3-1-1911

Suggestions for growing home fruits

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Mississippi Agricultural Experiment Station
Agricultural College, Mississippi.

BULLETIN No. 146.

SUGGESTIONS FOR GROWING HOME FRUITS

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AGRICULTURAL COLLEGE, MISSISSIPPI.

March, 1911.

Tucker Printing House, Jackson, Miss.

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SUGGESTIONS FOR GROWING HOME FRUITS

Time to plant.—While fruit trees and grapes may be planted at any time during the dormant or inactive period from November to March, it is best to set them as early as possible after the advent of cool, frosty weather. When they are set at this time, the soil settles down nicely about the plants with the first rains; the cut surfaces at the ends of the roots soon heal over and, before midwinter, quite a system of newlyformed roots will have developed, thus insuring greater immunity from adverse conditions during the following spring and summer than is possible with later plantings. Midwinter plantings should be made only during mild weather and when the soil is in good working condition. When planting is deferred until March greater care must be given to the preparation of the soil and to the work of setting. If dry weather prevails water should be applied freely to each tree or vine while it is setting to settle the soil properly about the roots. If dry weather continues newly set trees and vines may require water several times before growth is established. After each application of water the soil about the plants should be stirred to prevent crusting and too rapid evaporation. A covering of half-rotted leaves or straw placed within a radius of three feet around the tree will conserve moisture and keep the soil mellow and cool. Following this plan the writer has had success with trees received for trial and planted late in March.

Some years ago, during the Christmas holidays, a large peach orchard was being planted in northeast Mississippi. Bad weather stopped the work and several thousand trees were left lined out in trenches with soil nicely banked about the roots for more than two and a half months, there being no opportunity to return and finish the orchard until March 20th. By this date many of the leaves had grown to nearly or quite half size. The soil was in ideal planting condition, and March 24th found the trees carefully planted and each tree headed or cut back to a single steam only about eight or ten inches high. These trees were approximately four feet high (an excellent size for transplanting) and well rooted when received from the nursery the previous December. With no facilities for watering, chances had to be taken on the weather. Fortunately, a soaking rain came immediately after planting was finished and, during the following six

weeks, cool, showery weather prevailed. The trees grew off promptly. The end of the first growing season found less than one per cent of the trees missing, and the March planting only a trifle behind that made in December. The above incident on late planting is given for the benefit of those who may fail to plant at the proper season.

Location and preparation of soil.—Fruit trees need air drainage as well as soil drainage, hence high or rolling land is best. On steep hillsides northern or western slopes are considered safer from the ill effects of frost and severely cold weather than eastern or southern exposures. Because of the drier lighter atmosphere and the freer circulation of air on the hill tops, such locations favor most the development of healthy trees and perfect fruit.

While with good attention most of our fruits will adapt themselves more or less to adverse soil or climatic conditions, yet each fruit will yield the best results only when its peculiar requirements are provided. Peaches, plums, and grapes prefer moderately fertile, dry soil more inclined to clay than to sand. Apples, pears, quinces, and figs need deeper, richer loams. With all of these fruits, porous clay subsoils that will permit the roots to penetrate to a good depth are better than sand beds. If possible to do so, avoid hard, compact subsoils no matter what the character of the surface soil.

As the orchard and vineyard are to occupy the land for several years the work of thoroughly preparing the soil before planting is important. Whether planting is to be done early or late in the season, there is no time during the whole year so opportune for effective work with plow, subsoil plow, and harrow as just after the first good fall rains. At this time the subsoil is moist, not wet, and lasting benefits result from stirring and pulverizing the subsoil to a good depth when it is in just the right condition. Midwinter and early spring may find clay subsoils saturated, even when the surface soil is in fair condition for plowing. With the soil in such condition more harm than good results from subsoiling. When it becomes necessary to plant where the subsoil is naturally hard and compact, holes at least thirty inches square and eighteen inches deep should be made for the reception of trees and grape vines. Each hole should be nearly filled with good top earth. Where convenient it is well to use at least two bushels of black mould from the woods with each tree and vine. If this is not to be had, a bushel of well rotted barnyard manure is a good substitute. Where neither of these is at hand equal parts by weight of high grade phosphate and cottonseed meal, two pounds to the tree or vine, will answer. Mix such materials well with the soil from

bottom to top of the hole. No heating or fermenting fertilizers should come directly in contact with the roots of newlyplanted trees. With plenty of rich top earth to use about the tree the fertilizing materials just mentioned are not necessary.

