

VARIETIES

Dr. Coit: The supplementary report of the Variety Committee was sent out to the entire membership of the Association. There are probably some here, however, who did not see that. I don't happen to have a copy of it in my pocket to read at this time. If anyone has a copy of that supplementary report, I should like to read it to you. It was some time after the Variety Committee's written report was made at the annual meeting in May that Mr. Hodgkin of Calavo Growers had a number of the field agents, the sales agents, and distributors in his office for a general conference. (If I don't tell this just right, he will correct me.) He wanted to get their reaction to the marketability of the different varieties entirely aside from the growers' or production standpoint, so he asked them to discuss and to vote on the different varieties that they had been handling, largely in Eastern territory. They had been distributing these to retailers and others who did not know much about avocados and were more or less hostile to considering a new fruit, and they all voted unanimously that the Fuerte had by all odds the best marketability. It not only shipped well and kept well and handled well, but when it finally reached the retail stand and got to the end of its existence, like a banana, it turns brown and looks bad on the outside first. That is a wonderful thing in its favor. If a banana remained looking beautiful on the outside after it was all brown and all moldy on the inside, the banana industry would not be what it is today. Because it turns brown on the outside first adds immensely to its marketability. That same faculty the Fuerte has. Some other fruits we think highly of, such as the Mayapan—they are excellent fruits to eat, grow well and bear well, both on the coast and in the interior—get bad on the inside first on the retailer's stand. The result is, when he sells that fruit a certain proportion of them come back to him. People keep them and don't know when to eat them. They are still kind of hard, they look good, they wait and wait, and when finally they cut them open, they find them rotten on the inside. They think it is supposed to be that way. They try to eat them and don't like them. They bring them back to the retailer and say, "Here, I don't like this fruit. Give me another fruit or give me my money." The retailer doesn't like that sort of thing. The agent comes around. The retailer says, "Don't bring me any more Mayapans or Spinks—if you haven't some Fuertes or Tafts, don't bring me anything—get out." And that is the way they talk—that means marketability. These gentlemen showed that the Fuertes stood away ahead. Fuertes don't cover the whole season in any quantity—not more than six or seven months, though we get a few all year around.

The second on the list you may be surprised—some of you won't be surprised at all. From the standpoint of marketability, they considered the Lyon to be second—a fruit, while it has more or less of a hard shell, is not so hard as to interfere—a fruit that, when it is sold, generally stays sold, and people come back for more. Our trouble with the Lyon during the last fifteen years has not been on the quality of the fruit, but on the difficulty and expense of producing it in a commercial way, at a profit.

Another fruit which these gentlemen voted very high was the Taft—a Summer and Fall fruit which they said had excellent marketability. It sells well, stays sold, and pleases the

consumer.

The fourth one-

Member: Before you leave that, tie in with what you know of growing conditions, so we will get the correlation.

Member: I didn't hear about the fourth fruit. I want to hear about that one. I am very much in favor of that fruit. (Laughter.)

Dr. Coit: The fourth one, Mr. Adams, is like the little boy when he went in fishing. A gentleman went along the bank and saw two little boys in fishing. One fell in the creek and the other jumped in and risked his life and pulled the other out of the water. He then went right on fishing. The man came along and said, "You are a brave boy, but I don't understand your nonchalance. The moment you saved your friend, you went back to fishing. He hasn't come to yet, fully." The boy said, "Well, he had all the worms in his mouth."

I have a suspicion that Mr. Adams has some Nabals, or perhaps he has been selling some budwood. The Nabal was the fourth one, and they reported that it has good marketability, but they haven't been able to handle anywhere near the volume of Nabal fruit that they have of these other varieties. Therefore, their decision in the matter should not be given as much weight as it would have been if they had handled a great quantity more of fruit. The indications are excellent for the Nabal, and personally I think as a Summer and Fall fruit it is an excellent prospect at this time.

Mr. Blanchard wanted me to speak a word or two about the bearing habits of these fruits that are considered commercial.

