Florida has a set of conditions peculiar to itself as regards its part in the pecan industry. Large, stately trees and scattered orchards in North Florida planted prior to 1900 give rank to the State as one of the pioneers in the cultivation of this nut. The profit which has been derived from many of the older trees and orchards affords ample proof that there is good money in pecan growing in Florida. The main question is not whether pecans can be grown with greater profit in some other state than they can here, but whether there is as much or more profit in growing pecans here as there might be in other crops if grown on the same ground. Another question is how to raise as good or better pecans in Florida as are raised in any other state, for unless this is done, Florida will not only be kept out of the northern markets, but her own markets will be supplied with pecans from other states.

That Florida marks the southern limit of pecan growing in the eastern states is obvious; but whether that limit ends at Key West or some distance farther north has not yet been fully determined. We well know that the pecan species does not readily adapt itself to peat soils, nor to drifting sands, nor to poorly drained swamp lands. We know that for its best development it requires a fertile clay or sandy loam, moist, yet at the same time well drained. We know also that winter injury or sun scald, as it is also called, is very apt to be a serious menace in sandy soils unless underlaid with firm clay subsoils. With these facts as a basis, we know that conditions are much more favorable for pecan growing in that part of the State lying north of an imaginary line extending from New Smyrna on the east across to Tampa, than they are south of that line. Also that in general, conditions become increasingly more favorable as we go north of that line and, conversely, less so as we go south of it. It is, therefore, in middle northern, northern, and in western Florida that we would naturally expect to find, and do find, the pecan industry the most highly developed.

There are very few pecan trees in southern Florida, although here and there stray trees are doing well, below the line we have arbitrarily established. Unconfirmed but reliably regarded reports have it that there are fine specimen trees in Miami and Ft. Myers. Some years ago the writer visited a hundred or more thrifty young pecan trees near Lake Huntley, thirty-five miles east of Arcadia, and about as far north of Lake Okeechobee, on the very backbone of the State. As well as could then be judged the local conditions were by no means unfavorable to successful pecan growing. Many of the trees had been budded or grafted on stocks
Florida is much like other pecan states in that the yield from her better varieties is almost in direct proportion to the fertility of the soil. Few of the soils in the State are closely similar to those of the more western sections in which, and only in which, the pecan species is indigenous. There is no large area of alluvial soil anywhere in Florida. Nature never grew any great number of pecan trees far outside of the overflow river-bottom lands, except possibly in Mexico and there is serious doubt as to whether there are native pecans in Mexico or, for that matter, anywhere else in the world outside of the United States. At any rate, there are so few successful pecan areas outside of this country that it is useless to look beyond our own borders for information throwing further light on pecan growing.

Here in Florida as in other sections, the best results are invariably from trees about the farm or city buildings. Chickens, hogs, mules, or any other kind of live stock running under the trees, unless they injure some part of the trees, enable them to pay big dividends. It is the doorway or barnyard trees that make the most rapid growth, have the richest color, the densest foliage, the fewest dead branches, and bear the most regular and liberal crops.

Judging from the way pecan trees, recently visited have performed in the past, and from the way they give promise to perform in the future, even though sometimes growing in pure deep sand, there is no reason why practically every home in middle and northern Florida should not have its own pecan trees, to salvage much of the plant food now going to waste from the chicken parks, and barn lots. There are unknown possibilities in by-product pecan crops if managed in this way. Many aged couples in southern cities are today living comfortably because the taxes, insurance, and upkeep are being paid, with perhaps a margin in addition, by pecan trees, which these couples planted 15 or 25 years ago while their neighbors planted oaks.

To get the most out of the pecan orchards already planted, Florida must add to the fertility of the soil. Cowpeas, beggar-weed, Lespedeza, velvet beans, or other leguminous crops must be grown and turned under year after year. There is little danger of over-enrichment of the soil, although that is possible. If it should happen, it could be quickly remedied by simply withholding the cover crop for a year or two.

