

## DISCUSSION AT ANNUAL MEETING

Pres. Thille: You have heard the reading of the report of the Variety Committee. What is your pleasure? Does anyone wish to suggest any changes?

Blanchard: I have one suggestion. That is, in regard to the tying-in with Prof. Hodgson's work at Westwood, utilizing the plantings which we already have available today for study. I think the suggestion offered for securing a tract of land for that purpose certainly is needed but I believe we can, while we are waiting for this, utilize for study the several variety collections in various parts of the state which are already in bearing. In Ventura I can think of three or four properties almost Experiment Stations in themselves. However, to utilize the data on those properties it requires close study, and if the Division of Sub-Tropical Horticulture at Westwood could include in its program the utilization of these orchards, I believe they could save much time and secure data that would be of great value. I have in mind for Ventura, Mr. Daily's property at Camarillo—he has a great deal there of interest to the industry, more so than the average individual because of his interest in experimenting. He not only has rather large plantings of avocados but has also planted 50 varieties in a well-laid-out system, so many trees to each variety. The idea was to study them over a period of years and eliminate those which were not commercially good and then work them over. That I think has wonderful promise for study. Another property is that belonging to E. C. Kimball at Ventura—in a different climatic zone. Another property owned by Mr. Thille, near Santa Paula, a still different climatic zone. Scattered over Southern California there are similar properties that have these variety plantings, and if they were properly studied would certainly make information more quickly available.

President Thille: That is a good suggestion—to take advantage of plantings which we now have. Are there any other comments on the Variety Report?

Blanchard: Would the Committee be willing to incorporate that suggestion in the report?

Dr. Coit: I presume so, although I can't quite see the relation between your suggestion which is a very good one, and the recommendations of the Committee regarding this tract of land. The two purposes are so entirely different. We, of course, hope the University will study varieties wherever they can and gather all data possible. In addition to that they should have some ground under their own control where promising new seedlings may be grown and studied comparatively, all under the same climatic conditions.

Blanchard: What I had in mind principally is this. We have these different plantings—why not take advantage of them?

Dr. Coit: The Farm Bureau variety committees have access to those plantings. The fact that Westwood has one climatic zone where new seedlings may be accurately compared is to my mind the very reason for locating such work in that place. Before incorporating your idea into the report will you not restate or reframe it?

Blanchard: I will withdraw it.

I think we have assumed a little too much in this variety study. I do not think we have a systematized method of study. I would like to see the Variety Committee have a set of recommendations which can be standardized so that anyone studying these varieties to standardize them may make definite and accurate comparisons.

Dr. Coit: I take it that you mean that the Association Variety Committee should work up certain standardized methods of reporting on varieties and ask the different Farm Bureau Committees to use the same method in order to be in closer cooperation with Prof. Hodgson.

Elwood Trask: Two years ago the Farm Bureau Avocado Department of San Diego started this work of studying varieties. We took the forms which the Variety Committee of the Avocado Association was using and for two years we have been studying varieties in San Diego County. As Chairman of that Department of the Farm Bureau of San Diego County I did not add anything to this report of the Association—it so closely followed that of the Variety Committee of the Farm Bureau. I felt it unnecessary to make any additions or corrections. We have been studying varieties for two years and have met quite regularly and discussed varieties with a definite form before us and we had what Mr. Blanchard is figuring on—a uniform study of various varieties over a period of two years.

Judge Halm: In order to get this properly before the meeting for consideration, I move that the Report of the Committee be adopted. I understand that the report of the Committee is for the purpose of bringing certain topics before us for consideration which has to do with the work the Variety Committee is doing, and it appears that the work which the Variety Committee has been doing is only possible with the means at their command. However, they now find themselves in a position whereby they hope to receive considerable help from the new organization at Westwood. It is desirable that a plot of land be secured for the purpose already explained to you here. At this time it is well known that the higher ups are confronted with a condition which makes it impossible and improbable that there will be any capital investments made in that direction or any other direction. We have made a little start out at the University at Westwood and it is up to this organization to give support in so far as we are able to do. If this report is adopted, I will then offer a resolution to the effect that we work in cooperation with the University.

President Thille: We will pass from the Variety discussion to the next thing on the program. Dr. Coit has the floor.

