

## Avocados in Polk County

**John Morley**

*Lake Alfred*

I have just a little preface to make before commencing on my paper. This is in reference to the two meetings of this Society which I have attended previously, one five years ago, and another one three years ago, I think. Five years ago, in my remarks I made mention of the fruit of the avocado, the seed part. At that time I stated that it had been found that if that seed vessel was struck against a plaster wall, it would leave a mark something like blood, and it would be so strong it would be with very great difficulty that you could erase that mark. It just occurred to me before I came up here that there might be someone who had taken note of that, and probably with more chemistry in them than I have, had attempted to find out what was the composition of that seed. I leave it with you, and I hope someone else will look into it.

The next remark I want to make is on my talk before you three years ago. At that time I was very emphatic on one particular point, and that was that we needed, that is the avocado growers needed more State aid; that we needed more service from the Horticultural Department of the State University or from the United States government advisors. I felt it then because we were not getting all we wanted out of our trees. Probably it was our own fault; nevertheless it is just as well to sound your complaint sometimes. I am very thankful to say I have received some help since then. I have much to be thankful for, for the great service and attention which Prof. T. Ralph Robinson of Terra Ceia and Washington, D. C., has given us from time to time. I make mention of this just for one particular point. In another way, you oft-times meet the man who says, "Well, I wouldn't mind if the master would give me a little praise sometimes, but he is always growling about everything that comes along; he never tells me when I make any improvement." I want to clear myself for casting that reflection three years ago on those people. I haven't much to say this time, because as you know, after speaking on two occasions, you feel as if you had emptied yourself. I don't like to repeat things, except when I am taking my food.

It is generally understood that fruit growers are greatly benefited by meeting together and discussing their cultural practices and observations. This is particularly so in the avocado industry. On this subject my viewpoint is taken from an experiment just over ten years old, on high sandy land. It may be possible that even in Polk County some growers may have had greater success in a soil composed of much more humus than ours, and so far as my observations have gone I feel very confident that these rich humus soils are the best from a point of good growth and returns. Unfortunately there are only a few places where good humus content is found on the favored southeast side of a large lake. Naturally we know from reports from the native regions that the avocado requires a fairly well drained soil, composed of plenty of decayed vegetable matter or decayed leaves. This, combined with an equable amount of moisture furnishes the

general requirements of this highly nutritive and health-giving fruit.

We are told by many who have made a study of cultivation and non-cultivation that the East Coast growers do not cultivate or disturb the top soil and that this practice also applies to many parts of California. I have recently made observations of the stony soil below Miami, which is of a rock-like formation and quite believe that it is most advisable in their region to grow cover crops and mow off the vegetation occasionally. The foregoing has been mentioned in order that I might put before you a case which is contrawise.

About two miles distant from our grove is a seven-year-old planting of various kinds of avocados and amongst them is one fine row of the variety called "Lula," and from this row a nice crop of fruit was gathered in November which netted a good sum of money in New York and Chicago. Now the point which I wish to bring out is this: That these trees have been treated exactly the same as the Valencia oranges nearby. That is to say, they have been harrowed right up to the rainy season and worked throughout as an orange grove is usually done on high sandy lands. From this you may realize that some growers might be inclined to be very decisive about methods of what should be done in every plantation. Someone may turn aside to his neighbor and say that such a method will eventually reduce the humus content and probably this may be the case as years go along.

In our plantings we have about twenty six named kinds and in addition to these, we have over forty mixed seedling Guatemalans which were collected by Mr. Popenoe from various regions in Guatemala.

Our number of trees is just a little short of seven hundred and of these the Trapp variety predominates in quantity, of which there are close to six hundred. The first six years we plowed shallow in the fall and kept them harrowed up to June and after this the grass and beggar-weed grew along up to the month of September and after the final cutting we put on the last fertilizer application for the year, usually not later than the first week in October. So far the crop returns did not reach what we had hoped for. As to blossom we have always had abundance but our trial has been to get them to set and stay on.

Since the year commencing 1924 we have adopted the method of allowing grasses and various legumes to grow up and afterwards at such times convenient, to mow these down periodically, which implies that the harrowing ceased; though I must at this point tell you, that there have been three occasions when we were compelled to disc the ground owing to severe droughts. Nevertheless, taking the age of the trees into consideration, my opinion to date is that we are adopting the best method on this high sand and thereby we are conserving and adding more vegetable matter to a soil that is much lacking in humus. The "humus content" or vegetable matter, I contend, when added to these sandy soils is almost equal to any farmyard manure, for how can one expect commercial fertilizer to give forth its true value if scattered on a poor sand. We know, or should know, that without the vegetable matter provided there can be no medium to set up any bacterial action to bring out the correct functioning of the commercial fertilizer.