In not a few of Florida’s orchards, like most of the earlier ones planted in other states as well, the trees are too closely planted. The trees now have a great amount of dead wood and long spindling branches, void of laterals except near the ends. In case of non-bearing orchards, the alternate trees should be cut out and those remaining, headed back to stimulate new growth and re-shape the trees. In less run-down orchards the alternate trees should be dehorned severely so as to promote this new wood. For a year, or possibly two years, the remaining trees can be allowed to go without being disturbed. The increased light and space temporarily allowed them will
permit increased crops for the time being. As soon as the trees which were dehorned begin to take shape again, those originally left untouched should be done away with. In good soil, sixty feet apart each way is now regarded as being about the most suitable orchard distance. That distance certainly is not too great. More space may yet prove to be better.

In planting, budded trees, or trees grafted at least a foot and a half above ground are preferable to those budded lower, or to root grafted trees. Trees propagated near or below the surface of the ground are much more subject to winter injury, or sun scald, as we are calling it, than are those worked well above ground. This is because low working does away with, for upwards of ten years, the natural scaly bark of the seedling about the trunk intended by nature as a means of winter protection.

We are all familiar with the smoothness of the bark above a bud or graft as contrasted with that below. When this smooth bark, which is full of life to very near its outer surface, is brought to the ground level, the warmth of the sun in winter, reflected from the earth’s surface, usually on the southwest side of the trunk, causes the wood cells to swell up and to make ready for growth. A freeze during the following night catches the sap, injures the cell structure, and the harm has been done. This is followed by what is known as “sour sap,” and some kind of action not clearly understood but which is known to be decidedly destructive to the affected area.

Occasionally the injured tree recovers of itself before serious damage has been done. Sometimes relief is afforded by merely slitting the bark through the injured area and allowing the fermenting sap to escape. Not infrequently, the injury is unnoticed until the area so affected has enlarged and completely girdled the tree, causing death suddenly. With the exception of starved or devitalized trees, which are in a condition to succumb upon any slight pretext, it is the most vigorous and rapid-growing trees that are affected.

The remedy is, as has already been partly stated, to avoid low propagated trees, and quick growing sandy soils, especially unless underlaid by firm but not hardpan clay subsoils, and to wrap the trunks of the trees each winter until five or six years old with burlap, heavy paper, rabbit veneer, or other material which will shade the trunks and protect them from the warmth of the sun during periods of freezing nights. As a precaution, it is well to avoid such cultivation and fertilization as tends to stimulate late growth in fall. Cultivation should be stopped by August at the latest.

In regard to varieties, we must be guided by two factors. (1) We must plant what will succeed in our locality. (2) We must grow what the trade wants and not what we may happen to fancy ourselves. So far as possible, we must also grow what our neighbors are growing, so that altogether we can have quantity great enough to invite the wholesale trade. The trade can not and will not assimilate a great number of varieties or grades. Within certain limits quantity and uniformity are of greater importance in the marketing of pecans than is quality. Quality must be good but not nec-
essarily fancy. In quantity, the trade wants the things it knows about, and not the "just as good" kind.

From four to six varieties, when of well-selected sorts, is proving to be a very satisfactory and workable number for both the orchardist and the tradesman to handle. Intelligent selection with that number affords a prolonging of the blossoming and pollination period in spring, thereby enhancing the chances of avoiding bad weather, and it also makes possible the maximum length of the harvesting period. The cream of the pecan market for the whole year is that of Thanksgiving. We must have some varieties for that market. With large crops to harvest, it is of advantage to have a harvesting period capable of possible extension from October 10th to December 1st. With some varietal combinations in favorable years, it is possible to begin harvest by from September 15th to 25th, and under stress of labor shortage, inclement weather or similar condition, it sometimes happens that the crop can not all be gathered until late in December. In southwestern Georgia, the crop of 1918 was not all garnered until the first days of January. In dry West Texas, nuts from the wild crop of 1919 were still being harvested during the first part of March, 1920.

