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So, You Are Going to Be an Avocado Grower!

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President McFadden, Members of the California Avocado Society, Avocado Growers, especially new Avocado Growers, Ladies and Gentlemen:

This paper is presumed to be a gesture of welcome to those of you who have recently bought avocado groves. Please consider yourselves cordially welcomed and greeted with best wishes for your success in the avocado industry by The California Avocado Society.

In giving you this welcome it was the thought of the program committee that I should slip in some words of wisdom, and give you some sound advice on how to be successful avocado growers. Not that you have asked for it, but the program committee out of their greater experience feel sure that you are going to need it. The job of passing out this advice has been handed to me.

A service man in San Diego recently accosted a substantial looking citizen and said: "Sir, will you please direct me to the post office." The citizen stared at him for a moment, seemed about to turn away without answering, but then said: "Buddy, there are th-th-three hundred thou-thou-thousand people in this t-t-town. Why in huh-huh-hell did you pick on me?" The answer in the case of this paper seems to be that someone must needs "stick his neck out" and I seem to have something of a reputation for doing just that. Therefore hesitantly, but to the best of my ability within the limits of a short paper I will attempt to point out the way to the "post office" of successful avocado growing to you.

Measures of Success

There are several measures of success in growing things. For example, the success of growing beautiful flowers for your own and your friends' pleasure without regard to expense or financial profit is a success of accomplishment. There are avocado growers and groves in this category. This is the easiest kind of success to attain. Then there is the success of financial profit from growing things, whether flowers or avocados. This I am presuming is the kind of success you are most interested in. This kind of success is not always so easy to attain, but the following paragraphs are written in the hope that something will be said in them that may be helpful to you in attaining some degree of financial success.

Let me make my position clear before going on. I am a conservative in my politics, economics, and agricultural thinking and practice. I believe that more constructive permanent good comes from conservative evolution than from radical revolution. I

believe in the law of supply and demand, and in the law of diminishing returns. I believe that financial profit in avocado growing depends on keeping production costs as low as possible consistent with tree health and fruit production. I believe that the Experiment Stations of the University of California are the best single source of information on the scientific problems incident to avocado culture. I believe in a strong and efficient cooperative marketing association, and I believe in the avocado industry. I hope these statements put the proper tag on me.

I also firmly believe that financial success in the avocado industry depends on suitable soil, climate, water, and trees; an adequate and well designed irrigation layout; a grove that is readily accessible for orchard operations; and all these combined with common sense in management and a reasonable amount of perspiration. The degree of success will depend on how well the above factors are combined. Also I might add that if the financial success of the grove is to include interest on the investment as part of the profit, then there is a limit to the per acre investment that cannot safely be based on the present price being received for fruit, or perhaps what you may have paid for your orchard. Do not count on your grove to pay you interest on the beautiful home you may have bought and the privilege of living in the delightful climate that goes with avocado production.

To undertake a detailed discussion of soils, suitable climatic conditions, quality of irrigation water, trees, rootstocks, varieties, planting distances, good orchard engineering, etc., would require not a paper, but a good sized book at least. Such a book, if available, might not be of immediate value to you in your present situation anyway, for you have bought an avocado grove as it is, and your problem is to make the best of what you have. Changes in the physical setup of your grove can come later if needed.

What Are Ideal Conditions?

Just for fun we might create a hypothetical avocado grove for your consideration as an ideal. Such a grove would be planted on a deep friable well drained soil, located in a climatic zone free from frost and drying winds, on a gentle sloping site protected from strong prevailing winds. The quality of the adequate supply of irrigation water would be good, that is, free from injurious salts, the irrigation system well planned, and surface drainage provided. The well grown trees, mostly Fuerte, would be well spaced, at least forty feet apart. The spacing and shaping of the trees and the contour of the grove would be such that any part of the grove could be reached by the ranch truck to expedite the application of fertilizer and the hauling out of fruit, the two heavy items in avocado production. We would of course expect our ideal grove to be free of insects and disease, particularly the virus disease commonly called "Sunblotch".

Do not be too much concerned if your grove does not meet all of these specifications. So far as I know there are none that do.

More To It Than Just Cashing Checks

To do the best with the grove and conditions which you have is your problem. I do not

believe that any of you who are here today belong to the class of cocksure growers who, having bought a producing grove, think that there is nothing to it except to cash the checks as they come in. It is my experience that the cocksure folks seldom attend these educational meetings—unless perhaps they are on the program! It is my guess that you are here in an inquiring, or even a confused state of mind. If you are a bit confused it is not to be wondered at. The avocado industry is still very young as a commercial project. You might say that it has not "jelled yet". No definite classical pattern of accepted and proven methods of the best cultural practices has been fully demonstrated. Only a few avocado growers have brought any extensive agricultural experience to the industry. I would be willing to lay a bet that nine out of ten of you who are here today are retired business or professional people. Not that it is anything against you, but some of you have had some queer ideas to say the least. Others of you have just followed the path of least resistance, and most of you have fallen victims to the plausible sales talks of good salesmen. These few remarks have been directed to the older growers among us. Perhaps the new growers can avoid some of the pitfalls. Furthermore, scientific research by our Experiment Station is still in its infancy. It is growing lustily however.

To discuss the pros and cons of the various methods of avocado culture that are in vogue at present would probably only confuse you more. I propose therefore to undertake to point out some of the fundamentals necessary for good tree health and vigor and you can choose the method that pleases you most. If the fundamental requirements are met the method does not matter much. It will finally resolve itself into the most efficient and economical method that will fulfill the requirements in your case, or you will probably get out of the avocado industry.