You may say, "Well, surely you must have had some results since 1924," and in answer I am glad to say we have, but not until 1927, exactly ten years from planting, which took

place in the month of July. In July of 1927 I wondered if the fruits would stay on and reach the ripening period, fortunately they did and owing to the exceptional season some of them commenced to ripen and fall in September. We gathered fruits from this time and carried on well into November and sold close to forty-one thousand fruits and their weight ranged from nine to twenty-five ounces each. These remarks refer to the Trapp variety only.

Most of the drops and scarred fruits were taken away by two different buyers from our packing shed near the grove and sold in St. Petersburg, Tampa, Lakeland and Orlando, while the packed boxes of the ventilated type, similar to tomato crates, went to Jacksonville, Atlanta and Asheville. These were not of the very best grades and were mostly disposed of during the earlier and middle part of the marketing season. The pick of our fruit, showing no markings (or nearly so), were sent to New York and Chicago markets in iced crates and netted us a substantial sum of money. Each crate contained twenty-eight or thirty-six fruits and sold for various prices ranging from thirteen to twenty-six dollars each crate. Had we been fortunate in being able to hold our fruit another fourteen days until Thanksgiving time our returns would have been very much more. However, so well, so good.

Now I do not believe in giving everything away, at least today, but I will go so far and answer that enquiry which someone has in his mind in this audience. I fancy I hear, "Yes, but what does it cost to put these fruits into New York," and my reply, based on our buying of material, is as follows: Picking, hauling, grading, cleaning, box, packing, wood wool and ice, including delivery into New York market equals three dollars and ten cents per crate.

Now, Mr. Avocado Enthusiast, go to it and buy that southeast side of a good lake where there is some humus and be in the swim whilst the water is warm. There are some good locations still left in Polk County which are capable of giving excellent returns providing you do not experiment with too many late fruiting varieties, for by growing too many of these which ripen towards the spring months you are apt to court disaster, if a cold period comes along. The past two years as many of you are aware have been exceptional and the cold has visited us to the extent that our fruit of Taylor, Queen, Nimlioh, Cabnal and two others were spoiled. The cold from the past season has affected our trees more than in any previous and cut into our Guatemalans as much as it did in the West Indian varieties. Although we shall not be in the market with fruit to any extent next season I am glad to say our trees are breaking fine and our spirits were made good last year so that we are going forward with renewed hopes of having a profitable story to tell later on.

As to our varieties the *Pollock* has fine fruit but so far has borne very few. *Fuerte* has not shown much merit yet but I have not lost all hopes as I believe that with the incorporation of more vegetable matter into the soil I may yet obtain a better medium for promoting a greater root growth and thereby permanent sustenance. *Queen* has fruited well the past two seasons but unfortunately the cold has affected the fruit each time. *Witislowsen* or *Rolfs* has made strong growth but shows cold injury here as bad as any Trapp. *Panchoy* produces good growth, but has not fruited yet and the same may be applied to the following kinds: *Sinaloa*, *Pueblo*, *Perfecto*, *McDonald*, *Knight* and *Lula*. Taylor has fruited the past two years and sets its fruit well. Spinks has fruited with us

this year and I regret to hear of its bad marketing qualities from California growers, as it appears to be a good pollen carrier. *Eagle Rock* has produced some good sized fruits which are of a fine flavor.

Of eight named varieties from the Mr. Popenoe collection I have only fruited three, of which Nimlioh and Cabnal have not reached a high standard so far, owing to the fruits being so scabby, although they have been frequently dosed with Bordeaux spray. The other one, Hunapuh, is too small a fruit to be commercial. The Mexican variety, Gottfried, is an excellent grower and has produced a few fruits only, however, I have hopes that it may be most desirable even if it does come in when the glut of Cuban fruit arrives on our markets.

Several of our seedling Guatemalans blossomed well last year and I am wondering if the cross-pollenization from them to the Trapps had assisted us in securing such a good crop last season.

I am not aware of any one who has examined the rooting system of avocados, however I will tell you of my observations. About three years ago I dug out a trench four and one-half feet deep and made a circle eight and one-half feet from the trunk of a large tree and there found so few roots that I wondered how the tree could put on such good verdure, leaving out the bearing of a crop. Again this winter I carried out the same experiment on another tree nearby and found many more string-like roots than formerly and which evidently reached across to the other tree row and still there is yet an absence of any thick roots. In fact the largest root found, did not reach more than three-fourths of an inch in diameter. It may be possible that a variance may occur in different root stocks.

As to fertilizers we distribute these three times a year, usually in February, early June and again early in October. On each application last year we gave them twenty-five pounds per tree and the year previous they had twenty-two and one-half. The mixture for the past two years has been chiefly a 5-8-6 composed of sulphate of ammonia, fish scraps, dried blood, bone meal, tobacco stems and sulphate of potash.

As we have now dealt with the food question for these trees we naturally must say something about drink, but please do not misinterpret this meaning. I mean water; though, aside, please understand that trees as well as human beings must have water and we are now fixing means whereby we can give our trees copious quantities when they cannot get it from above. Let us trust that many good things may yet come from above and so give us hopeful pleasure and thereby make us all glad to meet again. Thank you.