Taking together all the points in regard to varieties that have thus far seemed of leading importance, from the standpoints of both the producer and the tradesman, the Schley, Alley, Pabst and Stuart may well be regarded as being the big four of the major portion of the pecan territory. In this part of Florida, these sorts do not seem to give as satisfactory returns as do some others. They do well here in the Florida climate only in the richest soils. With maximum conditions of soil and moisture, some of these have in a number of known instances performed very satisfactorily, notably on the north bank of Lake Santa Fe near Waldo, and in St. Augustine. Nuts from the former locality have several times won first premiums at meetings of the National Nut Growers Association.

On the whole, results to date indicate that the Bradley, Curtis, James, Moore and President, though not necessarily in that order are among the surest of the good varieties for Florida use. Other good ones of which you may know and be inclined to plant are Delmas, Frotscher, Hume, Kennedy, Moneymaker, Randall, Success, and Van Deman. Each of these has been omitted for a definite reason. The Delmas and Van Deman are seriously subject to pecan scab; the latter is in addition a shy bearer unless given special nourishment. The Frotscher is a shy and undependable bearer. It is being abandoned in the older orchards where it is best known. The Hume, Kennedy and Randall are all good varieties, and by some rated as being among the best for middle Florida. All are sister seedlings to Curtis and unless superior to it in some ways, there is no good reason why they should be used in preference to it. They are, however, too good to cut out from orchards already planted, but for uniformity's sake, until we know definitely that these sorts are superior to Curtis, let us stick to that variety in future planting.

The Moneymaker is very desirable in some ways. It is an excellent bearer,
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bearing at an early age and bearing regularly. It matures early in the season, but the best Moneymakers you ever saw were but ordinary nuts. They are variable in size, without attractiveness in appearance, thick-shelled, and much of the time poorly filled. In the market it compares poorly with Schley, Alley, Pabst or Stuart. Nevertheless, the Moneymaker will withstand neglect, and perhaps, if abuse and neglect are necessary it is one of the surest of all varieties to give fair returns.

When perfect, the Success is one of the best varieties grown. It is large, attractive in appearance, thin-shelled, easy to crack, and when at their best the kernels are plump, of a rich brown color, and exceedingly pleasing of flavor and quality. There are two drawbacks to the Success; it tends to over-bear, and as a result to develop poorly-filled and even shrivelled kernels. The greater drawback, however, so far as Florida is concerned, is that, according to very recent reports, it is susceptible to pecan scab in this state. Mr. McManus of Waldo finds that it scabs "almost as bad as Delmas."

Time forbids a detailed discussion of all varieties. However, there are four well known sorts which merit mention for reason of their undesirability. These are Mobile, Nelson, Rome (syn. Columbia), and Teche. The first two and the last are extremely prolific; the first fairly thin-shelled, but after the first few crops most disappointing inside the shell. The Nelson is one of the largest of all varieties. It is also one of the thickest shelled, but it is like the Mobile in its excessively high proportion of faulty kernels and nuts, the shells of which are wholly blank. The Teche is over-productive, small, of poor flavor, and often so poorly filled that they are not picked up from the ground.

The Rome, or Columbia, as it is synonymously called, is one grand failure from first to last, with few unimportant exceptions.

In conclusion, let me summarize briefly a few of the points touched upon in the foregoing and which are left here for your consideration.

Carefully select your varieties from those already known to the trade; do not have more than six at the outside, better not more than four. Buy from reliable nurserymen, not from agents, unless you know them to the core. Plant in your richest soil, preferably 60x60 feet each way. Use only budded trees or those which have been grafted a foot or more above ground. If troubled with winter injury, shade the trunks during spells of night freezes, while the trees are under six years of age. Grow Schley, Alley, Pabst and Stuart when you can overcome climatic conditions. Add the Moore to this group as a variety you can harvest in some years before September 25th. For general planting, for the present stick to Bradley, Curtis, James, Moore and President. With the exception of the James these are all Florida varieties.