ORCHARD.

Selection of trees and planting.—Too often the mistake is made of ordering three to four year old trees, heavily branched, which come with only a few large stubby roots, nineteen-twentieths of the root system having been left in the soil of the nursery row, when younger, better trees lifted from the nursery rows with nearly all their roots attached may be had at a lower price. These younger, better rooted trees with few, if any, branches, grow off more promptly than the older specimens and develop sooner into vigorous, healthy trees ready to produce maximum crops of fruit. Not long since, the writer received an order for three-year-old strawberry plants. Recently an order came which read as follows: "Please ship at once 1,000 of your oldest strawberry plants. I am anxious to get plants that will give me fruit at the earliest time possible." He was sent, not what he ordered, but what he really needed, the youngest and best plants in stock.

Peach and plum trees three to five feet high with smooh, straight trunks and few side branches are best. Only one-year trees should be used. Strong one-year grape vines grow off better and fruit as soon as older plants. If well grown one-year apple and pear trees cannot be had, plant select two-year trees.

Have no dealings whatever with the unscrupulous, oily-tongued tree peddler, who is abroad in the land deceiving the uninformed with pretty pictures and greatly exaggerated specimens of fruit; who is selling at high prices trees, vines, and other plants infested with disease and injurious insects and not true to name. The honest agent who is satisfied with fair profits and whose credentials show clearly that he represents reputable nurseries is to be encouraged. He is helping to disseminate good trees and to encourage the planting and proper care of orchards, vineyards, and ornamental plants, where, without such aid, hundreds of homes would never see a nursery catalogue, read a fruit magazine, nor plant an orchard. Where possible to do so, deal directly with the nearest nursery firm that can furnish the goods desired. Plants should come cheaper from the nursery proprietor than through agents and, should any mistakes occur, he is easier to reach than the middle man. The State Inspector's certificate, stating that the nursery is apparently free from seriously

injurious insect pests and plant diseases, should accompany each shipment of plants. Nursery catalogues indicate fairly well the comparative merits and the ripening period of each variety in their respective lists. These catalogues may be had free of cost. Appended to this bulletin is a list of nurserymen located in Mississippi. Excellent trees and grape vines should be had at about the following prices: peach and grapes, 10c to 20c each, $1.00 to $2.00 per dozen; apple, plum, and fig, 15c to 20c each, $1.50 to $2.00 per dozen; pear and quince, 20c to 30c each, $2.00 to $3.00 per dozen. Rates by the hundred are cheaper than by the dozen, and wholesale rates are perhaps less than the above prices.

The commercial grower seldom plants more than three or four varieties of the same fruit, and sometimes confines himself to but one. The home orchard, however, should include such a list as will give a continuous supply of each fruit represented from the earliest to the latest ripening. Variety for variety's sake is of little value. Of ten varieties of peaches ripening at the same time, choose the best one, or not more than two kinds, and discard the rest; and so with other fruits.

While the following is by no means an exhaustive list of good varieties, it includes such as, upon repeated tests, have been found worthy of place in Mississippi orchards, vineyards, and strawberry plantings. Names are given in approximate order of ripening.

Apple.—Red June, Astrachan, Transparent, Carolina Watson, Day, Horse, Bonum, Carolina Greening, Roxbury Russett, Commerce, Champion, Black Ben Davis, Winter Queen, Stevenson's Winter.

Peach.—Alexander*, Greensboro*, Mamie Ross, Carmen, Belle of Georgia, O. M. Free, Thurber, Family Favorite, Hiley, Gen. Lee†, Elberta, Globe, Crawford's Late, Stonewall Jackson†, Emma, Columbia, Picquet's Late, Indian Blood†, Pineapple or Lemon†.

Plum.—Wild Goose, Milton, Abundance, Red June, Burbank, Ogon, Doris, Apple.

Pear.—Koonce, Garber, Duchesse d' Angoulem, Kieffer, Seckle.

Quince.—Angiers, Apple, Chinese, Rea's.

Fig.—Brown Turkey, Celestial, Green Ischia.

Grape.—Moore's Early, Perkins, Delaware, Diamond, Concord, Niagara, Goethe.