Dr. Coit: I am very happy to give you the information that during the last year the Board of Directors of the California Avocado Association have added to their honorary list a man whom we all remember with a great deal of pleasure and respect, Mr. F. O. Popenoe, many years ago proprietor of the West Indian Gardens at Altadena. Mr. Popenoe did much to further the introduction of sub-tropical plants of value and in connection with avocados, went to great expense and trouble to send men into Mexico to search out and introduce the better varieties. Out of many excellent varieties brought in, two; the Fuerte and Puebla, stand today at the head of our list. I am glad to say that Mr. F. O. Popenoe is here today and we would appreciate a few words from him.

F. O. Popenoe: Members: I feel greatly embarrassed at being called upon in this way after hearing what Dr. Coit has said, I assure you. I appreciate it very much to be made an honorary member of this Association. I appreciate that appointment to the fullest. This Association is and has been a wonderful instrument in the development of this industry in which we are interested and it will continue to be. Its membership has embraced and included high-class people and, I feel, they have steered the ship wisely and well. I want to say with regard to the Fuerte, as I ride around and see thousands of acres of them I have received a rich compensation for the work that Dr. Coit speaks about. It has made me very happy and this feeling that comes is to me the best thing I could have—better than money I could have made out of it, which was none. I figure that the introduction of the Fuerte including a lot of other kinds put me perhaps \$10,000 in the red, but I am glad that I put that money in it. While I am here and have this opportunity, I want to add a word in bringing up this report of the Committee again—the Variety Committee. I am 100% for it all through. I would like to offer a suggestion that more consideration be given another avocado. Should not the Nabal be now added to the commercial list? To me, it is worthy. The Nabal is worthy of being promoted and I believe it would broaden our operations and help us to develop another avocado coming at a good season. The adding of it to the commercial list should encourage considerable planting of it and would tend to divide our risk to some extent. There may come a time when we may have to pull up our Fuertes. I hope not; not until we have a better variety—but to me if the Fuerte and Nabal are both put under the commercial heading I would feel that we had done the right thing.

## **QUESTIONS AND ANSWERS**

Question: Is there any danger of giving avocado trees too much water when they are in bloom if the soil is coarse decomposed granite or Sierra sandy loam and well drained?

Answer by Dr. Coit: You certainly would be making a mistake to have trees too wet during bloom no matter how good the drainage. My feeling is that the set is best if the trees are kept just a little on the dry side. I don't mean to dry them up, for that may give you tip-burn but to keep a little on the dry side during the setting period. In the middle of summer give them plenty of water.

Question: Will pruning during blooming season affect the strength of fruiting in the remaining blossoms?

Answer: Prof. Condit answered—That is one of the things Prof. Hodgson is going to investigate.

Question: What amount of wood ashes can be used with safety for avocado trees as fertilizer?

Answer: Mr. Trask—It depends a good deal on the wood ashes. I wouldn't want to use much.

Mr. Rounds: I would advise the use of no wood ashes.

Mr. Thille: They are agreed. Is there anyone else who wants to comment on this?

Mr. Braunton: I agree with the others. There had better be a tendency to acidity rather

than alkalinity.

Question: Is there an opportunity for a potential but inexperienced avocado grower to take up an intensive study of the scientific growing of avocados?

Dr. Coit: I don't think there is, with a view to acquiring a degree, but certainly an opportunity for an inexperienced man to master a tremendous amount of detail if he is willing to work and study. He can cooperate with his Farm Advisor and University of California at Westwood to gather together a collection of bulletins and books on the subject and do a great deal of reading and studying—also attend the special Avocado Institutes—or Schools held from time to time through the cooperation between the Farm Bureau and the University where the very latest information is given to growers. He can travel and visit groves, examine plantings, talk to growers, study methods at the packing houses and methods of handling fruit on the market. In that way he can, in the space of two or three months, get a very good working idea of the industry.

Question: Is there any new variety of prominence that seems liable to supersede the Puebla?

Answer: Dr. Coit: That is a pretty hard question. There is a whole flock of them aspiring to supersede the Puebla and we would like to see a still larger number of these. I have felt for some time that the peculiar value of the Puebla was limited. As time goes on more and more Fuerte districts come in with earlier Fuertes which overlap the Puebla season. Early esteem was due its unique season and the fact that it would ship. Now as the Fuerte continues to encroach onto the Puebla season—the need for Puebla is less and less. Consequently we need to supersede it with another variety, one which would be green, and earlier.