The Fuerte I spoke of first. It has so many advantages, but it does have a few disadvantages, and one of them is this vexing habit of resting a year occasionally. It stands so high commercially and is being so widely planted that it isn't a question of what other variety is going to displace Fuerte. We must learn how to handle it and make it bear every year, and that is what we want to do.

My feeling is that it is susceptible to weather conditions during blooming and setting periods. My feeling is at the present time that if the soil moisture is not allowed to be too high during blooming and setting—in other words, have a tendency to hold off the water until the fruit is set and the stems have turned red—that it will set more fruit than if we begin irrigating early and do as some growers did last year—thought they wanted to insure a heavy setting of Fuertes and started in early even during the late rains, and irrigated heavily. Those trees did not set nearly as much as some others that positively suffered for water. However, whenever we have a late Spring and the Fuerte blooms don't come out until April and May, why then, especially if it is cold, foggy weather, we have conditions very difficult for the Fuerte to set, no matter about the soil moisture. That is what we had last Spring. In other words, the present shortage of crop is, in my opinion, more unusual than we are likely to have soon again for the reason that the biggest crop the Fuertes have ever borne, sapping the vitality of the tree, was followed by the most unfavorable gloomy blooming season that I have ever seen in California. Now if Spring before last had been a little bit unfavorable and the Fuertes had only set a reasonable crop, then the trees would have been in condition to set more this year. But

we had that peculiar condition. I doubt if it will happen just that way again.

The Taft—you all know the fruit, it was one of the earliest distributed and planted. There are many old trees scattered all over the state. It still gives very much trouble in connection with its bearing. I supervise certain Taft orchards, and everything humanly possible was done last Spring to cause them to set fruit. I have one particular orchard in mind near the coast which did not show any bloom until after the fifteenth of May, and showed a very scattering bloom during the month of June. When the hot weather came, the bloom all fell off. That orchard will hardly average more than six or eight fruits to those large fifteen-year-old trees at the present time. They had plenty of fertilizer.

The water was handled carefully. It does seem that unless the bloom is early and the weather conditions are right, the Taft will not set.

The Fuerte has a tendency to bloom more or less every year. Many Taft trees don't bloom every year. Where there are no blooms, you cannot expect to set fruit. My feeling is that girdling the Taft promotes blossom, and, in some cases, increases the set somewhat. I have and still do girdle some, and under certain conditions, but I am not as enthusiastic as I once was. I don't think it is a cure-all. I don't think it can overcome other handicaps. It doesn't do any particular harm to the trees in the case of Tafts or Fuertes. I do think that girdling is a serious mistake on the Queen variety. You are apt to get a great big swelling at the girdle, which apparently is a detriment to the tree.

Member: Could you give us the details of the girdling? Do you take out any of the bark, or cut through?

Dr. Coit: At a meeting of this Association about seven years ago at the Green Hotel in Pasadena, there was a great deal of interest shown in girdling. Certain growers had left label wire on the limbs of trees, and these had girdled to some extent. These limbs were loaded with fruit and the rest of the tree did not have so much, or any at all. The practice of cutting into the cambium layer through the bark of the trunk of the tree and lifting out a section of the bark approximately as wide as the bark is thick at that point, which means in a small tree about one-sixteenth of an inch, and in a large, old tree it might be one-eighth, or one-fourth, lifting that out entirely, and doing that in the fall of the year is the method which will sometimes increase bearing.

A great deal of girdling was done the following year, with various results. Sometimes it does produce striking results, and sometimes not. I want to say that I have seen and learned some things which have made me wonder if we are not entirely on the wrong track in girdling in the Fall. I think that Mr. Rideout was the man who—one of the men who first got people interested in girdling, and he gave out the statement emphatically that it should be done in October. Most of us just followed Mr. Rideout in that matter. I am wondering now if it would not be advisable for a half dozen of us, or a dozen or more to girdle certain limbs of our trees at the beginning of bloom, halfway through bloom, and at the end of bloom to see what effect that would have, and report next year. The practice of girdling is increasing rapidly among the "Washington Navel orange growers; they are girdling right during bloom, and there are many thousands of acres more girdled each year. That made me wonder if, perhaps, we are on the wrong track in girdling our avocados in the Fall. I ask some of you to try, and report next year what the results are.