Strawberry.—Excelsior, Lady Thompson, Klondike, Aroma, Gandy

* Semi-cling stone, or flesh partly adhering to seed.

† Cling stone, or flesh adhering to seed.

If planting cannot be done immediately upon arrival of trees dig a trench in some well drained place, stand the trees in the trench and bank well pulverized soil about the roots, covering deeper than they stood in the nursery. If goods are frozen upon arrival, place in cellar or some other cool, dark apartment and let remain without unpacking until the entire package is thawed out.

When ready to plant inspect each tree carefully and remove any insects that may be found on or beneath the bark of roots or stem. With a sharp knife or pruning shears trim off all bruised parts, leaving a smoothly cut surface at the end of each root. In setting the tree or vine hold the plant in an upright position and, with the hand, work in among the roots well pulverized soil. When the roots are all covered pack the soil over them by tramping firmly with the feet. Finish filling the hole with loose earth, leaving the plant set a little deeper than it stood in the nursery row.

Distance of planting.—The distance between trees should be governed by the character of the soil, the kind of fruit, and the method of training or pruning. On rather thin soil peaches and plums may be set fifteen to seventeen feet apart each way. On richer soils eighteen to twenty-four feet may be required. For the same reason give pears eighteen to twenty-five feet and apples twenty to thirty feet. In home plantings where all of these fruits are to be grown in the same orchard, settle on one width between all trees. Commercial fruit-growers sometimes plant apple and peach trees in the same orchard, using peach trees as a "filler." The apple trees are set thirty to thirty-two feet apart each way. A row of peach trees is planted between each two apple rows, the peach trees being just half as far apart in the row as the apples. The planting is finished by setting a peach tree half way between each two trees in the apple rows. Thus we have the trees equally spaced, an apple tree at the center of a square and a peach tree at each corner—three peach trees to each apple tree in the orchard. In the home orchard this same plan might be used to advantage, giving apples and pears the wider distance and using peach and plum trees as fillers. The latter being shorter lived would, in most instances, pass their period of usefulness before the entire space would be needed by the former, and could be easily removed. Quince and fig trees seldom find place in the orchard plat. They are usually regarded as pet trees to be set in some favored places about the door yard. Soil can scarcely be made too rich for fig trees. They thrive best in sheltered places where the trees get the benefit of drainage

from the garden, poultry house, or barnyard. In such locations they are wonderfully productive.

Pruning trees and thinning fruit.—With peaches and plums low, spreading, open-headed trees are desirable. When planting cut each tree back to a single stem about ten or fifteen inches high, taking care to leave just below the point where the top is severed three or four plump healthy buds. From these buds will grow the branches which are to form the frame work of the future tree. In the spring, when several branches on this stem have grown to the length of ten or twelve inches, select two to four of the best, each pointing in a different direction, and remove all the rest. Keep the stem free from any other branches that may start after this time. The tendency of peach and plum trees, especially in strong soil, is to make too much wood growth. Remember, in this connection, that the peaches and plums of this season are found only on the wood of last season's growth. To preserve this low, spreading open head and to distribute the fruit bearing wood evenly throughout the entire tree it may be necessary to cut back each season's growth one-third to one-half of its length. On thin land little if any shortening may be necessary, but quite a percentage of small branches entirely removed will admit more light and better circulation of air among the remaining branches, thus strengthening the tree and improving the quality of the fruit. Shortening the branches while small multiplies the number of fruit-bearing twigs throughout the entire head, and keeps the tree constantly renewing itself near the ground rather than at the extremity of a few long, tall branches.

Properly pruned trees, trained from the start, will hold, without breaking a branch, four times as much fruit as the tree should bring to maturity. On such trees, even when in bearing for several years, all the fruit should be gathered without the aid of a step ladder. Neglect this shortening-in process with trees on strong land and the fruit (always on young wood) will soon be found beyond reach and at the extremities of long, tall branches where only a little weight is necessary to break the tree to pieces.

