Mr President, Ladies and Gentlemen:

As your Committee of last year covered quite fully many important points leading to the culture of peaches, pears and plums, we deem it unnecessary to go over this same ground at length. We will, however, discuss briefly those problems which are of the most vital economic importance to the grower, and more fully some other phases of the subject which were not presented last year or not fully developed. Your Committee in this report prefers to pass over the topics or discussions on pecans and persimmons, as our President has so ably covered these subjects in his writings, and we have no further or fresh data to present thereon.

PEACHES

We will take the subject of peaches under first consideration, and in this connection the nature of soils most adaptable for their successful propagation. Peaches thrive in almost any soil that is well drained, and has the essential elements of fertility present in reasonable quantities, but the first essential is good drainage. A soil ranging from a clay to a sandy loam will usually give the best results. In some places experience seems to indicate that stiff clay or moist land is preferable. This, however, is due to the fact that the trees are on peach stock and that nematodes (to which we refer later) do not thrive in such quality of soil. It is a known fact and familiar to many that a peach tree located in the back yard and which receives dish water or soap suds almost daily will thrive far better than one situated at a distance from the home, and only gets water every once in a while, possibly not at all except what nature may supply.

Proper location to insure early fruit is of great importance. The crest of a hill or proximity to water seems to tend to keep off frost. If this precaution is not taken, the fruit is liable to injury from late frosts every few years, and this danger increases the further south you go in Florida. A sudden freeze, not altogether an unusual occurrence, is liable to nip the bloom or the swollen buds at the most critical moment, and the early blooming varieties are naturally more susceptible. As the further south along the peninsula the bloom is earlier, hence the greater hazard, and consequently the greater necessity for greater precaution. Later varieties may be planted further from water pro-
tection or on lower ground, as the risk from damage from frost is not so great. There is a very common error in planting peach trees, in not taking the earliness or otherwise of the variety into consideration when the location for each is being selected.

This brings us to the consideration of the importance of varieties selected to suit the location in which they are to be grown. This point has been covered at various times in many series of articles or bulletins, so we will do no more than allude to it in as brief a manner as possible. There are five general groups or types into which the varieties of peach trees are divided, namely, the Peen-to, the South China Type, the Spanish or Indian Type, the North China Type, and the Persian Type. For northwestern Florida the North China type, such as the Elberta, seems the most adaptable; for east Florida in the north section the Spanish type for late fruit and the Peen-to and South China types are the most acceptable without going into specifying each variety, such as the Waldo, etc. For South Florida, the Jewel of the Peen-to type is the favorite and best from a commercial standpoint, and for this district there are many other varieties, but almost exclusively of the Peen-to type, such as Waldo, Hall’s Yellow, Angel, Millen’s Favorite, a new variety originating from Dade City, and the Rival. An important feature in this selection of varieties, however, is the fact that all with the exception of the Jewel will come into competition in the market with peaches from other sections, but the Jewel is invariably two weeks ahead of all others, hence its importance from a commercial standpoint.

Relative to planting, the soil should be well prepared for the trees by early breaking and thorough harrowing, and trees are best planted in December or January, although under favorable conditions they may be planted much later. Trees should be set from 15 to 20 feet apart each way, the closer distance perhaps being the better. In many instances peach trees are planted in citrus groves alternating with each tree, so if the grove is planted 30 feet from tree to tree, the peaches intervene at 15 feet. While we do not advocate this as good practice, preferring to set peaches as peaches and citrus as citrus, keeping each separate, it is quite admissible where the necessities or requirements of the grower call for such an arrangement, such as gaining time for returns to help his grove expense or in utilizing to the utmost a small area. Before planting all tops should be cut back closely, the roots freshly pruned upon putting the tree into the ground, and where it is on plum-stock set with the union 4 to 5 inches below the surface. Trees on plum-stock may be planted on either old or new land with every success, and in the event of any dying they may be replaced and the orchard maintained indefinitely. Trees on peach-stock should be set only on new land and even then only where the soil conditions are clay or moist.

Cultivation of a peach orchard should not be haphazard, but carefully carried out. Give clean cultivation the first
year with cow peas, beggarweed or other similar crops except the Florida velvet bean, sown along the rows. The Florida velvet bean is too liable to smother the trees but the Yokohama would not. However, cow peas or any crop subject to root-knot should not be planted where peach-stock is used. A space several feet wide around the trees should be left bare and cultivated frequently. After the first year shallow and frequent cultivation should be practised until May or June and then the land left to beggarweed or cow peas.