Mr. Simmons: I would like to ask what influence the type of soil has in controlling the distance between trees.

Mr. Reed: To the extent at least, that in a rich soil the trees are apt to crowd each other sooner than in a thin soil, and yet on the other hand, in a thin soil the
roots are apt to grow farther from the top, so it may be an advantage there to give them the same space. On the whole I think that 60x60 is as good a distance as we can give them.

Mr. Simmons: You would recommend that for all types of soil?

Mr. Reed: I think so. Now, there may be two sides to that, mine and also President Hume's. It is quite an important question.

Mr. Simmons: My orchard is planted on a very thin type of soil, what we know as good for nothing except to hold the world together; and my trees have developed in size apparently, as other trees have in other types of soil. I have had a great many nut growers to visit my orchard, and last fall a year ago, they noticed the improvement and I was very much encouraged by their statements that they had never seen trees of that size and age that had a more abundant crop, and one grower said that he felt that I had 35 or 40 per cent more fruit on my trees for the same age and size than he had ever seen on a forty-acre plot. My question was whether or not we should determine the distance between the tree rows by the type of soil.

Mr. Hume: I might say that my usual recommendations are 40 to 45 feet apart. I am very certain that during the first 25 years you will get more fruit.

Mr. Reed: You are talking, Mr. President, about these thin soils?

Mr. Hume: I am referring to our soils generally.

Mr. Reed: It may be interesting in this connection to cite the case of a little orchard in Thomasville, set 50 feet each way in 1905. This spring the alternate trees have been removed, leaving 100 feet apart. There is a man who had the nerve to remove alternate trees.

Mr. ———: That is good practice.

Mr. Hume: I think if I were planting, I would plant about 35 feet apart and then 30 years from now I would do about the same as this Georgia man has done. I would remove the alternate trees, but they say very few men have the nerve to do that.

Mr. ———: Mr. President, it may be of interest for me to state that last year I saw some very good pecan trees that were beginning to bear, down about the tip of Florida, at Homestead, the place where they don't have any soil; it is all rock, but I think it is broken up where the trees were planted. That same man is also succeeding very well with the Japanese persimmon and peach, but I was surprised to find the pecans looking so well and growing.

Mr. Taber: I would like to say, Mr. President, that I was a little bit surprised at the Frotscher; now I may be a little bit sensitive because I introduced this variety into the State, but apart from that I think, Mr. President, that you will bear me out that our older pecans of the Frotscher variety have netted us more money this year than any of the varieties we have.

Mr. Hume: I think that is true. I do not believe Mr. Reed's criticism of Success either. I have had Success and Delmas standing side by side. I have cut off and worked all the Delmas over because of scab, and I have never seen scab on Success. Why Mr. McManus should have it within 40 or 50 miles of me and we not have it is a question in my mind
and when I am asked for a recommendation for planting in either northern or western Florida I put Success in the first place. I am interested in a grove containing about forty acres that is just coming into bearing. This past fall we got our first crop of any size out of it. It is, I think, seven years old. The crop was not very large, about seven hundred pounds. The grove is composed approximately of equal parts of Success, Stewart and Curtis. We got as much Success out of it as we did Curtis. The Curtis sold for forty cents and the Success sixty cents whole sale. I rather like Success.

Mr. Taber: The Frotscher brought seventy-five cents.

Mr. Reed: We argued this Success pretty thoroughly at the meeting of the Gulf Coast Horticultural Society held in Mobile last week, of which Dr. Winberg is President. The Success is regarded as one of their best and there is no denying that on young trees the Success does perform well and satisfactorily. And when the nuts are well filled, as usual on young trees, there are no better nuts. I would be inclined to agree with Prof. Hume or any other, who puts Success in the No. 1 group, but so many times we have seen Success nuts a little old, and while the Success continues to fruit, they are partially and imperfectly filled.

