Methods of Handling Citrus Groves

W. J. Ellsworth

Mr. President, Ladies and Gentlemen:

After reading over the reports of the past several years on the subject of Methods of Handling Citrus Groves, it appears that this work has not yet been made an exact science, as a quite wide divergence of practice is found, often under seemingly similar conditions of soil. That widely divergent methods will obtain, however, is at once manifest when the greatly differing character of soils used in citrus fruit growing is taken into consideration.

In my section, the highlands of Pasco county, we have varying grades of high pine and hammock land, usually of a medium sandy character, and my experience in the handling of groves has been gained under these conditions. I have no expectation of being able to present anything new or striking, but will briefly detail the methods I have up to this time found to give favorable results.

The prime object of the grove is of course to obtain the greatest possible net return, hence the aim is to eliminate all unnecessary expense, riding no hobbies, indulging no fads.

Assuming the work of this committee covers the planting as well as the maintenance of citrus groves, it seems well to commence at that point and carry the work to the bearing grove.

The prospective planter will find it to his advantage to select the best soil available and as near as practicable to transportation. If new land, the clearing should include thorough grubbing in order that later cultivation may be carried on in the most economic manner.

For breaking the land we prefer a small turn plow, as this leaves the turf in smaller slices than the larger plow, and we like this to run to such a depth as will thoroughly subdue the deeply rooted grasses and weeds. When necessary to break up the turf we follow the plow with a Cutaway harrow, and finally lay down smoothly with the Acme.

There is no excess acid condition in soils of this locality, hence we resort to no sweetening processes in advance of planting.

When planting I have found it the best practice to mix with the soil to be used about the roots of the trees one-half to one pound of a good tree grower fertilizer. After planting we water liberally and bank the trunk of the tree to a height of eight to ten inches with a view to conserving moisture and firmly secure the tree against being whipped about by high winds. If planting prior to the
middle of February the banking is carried to a height of fifteen to eighteen inches as protection for the trunk against a possible severe cold.

On light land we plant twenty-five feet apart, thirty feet or further in rich soil.

We like cultivation to commence about the middle of February, the first work being done with Cutaway harrow in order to thoroughly subdue trash and weeds so that the Acme harrow can be used. Harrowing is continued every ten days to two weeks until June, or when the rainy season is well started, after which grass and weeds are permitted to grow in the middles during the balance of the summer. The hoe is used to keep down growth in the fertilized circle about the trees.

If the land is particularly lacking in humus we plant Velvet Beans in the middles the first year, but when there is sufficient natural growth to afford a fair covering for the soil after suspension of general cultivation we prefer such, as we are enabled to carry on team work both ways, decreasing the amount of hoe work about the trees. During the summer we run the mowing machine one to three times to keep down growth, so that a fair job of plowing may be possible in the fall. This fall plowing I will say is for the purpose of getting rid of the dried vegetation as a fire menace rather than cultivation of the trees.

Believing in the homeopathic practice of small doses frequently taken, we make light applications of fertilizer to the young trees four to five times per year, amount dependent on the apparent needs of the trees, aiming to push development all possible.

The plowing in November, running the plow as shallow as possible to mix the grass with the soil, and an application of fertilizer at this time closes the season’s work in the young grove.

Our fertilizer for young trees is derived from sulphate ammonia and blood and bone, sulphate potash and bone black, and is harrowed in. No change in the formula is made until fruit production requires, except lagging trees are given a light dose of nitrate of soda to hasten them along.

Handling of the bearing groves is a delicate accomplishment, and careful effort is made for such adaptation of methods as to secure proper amount of wood growth and best quality of fruit. Commencing cultivation much in the same manner as for the young grove, the use of the harrow is continued at intervals of two to three weeks from February to the latter part of May, after which the work is continued with the mowing machine only. Fertilizer is applied four times per year, February, June, about September 1st and November, mostly with a McWhorter distributor run as close to the trees as the branches admit. Once a year an application is made by hand to such parts as the distributor can not reach. The spring and fall application analyzes about 5 per cent. ammonia, 6 per cent. potash, 6 per cent. phosphoric acid. For summer application when the supply of organic matter is abundant we decrease the ammonia and increase the potash, and we also vary these materials according to the character of
the land or the supply of organic matter in it, taking the appearance of the trees as a guide and endeavoring to as fully as possible supply their needs.

Reference has been made to discontinuance of cultivation in June, this with a view to fostering all possible vegetative growth to secure shade for the soil and increase the humus content, and of such importance do we regard these two points that we make no hay in our groves, returning to the soil all the growth produced. I consider that the grower who makes hay in his grove, particularly a bearing grove, pays a big price for his hay.

Protection of groves from frost is an undertaking of man's size. For some ten years we provided such protection when needed by means of wood fires, making an entire success of the work. The limitations of this method are so great, however, in view of the difficulty of securing sufficient labor, we were induced to yield to the claims of the oil-pot men, and put in Hamilton Smudge Pots. We have the three-gallon size, and place them in the grove in pairs fifteen feet apart. Our experiments showed that with the lid pulled out to afford a burning surface of forty-eight inches, three gallons of oil would last about eight hours, hence to be sure of an all-night burn when necessary, we place the pots in pairs. As we have not yet had occasion to fire, we can not give anything in the way of results. However, the fact that fuel oil has increased in price from 2 1-2 cents per gallon three years ago to 5 1-2 cents the past winter, leads me to conclude the position of the Standard Oil Company as the stronger of the two.