

Mulching and Other Practices in the Growing of Avocados

Ivey E. Futch

Appearing before you on this occasion very much reminds me of my entry into the Army Air Service during the year of 1918. While I was undergoing examination I was asked the difference between a multiple disc and a cone clutch. I realized I knew very little about either, but also realized I had to attempt an answer, so stated "I believe I know the difference but cannot explain it." The examiner replied "Very well, Mr. Futch, there is a blackboard, draw it for me." I made the attempt and was admitted, but until this day I feel that officer knew no more about the clutch business than I did. And like that experience I see a bright spot in dealing with this subject today.

We have at Lake Placid, two plantings of Avocado Pears, one consisting of four and eleven-sixteenths acres, the other of about twenty-five acres. Within these plantings there are twenty or more varieties. The former tract of trees runs from six to eight years of age and the latter from five to seven years. There are like varieties in both plantings and each tract has been fertilized alike. The twenty five acre tract has had the practice of one cover crop per year and clean cultivation in the fall and throughout the winter, until the rainy season. The four and eleven-sixteenths acres have been mulched.

In my limited experience with these two plantings, I am of the opinion that there are great possibilities for the growing of Avocado Pears in this section. However, unlike our fellow growers on the lower East Coast, we do not have very much actual experience for reference, which naturally offers some expensive mistakes. Consequently it is especially essential that one use extreme caution and his best judgment with the practice of most rigid and careful economy, and even then at the end of the year there will, no doubt, be unaccounted for expense. Special care should be given in the selection of the location of a proposed Avocado planting, and extreme care in planning the planting, about which I shall make further mention later. Also the selection of the best adapted varieties should have particular consideration, and I feel sure everyone is wondering in his own mind what the best adapted varieties are. I only wish I knew, but up to this time we have obtained best results from Eagle Rocks, Lulas, Wagners and Simmonds.

Now a few remarks about my experiences. First, I believe if one could afford it, that a thorough and positive irrigation system should be installed, and the trees supplied with ample stable or dairy manure, but this appears to be too expensive in most cases. However, if one is able to stand the initial cost, though it seem excessively expensive, I believe with closer planting, especially with some varieties, Eagle Rock for example, together with concentration for producing more than one cover crop per year, there would be better chances for success.

After entertaining the above, it would seem necessary in most cases, under present

conditions at least, to search for a substitute and in this case I consider mulching the answer, in this section at the present time. Not unlike other practices, mulching has its disadvantages, most outstanding of which I believe to be cost and fire hazard. However, for this section I think the advantages many times exceed the disadvantages.

I believe I told you previously of our plantings in Lake Placid and that the four and eleven-sixteenths acre plot was mulched. To mulch this plot we applied 279½ tons of green and dry materials, consisting of palmetto, oak, hickory and other woods, Natal hay, Crotalaria and leaves; in other words whatever we could get or wanted to get rid of, at a cost of \$3.10 per ton or \$184.59 per acre. Incidentally some of the material used for mulch had to be disposed of, hence if that was considered, there would be some reduction in the above mentioned cost. I call this to your attention due to the fact, I think many growers overlook taking advantage of all natural opportunities in conserving one of the most valuable materials for successful growing. As for the fire hazard, extreme care and caution should be taken, leaving sufficient space to check any disaster of this nature.

Next, let us consider the outstanding advantages that I judge to be derived from this practice, greatest of which are, in my opinion, moisture and humus, as well as the labor saving, and no doubt better fertilizer reaction. Making a comparison of the actual results obtained in our two plantings last year, there was more fruit marketed from the four and eleven-sixteenths acre tract, which was mulched, than from the entire twenty-five acre tract, which is unmulched, last spring being extremely dry.

No doubt you growers will say, "Fine for the mulch, but it sounds very expensive." I agree with you, but gentlemen, there are further possibilities in this practice, such as making use of every available tract of vacant land for the growing of cover crops to be disposed of in this manner, also the possibilities of encouraging planters in such sections as the Muck and Flatwoods districts, to grow such materials for our use during their off seasons.