Question: 'Is there any new variety of promise that seems likely to supersede the Puebla?

Dr. Coit: Possibly the Leonard.

It is a larger fruit than the Puebla, wine colored, grows more vigorously, better bearer; does better near the Coast—hasn't been tested sufficiently inland but very excellent producer and altogether a very interesting and favorable fruit. All we need now is to get sufficient tonnage—30, 40 or 50 boxes to go into the markets and get a test on marketability. It is excellent to eat, grows well and bears well. The season is earlier than Puebla. I would give the season (if I am wrong Mr. Trask, you correct me) as November and December. Mr. Trask: Some groves have them come in the latter part of October or middle of October and on into January.

Question: Do nurserymen have them on hand now?

Dr. Coit: I don't know. I think a few trees could be found in the vicinity of Carlsbad and Encinitas—the variety originated at Point Loma, close to the sea, and it does particularly well along the coast and also does well at Vista, but has never been tested so far as I know at Riverside or Redlands. There is a possibility that it may be a little large—it is quite a bit larger than the Puebla.

Question: What is the next best commercial variety having the same season as the Fuerte?

Answer: Dr. Coit: There isn't any. Does anyone else know of another variety that comes anywhere near the same season as the Fuerte which they consider next best? No answer.

Question: About how many avocados are imported into the United States yearly?

Answer: Somewhere around 15 million pounds.

President Thille: We want these annual meetings to suit the membership, and would appreciate having expressions from the members as to the type of meetings, programs, etc. that they would like to have. Has anyone anything to offer at this time relative to annual meetings in the future?

Ernest Braunton: I just made a remark to Dr. Coit and he asked me why I didn't get up and say it. We have been discussing why the programs were not as attractive today evidently, judging from attendance, as they were some years ago. My thought is that perhaps they have become too efficient. As Mr. Popenoe said, some of our programs seem to have been dictated by Calavo Growers, whereas this Association is distinct and separate. Now to illustrate, I will point out one particular affair which occurs to me as an illustration. I was down in Orange County last year and heard Harold Wahlberg give his report—now he is one of the finest County Farm Advisors this state ever had and his work is invaluable. I went to a meeting afterwards and I heard the same thing. I attended a meeting at the Citrus Experiment Station and heard the same thing. Our annual convention came along at Pasadena at the Hotel Maryland and I heard the same thing. Good as it was, I was tired of hearing it and wanted something new. I believe what we need is what might be termed "experimental meetings"—growers who like to come here and hear discussions of successful methods of the more experienced fellow-growers and not hear from officials primarily. We need certain things—the Variety Committee's Report and reports of that kind we must have. They are very vital but let us have on the program leading growers and not so many men from the Farm Advisors or the University or the U. S. Federal officials. Let us have it for and by the members.

President Thille: We would welcome any other suggestions.

Member: May I make a little suggestion? I would liked to have taken a trip to some of the local groves.

Mr. Thille: That is one of the functions of the Farm Bureau who do put on regular grove tours.

Mr. Rounds: I just want to say that I consider Mr. Braunton's suggestion a good one. We would also like to come here and listen to growers give their experiences. That plan would be a very good one and I personally would like to see it carried out.

President Thille: I also think the suggestion a very good one, but the problem of carrying it out may be a little difficult. However, it is a good thought and it will be kept in mind for the next annual meeting. We want this to be as nearly to the liking of the membership as it is possible to make it.

## AFTERNOON SESSION

Question: What is latest status of dothiorella?