Member: I should like very much to ask in this girdling at three different times, would you girdle the same tree—different limbs at different times—or would you girdle different trees for the experiment of the same variety at the same time?

Dr. Coit: I don't think it would make very much difference. I believe if you tried it on large trees, quite large trees, with limbs as big as your arm, say limbs five or six inches in diameter, it would be an excellent idea to select three limbs on the same tree and girdle at different times, but be sure to leave one big limb without any girdle as a check. On small trees I would not advise this system.

Member: What effect does overhead irrigation have on pollinization? Has anyone made any observations on pollinization in orchards where they have overhead irrigation?

Answer: No effect whatever. It might knock a few off. Perhaps that is a good thing. Maybe there are so many blossoms on the trees that those knocked off would not amount to anything.

Member: Have hives of bees put into the orchards been tried out? Do they have any effect?

Dr. Coit: They have been tried out quite generally. A great many avocado growers keep bees, with the idea that it is not a bad idea, that it might be a good idea, it may do some good, and we hope they do some good, but they don't know definitely whether it does or not.

Member: I had a little experience with some seedlings literally covered with blossoms quite early. The bees came around pretty long, but as soon as the oranges commenced to blossom, the bees did not touch them. You could not find a bee on the avocados, but the oranges had thousands of bees.

Dr. Coit: I have supervision of a number of groves that are mixed with avocados and oranges, all mixed up, and I find that the crop and the set doesn't depend on a lot of bees, but it depends on the weather conditions and other things.

Member: Has there been any headway made on the selection of stock for budding Lyons?

Dr. Coit: Not that I know of, but from what I have seen I believe it is entirely possible to grow a commercial orchard of Lyons today, based on the experience we have gone through during the last year. Whether it is worth while to go to the trouble or not, I do not know. If I were to start out to grow a good commercial orchard of Lyons, I would set out good husky Mexican seedlings, give them excellent attention, and let them grow to about four years of age, until the main trunk is about four or five inches through at a height of five or six feet from the ground. I would then topgraft to strong scions of the Lyon variety. I believe the strength of that powerful big root system would be sufficient to overcome the previous difficulties with the Lyon scion and would push it along into a beautiful tree. After you get a fine big tree loaded with fruit, everything is lovely, of course. Still, every once in a while one will turn up its toes and just die, and for no reason. I have been called in to try and find out why "my fine Lyon tree died." We would dig it up and go over it with a fine-tooth comb, and to the end of the chapter we would say we did not know. They are pretty tricky. I know of one orchard that looks like it is going to be a success commercially. It was grown in the way I described. I know of

other cases—seedlings that have been topworked to Lyons—that look very promising at the present time.

After a basket lunch, and coffee served by the Association, Farm Advisor Rounds started the tour. Through the kindly courtesy of the California Botanical Foundation, permission was obtained to go to Mr. H. C. Oakley's "garden-planting through their beautiful grounds. The rest of the afternoon could well have been given to a thorough inspection of Mr. Oakley's promising avocado seedlings, and it was difficult to induce the growers to leave. Mr. Oakley has fifteen numbered seedlings. Strange as it may seem, Mr. Oakley has no exaggerated or inflated ideas about their value, for he spoke about any defects he had found, in no uncertain terms. He also seemed well posted about the question of marketability—yields and costs. He is evidently giving them a most thorough test from every angle. However, a number of his seedlings are most excellent and will bear very careful observation and trial. The last stop of the tour was at the Subtropical Horticultural Tract, University of California, Los Angeles. Prof. Robert W. Hodgson addressed the Association on "The Division of Subtropical Horticulture and the Avocado Industry Plans and Prospects."