

HOW THE WHITTIER LABORATORY CAN BE OF SERVICE TO THE AVOCADO INDUSTRY

Dr. F. R. Cole

Talk given at Annual Meeting, May 16, 1931.

Dr. Cole: We in the government service—if we stay long enough—have to become very conservative. We have to become good lawyers, as we have to be so careful about what we say. The committee, representative of your organization, came to our Whittier Laboratory some time ago. We talked over some of your present problems and your possible problems in the future and just what could be done about some of these problems. I believe your committee knows how to proceed to get the help they wish.

In a new industry there are usually new pests arising and this avocado industry will be no exception. Wherever we have a large acreage of one type of vegetation, or fruit, we eventually get some pests running rampant for at least some portion of its history. As an example of that, we might take the citrus aphid that broke loose in Florida six or seven years ago on a certain variety of orange, the Temple Orange, that was very susceptible to this aphid. According to some authorities, the reason for the big citrus aphid outbreak was the presence of a large acreage that was very susceptible to the insect. You may never have that experience in the avocado industry. We can't tell you yet just what your serious pests will be.

In lining up our work on any project of this kind, we find several things to consider. We have first to consider in our treatment for pests the type of tree we are going to treat and just what it will stand. We have on the one side, then, the study of the vegetation, its susceptibility to spray and fumigation, and on the other hand the type of insect and its susceptibility to the spray. There is a rather delicate margin of safety. We could kill most any of these insects if we could be allowed to use as strong a solution as we might wish but it isn't always possible. You could by destroying the trees or injuring them seriously, kill practically any insect. The idea is to eradicate or at least commercially control these important pests and at the same time to preserve your trees and keep them in the best condition.

Mr. Martin, of our laboratory, has been very much interested in the study of insects affecting avocados. We at the laboratory are, of course, equipped to do considerable work outside of citrus wherever the opportunity is granted us. The name of our division is "Citrus & Sub-tropical Work" and we will include eventually a good many of these sub-tropical trees and fruits in our study.

I have asked Mr. Martin to give you a short resume of the insects affecting avocados so far as we know them now. Mr. Martin is at the Whittier Laboratory and he will give you a few notes on some of the important pests as we know them and possible methods of

their control.

Mr. Martin: As Dr. Cole suggested, I think I will be a lawyer and give you only some of the things the Whittier Laboratory might do for you. We don't promise them. Perhaps there should be some experiments with sulphur dusting or sulphur spraying. This is a standard insecticide used for thrips, red spider, and in some cases scale insects. It is not yet known whether avocados will stand sulphur dusting. That is one of the things that might be tried out. There are a good many agencies in the field trying out oil sprays so perhaps it would not be necessary for us to go very extensively into that part of the program.

Perhaps the avocados in the future might meet with some of the leaf-eating insects. For this type of insect, a stomach poison is needed. No one knows whether arsenate of lead will burn avocados, or the effect of some of the other standard insecticides. We might also try out some of the chlorine compounds.

As Mr. Mackie has suggested, keeping nursery stock clean will also help you I to keep down pests in the field. We in the Whittier Laboratory hope to try out | the steam treatment of plants. If this method works out successfully, it is a i very good way of eradicating insects on plants before putting them in the field.