant crimson scarlet, flushed with orange, with base of petals deep crimson.

Lutea—Double yellow, with maroon center. Very free flowering.

Sub-Violacea—Enormous semi-double flowers, tinted with violet.

SPIREA.

Very attractive and well-known shrubs, of medium dwarf habit. 25 cents each.

Prunifolia—A profusion of small white flowers, produced in early spring, completely covering branches.

Reevesii—(Bridal Wreath). Round clusters of small white flowers in early spring.

Anthony Waterer—A very dwarf spirea—and very constant bloomer.

DECIDIOUS SHADE TREES.

Box Elder—Of rapid growth, spreading habit. 25 cents each; $2.50 per dozen.

Catalpa—A superb shade tree of beautiful but irreglar habit. Leaves large and heart-shaped. Covered in spring with masses of purplish-white flowers. 30 cents each; $3.00 per dozen.

Umbrella China—Too well known to require description. Our trees are all seedlings. We try to send out only true umbrellas, but some of them will run back to the old—form voracious absorbers of moisture and should be planted where one wants a dense shade and no other growth. 25 cents single rate; $2.50 per dozen.

Sycamore—A stately native, a sure and rapid grower, should be more generally planted as a shade tree. 25 cents single rate; $2.50 per dozen.

Lombardy Poplar—Remarkable for its tall shaft like form. A rapid grower and gives a quick pleasing effect, is not long lived here. 25 cents each; $2.50 per dozen.

Silver Leaved Poplar—Of rapid growth, spreading habit, leaves dark green on one side and clear white upon other side. 25 cents each; $2.50 per dozen.

Prunis Pissadii—(Persian Purple-leaf Plum). The most valuable of purple-leaved trees, and the only one of value doing well in Texas. Holds its color throughout the summer, and its leaves till midwinter, can be trimmed in either bush or tree form. Very beautiful. Fruit desirable. 25 cents each.

Salix Babylonica—(Weeping Willow). A tree of much character, but too well known to need description. Requires more moisture when young than provided by natural rainfall. 50 cents each.

Hackberry—One of the most popular native shade trees; long lived, vigorous and not broken by the wind.

BROAD-LEAVED EVERGREEN TREES AND SHRUBS.

Cenize—A native Texas shrub of great value in landscape gardening, because of its ash colored foliage, which it retains throughout the year. Lilac flowers one inch in diameter are produced in great profusion after summer showers. It has been improved by cultivation and selection at our nurseries. Needs no especial treatment, but should be sheared when symetrical shape is desired. 50 cents each.

Euonymous Japonica—A rapid growing evergreen shrub for hedges or speciman plants. 25 cents each.

Aurea—Leaves beautifully, marked with golden yellow. 25 cents.

Variegata—Leaves finely margined with white; very valuable here on account of difficulty in growing white leaved plants.

Gardenia(Cape Jasmine)· The most charming flower of the South. Foliage a deep glossy green, held throughout the year, and the white flowers are extremely fragrant. All field grown. Small plants 25 cents each; large plants 50 cents each.

Gardenia Florida—Flowers large, foliage thick and glossy. In three years with good treatment, should cover space five feet in diameter. 25 to 50 cents each.

Gardenia Radicus—Dwarf, trailing; small thick foliage. Fine for borders and cemeteries.

Gardenia Victoria—Originated in our nurseries. Leaves have an upright habit and flowers double to the center, with distinct odor.

Legustrum Japonica—A fine tree for the ornamented ground, very dark shining leaves, blooms in white clusters in spring. 50 cents each; $5.00 per dozen.

California Privit—Used largely for ornamental hedges, makes a good small tree singly, is a good wind break if left unpruned. 10 cents for single plants; $3.00 per hundred. Large quantities, special rates.

Camphor Tree—The tree from which the camphor gum of commerce is obtained, a beautiful evergreed, quite hardy in Southern Texas. Leaves a shining green, the newer growth is tinged with a pretty wine color, making a striking contrast. It ought to be largely planted here for commercial purposes. Every part of the tree contains camphor. The gum is readily distilled from the bruised wood and leaves by a simple and not expensive process. Camphor raising could be made valuable industry in South Texas. For single trees 50 cents each, $3.00 per dozen. Large quantities special prices.

Magnolia Grandifolia—The monarch of the southern forest and needs no description. 50 cents each; special sizes special prices.

Pittosporum—Low, broad-leaved evergreen; is suited to be trained into almost any shape required. $1.00 each.

CONIFEROUS EVERGREENS.

We have planted hundreds of varieties in our experimental grounds. Many rare and beatiful conifers will not succeed here. Our stock is composed of such only as have given good results in our grounds. We recommend small plants, and caution against allowing the roots to become dry before planting.

CEDRUS.

The only cedar which has given complete satisfaction here is the Virginia cedar. The native Texas cedar is very handsome, and we have tried to adapt it to nursery usage; but it does not bear transplanting readily. Virginia cedars 2 feet 50 cents each; 3 to 4 feet $1.00 each.

CUPRESSUS.

But two following varieties of cypress have done well here, and they are indeed regal trees. 2 feet 50 cents each.

Sempervireus Horizontalis—(Horizontal Cypress). Of rapid symetrical growth, with spreading branches.

Semfervireus Pyramidalis—(Pyramidal Cypress). The beautiful cypress of the Orient. Rising in a tall, dark green shaft to a great height. No other tree approaches it in its class.

PINES.

The native pine tree of Eastern Texas makes a stately and beautiful tree here. 50 cents each.

ARBOR VITAE.

Biota Aurea—Golden; compact and symetrical. 12 inches 50 cents each.

Biota Aurea Nana—A new variety; very dwarf; one of the most beautiful plants in cultivation. 10 to 14 inches 50 cents each.

Biota Orientalis—(Chinese Arbor Vitae). The well known common arbor vitae. needs no description. 12 inch 25 cents each.

Biota Pyramidalis—Of compact pyramidal habit; a standard variety. 50 cents each.

Arbor Vitae Compactu—A deep rich green in color; and of rounded habit. 12 inches 50 cents each.

Rosedale Arbor Vitae—This beautiful dwarf tree originated in Texas. In form it is similar to the dwarf arbor vitae; the foliage is plume-like in appearance, and the color varies from sea-green in spring to a deep, rich bronze in winter. Very attractive. 50 cents each.

CLIMBING PLANTS.

Catalonian Jessamine—The well known Star jessamine, and one of the most desirable of the species. Of graceful habit, and can be trained as a vine or shrub. The small, white, star-shaped blossoms are delightfully fragrant, and produce in great profusion. 25 cents.

Wistaria—A beautiful and rapid climber, producing in early spring large clusters. 25 cents each.

LONICERA (Honeysuckle). 25 cents Each!

Aurea Reticula—(Golden Honeysuckle). A most beautiful vine, with bright green leaves, netted all over with golden veins. Leaves and stems changing to crimson in Autumn.

Belgica—(Belgian). Pink flowers; very fragrant and constant bloomer. Can be trained as a bush.

Coccina Brownii—(Scarlet Trumpet). This is this classic honeysuckle of Greek art.

Chinese Evergreen—Flowers white, changing to yellow. Very fragrant. Strong grower.

CANNAS.

A great number of varieties of these beautiful and stately plants have been placed upon the market. We have selected the most desirable and vigorous of the list.

Austria—Flowers golden yellow, of immense size; many of them being six inches across; foliage deep green. 6 to 7 feet high 25 cents each.

Italia—Another giant flowering variety, similar to Austria. Flowers golden yellow, blotched and bordered with scarlet. 25 cents each.

Burbank—Another giant flower, seven inches across; canary yellow, inner part showing crimson dots. 25 cents each.

Florence Vaughen—One of the finest spotted varieties. Flowers golden yellow, covered with bright red spots; three inches across, foliage rich green, rather dwarf. 25 cents each.

J. D. Cabos—Dark. greenish-maroon foliage, with bronze luster; flowers bright orange. Valuable for massing. 25 cents each.

Crimson—Foliage bright green, dwarf. Flowers fiery crimson. Very desirable. 25 cents each.

GRASSES.

Eulalia Japonica Variegata—An extremely valuable plant in Texas, where white foliage is rare. Foliage very large, of creamy tint, with narrow, light green stripes. Grows to height of ten feet. 25 cents each.

Gynerium Argenteum—(Pampas Grass—white). A very graceful plant from South America, growing six feet in height, and producing beautiful plumes of creamy white. 25 cents each.

Gyrinium—Rose Colored. A variety of above; plumes very compact, of a delicate rose color; very free blooming and compact growing variety. 25 cents each.

LEMON GRASS.

Andropogon Schaenanthus—The sweet scented Lemon Grass, a native of Malabar. An essential oil is distilled from it which is used in perfumery. It is a favorite with asiatics, and in some parts of Mexico both for medical and culinary purposes. It has done the writer a great deal of good. Tea from the leaves is a favorite beverage. 25 cents each; $2.00 per dozen.

ROSES.

The climate of Texas is well suited to the rose. The annual bloomers so valued at the north are not generally desirable here, not because they fail, but because we have such a wealth of constant bloomers that are no more trouble to care for and reward our efforts with so much greater liberalty.

We have tried many hundreds of varieties and can assert with confidence that the rose in the list we offer will bloom as profusely here as in any part of the United States.

Sandy loam is the best soil for roses, and yet they will flourish in almost any soil with proper preparation and care. Old, well-rotten, barnyard manure is excellent; but never apply fresh animal manure to your rose plants. Old well-rotted, chip manure, such as will be found about many old kitchen wood piles is good.

When to plant. In our climate the question of fall or spring planting has little or no force. The main point

is to let the vegetation become thoroughly checked by frost before removing the plants. Many customers go wild about getting their plants "*early*." They insist upon the nurseryman delivering *early*, and then afterwards complain because they have lost their plants.

Again, some wait till the spring growth has begun, when it is hazardous to subject the plants to the exposure incident to removal. Avoid both of these extremes.

In growing roses here two things must be borne in mind--First, the ground should be constantly cultivated around them; and, second, that they must be forced to make new growth by pruning or pinching off all seed-pods as soon as the petals of the flowers begin to fall.

For those of our patrons who simply desire a few roses WHICH WILL BLOOM, and who are not collectors, or do not keep up large gardens, we recommend the following varieties in the order named: Mareschal Niel, Captain Christi, Queen's Scarlet, Perle des Jardines, Zelia Predel, Woodland Margaret and Pink Daily. The two latter are commonplace individually, but the latter will bloom all the time with the smallest amount of attention.

We will gladly advise patrons in making selections.

LIST OF ROSES.

25 cents each; $2.50 per dozen. Except Mareschel Neil.

(Abbreviations—B., Bourbon; H. P., Hybrid Perpetual; H. R., Hybrid Remontant; Ben., Bengal; P., Polyantha; T., Tea; Cl., Climber.)

Achille Gonod—(H. R). Lilac rose; large.

American Beauty—(H. P). Deep shade of rose; very large and double, cup shaped and fragrant; of dwarf habit. Popular rose for forcing.

Augusta Victoria—The latest white rose out; flowers borne on long, straight, stiff stems and by odds the most stately growing rose in cultivation; continuously in flower.

Bon Siline—(T). Rose carmine, shaded with salmon, fine bud.

Bride—(T). Pure white; buds very beautiful for cut flowers.

Captain Christi—(T). Shell pink to blush; very large and double: a constant bloomer, with strong, thick foliage. The best rose of its class in Texas.

Catharine Mermet—(T). Silvery rose.

Cecil Brunner—(P). Flowers 1½ inches in diameter; deep salmon-pink in clusters. Beautiful.

Crimson Rambler—(Polyantha). A marvelous rose, of great vigor, introduced from Japan, producing a profusion of small crimson flowers in trusses during April and May only. Climber.

Duchere—White; not a fine rose, but a marvelous number of flowers. Bengal.

Empress Eugenia—(B). Large, double, cupped, delicate rose: an extra flower.

Empress of China—A new, perpetual-blooming climbing rose. A rapid grower, and valuable rose. Color, soft, dark, red—like an apple blossom.

General Jasqueminot—(H. R.) Very satisfactory, and too well known to need description.

Gen. Robert E. Lee—Orange yellow, at some times of the season light yellow; quite a unique color. Produces its handsome buds quite freely.

Isabella Sprunt—Bright, canary yellow; large, beautiful buds; valuable for cut flowers; very sweet, tea scent, profuse bloomer; an old and popular variety.

James Sprunt—Deep cherry red flower, medium size, full and double. Valuable as a climber.

La France—(T). Luminous satiny rose; buds very fine; large, full, and undoubtedly one of the best.

La France—White—(T). Identical with the above, except in color, which is a pure white, shading to faint blush.

Lamarque—Pure white, with sulpher-yellow center; a vigorous climber and very popular.

Marechal Niel—(Perpetual Tea). The propagation of this rose is the specialty of the ornamental department of our nursery. It is without doubt the finest rose in existence for general cultivation. It produces in great profusion brilliant canary-colored flowers from the middle of February until Christmas. It is of very strong climbing habit; buds long and full on strong stems, flowers very double, and of the largest size; fragrant of great depth, and possesses that charming

luminous quality only found in roses of the first-class. Our plants are all budded on vigorous stock, whose roots penetrate the soil to considerable depth. Care must be observed not to allow roots to sprout or the plant will deteriorate. It should be planted in a location where protected from north winds, as winter bloom is apt to be ruined by it. We do not recommend large plants, but can supply them by special order. Strong plants pruned for planting 75 cents each.

Mary Washington—A very very valuable white climbing rose, perpetual bloomer: hardy, vigorous. Its flowers are of medium size; double and fragrant.

Marie Guillot—[T]. Pure white; dwarf.

Meteor—[T]. Dark, rich, velvety, crimson. Bush rose.

Mme. Camille—[T]. Rosy-salmon to blush; very large and double.

Climbing Meteor—Better in form than Gon'l Jacqueminot. Ever-blooming.

Maman Cochet—[T]. Flesh pink, with suffusion of yellow at base. buds long and beautifully formed; very productive and vigorous.

Mme. Lambard—[T]. Extra large full flowers; rosy bronze.

Mignoneete—[P]. Pale rose, changing to pink; flowers small and profuse.

Papa Gontier—[T]. Bright red; reverse of petals purple; a marvelous bud.

Peonia—[H. R]. Crimson; free bloomer. Well known.

Paul Neyron—[H. R]. Deep pink; the largest of roses; fine, free bloomer.

Perle des Jardins—[T]. A superb everblooming yellow rose. Might almost be called bush Marechal Niel.

Perle de Lyon—[T]. Yellow; fine.

Pink Daily—Bloom rather open and not well formed. Bud pretty. Not a fine rose, but blooms literally all the time.

Pearl d'Or—[P]. Center salmon-yellow, passing to canary; charming little buds.

Queen's Scarlet—Rich, velvety crimson. Beautiful in bud, and the best bedder of its color. Very free flowering. Bengal.

Sunset—[T]. A fascinating rose, of delicate, tawny yellow color.

Safrano—Bright apricot yellow; changing to fawn; everblooming.

Wooten—Very vigorous; constant bloomer; brilliant crimson. Moderate climber.

Waltham Queen—Moderate climber; crimson.

Woodland Margaret—A very pretty white rose, though not equal to the teas Fine bloomer.

Yellow Rambler—[Aglia]. Similar to Crimson Rambler, except in color, which is a decided yellow.

Zelica Pradel—[T]. White, with yellowish center; half climbing habit. Excellent.

TREE ROSES.

For many years we have been making experiments with tree roses. Our importations from different parts of Europe as well as those from the northern states all proved failures here. Our Mr. Lloyd made them a study for some years in England, but the stocks used there as well as those employed on the continent have failed to endure our South Texas sun.

Finally our Mr. Lloyd tried a wild American stock with complete success, as it endures the conditions of our trying climate. Upon these stocks we bud any desired variety and color, taking care not to use varieties of too free habit, as such will overgrow the stock.

We charge $1.00 for each color represented upon the tree supplied.

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Mission Valley Nurseries.

INTRODUCTION.

The Mission Valley Nurseries were originally established at Mission Valley. In order to secure improved communications they were removed to their present location on the Victoria Division of the Southern Pacific Railway, at Nursery, eleven miles north of Victoria, and seventeen miles south of Cuero, Texas.

For more than forty years the writer has been studying the questions which underlie the horticulture of Southern Texas. At first he had scarcely a precedent to guide him. Little was then known of our horticulture resources. The vast majority of our people then cared but little for any but the grazing interests, and even those who tilled the soil gave their care to two or three staple products. He who would then suggest that Southern Texas was possessed of even a respectable horticultural capacity was sure to excite a smile of incredulity.

For more than a third of a century the writer has done little else than study and experiment for the development of our horticulture. He has planted experimental vineyards containing varieties of every class of grapes known to viticulture. He has planted experimental orchards containing every class of fruit that has seemed to hold out any reasonable hope of success. He has fruited immense numbers of seedlings in order to originate new varieties adapted to our section. He has patiently waited for the tests of time to reveal the comparative value of varieties for our very peculiar climate. He has produced and collected new seedling varieties in each department of pomology until he has finally obtained a collection of adapted fruits that he can confidently recommend to our people.

