

**WHAT THE FLORIDA CITRUS GROWER NEEDS \***

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For several years we have wondered why so many of the prominent citrus growers failed to appreciate the full value of insect control. We have visited many growers who have an enviable social standing, superior intellect, and who have amassed more or less wealth, who were not interested in the control of insects on their trees by any artificial means. We must confess that this attitude has dampened our enthusiasm and has therefore hindered us in our work. We have had meetings of the Florida Horticultural Society for 30 years, we have had a State University for many years with short courses and seminars for the dissemination of knowledge, and this laboratory has been located in Orlando for nine years, but for some reason many of the citrus growers have never been reached and know nothing of any researches which have been done in this State. Many of them do know about the researches, but are not interested enough to take action.

More than a year ago we visited a community and the result of this visit gave us our first idea as to the needs of the Florida citrus grower. After eight years residence the idea came to us as to what the trouble might be. We have decided that it is practically useless to talk to the people about some insect or animal which they have never seen and about which they can form no idea as to its appearance, how it gets its living, or what injury it might do. It is equally useless to write learned bulletins on a pest whose appearance the grower has no conception of and knows nothing of its life history or biology. Bulletins of course are all right if a grower knows or understands what he is reading about. We decided more than a year ago that the lack of entomological knowledge was the fundamental difficulty of the growers. Most of them do not know rust mites or their eggs even if they chanced to see them. Neither do they know where they are found, either in the summer or in the winter. They do not know if they have the appearance of an elephant or a monkey. Nor do they understand the appearance of scale insects or the whitefly any better. A great many growers do not know that nearly all the injurious insects

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on citrus insert a beak into the trees for the extraction of juices. Neither do they know what this beak looks like, nor do they know the appearance of the young insects.

About a year ago we visited the foreman of six groves in company with the State Superintendent of these groves. We carried a binocular microscope with us in order to show each foreman the insects present. First a trip was made through the grove and such pests as were present were found and more or less instruction was given in the grove. Samples of these pests were then taken to some convenient place where they were examined under the microscope. An attempt was made to be more or less systematic in presenting this information. We showed them the eggs, young and adults of the most serious pests in their particular grove. No attempt was made to give instruction about insects which were not found in the grove. We also attempted to give instructions regarding beneficial insects, parasites and friendly fungi. Methods for the control of these pests were then discussed as each insect was examined. It would appear that this trip was of great value to the foreman in question, and the superintendent asked me to set apart a week so that the men could come to Orlando for further instruction.

Since this first series of meetings met with such success it was thought advisable to have additional meetings where the growers of a community might take advantage of seeing insects. We held six meetings, all of which were apparently very successful. It was soon found out, however, that such instruction and demonstrations should be accompanied with either a printed or a mimeographed synopsis of the information given. This office has had in mind for some time the preparation of such a course for those people who have spraying demonstrations for this office, but so far nothing has ever been done. These meetings have demonstrated to this office that a laboratory, or a demonstration, or a seminar should be carried to the grower as an individual. We see that our efforts in having the individual come to us have not been entirely satisfactory or successful. It is now up to us to take the results of our researches direct to the grower. This is now being done to a limited extent by the county demonstration agents and we look to them to add a half million dollars annually to the citrus industry.