Professor Horne: Well, it is still with us. We are working on it as much as we can. I am inclined to the idea which has not perhaps been sufficiently stressed in the past, that Dothiorella is definitely connected with tip-burn. If you will look at tip-burn leaves—especially in moister sections—you will find most of the tip-burn leaves covered with tiny dots which show up better with a hand lense than with the unaided eye. Each one of these dots is a spherical rounded body which has tip projecting above the surface and is dark. This little structure is hollow and when it has developed full of Dothiorella spores and with rain, and dripping fog, these little bodies swell up and squeeze out spores. Rain or dripping fog scatters them about, and they get on the fruit and cause softening after the fruit is picked. We haven't been able to do anything to the fruit in the way of dipping it in fungicide, hot water, etc., which has yet been successful in preventing Dothiorella decay. Then I took some fruit to the station, dipped it in hot water, so hot the fruit was scalded and yet the Dothiorella developed on the fruit. Others who have been cooperating with us find that agene gas will kill the fungus but the fruit treated still developed Dothiorella. Where all dead twigs were carefully removed from the trees the amount of Dothiorella was very small.

Question: Is that orchard irrigated by basin system or how?

Answer: The basin system was used.

Professor Horne: So we are hoping to make good progress in the control of Dothiorella by means of controlling tip-burn and cleaning out the dead twigs. Now tip-burn is some times caused by too much salt in the soil—that was brought out in the 1932 Year Book. Several years ago, we had a paper by Dr. Haas which showed that if you have too much salt in the water, or too much salt in the soil, you are liable to have tip-burn. Or you may have tip-burn when you don't have a very had salt condition if you allow the trees to get too dry.

Carter Barrett: This season the Fuerte fruit both on open market and that which I have picked up from various locations, in Orange County, has shown a decided tendency after being cut 24 hours to begin darkening at the blossom end, the dark color progressing through the fruit. I have been supplying avocados to a lady to whom I have delivered avocados for 8 to 9 years. This person uses a fruit over a period of some four or five days. She cuts a small slice out of it and keeps the rest in the refrigerator when the darkening takes place, and is different from ordinary oxidation with which we are familiar. This year is the first time she has ever had the Fuerte fruit do this. I am wondering if it is something new, some fungus working in the flesh.

Professor Horne: Of course you can have fungus or bacterial invasion— that would cause the flesh to darken, but the ordinary darkening of the flesh as I have seen it, I feel sure is not due to anything of that sort. It is due to the chemical mak-up of the flesh, and I don't think our chemists have gotten deeply enough into that subject to give us an explanation.

Carter Barrett—It doesn't seem to be particularly injurious. She uses part of the fruit and later the darkening seems to begin at the blossom end and creeps along the fibrous

system of the fruit. This is the first year she has ever noticed it, and it has been almost universal in all Fuerte fruits cut by her.

Professor Horne: I think our sun-blotch investigation is in pretty good shape except that results are slow. Dr. Parker is working with me on that. We do not yet know the cause of it.

Dr. Coit: You know how to prevent its damage to the industry?

Professor Horne: Yes. I think so. Whenever your sun-blotch tree gets so bad so as not to produce good fruit any more, it is not worth keeping and the remedy is the ax. Now when you want to replant, then the nurserymen's part, and it appears that it is a much more difficult job for the nurseryman to avoid furnishing a sun-blotch tree than we supposed, because some of the handsomest trees I have seen anywhere, occasionally have perhaps just on a fruit with a sign of sun-blotch—that means there is some infection in that tree. If a man takes scions from that tree he may get some sun-blotch. When nursery stock shows sun-blotch, the stock should be condemned absolutely.

Question: What is the possibility of transmitting the sun-blotch from one tree to another through roots coming in contact in the ground.

Answer: We have no experimental evidence on that, but I doubt if it occurs.

Carter Barrett: You wouldn't consider it necessary to take any particular precaution in replanting another tree in the same spot?

Professor Horne: No. We have no definite data indicating that that would not be advisable.

Trask: In a grove at Vista where I topworked trees, I found no indication of sun-blotch on them and the graft-wood which I used came from an orchard where there was no sign of sun-blotch, yet these grafts—about 25% have grown out showing sun-blotch, which until the beginning of this season did not show; now there is a very strong showing of sun-blotch on many of those trees. Also about this same time I find in the orchard numerous trees showing sun-blotch which never before have shown any. A little over a year ago, I found a few—very bad cases of sun-blotch and some minor cases not only in the limbs but in the fruit. The owner of this row is wondering if there is a spread of sun-blotch or how it is spreading in his grove?

Professor Horne: I should be very much alarmed over the seriousness of the situation if sun-blotch should start to spread freely—it could be a very disastrous thing- if it could spread. If it is the kind of disease we think it is, there is no reason why it might not be carried by some insect carrier but we just don't know anything about that yet.