Nor have his experiments in the ornamental department been less exhaustive and complete. One sub-division after another of the general ornamental department has

been pursued with studious care and unrelenting energy, until there is now no effect known in the landscape work of the older states for which he has not ascertained practical material to be used in our own climate.

These results have been obtained by long and persistent study, by many hundreds of carefully conducted experiments and at a very burdensome expense of capital. Professionally, he feels that he has attained a highly gratifying success. Financially, he has expended a fortune to become properly ready to begin the work of supplying our people. Quite all that he has hitherto done may be regarded as only experimental—a foundation upon which to build the work of coming years.

We have thought best to combine in a Hand-Book our price lists and descriptive catalogue as being best suited to the special character of our work. The reader will observe that; in this pamphlet, nothing is recommended except that which has been proven to be of value in our climate, and in every instance a frank intimation is given if there is any drawback against the value of the article described. A careful examination is invited to every portion of this pamphlet. Every matter stated as fact is based upon the personal experiences of the writer upon our own grounds.

Our horticulturists, the whole country over, have been slow to study, and our people have been still more slow to realize that in horticultural operations, we must be guided by climatic conditions. The full application of this thought suggests that each operator becomes more or less local, and that the nearer each nursery comes to being a local establishment the better can it serve the people.

We may well question the propriety of urging the general adoption of any one variety over an extensive area, until its adaptation has been generally tested by actual experience. A nursery which attempts to supply the entire world is doing injustice to many of its distant patrons, and the sooner such establishments are contracted to within the limits of their local conditions the better it will be for the people. We were led to these conclusions in the early history of our studies in Southern Texas. Although they have been driven to the same view by the hard

lessons of experience, it is fortunate for our people that in the last few years very many of them have come to recognize this general truth, and to see that their own trees and plants should be taken from the home nursery.

Others still patronize the distant colossal nursery upon the plea of cheapness. We all know that the nurseryman who is trying to supply the whole world without reference to climatic adaptation, and therefore raises trees by the million, can sell at lower figures than the local producer who, knowing the wants of his customers, makes careful efforts to be stocked to meet their special requirements. After all the extraordinary care which we have been compelled to exercise, and the enormous expense that we have been compelled to incur in originating, collecting and testing varieties in order to become able to understandingly serve our people, it can hardly be expected that we shall be called upon to undersell establishments of other sections. Many of our patrons have learned the difference between low priced trees and really cheap ones. Those who require such goods as are supplied by northern nurseries at very low rates, need not apply to us to compete for low rates. WE DO NOT HANDLE SUCH GOODS, NOR DO WE SELL AT THEIR PRICES!

Although our business was at first intended to be only a local one, yet the developments growing out of the practical operations in Southern Texas prove to be of importance to other sections of similar climate; therefore, our business relations have gradually extended to remote regions not anticipated in the beginning of our enterprise. We are better prepared to supply local requirements as well as to better meet the distant demands upon our growing resources. Fortified by such study and experience as could only be prosecuted and attained upon extreme Southern ground--encouraged by the successes of the past, and vastly improved facilities, present and prospective, and the grand army of friends and patrons that have rallied around us, we look forward with large hopes into a cheerful future.

Respectfully,

GILBERT ONDERDONK, Mgr.
Nursery, Victoria Co., Texas.

TO CORRESPONDENTS.—Do not fail to give post-office, county and state, and sign your name plainly. Important letters are sometimes signed in such a manner that the names can only be guessed at, and sometimes are not signed at all.

ORDERS.—Do not wait for agents, but send your orders by mail. Write orders on a separate page and do not mix them up in the body of the letter.

SELECTION OF VARIETIES should be left entirely to us, except in cases where some particular sort is especially required, as we are better acquainted with the varieties, and therefore can make a good selection. When varieties are specified in the order, and the stock of such varieties has become exhausted, we will substitute varieties most resembling those called for, except where substitution is forbidden. In all cases where substitution is forbidden, we will charge retail rates for the plants furnished.

SHIPPING DIRECTIONS should be explicit. When none are given, we forward according to our own judgment; but in no case do we assume any responsibility after delivery to the forwarders.

PRICES GIVEN relate to deliveries at the nurseries. If delivered elsewhere, we shall make a charge to cover cost and risks.

Any person sending cash with order to us direct, to the amount of $10 or over, will be allowed a discount of twenty-five per cent on rates per 100 or less.

CLUBS.—Any person or combination of persons who, without intervention of agents, sends us orders to the amount of $100 or more, will be allowed a reduction of twenty per cent on rates per 100 or less. If cash accompanies the order we give a reduction of twenty five per cent.

SCHOOLS, CHURCHES, PARSONAGES AND CLERGYMEN AT HALF PRICE.—It has been a rule of the nursery to supply free of charge fruit trees, shade trees or ornamental plants, to any parsonage or church in

the state of Texas. In these donations we have crossed both the Sabine and Rio Grande.

But now the nurseries are not the exclusive property of the manager, and he no longer holds such control as will enable him to make donations. We therefore announce that, from this issue. we will supply AT HALF PRICE any school, church, parsonage or clergyman in active regular work for any Christian denomination in the United States or Mexico, the purchasers to pay their own expressage.

MISTAKES will sometimes occur, as we often have to employ inexperienced help, and all our packing is crowded into the space of a few weeks' time. We will correct any mistakes when promptly notified of their occurrence.

REPLACING TREES.—Some customers, after receiving their trees in good order, so neglect or mistreat them as to cause them to die, and afterwards think that we should be responsible for the loss os their trees. We wish it distinctly understood that when a tree or plant has passed beyond our control by being delivered to the purchaser, we cannot be responsible for its treatment or the result. We furnish the trees in good order, and the customer must take care of his own trees, and take his own risk of season, treatment or any casualties that can interfere with success. It is enough for us to stand our own losses, and we can not, uncompensated, bear the losses of others. We are not an insurance firm.

We learn that some agents have taken the responsibility of promising to replace any nursery stock their customers may lose. They have done this as an inducement to the customers to deal with them. No customer would sell us cattle, horses or sheep upon such terms, because they all know that it is not business. And we want it to be understood and remembered that we make no such contracts. We publish this notice that if these unauthorized promises of an agent are taken it must be understood that they are not our promises, and that the customer must look to the one with whom he is dealing and not to us to fill his agreement.

We would like to consider every agent's customers as dealing with us, but when an agent makes contracts of the kind under consideration, he is doing something which he has no commission to do for us, and we will not accept such orders, although we may sell the agent the goods with which to supply his customers.

TERMS AND REMITTANCES.—Terms cash on or before shipment of package, except when arrangements have been made to the contrary. In cases where prepayment has not been made, and we ship without agreement to the contrary, we claim a right to draw draft to cover the amount upon shipment of goods. Remittances may be made by postoffice order on Victoria, express order, registered express letter, addressed to us at Nursery, or by draft on Victoria, Texas.

EARLY DELIVERIES.—While our pear and apple trees, grape vines or Persian race of peach trees may often be properly transplanted in November and sometimes still earlier, if the season is an average one, yet our Spanish varieties of peaches continue to grow much later than those belonging further north. The same may be said of our plums and grapes, all of which are especially southern, and of some other plants. As this makes their season of removal later, we can not, of course, deliver them as early as some nurseries which do not raise our southern class of trees. Others who even buy much or the most of their stock from northern nurseries, where the season closes much sooner than it does here, can make very early deliveries to customers. When very early deliveries are offered, it is a reasonable presumption that the trees do not belong to this region. We do not compete with this class of nurserymen, or dealers, on the subject of early deliveries. But we do deliver as soon as we can handle our trees after they attain the proper condition, and we shall not fail to do so in time to favor the success of our customers.

Our packing houses and grounds are immediately at the station. We have a postoffic and express office upon our grounds, and can ship by every train without making charges for delivering to forwarders.

VISITORS.—It has always given us pleasure to show visitors over our grounds. They are invited to call on any day of the week except on Sunday. On that day our office is closed and the manager is nearly always absent. Our employes claim Sunday for rest and worship, leaving us no one to escort visitors or supply their demands.

This pamphlet will be sent free to all applicants. Correspondents will please address

G. ONDERDONK, MGR.,
Nursery, Victoria Co., Texas.

SELECTION OF GROUND FOR ORCHARDS.

PROMPT DRAINAGE outweighs every other consideration—and more especially so for peaches. Any substratum that constitutes a natural underdrain affords the best drainage conditions. But if we have a retentive clay subsoil and nothing as underdrain in close proximity below it, we must look well to a prompt surface drainage.

SOIL which is properly drained, and which is good for corn, will generally be found good for Peaches, Plums, and Grapes. The same soil should be richer for Apples, Quinces and Pears than for stone fruits. A light sandy loam is best. The lighter the soil, the earlier the trees will bear, and the sooner they will be apt to fail.

Exposure is of some importance. While at the north a plat sloping southward is preferred because it is there desirable to get as much of the sun's influence as possible, yet in our climate the case is different. We do not want the first warm rays of the sun to start our trees, as they will then push out the young fruit to be in danger of late frosts. We propose a northern slope here as a partial remedy against early growth, but we would yield the question of exposure to any other consideration of importance.

WHEN TO PLANT A TREE.

Trees should not be hurried out of the nursery for planting before they are properly matured for removal. Some people in their desire to plant early, overdo the matter by insisting upon their trees being taken up while sap is yet moving too freely. But after proper maturity the sooner they are taken up the better.

In this climate the sap flows, to some extent all winter. Trees are making roots when there are no outward

appearances of growth. We can fix no definite date for planting here. Sometimes our trees will do well to handle in November, and sometimes are hardly fit to dig at Christmas. It depends upon the season. As a rule we may say that we begin to fill orders as soon as possible after the first killing frost, and continue until the planting season is over, which is about March 1st, although the planting in our own grounds continues later. The condition of the tree is of more importance than a few days of time. We never send trees out when it is too late to plant them, and we begin to ship them as soon as they are fit to handle.

WHEN THE TREES AND PLANTS COME TO HAND,

If they look fresh they may be planted at once or heeled in moist soil till you are ready to plant. If they are dry enough to be more or less shrunken, then cover the entire tree in a moist soil for a couple of days before planting. But in any case do not allow the roots to be exposed to the sun or dry wind.

HOW TO PLANT A TREE.

Many persons plant a tree very much as they would plant a post. Others bestow a large amount of, not only useless but detrimental labor. We have seen by way of preparation, holes dug from four to six feet square, and as many feet deep, forming, in a retentive clay, a receptacle to retain water, to the injury if not destruction of the tree. The hole was then nearly filled with bones, rotten wood, and various kinds of manure. Soil was then thrown in to complete the filling, and after this preparation the tree was planted. It would take more space than we can occupy here to delineate the mischief resulting from both of these ways of planting. Don't kill your trees by either neglect or mistaken kindness, and then blame the nurseryman because your trees fail.

The plat should be in a good state of cultivation. Dig the holes large enough to admit the roots without cramping them, and enough deeper to admit a couple of inches of surface soil. Cover the bottom with surface soil till the tree will stand no deeper than it did in the nursery (except dwarf pear trees, which should be so set that the quince stock is three inches below the surface.) Introduce the roots and earth to each other with the hands, taking care that each root is given its natural position. When the roots are lightly covered pack the earth around them carefully. We sometimes use water to insinuate the earth and roots into each other. Now fill with any moist soil, leaving the surface loose. Use no manure about the roots of a newly planted tree.

IN PLANTING EVERGREENS there are two conditions that must not be disregarded. We remove evergreens with as much safety as we do deciduous trees if they have such roots as ought to be sent out by a nursery. But we do it by regarding the two conditions which we will briefly present: 1st—Never let the roots of evergreens become dry before or during the operation of planting. If obtained from our nursery they will not be dry when they reach the customer. 2d—Press the roots and earth thoroughly into each other.

Of course it is to be understood that the operator is to observe the conditions also that are required in planting other trees, especially the one of letting every root have its natural position. In planting evergreens I always have the earth beaten and tramped and sometimes pounded to the roots in the moist soil. Of course there must be a covering of earth above the root when this pressing is being done so as not to bruise the roots.

DISTANCE FOR PLANTING.

We have planted a peach orchard 16½ feet each way. We see that we should have given more room to the trees. Our latest planting is about 18 by 20 feet, and we never expect to plant a peach orchard nearer on common upland. If I were planting in river bottom I should set the

trees 30 by 40 feet. Apple trees in this country become dwarf in their habits and can be set 15 by 15 feet. Mariana plums want as much room as peach trees. Other varieties of plums can be grown at 15 feet each way. Dwarf pears may be set 12 by 12 feet. Standards should be given more room. LeConte had better have 30 feet. Our own way of planting pear trees is expressed in our remarks under the head of pears.

Our southern grapes of the Herbemont type should not be set nearer than 10 feet. We set our own 12 by 12 feet. Those of the Labrusca type can be set 6 by 8 feet. Those of the V. Vinifera may be grown 6 by 6 feet. They are often set nearer, but we do not believe in such close planting here.

Do not be duped into the fallacious notion of planting trees close enough to shade each other's trunks, but depend upon after treatment which will insure each tree to shade its own trunk. (See remarks on Pruning Plum, Peach and Apple Trees.)

HOW TO TREAT AN ORCHARD.

Do not neglect its thorough cultivation. We insist upon cultivation of the soil among fruit trees in this country, notwithstanding northern directions in some cases to the contrary. We do not live in the north.

Sow no small grain in the orchard! Let the plow go among the trees whenever the growih of weeds and grasses or the condition of the soil requires it. Let the plow run shallow when near enough to the trees to injure the roots, and elsewhere plow as deep as you can. Keep the ground loose, and in all respects in as good condition as it should be for any other crop. If you raise a crop among the trees while they are young, let it be a hoed crop, but plant nothing nearer than within five feet of a tree, and maintain the fertility of the soil by the application of manure. The old chips and rotten wood that collect around the country wood piles make a good manure. A light dressing of ashes is valuable.

Whenever you do not want any more fruit from the orchard, just cease to cultivate it altogether, let the weeds and grass take it, and you may depend upon having no products worth gathering until you revise your treatment. In some parts of the north where apple and pear trees grow as live oaks do here, and in some cases live for centuries, one may, perhaps, listen to the thought of letting an orchard go uncultivated a while. But southern Texas is not in the far north.

PRUNING PEACH, PLUM, APPLE AND PEAR TREES.

Don't prune your trees to death. Before you begin make up your mind what form of tree you want, and then don,t change from one plan to another. We have seen senseless, unintelligent cutting and hacking at trees that was much worse than no pruning at all.

We prefer to cut every tree ready for planting before sending it out if our customers will allow it. We should prune our American plums to a switch, and plant them in in that form. We keep off the lower sprouts and let the tree form a natural head at a height that suits the cultivator.

Every other kind of fruit tree we prefer to reduce to a single stem by removing every side shoot. and then cut off the body at from one to two feet from the ground, if the eyes on the trunk of the tree will justify it. For our own planting we cut still closer. The object of this severe pruning is to leave only wood enough to furnish plenty of eyes from which to make the future tree. Some persons object to this severe cutting because they do not understand the matter. In removing a tree we have to deprive it of the majority of its feeders, and the remaining ones can not well feed the entire original top. By this pruning at the nursery, we save, for the customer, half the cost of transportation, make his trees more likely to grow, and secure to him a stronger tree than if the top were not removed. My own peach and apple trees are pruned as follows:

The tree having been cut to a stem, as described above, and properly planted, will put out a large number of sprouts in every direction. To form a low top, select four of these sprouts leading in as many different directions. Remove all others, and persistently keep away any new shoots from supplying the places of those destroyed — training only the four shoots selected, and let these four selected branches do pretty much as they please.

If a lateral root from any of these four shoots should hang so low as to be much in the way, I cut it away, but cut no other laterals that are in a vigorous state. If two limbs chafe each other or are likely to do so, I remove one of the offending limbs. If a limb gets badly bruised or broken I resort to amputation. If trees threaten to interlock limbs with the adjoining ones, I shorten in the interfering boughs. Should a tree be running taller than I wish I check the tendency by removing the leading boughs. Should one side of the tree be outgrowing the other, I check the excess of the strongest side by shortening its boughs. If trees are treated in this manner, each tree will shade its own trunk. While I train my orchard generally on this plan and thus have low heads—there is occasionally a reason for desiring a tree to become taller and make a rounded head.

In this case, at the first pruning I should retain only one shoot instead of four, shortening the stump back to the sprout selected to stand. As this shoot grows, the lowest side limbs are cut away till the tree has attained its desired height. I do nothing more except to remove interfering limbs or twin sprouts or shorten an occasional bough to preserve the form desired and keep down all suckers from the base of the tree. I remove the suckers at any time when they are discovered, in fact, I prune peach, plum and apple trees at any time that suits my convenience. Dead branches tax the energies of the tree as long as they remain, and therefore should be promptly removed.

Don't keep cutting off the spurs that form on the sides of the trunk and branches. These are preparations for fruit. We have seen the trunks and large limbs

trimmed clean of spurs up to near the top of the tree, under a false notion that the good of the tree required it.