It is also my pleasure to make mention of one small plot among our plantings, which was well covered with a good grade of muck. Up to the present time, I have not been able to observe any direct results; however, I have observed increased cover crop production from it.

All Avocado growers should beware of pumpkin bugs, for they are very destructive to the fruit. Be sure to bear in mind that we lost considerable fruit for that reason, and in all varieties it doesn't attack the fruit. You will hardly notice it, but it attacks in the thicker varieties, particularly around the stem end, where it has a soft place to work. In my opinion it is as essential to paint an injured or cut surface on an Avocado tree as it is on any other plant or tree.

In this connection, for the information of you fellow growers, I have very successfully used a material known as Asphalt Emulsion, C-13-HPC, manufactured by the Flintkote Company of Boston, Mass. In the use of this material I have also found great economy, I do not believe that this material will retail in excess of \$1.00 per gallon, and to one gallon there is added approximately ten per cent water, which of course further reduces cost. It is easily applied and does not get extremely hard nor does it crack.

I have found it non-injurious to any plant life so far.

At the present time I am experimenting with this Asphalt Emulsion in a little thicker consistency than is used in pruning, to replace paraffine or wax in grafting or budding and I am pleased to advise that it looks very promising. I have thought of this. You can use a very small amount of cord. This experiment has not proven itself as yet, but in case it does, especially in the Avocado, where it is difficult to work around in the plant box, you can use a small twine, and you don't have to make as many wraps; it has great strength in holding the bud or graft in, as well as sealing the graft. Of course, there is no great future in this for the manufacturer, but it looks as though the possibilities are exceedingly promising for the nurseryman.

N. A. Reasoner: What was the name of that compound?

Ivey E. Futch: Asphalt Emulsion, C-13-HPC.

F. L. Ray: What have been your experience shading young trees?

Ivey E. Futch: I have had very little experience with young trees. My first experience is this experience I am carrying on now. I have that approximately sixty per cent shaded. They have done fairly well. I think Mr. Brooks could answer that better than I could.

C. I. Brooks: I would like to have you ask more questions about mulching. We are especially interested in that. It is one of the essentials of successful Avocado culture. I have tried to get Mr. Ward to use extensive mulching.

Mr. Dorn: How would you regard mowing your grove in winter instead of disking?

Ivey E. Futch: I would regard it very highly. I would say that would be best. If you could get sufficient water with such a system it would be positive and practical and not too expensive to carry an additional cover crop, but I do not believe one cover crop is sufficient with that material to give the results.

C. I. Brooks: Mr. Ray, with reference to shading Avocado trees, the practice is varied as between two schools of nurserymen. One holds it is essential to shade well every young tree you set out; and another school of nurserymen has held the way to do is to take your young nursery trees out of the nursery where they are set perhaps in four or five rows and under a semi-shade, and set them in your nursery boxes two rows together. That gives them a sort of half sun, and with that condition in setting them out we have never lost a tree from sunburn. All I have done is to use the salt bush or myrtle. Just get an armful, send a nigger along, let him stick them in the ground around the tree when you first set it out. As the leaves drop gradually, that exposes to the sun gradually, and your shade is not excessive. It is our belief that the sooner the sun gets to the Avocado tree, the better it is.

Mr. Ray: What about the wind damage?

C. I. Brooks: That acts as a windbreak too. We always stake our young trees and tie them. Some people advocate the use of the pine bough for shade, others use palmetto leaves. Any variation you want to use is all right.

N. A. Reasoner: Air. Barney of Tampa thinks it is about the easiest thing to knock the bottom out of a bean hamper and put that over the plant, the little end up. He thinks that

makes the best shade he knows of.

Mr. Brooks: I have no doubt that is true, but Mr. Krome was one who held very strongly to the necessity of rather extreme shading. He used to put three stakes around his tree, and put fertilizer sacks on, tacked them on. We have had a variation of it with one of our growers, who uses the little nursery boxes themselves, and this man after setting out his tree, would run the nursery box up to shade the trunk of the tree. There are so many things that can be done like that.