Mr. Hume: Isn't that a matter of underfeeding? Is it not the fault of the grower rather than the variety?

Mr. Reed: We cannot say. In the orchards of some of the most experienced pecan growers I have seen Success on the ground so scarce that they were not even picked up, but on the same tree in a little more favorable year, the nuts would be all that could be desired. It is not the high performance occasionally we are interested in; it is the high average performance, and if the Success could maintain that high performance that it reached frequently, with young trees and in certain years, when the trees get older, we would not mind Success at all.

Mr. Hume: Well, it is true, Mr. Reed, that Success is not an old variety, but is planted over the country generally.

Mr. Reed: As regards to the Frotscher, it has, perhaps, been favored more in southwest Georgia than anywhere else and many of the Frotscher trees have been top worked.

Mr. Hume: What is Mr. H. C. White doing with it?

Mr. Reed: Mr. White has top worked many of his trees. He has one tree in his garden that is doing exceptionally well. It has been regarded as a parent tree.

Mr. Hume: Let us consider what Mr. Simmons has been doing.

Mr. ———: He has been making garden under his trees.

Mr. Reed: Well, if anyone cares to do it it is up to him.

Mr. Simmons: Mr. Chairman, Mr. Reed criticised me two days ago on going through my grove. He said that I was depleting my grove by not growing field crops and turning the humus into the soil. I want to say, therefore, that I am very thoroughly impressed by what Mr. Reed said in regard to varieties and location. I think we are passing the time in the pecan industry when we should undertake to experiment. When a man wants to plant a few trees, I think he can do so in absolute safety by studying the performance
of the varieties and the type of soil in which he wants to plant.

If a man comes to me and wants to buy trees, I only recommend four varieties. If he says he must have a big nut, I recommend putting in the James, Moneymaker, President, and for my fourth choice variety, I have three of four others that I would suggest; but I would say in defence of the Teche, that while we have never found the Teche falling short of its wearing qualities for our soil, the Teche has been a wonderful producing nut, and the only objection I can have is the late maturing. They are the latest maturing nut and often times we have to be late to get our crops to market. But with this exception I think the Teche is a splendid nut. We all plant nut trees for the purpose of making money, and it certainly is a wonderful nut.

Mr. ———: People buy usually for looks and size, and the great majority of the people are not as familiar with the flavor and quality of the nut as they should be and therefore the Teche has been a wonderfully well paying variety with us.

Mr. ———: The Teche does bear, no question about that, but the Teche has an awfully hard reputation all over the country and we in Florida must realize that we have got to grow a product which will compete with the products shipped in from Georgia, Alabama and Mississippi.

Mr. Reed: I think I can promise you that Georgia and the other states where they have more pecan acreage, perhaps, than this whole country together, are growing Schley, Alley and Stuart and they are going to put them on the market. I would think a second or third time, and I would sit up at night and think about it a little before I would plant Teche to compete with the Georgia market.

Mr. Hume: We would think a good deal before we would put the Schley in down here. Nobody will ever plant Schley down here; they go slow on Schley here in the State. This is a broad question, Mr. Reed, and we cannot say it all in five minutes.

Mr. Simmons: I am not recommending anyone to plant Teche, and I would not recommend anyone to plant Frotscher; that has been one of the poorest nuts on my property.

Mr. Taber: I am going to have the last word and the next word. I introduced the Frotscher into this State, and I only want to say this, that I think the pecan is in the same status today, that the orange was in twenty years ago. As to the adaptation and selection of varieties, we can easily get misinformation if we talk about any one variety as sized up entirely by one location. Now I will admit that at our place in Glen Saint Mary, we have had good Frotscher trees, bearing as well, and the main point, bringing more money than anything else on the place.