We urge the suggestion that whatever growth the peach, plum, pear or apple trees are not allowed to make within a short distance of the ground it will not produce at all. That it is utterly useless and destructive to try to run the trees up to an unnatural height. When peach trees have been treated as we have suggested for about two or three years from planting, they are ready for a careful permanent system of treatment which will improve the size of the fruit.

In January, or before the new growth starts in the spring, cut away half of each twig of the former year's growth. Let each cut be made just above a leaf bud. The strongest shoots might be cut a little shorter and the weaker ones a trifle less, so as to maintain the symmetry of the tree. This treatment will reduce the number of peaches on the tree, but will vastly increase the size of those remaining. While this treatment is less important here than at the north, yet it may be applied to our orchards with advantage.

We give apple and pear trees a similar heading back each year, till they come into bearing, after which they will not require it. Especially should the heading back be carefully followed with the Le Conte and Kieffer as well as all of the Chinese strain of pears and their hybrids. We must not prune pear trees during the growing season, except to rub off young shoots and pinch back leading buds to attain and preserve the desired form of the tree.

That our brief remarks may cover as much ground as possible, I will say that in all pruning, whether of fruit trees or flowering shrubs, we must not lose sight of this general principle—viz: That trees or shrubs that bear their fruits or flowers on wood of the current year's growth should be freely pruned in winter; while those which bear their fruit or their flowers on wood of the former year's growth should be pruned more sparingly. The reader will readily see the common sense of this universal rule.

PEACH CULTURE IN SOUTHERN TEXAS.

These chapters were originally written for and published in the San Antonio Weekly Express. We were solicited to give them a more permanent form. We published them in our former edition and have concluded to continue them in this issue with some additional revision.

CHAPTER I.

OBSTACLES.

In a series upon this general subject it is natural to first take a brief view of obstacles that confront the cultivator. The first obstacle that we will notice is the

TREE ~~BLIGHT~~.

In most of the occupied portions of Texas, there are spots of ground upon which cotton and some other plants die out, especially during ths early part of the season. All of the grasses seem unaffected by it. Some speak of the ground upon which this blight occurs as "poison soil;" others speak of this singular "dying out" as a result of "cotton blight;" and I do not know how many more names have been given to this wide-spread scourge. For present purposes it is sufficient to define it as a ~~blight.~~ While it is, in different sections, attributed to different agencies, yet there seems to be sufficient uniformity in its symptoms and effects in different localities to lead us to presume upon the identity of the scourge. This blight is quite sure to kill every apple and pear tree and every grape vine which it attacks, and sometimes destroys peach trees, rose bushes, and a great variety of trees are killed by it. I have seen the trees of a whole orchard—one by one, in regular succession—yield to its withering power.

TO DETECT THE ~~BLIGHT BEFORE~~ PLANTING.

Plant cotton or ground peas on the spot. If either of these remain uninjured at the close of the season, then there is no tree blight in the plat, and you may safely set your trees. But suppose one has set an orchard and afterwards discovers that he has located it in an affected spot.

IS THERE A REMEDY?

I once found that this blight had begun its ravages on my vineyard. Wood was abundant near by and the affected spot was small, so I built a large fire, gradually moving and extending it, till the whole spot had been heated to a redness. I threw into the fire everything combustible that was on the spot. I went ahead of every sign of blight and burnt vines that seemed to be unaffected. This proved efficient. I replanted the burnt plot and had no more blight there to this day. This was twenty-five years ago. So I may safely say that I cured this spot of "blight" or rather killed the myriads of fungi that caused it. It generally appears on a too large scale to burn out in this manner, and then the best way I know of is to seek another spot upon which to set a new orchard. I have in my mind a case in which the owner of a blighted orchard set a second orchard of two hundred trees, only a couple of hundred yards distant. In this case the blight ceased after killing about a hundred trees, and the remainder, like the new planting, lived to a good old age without becoming affected. There is another obstacle that presents itself all over the coast region of every gulf state. We refer to the

ROOT ~~ROT~~ Knot.

The root ~~rot~~ Knot seems to be caused by a minute worm that acts upon the roots of the peach, fig, willow and perhaps some other trees in a way that reminds us of the work of phylloxera on the grape. The first the writer ob-

served of this pest was in 1869. It was found in a small spot not over fifteen feet in diameter upon the roots of some peach and fig trees where the rows of the two nurseries were immediately adjoining. Quite every root was literally strung with the little bead like lumps, the results of the perforations of this miserable microscopic worm. The roots were still free from decay and maintained their healthy color, while the trees themselves had preserved perfect vigor in appearance. Every root would have rotted, which would have killed every tree during the following year.

It was in a low spot of sandy loam soil, and at the close of a very rainy season. Attention having been drawn to this malady, we have watched it ever since. We have never seen it in black, heavy soils, nor in any soil of the best drainage. We once procured a lot of peach trees from a distant nursery which were very badly affected. We cut away every root and reduced the trees almost to cuttings. They grew finely and are now in good bearing.

We never saw a case on a plum tree. We would resort to the application of potash as a partial remedy. But in order to completely eradicate the evil we must remedy the conditions that favor its existence. Therefore it becomes evident that any treatment must be intimately connected with thorough drainage as a first condition of success. If drainage cannot be secured then the operator must either abandon peach culture or transfer his enterprise to a more favorable location. The clay basins referred to in the next chapter often foster the disease, and unite with another cause of death to the tree. It adds vast importance to the subject of drainage which will be considered in the next chapter.

There is another obstacle to fruit culture in what is known as the

ROOT TUMOR.

We cannot say with any accuracy how extensive the area of this malady really is. We may say with reasonable certainty that it extends all over the southern states. It is very distinct from the root knot referred to in this

chapter. Neither cause nor remedy seems to be yet understood. While root knot seems naturally to be confined to sandy loam soils with imperfect drainage, the root tumor seems to flourish alike in any soil, and instead of confining itself to peach, fig, willow and possibly one or two other trees, it is also found on the peach, plum apple, pear, quince and possibly on other trees.

Sometimes it appears as a round ball on a small root, where it can be easily removed. Sometimes it is fastened so lightly on the side of a larger root that it can be easily broken off. But very often it is developed as an inseparable knot on the main body of the tree below the surface. In this form it can hardly be removed without destroying the tree. In this last form it may or may not kill the tree. In forms previously mentioned it is not likely to be a serious matter as the knot only involves a single root. I have found cases in which the knot had decayed and left the root in a strong, healthy condition. In transplanting trees we remove and burn every root tumor that we discover, if it is capable of removal. If it can not be removed we send the tree to the brush pile.

CHAPTER II.

DRAINAGE AND SOILS.

For convenience and brevity and to avoid repetition, we will treat together the questions of soil and drainage. Defective drainage is the most serious obstacle in the way of peach culture. Whatever importance may properly be attached to questions of soil or aspect, yet, in fruit culture, the question of drainage outweighs every other consideration, and more especially so in peach culture. Peach trees can not endure wet feet for a great length of time. Even if the presence of water is not such as to sour the roots of the tree, it may be sufficient to cause root knot. I shall probably find no better place to say that while irrigation, properly applied, can be made of valuable service in the peach culture of our dry districts, yet I shall have to say that injudicious irrigation has killed many a promising tree.

For peach trees it is not sufficient that the water can run off—but it must run off promptly. Many a spot of

ground which would be considered well drained for corn or cotton, or small grain, will nevertheless retain water too long for peach trees. If water stands on the surface a few hours in a peach orchard, it is doing mischief to the roots of the trees.

If the soil is that kind of sandy loam that retains so much water as to remain boggy long after the rain, that is a grave objection to it for a peach orchard. Such a soil may be, and generally is, splendid for the growth of the trees under ordinary circumstances; but in a very wet season its power of retaining so much water is often fatal to the trees. I have seen this result even where the surface drainage would be called good. An orchard in such a place may do well for a dozen years and then be destroyed by a rainy spell, which makes the ground boggy for a month. But if you have a light sandy loam, that has good surface drainage or good under drainage, then you have a perfect spot for a peach orchard.

It has been observed by many that the clay subsoil, immediately below their sandy loam, is very uneven, so that if the surface soil were removed the clay would present a surface like what we call "hog wallow" prairie. If you have such a subsoil of clay it will hold water a long time in the little basin formed by its uneven surface, and a long wet spell is sometimes so nearly equal to a continued overflow that the peach roots may be so far injured that when the drought of the following year comes along, the trees have not sufficient nourishment from the few remaining sound roots to support them, yield to the power of the drought and die. Many are so far injuredby the water of the clay basins that they do not even wait for a dry spell to die in. There are many dead and dying orchards from this cause all over southern Texas. Many orchards with a pretty fair drainage for an average season are so far injured at the roots by an unusually wet spell that in the following spring the trees shed much or even all of their fruit and perhaps even maintain a sickly yellow for a seasoa till new root feeders have formed sufficiently to properly maintain the trees. In such cases it may be of service to cut back the boughs of the trees severely.

There is much of this kind of clay subsoil (with clay

basins) in southern Texas. I do not want to be understood to say that this clay is not good for peach trees—on the other hand I believe it is good for them when not formed into clay basins. Nor do I want to be understood to say that the soil above this clay is not good, for I believe it is good when properly drained. But at the risk of some repetition, I will say that it is the clay basins which hold the water that does the mischief wherever these basins exist.

Where one is compelled to plant upon such a plat, or not at all, there is a simple but not always cheap remedy.

An underdrain, three feet deep under each row, will preserve the orchard. Of course this underdrain should precede the planting of the orchard, or it could not be under each row. But if the orchard is already planted upon ground that has this defect, it would be much improved by an underdrain between each row as the best that can yet be done.

Of course these underdrains must have a good outlet. Where tiles cannot reasonably be obtained, a good substitute for tiling can be made of plank. Two six inch planks nailed together at their edges so that a cross section would resemble an A, would answer the purpose. The filling of the ditch should all be of the surface soil, leaving the clay from the ditch to be mixed with the surface soil of the plat.

It seems to be the case that wherever we have had the red clay as a sub-soil, it usually lies so even that no clay basins are formed. Even if they exist in such clay it will hardly hold water enough to prove a serious matter. This clay also seems favorable to peach culture. The soils upon it are, I believe, generally of a firm nature and seldom boggy. If the surface drainage of such a plat is even tolerably good, it is a good site for a peach orchard. I have, on such ground, trees over twenty years old and still productive.

Many persons prepare for tree planting by digging enormous holes into the clay sub-soil, filling them with earth, manure, etc., and thus imitate the natural clay ba

sins to which I have referred, and they are quite apt to reach such results as the clay basins give, only they reap them more promptly and with greater certainty. But we should here say that in cases where the excavations open the way to a good underdraining stratum, our objections could not apply. We here refer the reader to our remarks under the title "How to Plant a Tree."

Reviewing the combined question of soil and drainage, I would say that I prefer sandy loam for peach trees if the drainage is complete. But I must insist that no excellence of soil or aspect can compensate for defective drainage. So if I had to express the largest amount of truth on this subject in a single sentence, I should say that the best-drained soil, if reasonably good, is the best place for a peach orchard.

The summits of elevated places where no water can flow from other ground, afford good sites for peach orchards. The tops of live oak hills are especially favorable, and if the clay rests upon a stratum of white adobe, some two to four feet below, we would call the drainage excellent. We have seen the most durable orchards on such grounds.

CHAPTER III.

In writing a series of articles upon this subject, it would be desirable if we could examine in detail, every principle and practice that bears upon the subject. But this would involve an outlay of space which I can not now spare. I hope, however, at some future time, to do myself the pleasure of bringing before the public, in convenient form, the conclusions reached from experience and observation in southwestern Texas during the last forty years. But for the present I must be contented at a survey of the landmarks that define the way of the most successful peach culture in our general section. We now come to a department of the subject which is too often overlooked—I mean the questions relating to

CLIMATIC ADAPTATION.

It is recognized by intelligent minds everywhere that within each separate department of both animal and vege-

table life there are distinct constitutional differences. For example--in the animal kingdom when we look at the bovine department we see a large number of different breeds all under one general name of cattle. Yet these different races of cattle have qualities widely differing. We find that some races are better adapted to certain purposes, or sections or climates, than others. These differences are found to have become constitutional.

The same is true of horses, of sheep, and even of men. It is notably true in the bear family. Each general region has its own peculiar type of bears. The grizzly of the Rocky Mountains never invades the hills and valleys of Texas. The white bear of the polar regions, if given the freedom of our forests, would not live a week in our summer.

If we turn our attention to the vegetable kingdom we find differences analogous to those in animal life. While some crops, which can be quickly made, may here encounter, during their short time of growth, conditions so resembling their season of growth in their natural habitat as to suffer little or no deterioration by removal to a different climate, yet such products as require a long period of time to reach perfection are quite likely to reveal a constitutional want of adaptation when removed considerably southward.

As fruit trees must be exposed to all vicissitudes of climate through the entire year, it follows, as a natural consequence, that they must be subject to any effects which the climate is capable of producing. Thus habits of growth, habits of bearing, and the durability of the tree, are all affected by climate. In cases of some kinds of trees the tax upon their resources is so great as to undermine their constitution and hurry them to an early decay. In fact, the history of the subject, and results of universal observation of students in this department, have crystalized into the acknowledged theory the world over, that nature has set her bounds for each race of trees.

And here it is well to observe that the great peach family has been divided by the Grand Architect of nature, into races as distinct from each other as are the different races of men. And while each race of men can become

adapted to the conditions of the other, we find that this is not, to a great extent, true of the different races of the peach. Each has its proper zone of habitation, and when we carry it beyond its zone, its very constitution rebels against change and it refuses to give us success.

The Persian race, belonging in the higher latitudes, should not be brought below the limits assigned by nature.

While latitude is conceded to be a general guide in estimating the possible habitation of any product, yet physical geographists have found that, from modifying causes, the lines of equal temperature, which we call isothermal lines, make important variations from the lines of latitude, and that these isothermal lines, with the modifications resulting from different degees of humidity, determine the natural places of habitation of not only the fruits, but each form of vegetable life, and right here

A GREAT PRINCIPLE IN NATURE

Is often overlooked. We should keep in mind the great principal rule of nature, that each vegetable product is more vigorous as we approach its polar limit of perfect development. When we pass its limit of perfect development we find marks of deterioration from the rigors of climate. In cases of fruits the constitution and longevity of the trees are impaired, although perfection in fruit may possibly be obtained to the northern limit of this fruit, while the quality of the fruit is fully maintained, yet such weakness has the stock of trees attained in comparison with those of forty years ago that it often excites the enquiries of old observers.

And when this Persian, race, even if possessing all of its original strength, is brought to our zone, where it is not only unadapted, but is subject to the principle just named, we see a double cause of its failure.

And here let us recall

ANOTHER PRINCIPLE

That has been too much lost sight of by our northern nurserymen, and it is one that cannot be denied, and we are

sure that its non-observance has done quite as much, perhaps, as their climate, to undermine the constitution of their trees.

While it is doubtful whether grafting or budding, when properly done, interferes with the constitution of a tree, yet it is true that the seeds grown upon a grafted tree are reduced in vigor and will not produce as strong trees as seeds grown from seedlings. When seedling orchards became scarce at the north, the nurserymen there planted such seeds as they could get, which were generally seed of grafted trees. They have continued this process so long that an additional degeneration has overtaken their entire stock of peach trees. And so great is the deterioration from the different causes that most of their fine peach orchards fail at from eight to eleven years from the date of planting. And yet many of our people continue to buy peach trees from that degenerated supply! We will follow up this matter in our next.

CHAPTER IV.

In our last we showed some of the ways in which the whole northern race of peach trees became degenerated and deplored, the extent to which the deteriorated race has been supplying orchards for southern Texas. Let us now turn our attention to another phase of the matter.

Having been grown so long at the north, and although degenerated in vigor and longevity by its northern residence, yet the peach became, in a certain sense, acclimated there, and in fact there was established a race peculiar to the climate in which it has so long existed. It would be a natural inference that when a stock of trees had been degenerated by being carried too far north for a healthy existence, that to again bring it southward would restore the lost vigor. But it has been found in actual practice, that after the degree of acclimation which the peach attained there, it was subject to the

CONVERSE PRINCIPLE

That while fruits generally are improved by being carried toward their polar limit of perfect development—that they are deteriorated by being carried toward their equatorial

limit. And yet our people have been getting their trees from Nashville, Bloomington, and even points still further north, to be planted in southern Texas, and when they find their trees unproductive they wonder (! ! ?) and cry out, "what is the matter with our trees?" and at once conclude that this is not a peach country, without reflecting that they have been doing such violence to the principles of vegetable life that they invited their own failure.

But right here some one will say that he planted trees from Mobile or New Orleans or eastern Texas—or perhaps from a nursery in his own neighborhood—and yet has experienced the same results. And such a one will ask why he also failed as completely as the neighbor who got his trees from a northern nursery. Surely there is a reason for his failure. I will try to point out the reason if "poison soil," borers, or want of drainage, root knot, or his own neglect had nothing to do with it, for either of these could have killed an orchard whether of suitable or unsuitable trees. This brings us again to the matter of

UNSUITABLE TREES.