Apple and pear trees may be started somewhat higher than peach trees. One-year trees should be cut to a single stem. With two-year, or older trees, more or less branched, all but four or five branches should be cut away and these shortened to five or six inches, leaving one near the center longer than the rest to serve as leader. As the tree develops, so prune as to keep each limb with its smaller branches apart from the rest to admit plenty of air and sunshine. Follow

the same method with quince and fig. During the first two or three years considerable pruning may be necessary to balance the head and to direct growth properly, but no large branches need be cut at any time. To let orchard trees grow at random until tall and densely branched, and then attempt to remedy the evil by sawing away large limbs and cutting branches back to mere stubs is barbarous, and nothing short of butchery. Less pruning is necessary after trees are in bearing. "Prune when you have a sharp knife," and always have a sharp knife when in the orchard. During the growing season it is best to remove water sprouts and unnecessary branches while they are young and tender, and to pinch out the terminal bud on branches that are growing too tall or reaching too far to one side. Such work is easily done and one scarcely misses the time required. The heavier pruning should be done just after the leaves drop in the fall or shortly before growth begins in the spring. Pruning may be done during mild winter weather.

Peach, plum, and fig trees often produce some fruit the second summer after planting. The third summer they should yield a fair crop. Apple, pear, and quince usually require three to five years to reach the bearing age. Excessive bearing exhausts trees.

Reduce the number of peaches on an overloaded tree and it will usually yield as much fruit by weight or measure as if no peaches had been removed; the same is true to a greater or less extent with other fruits. No tree should be permitted to grow more fruit than it is able to develop properly and without injury to the tree. Figs rarely if ever require thinning. Apple, pear, and quince trees seldom require the removal of much fruit. It is better sometimes to pull off one-third to one-half of the fruit from peach and plum trees. The proper time for thinning peaches is when the fruit is about the size of a peach seed. By this time, defects in size, shape, etc., are easily detected. Plums may be thinned when half the size advised for peaches; apples, pears, and quinces, when something like one inch in diameter. So thin as to leave the fruit well distributed throughout the entire tree. With peaches and plums, it is better that no two fruits touch each other.

Cultivation and cropping.—Fruit trees respond as definitely to cultivation as do garden and farm crops, and while young, they should be cultivated with as much care as any other crop. During the first two years, or until the trees require the entire space, such crops as potatoes, melons, strawberries, and cotton may be grown in the orchard,

provided the soil is sufficiently rich to produce good yields without detriment to the trees; otherwise only such restorative crops as peanuts and cowpeas should be grown.

Enriching the soil for crops between the trees and cultivating them also enriches and cultivates the orchard. During the first season nothing should be planted within three and one-half feet of the trees. The second year more room should be given. As the roots and branches of the trees approach the middle space between the rows, shallow cultivation should be practiced as often as necessary to keep the soil free from weeds and in good mellow condition. This should be kept up until June, and then cowpeas should be planted broadcast. Not much vine growth under vigorous trees will be expected but, in the open spaces, where the trees get plenty of sunshine they should cover the soil with a dense growth. With young orchards, it is good practice to sow early in the fall to oats or rye and vetch, using seed liberally. The following spring, before the grain begins to head, plow under, giving the entire crop back to the soil.

When orchard trees are in bearing and well established, cultivations should be shallow and less frequent. Bearing pear trees are less subject to blight when left in unbroken soil. In some cases it is better not to cultivate the soil in bearing apple orchards. For a more detailed treatment of the apple orchard, the reader is referred to Bulletin No. 147.

So feed the orchard as to maintain a healthy tree growth and to supply needs for a bountiful yield of fruit. The quantity of plant food to be added will depend, of course, on the fertility of the soil. It is an excellent plan, when the trees are in bearing to apply broadcast each season, preferably during February, from ten to fifteen two-horse wagon loads of good barnyard manure per acre, or its equivalent in commercial fertilizers. Applied at the time suggested, it matters little whether the fertlizer is left on the surface or cultivated into the soil. Water from subsequent rains sinking into the soil will carry the plant food down to the tree roots.

With proper attention paid to selection of trees and soil, planting, pruning, thinning fruit, cultivating, fertilizing, and combatting insect pests and plant diseases, peach and plum trees should produce profitable crops until ten to fifteen years old; apple, pear, quince, and fig trees should give profitable returns much longer. The writer has gathered fair crops from peach trees twenty years old.

VINEYARD.

Reference has been made above to the time for planting, to the best soils, locations and exposures for vineyards, to the manner of preparing the soil and setting vines, to purchasing plants, their cost, and a list of good varieties suited to our soils and climate.

