

## Avocado Culture in South Dade County

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*Redlands*

A great deal has been said about the Avocado and its culture in different parts of the State, as to climatic and soil conditions, and as to type and variety of this fruit.

Avocado culture has been growing in leaps and bounds for the past four years in Dade County, and has been retarded only through the shortage of nursery stock available for planting. Hundreds of acres of Avocados would have been planted if trees had been obtainable. I know of cases where trees were ordered one year in advance in order to get the desired variety. The reason for this, I believe, is a shortage of bud-wood for nursery work. Fruiting of different types and varieties of the Avocado has been carried on by the nurseryman only, so that when a certain variety was found worthy of propagation, the source of bud-wood was very much limited. I hope the time is not far distant when the individual grower will take it upon himself to be of some help along this line, and plant a few seeds of the different races and varieties. In this way he is not only helping the industry in which he is actually engaged, but will be helping himself financially.

Avocado growing in Dade County, from the growers point of view, is indeed a promising one. In making this statement, I do not wish to infer, that we do not have our troubles in propagating this fruit. This, however, is only a natural condition and is one that confronts the grower of all fruits and vegetables.

I am going to give you a few facts taken from experience and observation during the past six years as a grower of this fruit. In doing this I shall confine myself to the district with which I am familiar—South Dade County.

The first question for the Avocado grower to solve is the land on which to make his planting. I would consider any land that is not subject to overflow, or land upon which water does not stand for more than two or three days at a time, as good Avocado ground. The Avocado is a gross consumer of this liquid, but also appreciates a happy medium. I have seen many Avocados destroyed in a very short time from stagnant water around the crown roots of the tree, and I would therefore regard land of this type with suspicion.

The type of land with which we have to deal in South Dade County, is of coralline origin, the rock coming to the surface and intermingling with a red clay soil. This soil is very shallow, which necessitates a preparation of the land prior to planting, for good results. This can best be done by scarifying to a depth of not less than six inches. Where this method has been tried out it has given excellent results. The majority of the older plantings of Avocados in this section did not have any preparation of the land prior to planting. In a good many cases the tree stumps were not removed, and has proven to

be a sad mistake and should not be repeated. Where no preparation of the land was made as stated above, the grower worked out a system of breaking the coralline rock from two to six feet around each individual tree during each year until the entire tract has been broken up. If this work is done in time, or in other words, if the root system has not been retarded to any great extent, the results obtained are very satisfactory.

The distance of planting the Avocado in grove form, should be given considerable thought, as in after years one may wonder just why he left so little room around his trees, in which to do the spraying, fertilizing and the harvesting of his crops. I would not think of planting any trees less than twenty-five feet in the row, and the rows the same distance apart, unless it was the kumquat. As the trees increase in size from year to year, one will find it very convenient to be able to drive down the middle of the rows without coming in contact with the branches of the trees.

Selection of the race and variety of trees that are to be planted is a question that is somewhat trying and often proves to be very expensive to the grower. A profitable planting will consist of trees that will fruit during different months of the year. The reason for this is plain when you consider that about 90% of the Avocados grown in this section today are fruiting during the months of August, September, October and November.

We have two distinct races—West Indian and Guatemalan—from which to make selections as to variety. The West Indian race has been extensively planted in this county, and has been used as stock in the propagation of the Guatemalan varieties. The Guatemalan race of Avocados has proven to be more hardy than the West Indian, and no doubt will be used as stock in nursery work, if the supply ever exceeds the demand. But with Guatemalan Avocados selling from five to ten dollars per dozen, I see no relief in sight for some time to come, in order to use this race for nursery stock.

In making your selection of the varieties you intend planting it would be well to know if they are climatically suited to your location. This is particularly true of the Guatemalan race, as they come to us from their native home, from far above sea level. Mr. Wilson Popenoe, of the Department of Agriculture, tells us that he had found Avocados growing at an altitude of 8,500 feet. With this information I am not at all surprised at the behavior of some of these varieties when planted a few feet above sea level.

I hope that sometime in the near future the Avocado growers will get together and select a standard as to variety and to season of fruiting. This should be done for the benefit of the present grower, and more so for those who expect to embark in this enterprise.

The following varieties of Avocados have done exceptionally well in this section, and I will class them as to season of maturity and race:

*Pollock*.—This is our summer fruit, maturing during the months of August and September, and is of very good quality. It is a large fruit weighing from two to three pounds, and is as a rule a shy bearer. This characteristic seems to apply pretty much to all varieties bearing large fruits. The tree is a vigorous grower, and of West Indian race. It has netted the grower some very good returns during the last two years.

*Trapp*.—This variety has been grown extensively in Dade County, for a good many years, and has been a profitable investment for the grower. Trapp is of West Indian race and is a fair grower and fruiter. We have found that this variety is not an even fruiter,

being inclined to put on more fruit than it is able to take care of, and at the same time put on new wood for the next season's crop. This is indeed an objectionable feature, as the tree is very often completely defoliated, leaving no protection to the branches from the direct rays of the sun, and the result is a stunted tree, which takes as a rule a year or more to overcome, and of course the loss of the crop on such trees for that year. I have seen Trapps bear themselves to death during the first two or three years after planting. This can be overcome by thinning out the fruit each season until the tree is strong enough to carry its crop. But you will find that the average grower will not carry this out, as it is like pulling teeth to throw good Avocados on the ground. This variety is also very much affected by Avocado scab. I will not take up time on this subject, as I think this will be brought out by other members on the program, but would like to say that if you insist on planting Trapps in South Dade County, I would advise that you place your order for a power sprayer at the same time, as you will find it impossible to produce marketable fruit without a system of spraying. I have also found that this variety has a small per cent of loose seeded fruit, the extent of which varies from year to year. This feature is not a desirable one, because the constant shifting of the seed in its cavity is no doubt responsible for the large percentage of decay which occurs while enroute to extreme northern markets.