In the first place we will note that some of our Texas nurserymen buy a part of their trees from northern nurseries, and in such cases the customer may as well have sent to the north and got his trees from first hands. In the next place I will say that I do not know of a nursery anywhere in Texas, except our own, that does not make up nearly their entire supply of trees from this same degenerate race that their northern brethern use. This is the whole thing in a nutshell. We must have trees of Southern races. It does not mend the matter to say that the yellow St. John originated at New Orleans, or that Lipscomb's prize is a seedling from Montgomery county, Texas, or that this or that variety originated in Georgia, Alabama, Mississippi or Texas, as long as the fact remains that it belongs to that unadapted race of which we are complaining. A tree having been grown here from seed is no proof of the race to which it belongs any more than that because a man was born in a stable he should be regarded as a horse. Seedlings of the Persian race originated on my own premises,

from seed grown here by myself for three generations of trees, show every sign of non-adaption peculiar to the race to which they belong.

I do not say that by continuing for a long time, through many generations of trees, that a final acclimation would not result. But I do say of the Persian race that its constitutional want of adaptation to our climate cannot be eradicated through the seed in only a few generations of trees in a genial climate. It is more deeply seated than that. Another may say he has even raised his own trees and grafted or budded them himself, and yet his results are no better than when he bought from a northern source. I will answer such a one with a statement that general experience has proved that when we graft a tree we not only propagate the variety of fruit, but the variety of the tree with its entire habits, except in cases of dwarfing.

When I bud from a plum tree upon peach stocks, I get simply a plum tree with peach roots, and of the variety of plum which I grafted from, whether early, late, large or small.

When I bud from a tree that is diseased, I find that the disease is propagated with the tree. When I bud from a peach tree of the Persian race that will not here, once in ten years, produce more than twenty-five peaches at a crop, I uniformly find that I have thus propagated trees that only bear in the same way, and that show all the points of weakness exhibited by the tree which I budded from.

When I bud from a tree of the Southern Chinese race, or from one of the Spanish race that our people call native seedlings—one that is a heavy bearer—I find that I have produced trees that are as productive as the trees from which my buds were taken. If this were not so why should we bud at all?

In general cases, (except in cases of dwarfing), I propagated by budding the same thing from which my buds were taken with the entire habits practically continued in the product, very seldom finding that the stock has any very marked effect upon the resulting tree or fruit. So I feel very safe in saying to the reader who budded from

the unadapted tree, that he surely would, and did, find that he had propagated all of the defects of the tree from which he budded and had no right to expect any other result. Of course, then he would fail with them just in the same way as he did with his northern trees. Here I wish to point out to the reader

AN UNEXPECTED DEVELOPMENT.

While I have varieties of the Persian race that have been budded in extreme Southern Texas for more than forty years, and others of the same race that have been thus propagated here ever since their introduction to the public, and while I cannot see that these varieties seem to be any more productive or any better adapted here than at the beginning of their culture here, yet I have been surprised to learn that when these trees so produced here have been carried even only a short distance northward, they have proven much better bearers than trees of the same variety that have been raised further northward. While I did not foresee this development, it is now very easy to refer it to a general law which I have already stated, but which can scarcely be too often repeated in this connection, viz: that fruit trees are improved by being carried towards their polar limit of perfect development. This fact is of great value to those occupying the belt of country lying just below the line of success with the Persian race and even further north. Upon this principle we have established our nurseries as far south as it is practical to carry on general nursery operations.

In another chapter I propose to present at least a partial remedy against the disappointments in fruit culture that have followed every effort of so many enterprising men in Southern Texas.

CHAPTER V.

We may as well pause here, and take a chapter for a word of explanation. We have had it suggested to us that although nature has divided the general peach fam-

ily into five races, yet that our terms by which we distinguish these races from each other are "arbitrary."

We reply that in speaking of things we must have terms by which to designate them, or we should be involved in frequent confusion or cumbersome circumlocution. It is a poor thing that has not about it enough that is sufficiently distinct to suggest a name for itself. If it has this then the name suggested can hardly be said to be arbitrary.

We speak of the Persian race because we can readily trace it back to Persian origin.

We speak of the Spanish race because, although it is probably of final Persian origin, yet we have not been able to trace it historically beyond its Spanish possessors, and if we should, still it seems to have taken its distinct characteristics in Spanish hands.

We speak of the Northern Chinese race because it is traced directly to China, and because it is more northern in its habitation than any other race of Chinese peaches.

We speak of the Southern Chinese race not only because it is Chinese, but because it has a more southern position in its natural habitation.

We speak of the Peen To race because we understand that the term signifies flat peach in the Chinese language.

We do not say that these are the best possible terms by which these races of peaches should be distinguished from each other, but for the present, until better authority shall have given names, we shall designate these races according to the above nomenclature.

CHAPTER VI.

In former numbers I have given attention to some of the causes of the failure in peach culture in Southern Texas. I have endeavored to point out that while poison soil, peach borers, defective drainage, root knot and neglect had each borne their part, and either one may affect the success of an orchard, yet that the

grand cause of dissatisfaction, disappointment and failure was that our people have been planting trees from a race not suited to our climate. The question very naturally arises:

WHAT IS THE REMEDY?

One part of our remedy lies in not planting trees of this class. Another part is using the southern races that are found to be adapted to our region. We will mention them separately.

FIRST--THE SPANISH RACE AS MATERIAL.

We have a hardy race of trees that suits our climate well, and is very productive. It has been cultivated in southern latitudes until it has become thoroughly adapted to southern climates on the lower border of the zone in which the peach has been considered possible. The vigor of this race from Spain has not been diminished by its treatment in Mexico and Texas during its long existence here. If, before its introduction by the Catholic missionaries, it needed to be established into a distinct race, yet its propagation here for more than two centuries of time has given to the trees all the characteristics of a separate and distinct race from that now in general cultivation by the nurseries of the United States and Europe.

It has extended in the extreme south through every Gulf state. It has made its way up the Mississippi valley. It has overrun large areas from the Atlantic to the Pacific wherever it will flourish, both in the United States and Mexico. Everywhere the trees have been recognized as hardy seedlings, which, although not claiming the highest excellence in quality, were nevertheless successful growers and fine bearers, often developing choice varieties. They are now known all over Southern Texas as the most reliable race of peach trees that have been gen-

erally tested by our settlers. [illegible]
a better foundation upon wh[illegible] surely we shall hardly find [illegible]ch to base improvements.

When the Persian r[illegible] people, some of them [illegible]ce was disseminated among our ous Spanish stocks. [illegible] grafted upon it from these vigor- of the stock woul[illegible] thinking that the superior strength and thus they [illegible]d be imparted to the newly made tree; race combin[illegible] would get the fine qualties of the Persian However [illegible]d with the hardy character of the Spanish. how thi[illegible]casonable this appeared, yet every one knows graft[illegible]s expedient failed, not because the new trees are Per[illegible]d, but because they were developed into trees of the [illegible]sian race.

About forty-two years ago I began to study this [illegible]ace of seedlings. I saw how hardy, productive and long-lived it was, and embraced the belief that it could be vastly improved. I spared no pains to learn what could be done towards

THE DEVELOPMENT OF THE SPANISH RACE.

The beginnings of an enterprise are almost always feeble. In its early stages it generally progresses slowly. In this respect this enterprise proved no exception to the general rule, and this one of developing a valuable list of fruit, from even such a beginning, would be a life-long undertaking.

Then came the war, with all its crushing calamities—years of absence in military life, of distracting thought, of scattering material and dissipating capital, terminating in a shipwreck of quite all that had been accomplished. But perseverance is a mighty agent of success.

Thousands of seedlings were fruited, finding, here and there one of standing merit. Such as appeared valuable were preserved, while all the rest were destroyed to make room for another installment of seedlings to be treated in a similar manner.

This plan continued to the present day has developed some choice varieties. These were all grafted for preser-

vation. Meanwhile, valuable seedlings were found in the many seedling orchards all over Southern Texas. Cuttings were taken from these and preserved by grafting. Large experimental orchards were made up, consisting of the varieties collected from Spanish seedlings of Texas. Time was then allowed to test the comparative value of the varieties in the collection. Careful comparisons of the varieties in these experimental orchards were made from year to year, and enabled the rejection of those less valuable and the retention of such as were found to be superior; and thus, finally, a revised list was the result of the protracted enterprise.

This, in connection with similar efforts in other departments, made our premises little else than a horticultural experimental station, at our own expense, for many years. But it seemed necessary to our future enterprises, and we adhered to the policy till we have reached a large part of the results at which we were aiming. And here let me say regarding the advice to plant seed in order to secure a reliable orchard, that it must be remembered that while it is true that the orchards so raised from our native seed will be hardy and productive, yet it is also true that the greatest number of such trees will not prove to be varieties of merit. But if you want a good orchard of good peaches then buy grafted trees of acclimated varieties, and you will have all the hardiness and productiveness of the native seedling, combined with the qualities of the finer varieties.

CHAPTER VII.

In former numbers we have considered the fact of the unreliable character of the varieties of the Persian race when planted in extreme Southern Texas. We refer to the fact that at tide water, and for some distance toward the interior, the Persian race is worthless—that as we go farther we reach a belt in which they usually produce sparingly and occasionally bear a good crop, but, on the whole, are so unreliable as to discourage the cultivator, while still higher in the interior these varieties give reasonable success, and yet in the regions still beyond this they are considered successful.

We observe that where these varieties are a partial success these seasons of nonproductiveness follow mild

winters when the isothermal lines lie temporarily further northward than usual; and conversely that the productive seasons for this race follow our severe winters, when the isothermal lines lie more southward. And when we compare these last two facts with the fact that this race generally succeeds in a more rigid climate, we have a solid line of facts that combine in a very marked confirmation of our theory that the degree of success or failure which is obtained with this northern race is not a question of soil, but a result of climate. We refer the reader to our chart at the close of these chapters.

We have presented the Spanish race as a sound basis upon which to construct our orchards in Southern Texas. But, while we recede from nothing which we have claimed for our Spanish race, yet we must concede that there is one want which it does not yet supply. It has given us no extra early varieties. What shall we plant, then, to secure early peaches? This is a real difficulty. While we shall probably develop much earlier varieties from the Spanish race than we now have, yet that prospect does not give us a present supply. As a partial remedy we propose some varieties of

THE SOUTHERN CHINESE RACE AS MATERIAL.

While writers upon the origin of the peach universally state that "the peach originated in Persia," yet I do not think there is any way of proving that China may not be claimed also as a primitive home.

While the western nations carried the peach westward from the place of its origin and have made wonderful improvements upon the original, yet the Chinese made developments of, or discovered types very different from anything we had seen in the west. They seem to have found originally, or else developed both northern and southern types which differ so widely from each other, that it seems hardly proper to define these lines of difference as those of mere strains, but rather allow them the real

prominence they present, and admit their identity as races.

The Southern Chinese race seems perfectly at home all over Southern Texas. It is productive, even after mild winters, and the entire race, so far as we are acquainted with it, is earlier than the earliest Spanish variety. This race then is a valuable acquisition to a region where the early varieties of the Persian type are so far unsuccessful as to be unprofitable. The developments of this race among us have only just begun, and yet they are such as to excite the liveliest interest. Already we have a number of choice varieties, making a succession from the last days of May to the Spanish varieties. While the Peen To race has thus far proven itself too far north with us, yet some of its seedlings may prove late bloomers and be found adapted to our region as well as among the oranges, lemons and pineapples of Florida.

EARLIER AND LARGER PEACHES IN FUTURE.

There are some evident hybrids between the different races of peaches that suggest valuable lessons in this general connection. The combination of Southern Chinese blood with that of Peen To—resulting in the Imperial peach, which is larger than either of its parents—blooms late enough to succeed with us, and ripens in June, is itself a suggestion.

The Pallas from Georgia, evidently a combination of Persian and Southern Chinese blood, larger than any pure Southern Chinese variety, is another suggestion, in the direction of larger early peaches. Successful combination of these Southern races with each other, and with races belonging north of us, opens up to us a field of enterprise, not only in the direction of earlier peaches for our zone, but of larger early peaches. When we reflect what has been done with certain strains of the Persian race in the line of developing early varieties, and remember the great length of time that has been required for its accomplishment, and then consider what a very short period has elapsed since our first acquaintance with the Southern

races of peaches we may well expect that, at no remote day we shall exceed any limit of earliness that has ever been proposed.

CHAPTER VIII.

REPRODUCTION OF VARIETIES OF FRUIT FROM SEED.

In Southern Texas, among persons whose notions have not been corrected by experience, it is a common mistake to suppose that if they plant seed from good fruit only they will be sure of producing only trees that will bear fruit equal to, if not identical with, the fruit from which the seeds were taken. They think that varieties of fruit are reproduced from seed with certainty.

However amusing this notion may seem to those who know better, yet it is a more serious matter to those who are going to risk their understanding of this principle in the orchard they are about to plant, instead of procuring improved trees from some reliable nursery.

In 1858 I purchased the entire crop from a certain favorite peach tree. Reliable improved fruit trees could not then be procured in this country. My design was to procure something desirable from it, and I expected to obtain a few individual trees from the lot that would be an approximate reproduction of the original, or a possible improvement. I brought to fruiting about one hundred and fifty trees from this lot of seed. Twenty of them bore a marked resemblance to the original tree, the fruit differing in size and season of ripening. A few did not differ in any perceptible way. One was a decided improvement upon the original from which I took the seed, the fruit being more uniformly large and excellent. The other one hundred and thirty-two, which came from this lot of seed, presented almost every possible variety of character and appearance. So my result was one very choice variety, a few rather desirable, some rather ordinary, and the greatest number positively mean. And yet my success in this experiment with seed is greater than I should obtain in one experiment out of twenty. Another lot of five hun-

dred gave only one from which I was willing to graft. Another lot of five hundred seedlings yielded two which I considered worth grafting from. Another lot of two thousand seedlings gave none that I was willing to admit as worthy of adding to my list of valuable varieties. I planted plum seeds from a large number of fine plums. I got about five hundred varieties from this lot of seed, and not one variety in the whole lot had any considerable resemblance to any variety from which I planted seed. And yet in all of these cases I used seed from choice, selected fruit, produced over four thousand seedlings and obtained only eight really very choice varieties. It is true that there were sixty or possibly a hundred trees of fruit which, although not good enough to graft from, were nevertheless good enough to preserve as fruit trees. But, while this was the case, yet the largest number of them ranged from common to miserably mean. And who wants to bring four thousand peach trees to bearing to get even a hundred good ones, while he will have thirty-nine hundred ranging in quality from common to mean, supply fruit for six weeks of time, when a hundred trees, every one bearing good fruit and ripening in succession for five months in the year, can be bought at the nursery for twenty dollars?

"But why," the incredulous will ask, "can we not get from our fruit seed the same varieties as those from which the seed were taken?" The sensible reader will ask if the laws of nature are not regular and certain. Then why this wide variation in fruit resulting from seed taken from the same tree? I will answer.

If the reader will examine a peach-blossom he will see in the centre, standing distinct and alone, a tall, stem-like looking object with a peculiar termination at the top; the central object is called the pistil. The upper termination is called the stigma, and is the female organ of reproduction for this particular bloom. Arranged around the pistil may be seen a large number, perhaps twenty-five or more, thread-like organs called stamens; each terminating at the top with a flat, cushion-like appendage called the anther. The anther may be regarded as the male organ of reproduction. The anther holds the pollen, which, to

the naked eye, appears like a very fine dust; but when examined under a magnifier of sufficient power each particle presents to the eye the most delicate form.

Now, if no pollen from any anther should ever reach the stigma of the pistil of any given bloom, then no fruit could ever result from that bloom. But whenever any of the pollen from any of the anthers of any bloom is lodged upon the stigma of the bloom, the ovary, which constitutes the lower part, becomes fertilized, and the seed of the future begins to develop. The variety of pollen fixes the variety of the coming seed. The fruit surrounding the seed, is, in a botanical sense, only a matured ovary, and exists only to secure the development of the seed. It is not realized by every one that the fruit that we so highly prize, and for which we cultivate the tree, is, after all, only an incidental result in the production of the seed for which we care so little.

In the above analysis we see that the fruit resulting from the fertilization of each particular bloom, is, in a proper sense, only a developed portion of the tree upon which it grows, and, therefore is not changed in variety by the character of the pollen which fertilized the seed enclosed in it, while the seed in accordance with the fixed laws of reproduction, necessarily partakes of the peculiarities imparted by the pollen by which it was brought into being.

If every stigma were fertilized with pollen from the stigma's own tree, then the trees resulting from such seed would reproduce exactly the same variety of fruit. But there are circumstances that combine to defeat this result. The stigma and pollen of a bloom not being both in a stage of maturity for fertilization at the first opening of the flower, constitute an important condition. The existence of other trees with their burdens of pollen within fertilizing distance constitutes another condition no less important. Then the busy bees—the myriads of insects that buzz from flower to flower, and even the passing breeze that floats by the tiny bloom—each bear their own portion of the minute particles of the fertile pollen, and although without design, mingle them in an untold number

of combinations, scattering them in countless directions to distances little imagined by the casual observer, and establishing modifications as numberless as variety itself.