As the vines grow rapidly and soon require practically all of the space between plants it is usually best to set grapes in a plat to themselves. The proper distance between rows and between plants in the row is determined by the character of the soil and the comparative vigor of the varieties planted. Ample room should be given for the proper development of vines without crowding. For general planting on good soil the rows should be not less than nine feet apart. Eight feet between plants in the row will be about right for such varieties as Gold Coin and Delaware. Stronger growing varieties like Niagara and Concord do better ten to twelve feet apart. The scuppernongs and similar kinds require from twelve to sixteen feet each way between plants.

While the crops suggested for the orchard may be planted in the vineyard the first season, it is better, perhaps, to limit cropping, from the start, to cowpeas, vetch and oats or rye, and to dispose of these crops as advised for the orchard. Cultivation is of the simplest kind. On sandy or loamy soils where the water sinks away reasonably early after a heavy rainfall the five or the seven-toothed cultivator and the harrow are the only horse implements required. On heavy clays, especially where there is waxy or hardpan soil beneath, it is well to use the one-horse turnplow at the last working each fall to ridge the soil slightly to the rows and to leave a drain furrow between ridges for the escape of surface water, during the winter months when the heaviest rains prevail. Cultivate as often as necessary to keep the soil in good condition and free from weeds. After vines are well established cultivation should be shallow to prevent injury to the roots. Where the horse implements fail to stir the soil along the line of the row and immediately around the plants hand implements should be used.

A single stake to each vine is sometimes the only support given the first season. It is better, however, to provide permanent trellises shortly after planting is done. Of the various patterns used the vertical and the horizontal trellises are the simplest in construction and the most efficient. For these the very best posts available and galvanized wire should be used. The No. 12 wire will do for the less vigorous varieties of grapes. Use heavier wire for the stronger, more

vigorous kinds. The vertical trellis is simply a three-wired fence with the bottom, middle, and top wires placed respectively about 24, 42, and 60 inches above the ground. At each end of the rows the first two posts should be placed seven or eight feet apart and strongly braced, the one to the other, to prevent the tightly stretched wires from sagging. Other posts along the line of the row should be placed midway between plants so that two plants will stand between each two posts. In stretching the wires care should be taken to secure them well to the two braced posts at each end of the rows. It only remains then to space them properly and to staple them to the intermediate posts.

In making the horizontal trellis, posts, set as in the vertical trellis, are sawed off squarely five and one-half feet above ground. A 2x4 inch strip two feet long (some prefer three feet) is placed on the top of each post at right angles to the line of the row and securely nailed. The two-foot strips should carry three wires, the middle wire resting directly over the posts, the other two on either side over the ends of the strips. Where three-foot strips are used four wires should rest on the strips, one over each end, the other two dividing the distance so as to give approximately one foot between wires. Where plants are more than eight feet apart place posts so they will not be more than eighteen feet apart in the row. Sixteen feet between posts was the distance suggested above, but this referred to rows in which the plants stood eight feet apart. Growers who have used both trellises usually prefer the horizontal style. With this trellis it is easier to get around the vines, the foliage has a better chance to spread out to the sun, the fruit is better protected from sun and dew and can be more easily gathered than from the vertical trellis. With scuppernongs the overhead or horizontal trellis is frequently made by setting posts twelve to fifteen feet apart each way, using heavy wire instead of 2x4 strips to support the smaller wires, these smaller wires being placed near enough together to support a solid canopy of vines over the entire scuppernong area. It should be said here that no vineyard, in fact no fruit planting for the home in the Gulf states, is complete without a few scuppernong vines. This grape is almost entirely free from insect pests and plant diseases, seldom fails to fruit, and requires little pruning and little cultivation after the vines are in bearing; the fruit is above the average for eating, comes late in the season when other fruits are scarce, and one planting will last almost a life time.