Good production of fruit is essential to your success. That of course is self evident. Let me state my belief that beyond keeping your trees in a good state of health and vigor there is nothing that you can do in the way of horticultural tricks or methods of management to guarantee, or greatly influence, the set of fruit on your trees. (There is one little trick that may have some effect but it is of doubtful value to you as a grower and would be so detrimental to the industry if it did work and was practiced that I am not even going to mention it.) If your trees are of sufficient age, and in good health and vigor, then the set of the fruit will depend on the inherent bearing quality of your trees, the site and exposure of your orchard, and the climatic conditions which the good God sees fit to provide. Your part is to maintain the health and vigor of your trees.

Irrigation

Granted that your grove is on reasonably good soil just what is it that you must do to insure good health and vigor? Here are the essentials: provide an adequate supply of good quality irrigation water during the dry summer season. The proper irrigation of your grove is the most critical and difficult problem that you will have to meet. The avocado tree is most temperamental about its water supply, if too dry it will go into a decline, if it is too wet it will go into a decline, or sometimes seem to die over night. However there is quite a margin between too little and too much water so it is not necessarily fatal every time you irrigate, or fail to irrigate on a certain date. Perhaps a few "don'ts" would be helpful for your guidance; don't irrigate too early in the spring. Let the trees use up most

of the winter rainfall first. In ordinary years in cultivated groves this would not be until late May or early June; groves in sod or heavy covercrop will need to be irrigated from two to three weeks earlier than cultivated groves in the same area. Don't irrigate your orchard while it is still wet in the root zone from the previous irrigation. How are you going to know whether it is still wet in the root zone? That is what soil augers and shovels are for. Learn to use them. Don't think that your orchard has been irrigated because you have run sprinklers for two or three hours, or run water in a furrow by a tree. It takes time for water to penetrate through the root zone. Again the soil auger or shovel is indicated. Don't jump to the conclusion that all parts of your orchard require the same irrigation schedule and treatment. Very few orchards are that uniform in tree size and soil depth. Don't irrigate just because your neighbor does. He may be wrong, or if right for his orchard, perhaps wrong for yours. "Rugged individualism" pays big in orchard irrigation. Do attend meetings on irrigation held by the Agricultural Extension Service, and get the Farm Advisor to give you some specific advice on your own place if possible. It does not make much difference how you get the water into the soil of the root zone, whether with high sprinklers, low sprinklers, furrows, or what have you. There are tricks to be learned no matter what system is used. It is just as well if your irrigation is not 100 percent efficient. Some dry areas in the root zone seem to act as a life preserver against drowning. It will take time and experience for you to learn to properly irrigate your grove but it will be well worth the effort.

Fertilization

You will find that the purchase and application of fertilizer is one of the most expensive of your orchard operations. It is of considerable importance but not quite so critical an operation as irrigation. You are not as likely to seriously or permanently injure your grove by mistakes in fertilization as you are by mistakes in irrigation. The principal damage will be to your pocket-book. If you under-fertilize with needed elements your yield may be cut down, and if you over-fertilize you will be out of pocket for the excess used or for the cost of materials that are not needed by your grove. I know of no orchard operation that has been influenced so much by salesmen and so little by scientific information as fertilization. There has not been any real lack of scientific information either. It has been thoroughly demonstrated that avocado trees do respond to applications of organic matter and nitrogen. There is no indisputable proof that there is a need for the application of other minerals including potash and phosphorous which are usually sold in mixed fertilizers. Nitrogen is nitrogen no matter in what form it is purchased and generally the best nitrogen is the cheapest nitrogen. Organic matter can be grown or purchased. Where cultivation is practiced and the ground is not too much shaded the cheapest source of organic matter is the cover-crop of seeded crops or rank growth of weeds turned under at least once a year. Where the ground is fully shaded or not cultivated organic matter is best added in the form of strawy animal manures or straw or hay itself especially from leguminous crops. The determining factor being the availability and the cost. If some one comes along and tries to sell you odd things like zinc, sulphur, copper, lime, gypsum, and borax, etc., consult a competent authority before spending your money. It is said that the "footprints of the owner are the best fertilizer". True, but they wont take the place of nitrogen and organic matter.

Reduce Competition

This subject is pretty well tied up with irrigation and fertilization but deserves a little special consideration. All plant life is in a state of constant competition either with plants of a different group such as your avocado trees and weeds including Bermuda grass; or with plants of the same family, one avocado tree with another when they are too close together; and finally one branch of the avocado tree with others of its own branches. You can do either of two things, take sides with the avocado tree against the weeds by cultivating them out, smothering them with a mulch or destroying them with a spray; you can take the part of one avocado tree against the others that are crowding it by cutting the crowders back and finally removing them altogether; you can remove the least desirable branch on a tree by pruning thereby giving the better branch its chance; or you can just sit by, provide some additional water and fertilizer and let nature take its course, and may the best plant win. The first method is the hardest and the most profitable, the second the easiest and one that will get you by for a while but your mature orchard will leave much to be desired. There is a third way and one which some avocado growers have followed. It is the same as method number two above except that no extra water or fertilizer is provided for the Bermuda grass. This method will get you out of the avocado business the quickest.

The three subjects that I have mentioned in the preceding paragraphs, irrigation, fertilization, and reducing competition, do not begin to cover the field of successful avocado culture. I realize also that I have not given you as much detail and specific advice as you would perhaps like, but I hope that my remarks will be helpful to you in your thinking and have not tended to further confuse you. There are many problems yet to be worked out. The proper shaping and pruning of the avocado tree is one that has been sadly neglected. I hope at some future date to go into that subject in detail. It however is controversial and I have tried to keep controversy out of this paper. Another subject that has been sadly neglected is the matter of good engineering and many of you are going to have some difficult problems to solve as the result of that neglect. We will all try to do better on this subject the next time we lay out some orchards.