CHAPTER IX.

We have endeavored to show that if we of Southern Texas do, for some special reason, plant any trees of the Persian type, yet they should never comprise the bulk of our orchards. I will now specify under just what circumstances I should plant trees of this type. For while the stock of trees of this race is especially degenerated when removed to our climate, yet it does contain many very choice varieties of fruit which we can never excel and some of which we have not equaled.

Those of us who live below the line of possible success with the Persian varieties have no present remedy beyond the present development of the Spanish and Chinese races of peaches, except that we migrate to regions of a more rigid climate. But while we of the southern counties have not a present remedy, yet we may well hope for a future remedy not far distant. The Persian type has probably quite reached its limit of earliness. While it has for centuries been subject to the improvements of horticulturists, giving it time for the fullest development, yet we have just begun with the southern races. And when we consider our improvements during the last quarter of a century, we can cast a cheerful glance into the future, and easily expect rapid progress to mark the way of the years to come.

But many of our readers live within the zone of partial success with the Persian race.

Some who are thus situated have very high ground upon which they could plant an orchard. Let such remember that every two hundred and fifty feet of elevation attained is approximately equivalent to a degree of latitude. This is a valuable item to them. If they are willing to cultivate an uncertain crop for the sake of its luxury when it "does hit," then let them plant some of early northern varieties—Beatrice, Louise, Alexander, Rivers, or others of the same season. Sometimes they will get a

very fair crop of extra early peaches, and very often they will get a few peaches, while often they will get no fruit at all. But if they insist upon extra early peaches—earlier than we have named of the Spanish and Chinese races, then the above is the best that we can do without migrating to a country of cooler winters. But if they do plant such varieties in the low regions of Southern Texas, let them go into it with the understanding that it is an uncertain venture, in which only partial success is possible; and let them remember the principle which teaches that they should get trees which were raised more southward than their orchards if they can do so.

While the varieties of the Persian race will not bear an average of twenty peaches to the tree in my own grounds, yet if I were located seventy miles northward I would plant moderately of the early varieties of the Persian race and a few of the best later varieties, would principally rely upon Spanish varieties, and even if I lived in the regions of success with the Persian race, yet I should plant largely of the Spanish race, as experiments in different sections of higher latitudes show these varieties improved by being carried northward.

There are matters of interest properly included in the general subject which I have been considering. It would be pleasant to examine many details that could be named, but concerning which I have been silent. It is one thing to carefully survey an entire region, and quite another to simply pass through it and point out the landmarks by which one must define a general way. And this last has been my policy in dealing with the outlines of a subject that, if amply considered, would fill a large volume. I have done little else than present such general principles as seem to lie at the bottom of success of peach culture in Southern Texas.

I have not the presumption to claim to "know all about" this subject, but for forty years I have been studying it with all the light that has been shed upon it by my own reason, observation, experience and the help of the vast number of men who each contributed their share in the mighty work of developing the vast slumbering pomo

logical resources of Southern Texas. Our region contains plenty of men who, if they had given themselves to the same work, could have explored the same field with as much energy and faithfulness, and, quite likely, with earlier and more thorough results. And our region is also full of men at the present hour who have reached quite the same general conclusions that we have drawn in this series of articles. But horticulture has not been their profession; therefore they naturally pursue each his own special object in life.

I should be dull, indeed, if, after devoting my life to horticultural subjects, I had not gained a respectable amount of information in the line of my profession. But, my readers, I do not know it all. I am learning every day. I now learn more in one year than I used to in ten. I often wonder at my own clumsiness in certain departments only a decade back in my history, and if the developments of the future are to keep pace with the past, then if I live another decade I shall look back with wonder upon the status of our improvement in 1894. In each special branch of horticulture, as in other departments of human enterprise, there is wide room for improvement. So I do not ask the readers of these chapters to regard them as infallible. They are only the present result of my best information from all sources after a patient study of more than a third of a century.

OUR LISTS OF PEACHES

We have arranged our lists of peaches that they may be in better harmony with the progress that has been made in southern peach culture. The developments of the different races of the peach in our low latitudes, and the comparative position which each is found to occupy upon a scale of isothermal lines, seem to require that we should not ignore the distinctions that have been made by nature, and which so persistently force themselves upon our attention by their practical relations to an important department of our business life.

The development of the Spanish and Chinese races of peaches promises vast results to southern pomology. We have reached that point in the study of peach culture for

this region that we recognize a very unexpected amount of difference in the very narrow zones that succeed each other from the coast country to the mountains. Our communications are extending—our trade has ceased to be purely local—and we realize that we must meet the growing demands of more extended intercourse. We have, therefore, separate lists of peaches to accommodate the climate conditions of different sections.

Some of the boundaries given may need correction, but we are satisfied that the accompanying chart quite correctly states the relative position of these races. While all careful students of physical geography must admit that on account of the unequal distribution of heat during the extremes of the year, and local differences in atmospheric humidity, the isothermal lines of the world are not a perfectly sure guide in estimating the possible productions of a climate, yet for our purposes, in speaking of the products of Texas, such are the conditions that we may take these lines as a general guide in our remarks about our peach culture.

We invite a careful examination of our chart here represented:

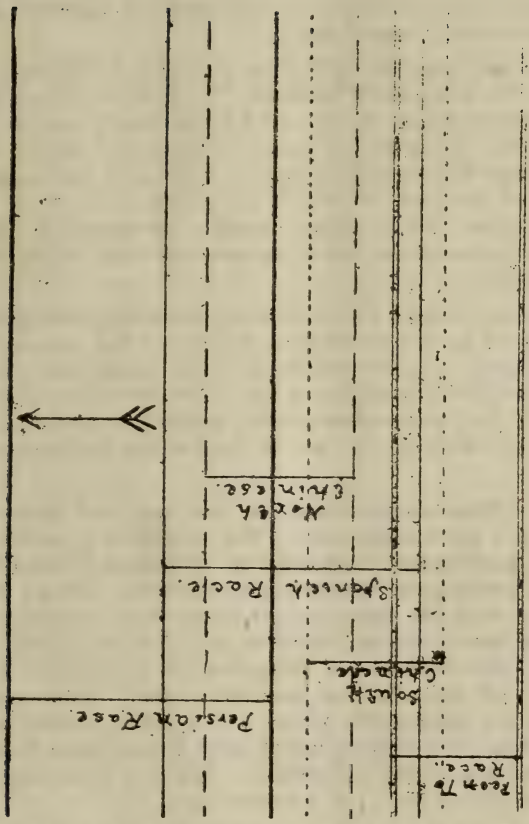

CHART SHOWING RELATIVE POSITION OF THE DIFFERENT RACES OF PEACHES.

The Persian race occupies the most northern position of any race of peaches. It extends to the northern limits of peach culture, and seems, in some varieties, to succeed down to about the isothermal of 65, while under the modifying influence of local causes it even runs down to the line of 68. And a very few varieties have, under the most favorable and rare conditions, given fair partial success as low down as the line of 70. But we have not heard of any of this race being found so well adapted as

to be regularly productive in any general locality as far down as this last named limit.

This race was brought from Persia to Italy during the reign of the Emperor Claudius. It was introduced into Great Britain about 1550, and to the American colonies about 1680. They are all late bloomers, and cannot carry their foliage through the growing season of the southern portion of the belt in which they are cultivated. This race includes the varieties usually propagated by the northern nurserymen and composes the bulk of the northern orchards.

We have found the following varieties among those best adapted to the southern portion of the zone of this race. Except in river bottoms, in the immediate vicinity of a body of water sufficient to relieve to some extent the aridity of our atmosphere, even partial success must not be expected with this list on or below the isotheram line. of 70.

Our nurseries are about in this line, and these varieties are not profitable here. We confidently send these varieties northward, especially to positions three or four hundred feet higher than we are. But we always regret to have orders for them to go southward, except to one whom we know has a favorable position for them. We have varieties that at our premises are practically worthless, and yet are a fair success only a short distance above us. We are upon a line where a few miles north or south, local elevation or depression or local atmospheric humidity make an important difference. We are bringing these questions nearer to a point every year.

PERSIAN LIST OF PEACHES.

PRICES—30 cents each; $3 per dozen; $20 per hundred.

ALEXANDER—Above medium, highly colored in clay soils; flesh greenish white, very juicy, adheres to the seed. Maturity May 8th to 20th. The earliest variety in cultivation except Japan blood.

AMELIA—Very large, conical, white, nearly cov-

ered with crimson; juicy, sweet, of high favor. Too tender for market but splendid for home use.

BEATRICE—Small to medium; deep red; good quality; matures immediately after Alexander, May 20th.

BEXAR—Very large; white; red cheek; looks very much like Old Mixon Free, but is three weeks later. A seedling from San Antonio, Texas.

ELMIRA—Large, white, bright red cheek: A real beauty about July 10th.

LOUISE—Medium; larger than Beatrice; excellent for home use; too tender for shipment. Ripens just after Beatrice.

LADY PARHAM—Large; green, with dull red cheek; very good. Last of October and first half of November.

OLD MIXON FREE AND CLING—Large; white, with red cheek; juicy; excellent. July 10th to 15th.

PICQUET'S LATE—Large; yellow, red blush; flesh yellow; excellent. August 15th. Freestone.

RIVERS—Large; pale straw color; very juicy; of the best quality; too tender for market; ripens just after Louise.

TILLOTSON—Medium; white, nearly covered with red; excellent; good market variety. June 10th. Freestone.

THE NORTHERN CHINESE RACE.

This race occupies the lower portion of the range belonging to the Persian race, and extends to about midway between the lower portion of the Persian zone and the southern boundary of the zone of the Spanish race. In our region on the isothermal line of 70 no varieties of this race are profitable, although two or three varieties make an occasional crop. This race produces such very large

peaches that it is to be regretted that it does not occupy a wider zone.

NORTH CHINESE LIST OF PEACHES.

PRICES—30 cents each; $3 per dozen; $20 per hundred, except where otherwise stated.

ALBERT SIDNEY—Medium to large, oblong, yellowish white, with red cheek; flesh melting, and of the highest flavor. Middle of July.

BERNICE—Large, yellow, mottled with dark crimson; flesh yellow, melting, juicy, excellent. Freestone. July 10th.

CHINESE CLING—Very large and beautiful, but not as good quality as several of its seedlings. July 15th. Useless in the coast range.

CARPENTER'S CLING—Large, white, sometimes marbled with carmine, sweet, juicy. Ripens about July 15th and bears better than most of its race.

FAMILY FAVORITE—Large, white flesh, red cheek, free. This is making a most favorable record.

GEN. LEE—Above medium, oblong, creamy white with carmine wash; flesh finely grained, melting, very juicy and of high flavor; quality best. July 1st. Cling. Ripens about 1st to 10th and bears better than most of the race.

JUNO—Very large, deep yellow, mottled orange crimson; flesh yellow, fine grained, excellent sub-acid. Clingstone. August 1st.

ORIOLE—Large yellow, rich, buttery, excellent. Freestone. August 1st.

SPOTTSWOOD—Similar to Chinese Cling. Very large, and of best quality. July 5th to 10th.

SYLPHIDE—Similar to Chinese Cling, but a month later. Bears about one year in three here.

STONEWALL—Almost similar to Gen. Lee, but about a week later, and tree a more upright grower. July 7th to 10th.

THURBER—Large to very large, skin white, with light crimson mottlings, juicy, delicate aroma, good enough for anybody. Freestone. Bears in the coast country better than those of this class, but not here reliable.

THE SPANISH RACE.

This race occupies the entire range of the North Chinese, and extends considerably both northward and southward of it, the greater portion of the South Chinese zone being included in its proper habitation.

Prior to the introduction of the Chinese varieties, it seemed to be the only class of peaches that could be made a success here and below us. This race still comprises the bulk of the orchards in and near the isotherm of 70. It seems to do better a little above this line than below it. Its introduction into our horticulture was the practical beginning of Southern Texas peach culture.

We obtained from Mr. G. L. Taber, of Florida, several varieties, called by him Native Seedlings. We presumed them to belong to the Spanish race, and so called them in our former edition. We still believe they have Spanish blood, but see clearly that they contain some mixture that we are not prepared to define, or they have developed a very distinct type of growth by long isolated culture. We still retain them in our Spanish list till we see where to place them. They have some habits that become our climate, and we shall be disappointed if we do not find some of them of value to our people. We propagate them in small quantity only till their position among us is better known.

SPANISH LIST OF PEACHES.

Prices—40 cents each; $4 per dozen; $20 per 100; except where otherwise noted.

ALCALDE—Medium to large, white, sub acid. Last of August. Freestone.

CABLER'S INDIAN—Large, closely resembles Flewellen; purple, flesh containing deeper purple veins, sub-acid, decided Indian type, a good market peach. July 20th. Clingstone.

COUNTESS—A new peach from Mr. G. L. Taber, of Florida. Described by him as nearly round, large to very large; skin white; flesh white, tender, melting, juicy, vinous; quality excellent. Freestone. Will probably ripen here about July 5th to 10th.

FLORIDA CRAWFORD—Large; yellow, mottled carmine. Will probably ripen here about July 20th. Freestone. One of Mr. Taber's peaches.

GALVESTON—Large, white, juicy, tender for shipment, but fills a place for those who prefer a white freestone for home use. July 25th to August 10th.

GUADALUPE—Large, white, sub-acid, good. August. Clingstone.

GIBBON'S OCT.—A Florida October peach of reputed excellence.

LULA—Large, yellow; flesh yellow, very much like the Onderdonk, but ripens about seven to ten days late.

LA MAGNIFIQUE—Another of Mr. Taber's Florida seedlings; fruit large, oblong; skin creamy white, washed with red; flesh firm, rich, sub-acid. Clingstone. August 1st.

LA REINE—A Florida seedling from Mr. Taber. Very large, slightly oblong; skin yellowish white, very red at the seed, firm, juicy, delicious. July 10th to 15th. Clingstone.

MAGGIE BURT—Yellow clingstone with carmine cheek; a strong grower, good size. July 20th.

MARTI—A seedling from G. Marti, of Houston, Texas; medium, yellow-flesh, yellow-washed with carmine.

flavor good. Ripens a little before any other purely Spanish peach of our list. Freestone.

ONDERDONK—Large; skin and flesh yellow; very juicy and sweet; the best combinatlon ot quality, appearance and productiveness. Decidedly our favorite. July 13th. Freestone.

ORMAN—Large, round, yellow, flesh yellow. September 1st. Clingstone.

ROSE—Medium, red, firm flesh, sweet, freestone. June 25th to 30th. Has probably some Persian blood and should not go south of us.

ROWENA—Very large, yellow, washed with carmine; flesh yellow, red near the seed. Clingstone. (Taber.)

RUPLEY'S CLING — Large, clear yellow, sometimes with a slight blush. The fruit was not large on our young trees, but as the trees attain age this variety excites the admiration of all who see it. July 20th.

SUNSET —Large, round, yellow, beautifully mottled with carmine, quality good. Clingstone. July 20th. (Taber.)

TEXAS—Large, dim green, shaded with red, firm flesh. Freestone. August 15th.

VICTORIA—Another of Taber's seedlings. Large, slightly oblong, creamy white, juicy, well flavored. About August 1st. Freestone.

THE SOUTH CHINESE RACE.

Will probably be found successful in about all of the Southern third of the area properly covered by the Northern Chinese race, and extends a little below the region of the Spanish race. It is most valuable below the line of greatest success of the Spanish race.

On the isothermal line of 70 it is surely the most successful class of peaches known to horticulture.

Aside from the possibilities of obtaining varieties of

the PEEN To Race that does not bloom too early on our line, the Southern Chinese seems to be the material from which to expect to obtain our extra early varieties that are yet to be originated, to fill a place here similar to that occupied by the Alexander in the regions of success with the Persian race.

It is only twenty years since we began to become acquainted here with this race of peaches. During this brief period its season of ripening has been extended in earlier and later varieties, about a month, and even this improvement has all been made within the last five years. If we shall meet with as good success during the years to come as we have had during the last half decade, then we shall yet, in one or more members of this race, attain a degree of earliness never yet suggested by the wildest dreams.

There are numerous varieties of this race. But our object is not to multiply varieties, but to secure a succession from the earliest varieties possible, to better fill the season between our earliest and the old varieties of July. Therefore, we present only the few selected as best suited to that object.

LIST OF SOUTHERN CHINESE PEACHES.

Prices given relate to delivery at the Nursery. 40 cents each, $4 per dozen, $20 per 100. This list runs in order of ripening.

EARLY CHINA—Resembles honey closely in fruit, but ripens from seven to ten days earlier. First samples usually first week in June. We began to ship last year May 28.

STANLEY—This variety has much of the external appearance of the Early China and Honey. But it has a decided vinous flavor which is absent in most varieties of this list. Size, medium to small. Ripens during the season of Early China. Clingstone.

