

## California Avocado Society 1928 Yearbook 12: 98-99

### REPORT ON PATHOLOGICAL INVESTIGATIONS

#### The California Avocado Association

The Avocado as grown in California is not as yet seriously affected by pathogenic diseases. However there are several troubles which, while of minor importance now, may increase to serious proportions as the industry develops along commercial lines. In particular, certain types of decay of fruit are the cause of uncertainty and uneasiness at the packinghouse. It is good policy to begin the investigation of such things early and well in advance of possible serious losses.

Professors Fawcett, Home, and C. O. Smith of the University of California, have for years been interested in some of these problems and had already accomplished as much as was possible in the very limited time at their disposal. The Association had previously requested a special fund for this purpose and such an item was included and approved by the State Agricultural Legislative Committee. While this item was passed by the Legislature, it was deleted by the Governor before he signed the University appropriation bill.

In the early spring of 1928, Mr. Carl Lindegren, a qualified plant pathologist, was in a position to accept part time employment by the Association, and was much interested in certain problems of avocado fruit decay. The opportunity to get this important work started, having been presented to the Board of Directors of the Association, a committee was appointed to devise ways and means. Dr. H. S. Fawcett, of the University of California, promised full cooperation and agreed to help plan as well as supervise the work expected of Mr. Lindegren. Dr. Fawcett also loaned the use of certain needed laboratory equipment and library facilities at the Citrus Experiment Station.

At this point the committee appealed to the membership of the association for contributions to a fund to be used in getting this work started. The response was gratifying, as cash subscriptions amounting to \$1160.50 were received, and an additional \$105.00 was pledged if needed and called for. Accordingly Mr. Lindegren was employed and began work. He made a review of the literature of the world on avocado diseases. He collected material in a number of avocado orchards. He established a small laboratory at the packing house of Calavo Growers in Los Angeles, and he made a number of trips to Riverside to confer with Dr. Fawcett and to use certain facilities at the Citrus Experiment Station. A brief sketch of his work includes a survey of all rots, blemishes, and decays found on fruit in the packing house; cultures and inoculations of these decays. A study of the physiological browning of the Challenge Avocado and some other varieties affected with this same trouble but to a less extent.

The Citrus blast organism, previously reported on Avocados by C. O. Smith, was found as a casual agent in certain kinds of blemishing spots.

Certain species of *Alternaria* were isolated from deteriorated fruit and a start made on a promising line of investigation with this.

Both *Dothiorella* and *Diplodia* fungi were found and identified as causal agents, or contributing agents, to certain types of wound decays. Much more work with these organisms is needed.

Anthrachnose of the Fuerte, caused by *Colletotrichum*, which had been serious in the packing house the previous year, and which Mr. Hodgkin was most anxious to have investigated, was conspicuous by its scarcity this year. Specimens were found both in the field and packing house and cultural studies were made, but the proposed spraying experiments in the orchards were not carried out on account of the scarcity of the trouble this year. One of the most practical results of Lindegren's work at the packing house was his discovery that infection and decay of fruit is greatly increased by the handling and packing of sweating fruit which has previously been in cold storage. His urgent suggestion that packing house routine be changed so as to entirely avoid this has been an important step in the control of decays.

In August, Mr. Lindegren accepted a position at the University of Southern California, after which it was not possible for him to devote more than one day a week to avocado work for the Association. At about the same time Professor W. T. Home of the University of California at Berkeley, was transferred to the Citrus Experiment Station at Riverside. Professor Home had previously investigated some Avocado and Feijoa decays, results of which have been published by this Association. He became much interested in the work Mr. Lindegren had started and in the many fungus cultures he had under way. He requested that Avocado diseases be assigned to him, as one of his permanent major problems, in cooperation with Dr. Fawcett. This plan was provided for by Dean H. J. Webber, and Professor Home has already begun active work in field and laboratory.

The Committee in charge of promoting this work, realizing that the work was now being carried on by both Professors Fawcett and Home in much greater volume than ever before, and inasmuch as Mr. Lindegren could give only one day a week which was not very satisfactory, decided that it would be wise to discontinue the employment of Mr. Lindegren, which he was agreeable to, having become very much occupied with his new position. Accordingly Mr. Lindegren prepared a complete report of all his work, which he turned over to Dr. Fawcett together with 248 cultures of fungi, all notebooks, drawings, and some unused materials. The care of the cultures has been assumed by Professor Home, with the result that one year will be saved to him in the conduct of the work. Many of these cultures secured last spring will be carried on and be ready for inoculation work next spring.

The total amount of money expended by the Committee for salary, expenses, and used laboratory supplies, as shown by vouchers filed with the auditor is \$495-35. This leaves an unexpended balance on hand of \$665.15.

Having accomplished more than had been hoped for, and at a smaller cost than was estimated, the Committee feels that the balance of this money should be retained in this fund for the time being, or until some emergency such as an outbreak of a new disease or decay, when it may be used to the best advantage for the purpose for which it was

subscribed.

Respectfully submitted,

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