Dr. Coit: In connection with sun-blotch have you or Dr. Parker noticed that the disease is any more prevalent inland than near the coast?

Professor Horne: We really haven't studied that question. We haven't made surveys.

Dr. Coit: My observation is that there is much more of it in interior districts.

Carter Barrett: My experience is in agreement with Dr. Coit's.

Professor Borne: Speaking about the care needed choosing budwood, we have at the station some pretty good Caliente trees. If I were looking for grafting- wood, of the Caliente, I would think it all right, yet they all bear sun-blotch fruit.

Dr. Coit: Have you ever found sun-blotch in a strictly seedling tree?

Professor Horne: We do not know that sun-blotch exists in any seedling tree except after it has been grafted or budded, or an attempt made at budding.

Question: Even if the seed came out of sun-blotch fruit?

Answer: We have even kept the flesh on the sun-blotch fruit and after germination, they are growing just as healthy as anything.

Visitor: I made an experiment for the United Fruit Company in Guatemala and found sun-blotch is caused through soil conditions mostly.

Professor Horne: You have sun-blotch in Guatemala? I should like to see samples from there.

Visitor: I am not going to be there for a little while but I did make an experiment for the United Fruit Company on soil conditions.

Professor Horne: I would like to have some of those leaves and stems in green fresh condition. They probably wouldn't let them come in unless under special permit by the Department of Agriculture. I'm very much surprised at your first statement. The only foreign country having sun-blotch is Palestine and there it is on trees shipped from California.

Visitor: They have it in Central American Countries.

Question: Are those seedling trees?

Visitor: They are all seedling trees.

Professor Horne: I came from a state close to Missouri and I don't deny your word but I would like to be convinced that it is sun-blotch. I would like to have some of that material to see for myself.

Question: Concerning top-working of Pueblas—is it practical to top-work to Fuerte or Nabal? In other words, is there uncongeniality between stock and scion of the puebla, grafted to Nabal or Fuerte?



Mr. Trask: I have grafted Puebla to both Nabal and Fuerte and had no trouble.

Question: What about the Fuerte? Does it respond as well top-worked on Puebla?

Mr. Trask: One tree which I have done has grown just as good as any. The oldest that I have done are two years from graft and they are certainly growing as fine as any other. I don't know of any Pueblas that I would hesitate to work to Fuerte.

Judge Halm: I want to say a few words. We have had here a good many matters of interest to everyone who has a grove. These meetings are the result of cooperation. This is a day for organization. Organizations are putting things over and accomplishing something. But it takes cooperation. We have had in our industry some matters which require the combination of a great many individuals who together could work out remedies for our troubles and benefit our industry. For example, some of us have had our fruit stolen. We tell our neighbors and we go behind the woodshed and cuss about it, and in a little while that is all there is to it, and the neighbor doesn't do anything for you and you don't do anything for yourself. It takes some organization which will be able to impress the authorities with the number of people who are affected. And don't forget that when these public officials are faced with organization of 100, 200 or 500, they begin to think of how many votes that is, and they get busy. Not very long ago, we tried to get some protection against the Cuban importations of fruit. We thought we were trying to get a tariff on foreign fruit coming in. Well the people at Washington thought over the matter and asked, "How much of a tariff must you have?" "What does it cost you to raise avocados" and there wasn't a soul who could tell them what it costs to raise avocados; no basis for figuring out what the tariff ought to be. The result was that one forward-looking individual, Mr. Wahlberg, conceived the idea of securing a number of grove owners who would cooperate with each other so they might find out in the course of a few years. That study is in progress now and that is the only organization of its kind in California, or in the United States, or even in the world, that has done such a job, but it was done through cooperation and organization.