HONEY—This peach was originated by Charles Downing, from seed obtained from China. The original tree never fruited, but a budded tree was given to the late Henry Lyons, Esq., of Columbia, S. C., about 1855. The variety was placed in the hands of Mr. P. J. Berckmans, of Augusta, Ga., and the only stock held by him until 1858, when it was sent out for the first time. The variety was not found to be valuable at Augusta, but when it was sent to Florida and Texas, into its natural and proper home, it was found to possess special merit. Medium, oblong, with sharp recurved points, creamy white, washed with carmine; flesh of a peculiar fine texture and a honey sweetness. June 5th to 20th.

PALLAS—A seedling of the Honey, but more round in form. Flesh white, melting, with a rich vinous aroma. Ripens after Honey. Has probably some Persian blood.

COLEMAN—Originated by Thos. Coleman near Rockport, Texas. Medium, cream with carmine wash, flesh of honey sweetness with some aroma, form less round than Pallas, but more round than Honey.

CLIMAX—Has less recurved point than Honey; color pale yellow, washed with red; flesh yellowish white, fine grained, with a distinct trace of acid lacking in the Honey. Freestone.

KATIE—Has the same general character as Climax but ripens later. Katie is about half gone when the first Spanish varieties begin.

THE PEEN TO RACE

Occupies the extreme Southern portion of the Southern Chinese range, and extends still below it, where no other peaches are known to exist. We do not doubt its capacity to thrive in a tropical climate, side by side with the banana, the pineapple, the cocoa nut, and citrous fruits of the tropics.

Writers have spoken of it as a "strain" of the Southern Chinese race. But the points of difference are so very striking, and its character so fixed as revealed by the character of its seedlings, that we believe it should not be denied the position given it by nature as a distinct race.

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While we do not like to multiply distinctions, yet we have always found it to be up hill work to contend against the mandates of nature. While we have here on the line of 70, produced some good crops of the Peen To, yet we have generally failed with it, and our hopes concerning its value for this region are relinquished, except such varieties as prove late bloomers.

There are numerous seedlings of this class, but with our experience with the race in this region, we believe we are too much subject to polar influences to recommend the most of its varieties upon our line, and our trade far below us in the regions where it properly belongs is yet so light that we propagate but few trees of this class, and present only few varieties.

PEEN TO LIST OF PEACHES.

PEEN TO—Resembles in form a large flat tomato, both ends being flattened, and the pit also partaking of the same form; white, washed with carmine on the sunny side; when fully ripe is of a delicate waxen yellow; flesh pale yellow, juicy, a slight Noyan flavor. May 20th here.

BIDWELL'S LATE—Nearly round, medium; pale yellow, sweet and juicy, with a slight Noyau flavor peculiar to the race. Clingstone. Ripe with early China.

IMPERIAL—Above medium to large; pale green, with sometimes a faint blush; blooms later than any other variety having Peen To blood. June 20th.

JUNE BEAUTY—Much like Bidwell, has less of the Noyau flavor peculiar to the race. It has the demerit of too early blooming. Should go farther south.

ANGEL—Medium; round; cream yellow, very slight carmine touch; white flesh; subacid with a pronounced Noyau flavor. Blooms later than most Peen To varieties. June 20th.

JAPAN PEACHES.

Our experience with the Chinese races led us to presume upon the value of introductions from Japan. Three years of experiment has modified our expectations. Instead of a character analogous to the Chinese varieties we

find a strong affinity with the Persian race, if not identity with it. This unfits them for the orchards of Southern Texas, except that we find one variety that may become of service as an extra early fruit. We shall prolong our experiments with it. It will likely be valuable but a short distance above us. We describe it as follows:

JAPAN DWARF—Tree of decidedly dwarf habit; might be planted very closely; fruit medium; slightly ob long; cream white; flesh melting and well flavorored. Freestone. Ripened this year May 12th, may be said to ripen with Alexander. When sold by itself 50 cents each, $5 per dozen. When sold with other varieties will go at their price.

PLUMS.

No variety of Europeon plums has succeeded in Southern Texas. Yet the Chickasaw and other Southern types have given us a good collection of choice varieties extending from the first of May to Septsmber. When we begun preparations for the nursery business there was not a single variety of plum known to be of value here. We devoted a few acres to experiment with the plum. About five hundred seedling varieties soon resulted. Several of these have become of recognized value. Also, our collection has been enriched by valurble additions from other sources until we are willing to say that we have secured an excellent list of American plums for the extreme south.

We shall continue to be extremely cautious about recommending varieties that will not merit public favor. American pomology has been vastly enriched by introductions from the Orient. In plum culture, we of the extreme south, have hitherto been confined to varieties of our own native races. But there has come to us a hardy race from Japan, that seems destined to bear an important part in giving variety and enlargement to our supply of plums. Our plum trees are all on Marianna stocks and therefore cannot sucker unless planted so very deep as to cover the budding joints.

We introduce in separate lists our American and Oriental plums.

LIST OF AMERICAN PLUMS.

(IN ORDER OF RIPENING)

Price of trees at the Nursery, 50 cents each, $4 per dozen. If delivered elsewhere we make a charge to cover cost and risk of shipment. Special rates for special selections and special sizes.

CADDO CHIEF—Medium, oblong, red. Our earliest plum.

MUNSON—A new variety from our own grounds. Large, oblong, vermillion red, as large as Wild Goose, and about two weeks earlier. Tree of a low spreading habit.

JENNIE LUCAS—Large, clear bright yellow, good flavor.

PIRAM—Large, round, pale green. A heavy bearer.

COLETTO—Large, slightly oblong, a pale carmine, sweet; a showy fruit. Tree has upright habit. A heavy biennial bearer.

MARIANNA—Large, round, red, sweet; bears mostly on old spurs. Tree a very fine grower, never suckers, makes a good shade tree and should take the place of Umbrella China in many instances.

The Marianna deserves more than a passing notice. It was an accidental seedling on the grounds of Mr. C. G. Fitze, at Marianna, Polk County, Texas. Cuttings were furnished Mr. C. N. Ely in 1877. He named it Marianna, after the locality of its origin, and introduced it to the public. It proved to be slow in coming into bearing in most situations. It will not stand as a rival of Wild Goose where Wild Goose succeeds. Its value for direct production here will soon be settled. But if the Mrrianna never produces another plum it is nevertheless a grand introduction, for which we are vastly indebted to Mr. Ely, who in it has given us the best known stock upon which to propagate other varieties.

AFRICAN—Large, round; russet with blush when ripening; dark flesh colored red when ripe; a sprightly sweet. About June 1st.

WILD GOOSE—Large, oblong, ripens from pale yellow to vermilion; ripens with African. About June 1st. There is much complaint in Southern Texas about its bearing habits. There were some trees in this region that bore enormously, and yet we have seen that the complaints against its bearing habits in this region generally are well founded. Very short lived here.

INDIAN CHIEF—Large, round, red, sub-acid, a little mealy. Bears well at an extremely early age. Tree has an open habit, and, we think, is more subject to effects of extremes of wet and dry than most varieties. Very popular.

BEATY—Medium, round, red, sweet; very productive; ripens in succession, extending over more time than is usual with plums. Keeps remarkably well after gathering, and has the best possible shipping qualities.

GOLDEN BEAUTY—We obtained this variety by cuttings from a wild tree near Fort Belnap at the close of the war between the states. We were so pleased with the appearance of the tree in full bearing that we named it Golden Beauty. Fruit yellow, quite handsome when thoroughly ripe, flesh firm, seed small, a choice variety for preserves. Ripens here August 15th to 25th.

WAYLAND—Tree a strong grower. We ripened it for the first time last year. Small, bright cherry red; excellent for table use; looks as if it were a good shipper. We found the fruit ripe just after Golden Beauty, about August 25th.

ORIENTAL PLUMS.

The introduction of the Japan types is having a vast influence upon southern plum culture. The enormous size of some of these varieties surpassing our wildest dreams of possibility, as well as the qualities of all we have fruited has awakened the thought that a new era has dawned upon plum culture.

But a new and formidable obstacle has arisen against this, hitherto, very promising class of plums. What we would define as a RUST BLIGHT has fastened itself upon one tree after another until it has involved about every Japan

plum tree in our orchard. We see the same thing in other orchards, and hear of it in different localities. If it continues to make the progress that has marked its way for the past two years, it will finally extinguish the Japan plum culture of this region till the scourge has had its day, after which we may begin again.

We have resolved to take up and burn every Japan plum tree in our orchard. It does not seem to be at work upon the young nursery stock. But we are not going to advise our patrons to plant Japan plums freely till the scourge has passed by us.

While this malady extends in small spots over a large area it does not seem to have taken general possession, and we are in hopes that it will have a brief day and disappear as other plagues have done at different periods.

We shall continue to supply trees of these varieties, which have not been exposed to the blight, unless developments should become such that healthy trees are impossible. Should these conditions arise we should cease to supply them, as we are not willing to run any risk of scattering disorder, but must maintain our interest in protecting our customers.

We formerly used the peach upon which to bud our plums, but we found the trees short lived, and a sure failure on ground where the peach fails from want of drainage. But as the plum will grow almost anywhere, and finding that the Marianna plum never suckers from the root, is a strong grower and makes the best stock upon which to propagate plum trees, we now use Marianna exclusively for every variety of plum and apricot.

If we plant our plum trees no deeper than they originally grew, leaving the budded or grafted joint above ground, then none of our plum trees on Marianna will ever sprout from the roots.

LIST OF ORIENTAL PLUMS.

Same price as other plums.

BOTAN—Large, round; skin yellow washed with purplish carmine. Flesh yellow, sub-acid, firm. Cling stone. About June 10th here.

BURBANK—Large, round, cherry red mottled with yellow, firm, yellow flesh, very juicy and rich, sub-acid with apricot flavor. Ripens about middle of July. The tree is a remarkable grower.

KELSEY—The most remarkable of plums. Tree bears very young; large to very large. The fruit is heart shaped, greenish color, with slight reddish purple; flavor excellent, flesh very firm; seed not larger than that of a small Chickasaw. Ripens about the middle of August.

LONG FRUITED—The tree is a remarkable grower —equally so with Burbank. Fruit round, large; later than Burbank.

OGAN—Medium, round, yellow; yellow flesh, firm, sweet, freestone. The earliest of its type. Season not properly determined yet. Tree a moderate grower. This variety seems a little too far south here, but succeeds a little above us.

PRUNUS SIMONII—Recently introduced from France. Originally from China. A new fruit to our people. Tree upright grower; fruit shaped much like a flattened apple, about two and a half inches in diameter; pale brick red; flesh yellow, firm and juicy; combines flavor of apple, pear and pineapple. It has a small pit like that of a common plum. It has never borne with us. We may be a little too far south for it. We saw it bearing in Central Texas. The flowers seem to bear but little pollen. It is considered a shy bearer. We think that if it were planted among free blooming plums where it could get the pollen from them it would prove more productive. Of doubtful value here.

SATSUMA—Large, dark purplish red, round; flesh firm, with dark red color throughout, small pit, quality good. Ripens here about the third week in July. Tree a strong grower.

APPLES.

A few years ago we had no faith in apples for Western Texas, but we have watched eagerly every experiment bearing upon the question, until our sense of encouragement has ripened into a good degree of confidence. We

find that in this region our young apple trees grow off with astonishing rapidity. After two or three years our standard trees assume a dwarf habit. They grow as large as a dwarf pear tree, and some varieties bear well. Out of about eighty varieties tested in our experimental orchards, a few varieties have been found so far adapted as to be worthy of cultivation here. As we ascend toward the interior, we find the apple does better than here. We have found that apple and pear trees promptly fail whenever set upon soil that has a substratum of adobe within five or six feet of the surface. Such subsoil is all right for peaches, plums and grapes. Apples and pears must have not only a good soil and cultivation, but a subsoil not deleterous to their life.

LIST OF APPLES.

Prices of trees 40 cents each; $4.00 per dozen; $20.00 per hundred.

RED MAY—Medium, nearly covered with red; ripens with us about last of May and early in June.

HARVEST—Medium, yellow; follows Red May in time of ripening.

SUMMER QUEEN—Large; yellow, with rich stripes of carmine; ripens in June.

STEVENS—Medium to small, flat; well covered with red; flavor good; originated with Mr. Stevens at Gonzales. Ripens with summer Queen.

YELLOW SWEET—Large, yellow; a good bearer and the only sweet apple that has done well enough to seem valuable to our culture; follows Stevens and Summer Queen.

JONES' FAVORITE—A straggling grower, but good bearer; medium to large, oblong, green, good flavor; ripens in August.

LINCOLN—Large, flattish; while growing resembles Rhode Island Greening, but takes a dull blush just before ripening. Our best apple; August.

SALLY GRAY—Medium size; red on one side; flat, juicy, sub-acid; tree vigorous but does not bear as young as the other varieties. August and September.

BEN DAVIS—A large, handsome, striped apple of fine quality. Tree very vigorous and productive; a fine keeper; has not succeeded here; bears well 100 miles above us.

SHOCKLY—A late variety; generally considered valuable at the south; fruit medium to small, roundish, conical, pale yellow; keeps remarkably well. Too far south here.

PEARS.

Our close study of the pear for Southern Texas extends over a period of twenty-five years. I began with small faith in pears for this general region. During our early experience our views ran in favor of dwarf pear trees. Now we discard dwarfs altogether.

We planted about eighty varieties twenty years ago. We have watched results closely, observed what others were doing, and continued new tests upon our own grounds. Our conclusions about pear culture in Southern Texas have been gaining definiteness as far as experience could instruct us.

No section has a long list of fully successful pears. While there are some fifteen hundred or more varieties in cultivation, yet only a very few sorts succeed thoroughly in any one region. We have reduced our list to those of best known value for our section.

Although not more than twenty years ago the idea of this ever becoming a pear country met with ridicule wherever mentioned, yet it is an encouraging fact that there are now about half of a million pear trees in orchard rows in Southern Texas, and we have many men who are fully convinced that to plant pear orchards on the sandy soils of our coast country, in any good locality out of reach of the sea spray, is a good investment.

Many planters set their standard trees twenty feet each way. We set ours thirty feet by thirty, and plant plum, apple or peach trees between them, with the intention of removing any tree as soon as it gets in the way of our pear trees.

LIST OF PEARS.

Prices of pear trees, 50 cents each; $4.00 per dozen. Special rates on larger quantities and special sizes.

ANDREWS—Slow grower, scrubby habit, but finally bears well. Medium size; very rich; excellent. One of our best table pears. July 20.

BEURRE BOSC—Tall grower; fruit long, fleshy stem; choice table pear; reliable bearer. August 1.

BARTLETT—Large, rich: popular over a large crea, but a little too far south here. August.

DUCHESSE D'ANGOULEME—Our largest good pear. A slow grower; excellent quality; a fair bearer. August.

KEIFFER—A vigorous seedling of the Chinese Sand Pear. Bears early and critics differ widely about its merits. Its qualities depends upon the conditions under which it is produced. It grows finely here and during the early part of the season is one of the showiest pears we have. But it is very much subject to the bitter rot. When a crop is not lost from rot it is excellent for preserves, but not better than other varieties. We have not been pleased with it as a table fruit, probably because we had not learned how to properly ripen it. Samples of well ripened Keiffer were last year sent to us which have very much modified our views about it. If it is left on the tree till about October first to fifteenth and then boxed and kept in a darkened room it mellows well, and becomes a pear that will please the fancy of many. There is no question but that the bitter rot can be sprayed out from the trees.

LE CONTE—A Hybrid between the Chinese Sand and some one of the ordinary race of pears. The most vigorous grower we have ever seen. Especially adapted to the sandy soils of the coast country of Southern Texas. It comprises probably eighty per cent. of all the new orchards of this region. We are planting Le Conte orchards every year and feel sure that it is a sound enterprise. It is a good keeper, never rots on the tree and seldom misses a crop. In quality it is as good as the

Bartlett is here, admitting that our Bartletts are not as good as those of the north. Trees all on their own roots.

MULBERRIES.

Texas is a part of the natural home of the Mulberry. We can scarcely mention a variety of soil in which the mulberry, in its numerous varieties, does not thrive well. While our native wild varieties are of good quality, yet they ripen through such a very brief season that it is welcome to have varieties that continue through a longer period. We find the following suited to our section. Per 100—special rates.

LIST OF MULBERRIES.

ENGLISH—We find this variety pleasing everybody here who has it. We do not know whether this is its proper name. We doubt it. But it is the name by which our people know it. Tree a round spreading head, makes a fair shade tree. Berries large, long, acid, continues ripening for several weeks, and also sometimes makes a fall crop. 50 cents each, $4 per dozen.

RIVES—A very fine rapid growing shade tree. The fruit, while being good, has not special merit. The value of this variety consists in its capacity to make a good shade quickly. Starts so early that it is sometimes killed back by late frosts. 50 cents each, $4 per dozen.

RUSSIAN MULBERRY—All seedlings, and may produce fruit of any color or size, or none at all. A quick growing ornamental tree. 25 to 50 cents according to size; $5 to $10 per hundred according to size.

VICTORIA—One of our new varieties developed from the Russian type. A tall upright grower, very rapid growth, a great favorite on our premises. Berry large, sweet, black, ripens for several weeks. 50 cents each, $4 per dozen.