The first year the trees should receive a fair application of fertilizer containing about 2½ to 3 per cent of ammonia, 6 per cent phosphoric acid, and 8 per cent potash. As the trees come into bearing the phosphoric acid may be increased to 10 per cent and the potash to 12 per cent. Much of the ammonia may be derived from the leguminous crops in the rows and if such are used the proportion of ammonia in the commercial fertilizer should be reduced. Peaches do not require any large amount of ammonia, but still they like more than pears or plums. Trees on peach roots, however, should have more than those on plum-stock, as ammonia helps the trees to withstand to a very great extent attacks by nematodes. Large quantities of ammonia push too rapidly wood growth on plum-root stock. The plum is naturally a gross feeder and were the plum-stock fed too highly on ammonia too rank a wood growth would result, which is not desirable, as wood must be sacrificed for fruit, the main object for which the trees are grown. Best results in fertilizing are obtained by making several applications, the first in January or February, the second in May or June, the times for these depending upon the earliness or otherwise of the variety treated. When the trees reach bearing age a fall application of mineral element is beneficial.

Pruning is the real science of peach culture. Pruning at the right time and in the right way is one of the most important points to consider in caring for the trees. When set, as already stated, they should be cut back closely, and they may be trained to a compact head by pinching out the growing tips from time to time during the summer. The first winter after setting, the trees should be pruned so that only three or four limbs branch from the main trunk. These should slope outward and upward making a vase-shaped top with open center, and each branch should be headed back to about half of its length. Always prune so as to remove "blind wood" as much as possible in those varieties where this formation is prevalent, this has special reference to the Jewel. The cut should be smooth and slightly sloping and close to a bud with the uppermost bud on the outside of the limb. After the second year most of the pruning should be done in the summer immediately after the crop is removed. This is contrary to the general practice of pruning when the trees are dormant, that is during the winter season, but the climatic conditions of Florida call for a variation in this practice and hence the advocating
of summer pruning. With all early maturing fruit the pruning can be done by July 15th. There is no use doing much summer pruning after August 1st, as it is then too late for the formation of a fruiting top of desirable size for the next year's crop, and also after that time much of the growth is "blind."

Close winter pruning induces a heavy growth of new wood with the consequence that the fruit is shaded by heavy foliage and is later and not so highly colored. Our season is very long for a tree to maintain a continuous unchecked period of growth, and summer pruning gives a brief respite followed by rapid growth which will form a new top for next year's crop, and the increased leaf area builds up food for a future crop, storing it in the limbs of the tree. Where pruning has not been done for some time the leaves maturing late in the summer are attacked by fungi and hence fall at the time they are most needed, and even if sprayed the old leaves would not be such efficient starch producers as the new growth. Again, where the leaves have shed during the late summer, there will be another attempt on the part of the tree to leaf-out again in the fall. This will occur when maturity should be setting in for the winter, thus exhausting some of the starch already stored in the limbs for future use. Correct pruning should put the trees in such shape that no fruit-ladder would be needed. Short limbs reduce the strain on the tree and much larger and finer fruit can be grown near the main trunk than on long limbs. If any member of our Society who plays golf wishes to put the matter to a test let him try the difference in carrying a basket of peaches in his hand or at the end of a 10- or 15-foot pole, and he will obtain an accurate idea of the tree's position, and realize why it strikes for a shorter crop just as he would strike for a shorter pole. Correct pruning results in these three prime essentials: (1) Lower cost in picking and tree ladders not required. (2) Better fruit; the peaches will average from 50 to 100 per cent larger, of much finer appearance and superior quality. (3) The average life of the tree is almost quadrupled.

Thus much for the tree, now for the fruit. No work on a peach orchard pays better than thinning and it seems strange how very generally it is neglected. Thinning also prolongs the life of the tree, and also improves equally with proper pruning the quality and the size of the fruit, which means higher prices and better returns. Moreover peach trees which are regularly pruned and thinned should bear every year and not alternate years, as so often is the case. There is one golden rule, and one only, for successful thinning. This is "no two peaches should stand closer on the same branch than five inches." Thinning should be done when the fruit is about the size of the thumb nail, but precaution should be taken not to do this until after all danger from frost is over, as it is possible that some of the fruit might be injured by cold, whereas others would escape and the grower can judge accordingly the extent of his thinning. Many au-
thorities maintain that it takes ten times as much nourishment from the tree to form seed as it does to form pulp, hence the wisdom of reducing by thinning the proportion of seed to pulp.