Not so very long ago, in my section of the country avocado thieves were working night and day. They didn't wait for the dark but stole the fruit right in the day time. Well we were up in arms. We tried to protect ourselves but we couldn't do it. Then we went before the authorities and asked for a Sheriff's Patrol. We were told that they didn't have the money, men or equipment and couldn't do anything. But we found one man who had some experience in that line and you ought to take your hats off to him—he is Captain Howard Brooks, who is the head of the Farm Theft Detail of the Los Angeles Sheriff's Department. There is no other organization like his anywhere. He took an interest in our cause because he has had experience in that line. We again went before the Board of Supervisors but we couldn't get anywhere because we were talking avocados all the time. They said, "we can't organize a patrol to protect avocados alone when there are so many other products suffering similar losses; nobody else is asking for it—only you fellows." Right then, we decided to get a few more with us—for instance the poultry raisers. Lot of people raising chickens who suffer from thieves. So we called a meeting and had some 75 poultrymen and avocado growers at the Los Angeles Farm Bureau office. The result of that was that a strong committee of 15 was appointed to wait upon the Board of Supervisors. The Supervisors listened very sympathetically but stated there was no money to do anything with. From underground sources, I learned that the

Board of Supervisors went out to the Farm Theft Detail and asked, "What is the matter with these fellows? What do they want? What ought they to have." As a consequence, in a very short while we had a patrol, patrolling the avocado districts and the money to pay them was appropriated as an emergency fund. They didn't have anything from which to make a permanent allowance from which to pay these men but managed it from month to month out of an emergency fund. Each month they did the same thing, up to the present time. Now it wasn't an individual who accomplished that. It was an organization. It takes a lot of people pulling together and keeping together everlastingly.

At present, we want and see the necessity and advisability of having a plot of ground at Westwood. Now if we want that bad enough and talk about it enough and make a big enough noise about it, eventually we will get it. But it will be an organization that does it if it is done. Now your organization ought to have more members. The more we have, the better—the more strength. If any of your officers can say "We represent 5,000 members" it would be a great deal more effective. People, especially officials, will sit up and take notice. It is the organization that we want, the membership we want, the support we want, and must have. If each of us here would get just one more member, we will have quite an addition. We need more money, more support and by having that you will be better served.

F. O. Popenoe: The membership problem is certainly a vital one. With a very much increased field for members, we have less people coming to these meetings. There must be a reason for it. We used to have a more extensive program—two days, and lots of patrons came and got more perhaps than we can get in one day. I believe we should go back to that method of having more papers, more interest shown to attract the people. We may have talked ourselves out, but I doubt it. You people in the field want to come and learn. I believe we need to stick to the good old-time educational work which we were founded to do, having with it a social side, where we can meet and get better acquainted with each other. I believe also the fruit exhibit should be kept in closer contact with the meeting of this Association so that we might have the fruit here to attract the people as well as hear papers read. I wouldn't like to do anything to disturb the efforts of the Progress Club but it seems to me that we are missing something for our Association. We want more papers and we want a lot more enthusiasm here.

Ernest Braunton: I was present at a meeting of a powerful organization, and I heard a vigorous and convincing argument along the line that Judge Halm spoke on, and the speaker ended up with this story. "Years ago a man was riding with an old stage coach driver—he was a very experienced driver. As they went along, he would take his coach whip, hit at a fly resting on the horse, or an insect on the leaf of a tree, and strike them every time. They went along and finally came to a wasps nest. Flying around were two or three wasps and the man said, "Why don't you pick off some one of those wasps?" "No sir,." said the driver, "You can pick on a single fly but you can't pick on those fellows. They belong to an organization."

Dr. Coit: I was much interested in what Mr. Popenoe said as I too remember the good times we used to have when we put on two-day meetings with papers and had a sociable time, a dinner and an exhibit. I wish we could continue to do it that way, but friends, as a little boy, I remember hearing the expression, "tempus always keeps on fugiting"! As times change, everything changes. One of the changes which has come is

the rapid development of the Farm Bureau work which is really a very fine thing. A number of County Farm Bureaus have their own Avocado Departments, with Variety Committees and Fertilizer Committees, etc. The Farm Bureau Departments can put on a certain type of program which the Association previously put on and do it better. They are in a better position to do it than this organization.

In reply to what Mr. Popenoe has said, I will say that in preparing this program, the usual educational papers by U. S. Department of Agriculture men, the State Division of Agriculture and the University of California men and others occupied in research and investigation had already appeared on programs put on by the Farm Bureaus. There was very little left this year, for the Association program. The most important educational meetings in the future will probably be carried on by the Farm Bureau—probably should be.