RAMSAY'S WHITE—Tree a good grower; developed from the Russian type by A. M. Ramsay, of Burnett county, Texas. A good white mulberry, bears young, requires some pruning up to make a good shape tree. 50 cents each, $4 per dozen.

GRAPES.

Many of our people have planted grapes and have failed. Some have deserved failure because they have not taken care of their vines. But others have failed because they planted varieties not suited to the climate. We have spared no expense to make our experience with grapes as valuable as possible. We have been cultivating the grape for thirty-five years in this section. We are pleased with the progress that we have made in ascertaining the adaptability of varieties to our climate. As it takes several years to properly test varieties, we must expect slow progress in this kind of enterprize. Our experience has led us to adopt some generalizations which seem to be correct and are of vast service in selecting for experiment.

Thirty-two years ago we planted sixty varieties of grapes in our experimental vineyard. Our collection embraced varieties belonging to every family of grapes then considered worthy of cultivation. The only thoroughly established varieties in our experiments belong to the Herbernent type.

We had temporary success with some Labruscas and some Vinifera varieties. But, from different causes, we found them unreliable and short lived with us. Some of those causes do not operate in the loose sands and humid atmosphere of the immediate coast, where a wider range of culture may be indulged in. Further toward the interior, and in special localities where conditions are different from our own, some varieties that failed with us have given good results. But we believe that our results hold as a general guide for the coast region, that they are a less certain guide as we recede from the coast country and gain higher latitudes, greater elevations, and attain pifferent conditions.

Prof. T. V. Munson, of Denison, Texas, is doing valuable service for the future viticulture of Texas. He has many new seedlings which, altogether, include quite every combination from which we are getting new varieties with which to improve our collection for Southern Texas. About twenty of these new grapes are now in our experi-

mental vineyard awaiting the test of time before being offered to the public. We may well hope that Mr. Munson's labors will yet enable all southern nurserymen to enlarge their list of profitable grapes.

PLANTING THE VINES.

We refer the reader to our chapter on selection of grounds for orchards. He should remember that drainage is above every other consideration. Prepare the ground as thoroughly as for any other crop. Our Southern varieties should be planted not closes than ten or twelve feet apart each way. To prepare the plant shorten the root to six or eight inches. We cut the tops to within a foot or less of the old wood of the plant.

If the soil is rich enough to produce twenty or twenty-five bushels of corn to the acre, it is rich enough for starting a vineyard. Put no fresh manure in the neighborhood of the roots. There may be situations having no clay sub-soil in which extra deep holes or deep trenches are an advantage, but deep trenching or deep holes into the clay sub-soil has proven, with us, worse than labor thrown away. Many a tree and vine has been killed by this sort of kindness. The hole may be made from nine to eleven inches deep, and then filled to within about eight inches with good moist surface soil. It is best to plant while the earth from the hole is moist and fresh.

Insert the plant so that only one or two buds may be above the surface at the completion of the planting. If, when the plant is held as above directed, it is thereby brought to a leaning position, no harm, but rather advantage will result. Now cover the roots with moist surface soil, and press it well around the roots. Should the soil not be well moist, pour some water into the hole before packing the earth. Let it soak away and complete the filling as in other planting.

The above method of planting secures more or less yearling eyes below the surface of the ground. These will each send out a number of roots, greatly reinforcing those with which the vine is planted, and thus securing a

much stronger growth than could be obtained by planting none of the yearling eyes.

PRUNING THE GRAPE.

Universal experience teaches that the best results are to be obtained from the new sprouts which grow from the strongest shoots of the previous year's growth. Any system of pruning therefore, to be correct, must encourage a good annual supply of such growth. In this climate, also, every cluster of grapes must be in the shade. Aside from the above essentials any peculiarities of any system are mere matters of taste or convenience. We give only one system and refer the reader who wishes to study other methods, as well as gain a large fund of useful information, to Prof. George Hussmann's work, entitled "American Grape Growing and Wine Making," sold by Orange Judd & Co., New York. Also, Illustrated American Grapes, by Bush and Son and Meissner, Bushberg, Mo.

During the first summer let the plants grow just as they please—stakes or trellis not being required.

During the winter after the first year of growth, cut away all of the previous years growth except three or four eyes. Before the vines start their spring growth the soil should be well cultivated, the plants hoed clean and stakes set along each row to support the wires of the trellis. The lower wire will only be needed during this season and may be placed about eighteen inches from the ground.

During the spring of the second year a number of shoots will start from the stump which was left at the winter pruning. When these shoots are about six or eight inches long, the first summer pruning begins by removing all of these shoots except two. These two shoots should be trained in opposite directions to the wire, which is about eighteen inches immediately above them, if it has been properly arranged. These shoots, while young, will be found very tender, and care will be needed not to injure them in handling. We sometimes use light switches set in the ground as supports, and tie the tender shoots to them till they reach the wire. We prefer strings made by stripping up the leaves of the Spanish Dagger tree, or Yucca

Gloriosa, as they will rot off just about the right time. Train these two shoots along the wire in opposite directions. Allow no new shoots from below. Remove all the side shoots from these two main canes for from four to six feet from their base, but do not injure the buds in so doing. Keep the soil well cultivated all summer. These two canes, which we call horizontal arms, should each grow to from fifteen to thirty feet during the year, and we have seen them make forty-five feet.

During the winter after the second year of growth, cut the horizontal arms back to from four to six feet each—the length of the shortened cane to be governed by the growth of the former year. Now add the two remaining wires to complete the trellis. The lower wire having been placed about eighteen inches from the ground—the second one may be from eight to ten inches from the first. The third or upper wire may be eighteen or twenty inches above the middle one, so that the trellis would consist of three wires, the highest being about four feet from the ground. No. 12 wire is the size generally preferred. Always cultivate the soil and hoe the plants before the new growth appears and continue till the fruit is quite grown.

During the spring after the second pruning, which is the third year after planting, we find the plant consisting of two horizontal arms, from four to six or in case of extreme vigor, eight feet long—everything else having been cut away. The cultivator may now expect a reasonable crop of grapes. Bind these two arms to the lower wire of the trellis. This should be done before the spring growth has begun. A sprout will start from each bud of the horizontal arms. Select on the upper side of the arms from five to seven of the strongest bearing shoots and train them as upright canes, binding them to the second wire. Rub off all shoots except those selected as upright canes. If any appear feeble remove the weaker ones. If any buds have made two shoots remove the weakest one. If some are not yet developed, we pass them for the present and go over the vines again in four or five days afterwards. All of the fruit is to be grown on these new shoots. In our treatment of the grape we simply train

these shoots to the wires above them and along on the trellis, as this answers the purpose for which we cultivate the vine, and it will be found by most cultivators to best suit their convenience. But for those who desire to make the very largest and finest clusters, and are willing to tax themselves with the additional labor and care to insure that object, we reccommend the renewal system. To be pursued as follows:

SUMMER PRUNING.—Near the base of each of the horizontal arms, select a strong shoot, which is to be trained for the purpose of renewal at the next winter pruning. This renewal cane, as it grows, is to be trained to the upper wire of the trellis.

Next pass over the remaining upright canes and pinch off the terminal bud of each as soon as it reaches three leaves beyond the last bunch of grapes, the embryo clusters of which will appear as the cane grows. Some varieties will show two, others three, and the Herbemont and Lenoir will sometimes show four bunches of fruit on one of these upright canes.

After the upright canes have been stopped as above directed, they will start a lateral from the axil of each leaf. The laterals should be promptly stopped by pinching each one off just above the first leaf. The sooner this is done after the lateral passes the development of its first leaf the better. In fact every operation of summer pruning should be performed as soon as the development of the plant will admit.

The laterals will start a second time, when we in turn pinch off this new growth to one leaf as before; thus giving to each lateral two leaves. Another similar stopping of laterals may be given if the growth requires it. The above stopping of canes and laterals will force a development of fruit by stopping all surplus growth, and at the same time supply abundant shade for the growing grapes. The whole course of pruning will here, with our southern varieties, be completed by the middle of April or a very little latter, and whatever grows afterwards during the season may be left to grow at will on the trellis, except that suckers from near the ground must be kept down during the whole season.

It is suggested that if one wants to mature the fruit earlier than at the usual season and of a size larger, that it can be done by tightly twisting a wire around the horizontal arm just above the renewal cane that is being trained to the upper wire. Of course, such treatment sacrifices the limb so treated, but with this renewal system this horizontal arm is to be removed at the next winter pruning, so that the practice of wiring it makes no interference with the welfare or future treatment of the vine.

During the winter after the third year of growth, we do our third winter pruning. Of course, we must now be governed by the conditions resulting from the summer treatment of the preceding year of growth. If we followed the renewal system of summer pruning, we will now see that each vine consists of the two horizontal arms which supported the upright fruit canes of the previous year, and the renewal canes which we trained to the upper wire of the trellis. There may also be more or less light, straggling shoots that grew after the summer pruning had been completed.

We now cut away the old horizontal arm of last year just above the renewal cane that was trained to the upper wire, and shorten to from four to eight feet the renewal cane. This may be shortened in proportion to the vigor of the plant, and brought down to supply the place of the old horizontal arm on the lower wire. Remove all straggling shoots that may have escaped amputation, so that the vine shall again consist of only two horizontal arms, trained in opposite directions on the lower wire of the trellis.

But if we have not followed the renewal system of summer pruning, our vines will be in a different form and will of course require different treatment. In the latter case instead of two strong canes on the upper wire and several short old fruit arms, we will find several upright canes of considerable strength. If we see that one of these canes has very much outgrown all the rest and it comes from near the base of the plant, we cut away all the rest on that side, and make a renewal cane of it as in the pruning after the renewal system. But if the canes

are of something like equal growth (as they will usually be found to be), then we cut each one back to within four eyes of the old wood. If a cane appears much stronger than the average it might have an eye or two more; or if below an average it may be left with an eye or two less. And if there are a good number of strong canes, say five to seven on a side, then any very weak ones could be cut out altogether or at most given a single eye.

From this onward the treatment of each succeeding year is to be a repetition of this year's work. By this time the cultivator will have become acquainted with his vines, and will have acquired sufficient judgment concerning them that he should be competent to manage them successfully.

There are some points in relation to the treatment of the grape to which we will here refer at the risk of some repetition. Whatever system of pruning is adopted the work must be begun early and pressed promptly. So rapidly is the spring development that delay is disastrous. Do all stopping of shoots so early that it can be done at the terminals, so that the vine shall be despoiled of little or no foliage, and there shall be no waste by forming useless wood, only to be removed during the growing season. The grape is very sensitive to the loss of foliage during the season of rapid growth—therefore the idea in summer pruning is not to destroy foliage or new wood, but to so direct their formation as to economize every energy of the plant and concentrate its power to the production of fruit. The operator who fails to keep these ends in view had better not summer prune at all.

Again, it must be remembered—and the idea carried through our pruning and binding to the trellis—that while the young fruit may grow well in the sun, yet in this latitude the grapes must be in the shade at the ripening season.

Again, don't cut your vines while the buds are swelling, as it will cause them to bleed so freely. If you have begun to cut and find them bleeding very much, then wait till a norther has checked the sap and begin again. If no friendly norther comes along to help you out, then wait

till some leaves begin to open, and although we deprecate cutting at this stage, yet it is better than to prune when the vines bleed profusely. And yet again, don't cut too early, as then the warm spells of our winter may push out the fruit buds too soon and thus endanger the crop. The middle of our January is the safest medium time for our winter pruning.

REMARKS ABOUT GRAPES.

We have thrown aside the largest number of varieties which we have been cultivating, because we have not found them adapted to this region. Although many catalogues contain long lists of grapes, yet the list of really profitable varieties in every locality is very short. Large amounts of money are annually squandered in the vain hope of success with a large number of varieties. This is a delusion against which we wish to caution our people. As a large portion of Texas is infested by phylloxera, we have taken care that our list should be mostly composed of varieties found to be phylloxera proof. We will supply any variety, whether in our list or not, if early application is made.

We are satisfied that the classification of grapes is about to undergo a general revolution, and we shall therefore, in our descriptions, avoid such descriptive terms as we think will soon become obsolete, and use only such as will remain intelligible.

We started to write that we had abandoned all vinifera varieties. But it would be more correct to say that they had abandoned us. We have nursed them, one generation of plants after another, for more than thirty years. But in spite of all of our efforts, they have become extinct on our premises, so that we had not a single cutting of any variety to plant this season.

In the loose sands of the coast where it is presumed phylloxera cannot work, some of these varieties will probably always be in more or less demand. On the upper and middle Rio Grande, and in Mexico beyond it, and to limits eastward not yet determined, this class of grapes are in yet cultivation. But unless the progress of phylloxera

is, in some way arrested, this class of grapes will, in time, no doubt, be banished from the continent, except in soils where this enemy of the grape cannot put in its deadly work.

There is much restlessness among our people in their demand for a larger list of grapes. While Herbemont and Lenoir are excellent wine grapes and cannot be surpassed for productiveness, yet there is an unsupplied demand for "table grapes that will bear shipment" and for "earlier and larger grapes." All we have to say in answer to this demand is that such that cannot wait for the necessary tests of the new combinations that have been made to try to supply this demand, had better migrate to obtain the conditions required for the varieties they desire to cultivate. We believe that when a patient test has been made of the new combinations that have been originated by Professor Munson, we shall find that, out of the whole number, we have enough to vastly enrich the viticulture of Southern Texas.

Until then let the cultivator plant the Herbemont and Lenoir with the ultimate view of using more or less of them as stocks upon which to engraft the successful new comers.

We shall hasten to add to our list any new varieties that are ready for dissemination, as soon as we have sufficient reason to believe that they will be valuable to our people.

Prices of Plants at Nursery—25 cents each; $2.50 per dozen; $10.00 per 100, except in cases where other rates are appended. Wholesale rates given on application. Special assortments at special rates. These prices apply in cases only in which delivery is made at the nursery. If delivered elsewhere we make an additional charge to cover cost of transportation and risk in transit.

LIST OF GRAPES.

BLACK JULY—(Herbemont type)—Medium, black, sweet, seldom shouldered, compact; ripens early in July. We think it a little too far South in the coast region; an excellent table grape. It is a pity that it bears so lightly

here. It is productive further up the country, nearer the climate of its origin. This variety has been found wild in different places in Georgia and Alabama. It is also known as Deveraux, Sumpter, Lincoln, Sherry, Blue Grape, and at one time was disseminated as Lenoir. Also known as Herbemont Madeira-Warren.

HERBEMONT, synonymous with McKee-Dunn and Botsi—Berry medium, dark purple, blue bloom, cluster large, heavily shouldered, compact, very thrifty and productive. Our strongest grower, our best wine grape that has been thoroughly tested, and a good table grape. July 12th to 25th.

CUNNINGHAM—(Herbemont type)—Bunch small, berry medium; amber or pale red, and, like all of Herbemont type, has little pulp. Not a full bearer.

LENOIR—(Herbemont type)—Berry medium, black, round, no pulp, vinous and very much coloring matter; bunch large, long, compact, generally shouldered; leaves deeply lobed. It is cultivated in different parts of the state under the names of Black Spanish, El Passo, Burgundy and Jacques. In France it is cultivated under the name of Jacques. The Lenoir and Herbemont are without doubt, the two best vineyard grapes for Southern Texas that have yet come largely into cultivation.

MEDORA—A new seedling from Lenoir crossed by us upon Croton. Medium, white, with sometimes purple veins. Clusters small, very sweet. Vine not strong grower. We were recently surprised at descovering in Medora tentrils, a plain mark of Labussca blood.

ONDERDONK—One of Prof. T. V. Munson's new white seedlings of Herbemont. The general appearance and growth of the vine is quite like that of Herbemont. We hope this variety will fill our demand for a good white grape that shall be productive and vigorous in Southern Texas. Herbemont seldom rots here. Mr. Munson writes us that while the Herbemont nearly all rotted with him this year, the Onderdonk showed no sign of being affected. Because the writer has taken such a fancy to this grape, hopes so much for its future, and the

originator desires to do him an honor, Prof. Munson has generously given our name to this grape. We have only a few plants. This variety remains the property of Mr. Munson and will be sold by us under his direction. The price of plants will be $1.00 each.

PERRY—This is another of Prof. Munson's new grapes. It is a Hybrid between the Herbemont and the Post Oak grape of Central Texas. As both parents succeed well in Southern Texas, and the vine is growing here in great vigor, there cannot be much doubt of its success here.

Jaeger says that "where the Herbemont will succeed no one should ask for a better grape than Herbemont." And yet we think that in the Perry we have found a variety that will prove a powerful rival, if it does not surpass the Herbemont in value.

First—It seems to be as vigorous and productive here as Herbemont.

Second—The clusters on our vines and size of berry were fully equal to Herbemont.

Third—Flavor fully equals Herbemont without a trace of flavor of the Post Oak.

Fourth—It has more pulp and will therefore be a better table grape than Herbemont.

Fifth—It has shown no small green berries at ripening time (from arrested development) as the Herbemont seldom fails to do.