*Waldin.*—The Waldin is a variety of the West Indian race, which was originated in Homestead, Fla., by Mr. B. A. Waldin and has a very promising future. This is a holiday fruit coming to maturity in November to January. It is a very good grower, and of good quality. The shape is oval, and is of good marketable size, having a tight seed and a tough skin. The tree seems to be more hardy than most of the West Indian race. During the cold winter of 1917 and 1918 this variety did not show any bad effects from the cold, while other trees of the same race (West Indian) adjoining the Waldin were badly frosted. Waldin is a good fruiter, coming into bearing at an early age. I consider this variety as one of our future leaders.

*Taft.*—The Taft belongs to the Guatemalan race, and it has been very much of a surprise to the growers of this section. It is a vigorous grower, making a very symmetrical tree. It is inclined to bush rather than grow tall, as do most varieties of this type. Taft is a good fruiter, distributing its crop well throughout the tree. It is of good flavor and size, averaging in weight about one pound. It has a tough thick skin which will stand considerable rough handling, making it an exceptionally good shipper. Season February and March.

The Taft has been regarded with suspicion for various reasons, and in some sections I believe they have been well founded. The variety is a very poor grower in the northern part of this county, while with us it is the best grower we have. Taft does not come into maturity at an early age, usually the fourth year after planting. I am satisfied that this variety will be one of our standards.

*Taylor.*—This variety originated in Miami, from a seed that was produced in California. It is of Guatemalan race, and one of the best fruiters we have. While the fruit is rather small in size, I think its season of maturity—January to March—will more than off-set the disadvantage. The quality is not of the best, but fruiting at a season when Avocados are scarce, this variety will bring good returns to the grower for many years to come. The tree is a strong vigorous grower, having a tendency to shoot straight up as do the

seedling varieties. The fruit has a small tight seed, and a thick skin.

Taylor trees planted in this section during the past three years have done exceptionally well, and I would certainly consider this variety in making a commercial planting of the Avocado.

*Wagner.*—This variety comes to us from California, and was produced from the same tree that gave us Taylor, being of Guatemalan race. Wagner and Taylor are identical in growth and foliage, while the fruit of these two varieties would hardly reveal their close relationship. Wagner fruit is almost round, and is much larger, weighing from 18 to 24 ounces. It is of good quality and flavor. This variety like Taylor is an early and exceptionally good fruiter. I have seen Wagner grafts 14 months old that were put into an old seedling stump, set a crop of fruit that would do justice to a three-year-old tree of ordinary fruiting qualities. Season of Wagner is January to March. This variety has not been planted to any extent in this section, being a recent introduction and having been fruited by Mr. W. J. Krome of Homestead, during the last three years. The color of Wagner is green with a thick brittle skin. Wagner has a good future as a commercial variety.

The above races and varieties of the Avocado are those found in grove form, and have been fruited sufficiently to determine their commercial value. There are a great many other varieties being tested each year, and as the list grows, we find the selection of a variety more difficult.

In setting the Avocado in this section, I have found that placing one-half stick of 40% dynamite in the center of each hole, at a depth of 15 inches, is of much benefit during our dry season. In using this system I would suggest that the hole be filled with small rock and then filled in with soil. In doing this your tree will not settle below the surface and leave a pocket in which water would stand during the rainy season. I am a great believer in drainage for the crown roots of all trees, which necessitates the setting of your tree, from three to four inches above the level of the ground.

Fertilizing the Avocado is a problem to which many growers have given but little thought, and the results obtained have been very unsatisfactory. The Avocado is a gross feeder, and to do well must be kept in good condition at all times. I know of no tree that responds to good care as does the Avocado; on the other hand, you will find a neglected tree is very much a burden.

The source of plant food best suited to the Avocado is still a question in the minds of some growers. Personally, I prefer the organic mixtures, and have used these with very good results. I have seen Avocado trees upon which plant food from chemical sources was used, destroyed during the rainy season in this section. Avocados in the same district and at practically the same elevation upon which the organic mixtures had been used for several years, came through without the loss of a single tree. I am not prepared to say as to what caused the damage in the grove where chemical sources of plant food were applied, but I will say, that it looks somewhat suspicious.

In fertilizing the Avocado, I have found that three applications a year, of two pounds each, and two pounds added for each year to each application, will keep your trees in good fruiting condition. The mistake is very often made in fertilizing the Avocado as to

size; if you expect to have a planting of even stand and size, I would advise giving the small tree just as much plant food as the larger one, providing it be of the same age.

Mulching the Avocado has been practiced here to some extent, but should not be overdone. Trees that have a heavy mulch the entire year, are inclined to send their feeder roots into this, and as the mulching decays forming humus, it settles leaving these roots exposed. A light application of mulching is very beneficial, but strike the happy medium, as near as you can, for best results.