Regarding the question of diseases, we consider this matter was so fully discussed in the paper on this same subject at the last meeting of the Society we will not weary our readers with a repetition as, so far as we are able to ascertain, there have been no new developments either in new diseases or in new methods for controlling those that are already known.

PEARS

Too many of our fruit growers do not regard pears as worthy of their consideration, low prices, blight and thrips being responsible for this view. The last few years, however, the prices have been much better, and especially so on early fruit shipped to northern markets. The later fruit usually sells quite readily in local markets at remunerative prices.

The first consideration in controlling blight is the selection of a suitable location for the orchard. Hammock, wet or insufficiently drained land, and clay basins should never be selected for pears. It seems sandy land without clay for a considerable depth is best, but clay lying nearer the surface is not so objectionable if the land is well drained and does not occur in the form of a basin. The object of this is to select a soil which will always have ample drainage and promote a slow, well matured growth of wood. It may even be stated that soil which is ordinarily too poor for the production of field crops is well adapted to pears. The bacteria which causes blight enters in two ways, either through the tips of rapidly growing wood or through the bloom. By checking a too succulent growth of wood this avenue of entry is blocked. However, the bacteria may still enter through the bloom, but by removing all fruit spurs from the larger limbs, these can be protected, and where it enters the smaller limbs these may be removed in pruning without a very serious loss of top. All pruning tools should be dipped in carbolineum or Bordeaux to prevent infection.

It is best to prune in summer, as the trees will not then make such a rapid growth which would induce new infection. The only essential pruning for pear trees is to give proper shape, remove fruit spurs from the large limbs, and cut out dead or diseased wood.

Thrips attack pear-bloom, causing it to fall, and giving the leaves a shaggy diminutive appearance as if they had been exposed to fire.

Tobacco decoctions or other sprays will hold the insects in check and insure a good crop of fruit. Rains or cool weather at the blooming period will have the same effect.

San Jose scale attacks the Garber and Smith pear, but it is easily controlled by spraying.

In fertilizing very little ammonia is needed, but plenty of lime, phosphoric acid and potash should be applied. Thinning of fruit should be practised as in peach culture, and for the same rea-
sons. Two or at most three pears to each hand of bloom is enough for the tree to bear if quality of fruit is desired.

Of the older varieties Kieffer, Le Comte and Smith are the best; of the newer, Garber, Cincinsis, Magnolia and Suwannee are to be preferred.

**PLUMS**

To the man who is looking for large returns from a small outlay of money, plums offer a splendid opportunity. They thrive practically on all soils, require but little care, and have but few insect enemies or diseases. The trees and fruit are seldom if ever injured by cold.

The trees do well on thin sandy soil, especially the Kelsey, which will not stand much ammonia. On soils rich in ammonia Kelsey fruit will be off in color and often decay before maturity. With a sparsity of ammonia the fruit is of splendid color and superior flavor.

The trees should be planted from 15 to 20 feet apart each way and be well cut back, like peaches, at the setting. A larger growth can be secured by heading back about half of each year's growth for the first two years. The limbs should also be opened up to a certain extent, and there should not be more than three or four branching off from the main trunk. After the second year little pruning is necessary.

Thrips, Curculio and San Jose are the most serious pests for South Florida, but these can be combatted and controlled in the same manner as for peaches. The idea that wild plums must be planted in proximity to cultivated varieties in order to insure a good setting of fruit does not seem to be correct. The cultivated varieties bloom several weeks after the wild ones, and when thrips are checked by spraying or rains, they set a good crop regardless of whether there are wild trees around or not. It is purely a matter of thrips, not of pollination.

The Kelsey is unquestionably the most popular market variety, as the fruit is large, handsome in appearance and of excellent quality. The Excelsior is usually considered a better bearer, and has the advantage of blooming earlier when there is less thrip. Terrell, McRae and other varieties do well.

We feel our time is limited, and certainly space. The list of deciduous fruit trees grown in and adaptable to Florida is a long one, and we have only here touched upon the three principal ones, or rather those which are the most taken up and cultivated. There should still be much to be said on the fig, the mulberry, dwarf pear trees and the quince, upon the English or rather the Persian walnut, and the list might even include the blackberry and the dewberry. In our opinion these should be made subjects for separate papers at our next meeting when more statistics and reliable information can be gotten together than what we are in possession of at this time. Of these we think the culture of the fig is the most important, and there are many who are now trying this out, but as yet it is too early to obtain very conclusive data.