The Perry is propogated from cuttings with difficulty, which will be one bar to its progress. Price $1.00 each; $9.00 per dozen; $50.00 per 100.

ALICE—A seedling of Herbemont type from Mr. Trippe, of Waelder, Texas. We have named it after his daughter. Vine and foliage much resembling Lenoir cluster—shorter than Lenoir. Berry medium, purple, sweet. Price, 50 cents each. We have only a few plants.

FIGS.

Southern Texas seems adapted to fig culture. Some of the more tender varieties are killed by our worst north-

ers, but there are several that are suited to our climatic conditions. We give a list of our most promising varieties. Price, 25 cents each; $3.00 per dozen. Rates per $100 will be given on application.

MAGNOLIA—Large, greenish brown, very early bearer, often making a crop in nursery rows during the first season.

BRUNSWICK—Large, purple, of good quality.

BROWN TURKEY—Medium, greenish brown, an early bearer, very prolific.

GREEN ISCHIA—Medium, green, well flavored.

CELESTIAL—Small, very sweet. Seems hardier than any other variety here.

We have several varieties recently received from Turkey that seem to be doing well, but are not yet well tested here. They will be supplied in small numbers at same rate as others.

ORANGES.

We have been conceding that this is not an orange country. We now begin to think that perhaps we have been mistaken. We have seen many thrifty orange trees in this county well loaded with as fine oranges as we ever saw anywhere. But a single night of cold destroyed our trees and we became discouraged.

The trouble hitherto has been that our trees would grow vigorously during the warm intervals between our northers. Then while the sap was moving freely, the norther would come and kill our trees.

It has always been conceded that if we could keep our orange trees from growing during these warm spells preceding our northers, that they would probably endure the cold. The introductions from Japan have awakened the subject arew. We have from Japan a variety that becomes dormant when our deciduous trees cease to grow, and remains dormant all winter. We have strong hopes that this variety will, for this reason, prove hardy here. We have had it in our grounds five years. We have been wanting a very cold winter to make a thorough test and

show us whether we live in any orange country or not. For a few hours the thermometer went down to 18 degrees farenheit last winter. The tenderest shoots were bitten, but our trees were not materially injured. We have become encouraged to persist in orange culture.

We propose one idea in orange culture for this section. Let them put out branches as near the ground as they will. Train them as low as possible. Then when the northers come the branches and leaves will help protect the body of the tree.

LIST OF ORANGES.

CITRUS TRIFOLIATA—Can hardly be called an orange, but it is so designated by some writers. It is more properly a lemon. This variety is entirely hardy everywhere in the south. It has a very thrifty habit, leaves trifoliata, dark green. Fruit round, about one and a half inches in diameter, very acid, worthless as a fruit. It contains a great abundance of seeds. We raise it for the seed from which to raise stock for budding oranges. Also it has a great profusion of heavy thorns. We think it would make an excellent hedge. Attains the height of 12 to 15 feet. 25 cents each.

OONSHIU—Identical with the Satsuma orange of Florida. This is the Japan variety that we expect to help us make of this an orange country. Some of our trees are on the Citrus Trifoliata stocks. Price $1.00 each; $10.00 per dozen.

MISCELLANEOUS FRUITS.

PRICES GIVEN ARE FOR TREES AT THE NURSERY.

RASPBERRIES—Have promised just enough to induce perseverence with them, but never really successful. We have abandoned their culture.

BLACKBERRIES—We have repeatedly tried the fine varieties cultivated at the north and east. They have flattered us for a couple of years and then failed. We have finally tried a variety originating on the premises of Mr. Braden in Colorado county, Texas. It seems to be

a cross between the wild Blackberry of Eastern Texas and the Texas Dewberry. We call it Braden's Blackberry. Price, $3.00 per dozen; $20.00 per 100.

DEWBERRIES—Texas is the most natural home of the Dewberry. We consider them better than any blackberry we ever knew. We have both white and black varieties. Price. $3.00 per dozen; $10.00 per 100.

CURRANTS AND GOOSBERRIES with us have never survived the first season.

CHERRIES—We have tried many varieties of cherries. We have totally failed. We have no cherry trees for sale, but if ordered from us early will get them from the best southern sources for our customers. 50 cents each; $5.00 per dozen.

POMEGRANATES—Sweet and sour. 40 cents each.

JAPAN PERSIMMON—We planted trees of this fruit in 1878. They are thrifty and productive. We believe this fruit will prove an acquisition to Southern Texas. Some samples measured nine inches in circumference. While the trees do well, yet there are obsticles to the propogation of young trees here that will keep the price unreasonably high for some time. Present price of trees, 75 cents each.

STRAWBERRIES—Fremelat—This is a new variety originated by Mr. Fremelat, near Houston, Texas. It seems to suit this region better than any other that we have ever seen. Not yet disseminated by any othec nursery. It is now placed in our list for the first time. At the nursery, $3.00 per 100; 50 cents per 100.

It seems useless in Southwestern Texas to attempt strawberry culture without irrigation. But with irrigation and proper mulching, we are capable of the finest success.

APRICOTS—No apricot has pleased us here. In the more elevated interior they succeed well. We offer only the Moorpark which we consider the best variety. Price, 50 cents each; $4.00 per dozen.

ORNAMENTAL DEPARTMENT.

In the Pomological Department of Horticulture we have been compelled to advance step by step, by the accumulating light of experience and observation in a country where we had but few precedents to guide us. In the Ornamental Department we have had to contend with obstacles less formidable. Careful experiments and active observation have enabled us to glean here and there a gem. The love of flowers has induced many of our people to plant their favorites about their homes. Numberless experiments are thus made in this interesting field by those who have no public object in view; but they, nevertheless, unconsciously aid in the improvement of Texas floriculture. In our study we have combined these developments with our own experience to no small advantage. We do not claim that everything possible has been done in the Ornamental Department of Texas Horticulture, but we are highly encouraged by the collective results that have been attained. When we think of the grand army at experimenters in Texas, some of whom have public, and many of whom have only private objects in view; and when we consider the richness and value of our southern floral wealth, we are led to look for a vast degree of development in the future. We are fast learning what trees, plants and flowers are suited to our region. We at first gave our whole attention to the subject of fruit culture. More recently we have been among the flowers. We well know that we have much to do to place this department of our establishment where it will meet the future demands of our patrons. But we shall spare no effort of which we are capable to keep pace with the increasing wants of our people.

We annually improve and extend our ornamental lists by importations. When, from year to year we bring out new plants, we can easily bring as many more as are required by our customers. We will, therefore, accept orders for anything desired by our patrons that our list does not contain, provided that such orders are forwarded in time to enable us to include them in our own importations, which will be made in November.

DECIDUOUS TREES, SHRUBS, ETC

We have rejected from our list all such as have been found unsuited to our climate. Many trees and shrubs of decided value at the north are often called for and not supplied because if our customers must fail with them we prefer to have them fail with stock from some other nursery.

DECIDUOUS LIST.

Prices all relate to delivery at the nursery. If delivered elsewhere we charge sufficient to cover cost and risk of transportation.

ALTHEA (Rose of Sharon)—Shrub attaining 6 to 8 feet. Bears large flowers, continuing to bloom from May to October; double, white, pink, purple, variegated. We have no single variety. 40 cents.

ASH—The white ash of the American forests. It thrives in every part of the eastern and southern United States. A rapid growing shade tree. An economical tree to plant for fuel. Trees 5 to 6 feet, 50 cents each; $4.00 per dozen. Wholesale lots and smaller sizes at special rates.

BOX ELDER—A rapid growing, native shade tree; attains the height of from 20 to 30 feet. 50 cents.

CRAPE MYRTLE (Lagerstroemia)—Shrub attaining here 10 to 15 feet; perhaps should be called a tree. Bears exceedingly delicately firinged flowers in great profusion from May to October; hardy here; pink, purple and scarlet. 40 cents.

CRAPE MYRTLE—White, of same family as above, not quite so hardy, more dwarf in habit, an abundant bloomer all summer; pure white, 50 cents.

CATALPA—Western. Is doing well here; has pretty white bell-shape flowers in the spring in large spikes. 50 cents.

FLOWERING POMEGRANATE—Blooms freely in spring; double flowers; two varieties, variegated and scarlet. 50 cents.

CHILOPSIS LINEARIS--(Flowing Willow)—Of the genus Bignonaiceae originally consisting of one variety --a tall shrub--native of Southwest Texas. It thrives in every situation, and seems generally adapted to the south. It has long, linear, alternate leaves, showy flowrs in terminal, spicate racemes. The individual flowers are composed of a carrolla-like tube, divided at the extremity into five lobes two of which are inflated upwards, all of the lobes being delicately crimpled and fluted. From the division of these three lobes are two raised surfaces of deep yellow gradually narrowing to the interior base of the tube. This coloring of the raised surfaces of yellow is peculiar to every variety with which we are acquainted. It is a very vigorous, free blooming shrub, continuing in bloom all summer. It seems so adopted to a dry climate that it blooms better in a dry season than in rainy weather. These shrubs need only to become known to gain greater introduction, and to become a valuable addition to the ornamental plots of ahe entire south. We have been crossing the original varieties with the result of several new sorts, three of which are included in our list.

C. LINEARIS LILACINA (Lilac Flowering Willow)—The outside of the upper part of the tube and upper lobes are a clear transparent lilac. The under side of the tube is a pure white, the bottom lobes being mottled and striped with a darker shade of lilac. The inside of the tube is pure white. The stripes of the inside of the tube are bright yellow. 50 cents.

C. LINEARIS PURPUREA (Purple Flowering Willow)—The original purple variety described in our old edition as Flowering Willow. The carolla-like tubes and upper lobes are of a light pinkish-purple. The other three lobes are suffused with purple, gradually darkeniug from the edge of the lobes to the center. Narrow stripes of the same color continue to the inner base of the tube between the yellow raised surfaces that occur in each variety. Price 50 cents each.

C. LINEARIS ALBA (White Flowering Willow)--Body of the lobes of the flowers pure white, which makes

a beautiful contrast with the yellow lines common to the family. 50 cents each.

C. LINEARIS GRANDIFLORA—The upper part of the tube of this flower is a light-pinkish purple; the underside of the tube creamy white, the upper lobes of the same color suffused with white. The three bottom lobes marked with purple in distinct stripes and blotches, the yellow stripes showing with fine effect. 50 cents each.

C. LINEARIS GRANDINLORA MAJOR—Considered the finest variety. Transparent pale lilac, the bottom lobes beautifully marked with a group of minute lilac specks contrasting finely with the deep yellow stripes of the interior of the tube. Price 50 cents each.

HONEYSUCKLE (Lonicera)—Red Trumpet is our favorate deciduous honeysuckle. Chinese Evergreen or Hallii is our favorite evergreen variety. 40 cents.

JAPAN QUINCE (Pyrus Japonica)—Bears red flowers early in the spring. 50 cents.

JAPAN QUINCE (Pyrus Manlei)—Blaoms freely in the spring, blooms not so bright as the above, but produces considerable crops of fruit. 50 cents.

LOMBARDY POPLAR—A tall, fine growing habit, much fancied by some; a good tree for quick effect, but is short lived here. 50 cents.

MAPLE (Silver Leaved)—Does well with us as long as we cultivate the soil. Succeeds in moist situations without special care, but fails in dry setuations if not cared for. 50 cents each; $4 per dozen.

SYCAMORE—Too well known to need description. Thrives everywhere, grows rapidly, makes a good shade tree. We have trees planted seven years ago that are now more than a foot in diameter. Trees 5 to 6 feet, 50 cents each; $4 per dozen.

SPIREA PRUNIFOLIA—A low shrub, blooms very freely, bearing a great profusion of small, compact double white flowers not larger than a shirt button. These grow all along the slender canes of the shrub. It is called Bridal Wreath by many persons. The blooms come about

the time of Pyrus Japonica, when flowers are scarce, and help the appearance of a plat at that season. Later in the season they cease blooming and become inconspicuous. 40 cents.

SPIREA REEVESII—This Spirea blooms a trifle later than Prunifolia; bears immense clusters of white open flowers (is also called Bridal Wreath by many), is very sightly during its brief season of blooming and has the merit of being inconspicuous after the blooming is over. Every ornamental plat should contain some of this best of Spireas. 40 cents.

UMBRELLA CHINA—Too well known to require description. If customers at a distance order large trees they will not come above quotations given, unless extra extra sizes are called for, but it must be remembered that large trees of China have enormous roots and will necessitate high expressage. 25 to 50 cents for trees from 4 to 7 feet.

WISTARIA—Vigorous runner, bears spikes of light blue in early spring. 50 cents.

EVERGREEN TREES AND SHRUBS

ARBOR VITAE, GOLDEN—Grows very compact and symmetrical without shearing; takes a yellow tint in winter; makes a beautiful tree in the yard, or for a country lot. $1 for one foot; larger trees in proportion.

CHINESE ARBOR VITAE—A rapid, thrifty grower; makes an excellent barrier against wind and is often planted as a yard ornament. 50 cents to 75 cents.

ARBOR VITAE, PYRAMIDAL—An upright grower, of open habit while small. Naturally takes a pyramidal form, but if sheared to a pillar makes a good looking shaft-like evergreen; not subject to the diseases of the Pyramidal Cypress whtch we have tried to use for that purpose. $1.00.

PYRAMIDAL CYPRESS—A tall evergreen, shaft-like in form, makes a stately looking tree. Many customtomers lose their Cyprees trees in transplanting, because they have them transplanted too early. They should not be moved till February. Price, $1.00 each.

HORIZONTAL CYPRESS—An evergreen cypress of great beauty, pyramidal in form. Price, $1.00 each.

RED CEDAR—We cultivate largely the Virginia Cedar so common east of the Mississippi river. Our trees being all seedlings, present a great number of varieties, each having its peculiar style of form, foliage and general habit, so that we can select cedars bearing almost any required character. Our cedars are all nursery raised and have been root pruned four times so that they stand removal well. One foot, 50 cents; eighteen inches, 75 cents; two to three feet, $1.00. Larger trees supplied at epecial rates for special sizes.

ROSEDALE HYBRID—A hybrid between the Golden Arbor Vitae and Retinosopra. It assumes the form of Golden Arbor Vitae and takes the peculiar glaucous shade of its other parent. It seems to be the best material we have in case where its peculiar ash colored green is desired. Price, $1.00.

CENIZA—(Leucophyllum Texana)—We think that it ought to be in every family ground of the extreme south, and as far north as it is capable of existing. We at first thought it would only thrive in barren, calcareous soils like those in which we find it in nature, but having tested it in various soils we are prepared to say that it will grow in any well drained soil.

A broad leaved evergreen having small oval leaves of ashy color. This color gives the Spanish name to the plant Ceniza, being the Spanish word for ashes. The leaves have a pungent flavor and are of medical value. When smoked as tobacco they give a singularly soothing effect upon the respiratory organs, often relieving a cough. An infusion of the leaves is employed by the Mexicans and residents of Southwest Texas as a stomachic. It is also chewed in order to tighten loose teeth.

At frequent intervals it produces large crops of purple flowers. It mades a very pretty shrub for an ornamental plat, and we wonder why it has no before been introduced into horticulture. It is found on the Nueces river in Southwest Texas, where it grows from six to eight feet

hight. On the lower Rio Grande it grows still higher, and in Mexico it reachee still greater size. Price, $1.00.

GARDENIA FLORIDA—(Cape Jasmine)—Broad leaved evergreen shrub; bears large a double white flower; very fragrant; a fine yard plant; hardy in Southern Texas. 25 cents to 50 cents.

GARDENIA FORTUNII—A Cape Jasmine with larger flowers than the Florida. 50 cents.

GARDENIA RADICANS—Very dwarf trailing habit, small foliage. 50 cents.

GARDENIA VICTORIA—A new variety of Cape Jasmine originated in our nursery. Flowers a little smaller than Florida, but of better form. 50 cents each.

EVONYMUS JAPONICA—A bright evergreen shrub, with bright green leaves. It will grow eight or ten feet if allowed to do so, but looks better if kept to a similiar size by occasionally clipping. We have also varieties of varigated foliage from silver to golden. Price, 25 cents each.

CALIFORNIA PRIVET—Our choice from among all the privets. It makes a beautiful border for a walk or carriage drive, bears any amount of shearing at any time of year. If allowed to grow tall it will reach 6 to 8 feet and makes a good screen. When unsheared it bears, in the spring, numerous spikes of pure white flowers. 25 cents each; $6.00 per hundred. Large quantities and special sizes at special rates.

BUDLEYA LINDLEYANA—An evergreen shrub with long narrow pointed leaves of bright green. It begins early in the spring to send up numerous small spikes of lilac-colored flowers and continues to bloom till the frosts of the following fall. 50 cents.

MAGNOLIA GRANDIFLORA—The Magnolia of the south; a very fine broad leaf; leaves large; flowers very large and showy. It will fail wherever there is too much lime. We have it doing well on deep sandy soil with clay sub-soil; bloomed with us five years after planting. $1.00.

PITTOSPORUM—Low, board-leaved evergreen; is suited to be trained into almost any shape required. $1.00.