Nothing connected with grape growing is more important than the work of pruning and training. Remembering that the fruit of

this season is formed on the young tender shoots which grew this season from the matured canes of last year's growth, that the tendency of most grapes is to produce too much vine and to extend the branches to a great length, that the desired object should be to keep the plant within its allotted space and to secure in this space the greatest amount of vigorous fruit-bearing wood; with these points in view we should so prune as to get the desired results. After planting the vines cut each one back to two or three buds. When shoots start from these in the spring select the strongest one and tie it to a temporary stake. Remove the other shoots and keep all laterals pinched from the remaining vine as they appear. If the vertical trellis is used the vine may be permitted to branch from the point where it touches the bottom wire. These branches may be directed in a fan shape toward the second and top wires, or a shoot may be trained to the right, another to the left along the bottom wire, and a third shoot in a perpendicular direction toward the second wire. With vigorous vines one shoot may be sent in each direction along the middle wire and a third shoot started toward the top wire to repeat the work accomplished on the wires below. When these side shoots have grown until they nearly meet those from the neighboring vines the ends or growing points should be pinched out. This will cause a thickening of the vines and encourage the development of strong, vigorous laterals. Shortly after growth ceases in the fall, or before the buds show any signs of swelling in the spring, it may be necessary to cut away from half to three-fourths of the previous season's growth, to give the vine and the fruit of the coming season a proper setting. One seldom prunes grapes too severely. Thumb pruning, pinching out unnecessary shoots, shortening back rapid growth, and thinning fruit during the early spring and summer should be practiced. Not much time is required for such work.

If the horizontal trellis is used a single stake to each vine will support it until it reaches the middle wire, where it should be topped and made to fork, the two shoots running in opposite directions from the point of contact with the wire. When of sufficient length top these shoots so the energy of the plant will be spent in developing strong canes for the next year's fruitage.

STRAWBERRY CULTURE.

In the list of fruits adapted to Mississippi the strawberry stands uniquely alone in three particuars: (1) It is the first fruit of the season; (2) It requires less time than any other from the date of planting to that of the first ripe fruit; (3) A total failure seldom occurs.

With good treatment the strawberry will adapt itself to and produce a fairly good yield on almost any soil that will grow good garden and farm crops. Like other fruits, however, it shows decided preferences. It succeeds better on rather compact soil that will absorb and retain large amounts of moisture than on ashy, loose soils of a thirsty nature. For inexperienced growers a soil of medium fertility is safer, and, in many respects better, than one over rich. Many who plant only for home use make the serious mistake of selecting the richest part of the garden and of adding thereto quantities of barnyard manure or other strongly nitrogenous fertilizers. Such soils require constant work to keep down weeds and grass, and encourage the growth of large sappy plants which produce but little fruit. Such overgrown tender plants cannot survive our long and, sometimes, dry summers.

Planting season may begin with the first good fall rains and continue until March 15th, or so long as the soil remains cool and moist. While successful plantings are sometimes made during midwinter there is danger on clay soils of the plants being lifted out of the ground by repeated freezing and thawing. It is better to plant before the severe winter freezes or as soon as possible after winter weather is past. Successful plantings are sometimes made during midsummer by taking advantage of a rainy spell of weather and shifting plants, with soil adhering to the roots, to nicely prepared soil near by. In the Gulf region planting is frequently done during the late summer and early fall. Plants set at any time, when the weather is favorable, from July to December should produce a fair crop of fruit the following spring. In the Gulf region one or, at most, two crops are gathered from the same setting. Throughout the central and northern parts of the state from two ot four crops are gathered from the same planting.

Before planting the soil should be thoroughly broken and pulverized to a good depth. The rows should be slightly elevated. If the hill method of growing is adopted, as is the custom in South Mississippi, three feet between rows is about right; if the matted row is used, three and one-half to four feet between rows is better. With summer and fall plantings, which are expected to bear fruit the following spring, plants should be set not more than twelve inches apart in the row. Varieties like Excelsior, Lady Thompson, and Klondike, which make many runners (new plants), need not be set closer than thirty inches apart in making spring plantings. Stooling kinds like

Nick Ohmer and Gandy should stand eighteen to twenty-four inches apart in the row.

At no time between the taking up and the resetting of plants should the roots be exposed to sunshine or wind. If dry weather prevails, muddy or "puddle" the roots and keep them covered with some moist material until they are committed to the soil, If the roots are long cut them back to about four inches in length. Setters should follow immediately behind the droppers. Care should be taken to spread out the roots of each plant in their natural position and to work finely pulverized soil in among them with the hand. The soil should be firmly pressed over the roots. In no case should the crowns, or center buds, rest below the surface of the ground. On waxy clay soils it is safer to plant a little shallow than too deep. If dry weather prevails pour a pint or more of water around each plant and cover the watered surface with dry soil to prevent crusting. During hot windy weather a handful of short straw, half rotted leaves or like material, left over each plant for a few days after setting will conserve moisture until pant growth is resumed.

