

Minor Insect Pests of the Avocado

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Ladies and Gentlemen: I am really surprised to find myself on the program because I am here today as a visitor, as one who is just becoming informed and experienced in the insect problems of the avocado industry, and one who is here to become acquainted with those of you who are connected with the avocado industry.

But I find I have about a quarter of an inch of space on the program, so I am going to try to justify it by some general observations on the insect picture on avocados. Those of you who have some connections with the citrus industry, as I suppose many have, will remember how from time to time different insect pests were the number one enemies of citrus. You might even remember as far back as the time the cottony cushion scale was considered the number one insect on citrus. Then later on, perhaps, the citrus mealybug and the black scale, and now the red scale, and in various localized districts the insect situation changes from year to year.

In localities where they never heard of citrus mites ten years ago, now they are a severe problem. In the San Fernando Valley where citrus thrips were once of no importance, they are now a terrific problem. So with other insects.

I think that in any literature that you might pick up, of the past few years, you will find the latania scale written up as the number one insect enemy of avocados, and in Quayle's book, for instance, and in Hodgson's bulletin on the avocado industry, you will find considerable space allotted to the latania scale and fumigation procedures and oil sprays. But now, who is interested in latania scale—the number one insect of avocados being the greenhouse thrips.

So my part in the avocado pest control research program for the time being will be following up work that Dr. Boyce has started; and with the fine cooperation that we are getting from Dean Palmer and your inspectors in this county, we hope to be able to get some answers during the current season.

Aside from that, perhaps I might mention a few little problems that we have run into occasionally just in a few trips we have made down into the Carlsbad area in making our experiments down there. One of these is the problem of the long-tail mealybug attacking grafts, avocado grafts, at this time of the year, or more especially, during the past months. As far as the industry as a whole is concerned, that is probably a minor problem, but from the standpoint of the person who is grafting during the month of April, usually, it's the number one problem of the industry at that time, because it costs him, I understand, about five dollars a tree to get the grafting done; and if he loses the graft, it sets him back a year.

We find the grocery bags that they put over the grafts form a favorable environment for the long-tail mealybug, and if you put cryptolaemus beetles under those bags, they don't like it very well; they try to get out. So they don't seem to be a factor that can be relied upon to control these mealybugs. Well, Dean Palmer got the excellent idea of inserting a beer-bottle cap (I think any bottle cap would do), filling that with calcium cyanide and allowing HCN gas to generate in this bag, and from his observations he has gotten good kills from the long-tail mealybug, which is in line with the observations the old-timers made in the days when mealybugs were the number one problem on citrus—that where citrus trees are fumigated consistently from year to year, they didn't have long-tail mealybugs. They might have had others, but not long-tails.

If you are going to follow out this procedure, we would suggest doing the work as late as possible in the afternoon. One grower in the Carlsbad area suffered very severe damage and killed most of his grafts (he didn't get the mealybug either, very well) by doing the work in the middle of the afternoon, even though it was a cloudy day. Cyanide and daylight are a bad combination. That is just in the way of a suggestion or precaution.

We have been doing some work with DDT with the idea of possibly controlling the mealybugs themselves, or if not, controlling the ants that possibly are responsible for the mealybugs being on the grafts. I wish we had tied into this problem a little earlier in the year when they were first beginning to graft, because the idea then would be prevention—getting the DDT, in the form of a dust or spray, on the sawed-off trunk or limb, and keeping the ants from getting the mealybugs to the grafts. But as it happened, we started working after the mealybugs were already on the grafts, and with either a dust or a spray, we have been able either to eliminate the mealybug population or cut it down considerably. Possibly we might have done even better in the way of prevention rather than cure. It will take another season to find out.

Another little local problem is the June beetles that attack avocados from time to time. Again that is a very minor thing, but from the standpoint of the person who has the beetles, it is the number one problem at the time, and especially where the avocado trees may be in close proximity to the natural habitat of the beetle, such as the virgin lands surrounding many newly-planted avocado orchards. This year we found an instance in Carlsbad—on the property of Charles Wolf—of the beetles doing severe damage to peaches, apricots and nectarines. He got the idea of dusting the trees with a 10 per cent DDT dust, and dusting the ground. The beetles kept going to the ground during the day and getting under the mulch. By dusting the mulch, enough of the DDT got in contact with the beetles to paralyze them. If the beetles were real active and got a lot of DDT on their bodies, the next day they were dead. He has had no more trouble from the beetles. If he hadn't done that, the trees would probably have been defoliated. The beetles had done a tremendous amount of damage in just a few nights.

DDT, coming suddenly into the insecticide picture, makes a lot of interesting work for entomologists and might solve some problems that have been awaiting solution for a good many years. In this beetle problem, arsenate of lead has been recommended, with very little or indifferent success.

So that is a sample of what a little casual scouting about has brought to light in

connection with some interesting little problems on avocados. But the number one problem that we will be interested in will be the greenhouse thrips problem, for the time being; and we wish again to thank Dean Palmer and his inspectors for their cooperation in facilitating this work for us. Since we have been working mainly in the Carlsbad area, the fine cooperation of Inspector Howard Oldham has been especially helpful. I hope we will be able to meet more of you people in the future and that the next time we report to you we will have something more concrete to report than we have at the present.