Cultivation required for strawberries does not differ materially from that given the average garden vegetable or the nicely treated corn or cotton crop. Differences in latitude, soils, season, etc., render it necessary to vary general rules to suit existing conditions. The object of the first season's treatment is to develop a perfect stand of strong, vigorous plants for the following year's fruit crop. The cultivation of strawberry plants set in the spring should be begun a few weeks after planting. The same cultivator, sweep, and harrow used with garden crops will do the work required between the rows nicely. A four to six tined potato fork and light sharp hoe are the only tools needed to keep the soil along the line of the rows in proper condition. As the vines attain only a few inches in height more care must be taken in cultivating near the rows than with taller plants. It is safe to say that the cultivation of strawberries during the entire year need not cost as much as the same area in garden vegetables. As a rule horse implements may be laid aside about November 1st, and cultivation discontinued until the end of the fruit harvest the following spring. Any grass or weeds that interfere with the plants during the winter or spring months may be cut away with sharp hoes or weeded out by hand. Resume cultivation as soon as possible after the fruit harvest. Begin the work by "barring off" the rows with a sharp one-horse turnplow reducing the matted row to a strip of plants not wider than six to eight inches. In the

bottom of the turnplow furrow run a subsoiler stirring the soil as deep as the strength of your best mule will permit. Follow the subsoil plow with a spike-toothed harrow, well weighted, to level and pulverize the soil in the space between the rows. Sharp hoes should follow, cleaning weeds and grass from the drill and reducing plants to a stand. From this time forward to the end of the season cultivation is the same as for the first year.

On new plantings runners make their appearance early in the spring. If the soil is in nice condition the newly formed plants on these straw-like appendages will root rapidly when brought in contact with the surface. The ideal stand for the matted row is one in which plants are so distributed over a fifteen to eighteen inch strip along the top of the row that each plant will be six to eight inches from its nearest neighbor. The first and best runners should be so placed as to secure the desired stand. Any surplus plants should be treated as so many weeds. The usual method of getting rid of any runners that extend beyond the suggested limits of the matted row is to destroy them with the cultivator. Any surplus plants that may have rooted within the limits of the matted row may be dug out during the fall and early winter and sold or used for making new plantings.

Where fertilizers respond nicely to garden and field crops we may expect good results from the same fertilizers applied to strawberries. A light dressing of barnyard manure applied to the surface along the top of the row during early winter is an ideal fertilizer. In the absence of such manure equal parts by weight of cottonseed meal and high grade acid phosphate, applied at the rate of 500 to 1,000 pounds per acre will usually supply the needed plant food. On sandy soils, especially in southern Mississippi, 100 to 200 pounds of kainit per acre may be added. When using commercial fertilizer in the quantity suggested it is best to make two or three applications during the year; the first during spring, with young plantings, or at the first working after harvest with older beds; the second the latter part of summer, and the third during December. The first two may be applied along each side of the row and lightly cultivated into the soil; the third as a top dressing between and immediately around the plants.

No matter how large or how fine, nothing so injures the looks, taste, and sale of strawberries as sand or soil adhering to the fruit; hence, the good reason for carefully mulching the entire planting where pine needles, oat or wheat straw, old hay, half rotted leaves, and such materials may be had at small cost. Mulching materials should be placed between and along each side of the plants and under

the foliage but never directly over the plants. It should be sufficiently thick to hide the soil from view. Mulching should be done after cold weather has killed or driven into winter quarters most of the insects.

Picking season begins about one month from the date of the last killing frost. Near the Gulf berries frequently begin to ripen during the latter part of February. In the middle and northern sections of the state harvest begins April 1st to 15th. Gathering period may last from four to twelve weeks; and, as a rule, is of longer duration near the Gulf than farther north. To make the vines yield their best, all faulty fruit should be kept off and the good berries gathered as soon as sufficiently matured for market or for table use.

The greater the care in gathering and in handling the fruit, the longer it will keep in good condition. In picking slip the thumb and first finger below each berry and pinch off with it about one inch of stem. Handle the fruit as little as possible and keep in a cool place until ready for shipment or for home use.

Remember that strawberries and the other fruits mentioned in this bulletin should be regarded as a necessity, not a luxury; that the best fruit market on earth is found at your own table; that the best strawberries ever flavored with Jersey cream or frosted with sugar may be grown at small cost in your own garden; and that such fruits are not too good for the members of your household.

Mississippi Nurseries, 1910-1911.

A. C. Ball, Mantee.
J. C. Barton, Booneville.
I. E. Bass & Sons Pecan Co., Lumberton.
Bechtel Pecan Nurseries, Ocean Springs.
V. J. Bell, Grady.
D. C. Benton, Lakeview.
James Brodie, Biloxi.
R. W. Bruce, Port Gibson.
Cassell Nurseries, Canton.
The Corinth Nurseries, Corinth.
The Cummings Co., Meridian.
A. G. Delmas, Scranton.
I. P. Delmas, Scranton.
The Eupora Nursery, Eupora.
C. Forkert, Ocean Springs.
L. E. Hall, Scranton and Hattiesburg.
B. N. Hatch, Handsboro.
F. H. Lewis, Scranton.
The Newton Nurseries, Newton.
Ocean Springs Pecan Co., Ocean Springs.
Peachwood Nurseries, State Line.
Ramsey Pecan Co., Ocean Sp'gs.
W. P. Ramsay, Seymour.
The Rosebud Nursery, Kilmichael.
Southern Floral Nursery Co., Bucatunna.
Southern Nurseries, Tomnolen.
Southern Nut Nursery Co., Ocean Springs.
Mrs. W. R. Stuart, Ocean Springs.
Tackett & Lundy, Lexington.
M. J. Taylor, Scranton.
Toomsuba Nurseries, Toomsuba.
United States Nursery Co., Roseacres
W. R. VanCleave, Scranton.
D. B. Watson, Weir.
J. P. Wilson, Gulfport

AVAILABLE BULLETINS AND CIRCULARS.

The following bulletins and circulars of the Station may be had on request:

BULLETINS.

No.

60—Value of Cotton Seed to the Farmer.
83—Report of Work at McNeill Branch Station for 1903.
84—Report of Field Work at College Station for 1903.
90—San José Scale.
91—Inspection and Analyses of Commercial Fertilizers.
92—Beef Cattle.
93—Peach and Plum Culture.
94—Report of Work at McNeill Branch Station for 1905.
95—The Dairy Cow.
99—Fertilizers.
100—Farmers' Institute Bulletin, 1906.
104—Inspection and Analyses of Cotton-Seed Meal.
107—Pork Production at the Delta Station.
111—Experiments in Feeding Dairy Cows.
114—Inspection and Analyses of Cotton-Seed Meal.
119—Report of Work at the Delta Branch Station for 1907 and 1908.
121—Experiments in Feeding Beef Steers.
122—Report of Work at the Holly Springs Branch Station for 1908.
125—Inspection and Anaslyes of Commercial Feeding Stuffs.
127—Inspection and Analyses of Cotton-seed Meal.
128—Inspection and Analyses of Cottonseed Meal.
129—Sugar Cane for Syrup Making.
132—The Soils of Mississippi.
133—Inspection and Analyses of Commercial Feeding Stuffs.
134—Broom Corn.
135—Cotton 1909.
136—Feeding Beef Steers on Cottonseed Meal, on Pasture.
137—Inspection and Analyses of Commercial Feeding Stuffs.
138—Inspection and Analyses of Commercial Feeding Stuffs.
139—The Boll Weevil in Mississippi, 1909.
140—Cotton Diseases in Mississippi.
141—Control of Diseases of Fruits, Flowers and Vegetables.
142—Inspection and Analyses of Commercial Fertilizers.
143—Inspection and Analyses of Cottonseed Meal.
144—Inspection and Analyses of Commercial Feeding Stuffs.
145—Inspection and Analyses of Commercial Feeding Stuffs.
146—Suggestions for Growing Home Fruits.
147—Apple Growing in Mississippi.

TECHNICAL BULLETINS.

2—Some Scale Insects of Mississippi and Texas.

CIRCULARS.

Asparagus.
Blackleg.
Boll Weevil.
Insect Pest Law.
Underground Waters of Mississippi.
Hairy Vetch.

Address, AGRICULTURAL EXPERIMENT STATION, Agricultural College, Miss.