

REPORT OF THE RESEARCH COMMITTEE ANNUAL MEETING JUNE, 1955

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Chairman

Several meetings were held during the past year. Some of the subjects discussed were the location of research work on the Riverside and Los Angeles campuses and the continuation of a subtropical specialist in the extension service.

Several grants have been given the University of California this past year to aid in needed research. One for the continued search of "Avocado Root Rot", resistant seed stock and another for sand cultures set up for the basic nutritional studies of avocados.

Two additional grants were given for use at the new South Coast Station in Orange County. One for the further study of Clonal root stocks and a second for aid in the construction of an avocado propagating house and/or for facilities pertaining thereto.

A request for research and work was sent to 'The Agricultural Council' of California as follows:

1. AVOCADO ROOT ROT.

A. Work should be continued and expanded on the problem of *Phytophthora - cinnamomi* (avocado root rot fungus), principal disease of the avocado industry in California. This disease, usually called cinnamon fungus, has already spread throughout southern California, and unofficial estimates indicate that from 3,000 to 4,000 acres have already been affected.

B. There is need of continued search for root stock resistant to cinnamon fungus, not only in this country, but in Latin American countries, where wild forms of avocado are to be found growing in wet soil conditions.

C. More work should be done on possible fungicidal control. To date, no satisfactory treatment has been found whereby the infected soil can be replanted to avocados.

2. ROOTSTOCKS.

A. Identical Rootstocks: At present the rootstocks in use are seedling avocados, and due to the variability of seedlings and the variations in compatibility of scions with rootstocks, the resultant orchard trees are not uniform in growth or production. Therefore it is necessary to develop a satisfactory method of reproducing identical rootstocks to enable the grower to develop an orchard of identical trees.

B. New Rootstocks: The continued search and trial of avocado rootstocks other than those now used in California for the purpose of finding rootstocks resistant to *Phytophthora Cinnamomi*, rootstocks having growth-controlling influence on the large growing trees and root-stocks influencing bearing habits of the avocado.

3. VARIETIES.

Most avocado varieties are not adaptable to all areas, therefore it is emphasized that a search for better varieties, more adaptable for growing as commercial varieties, for all districts, be continued. It is important that the work be carried on by means of a search for chance seedlings and by the development of new varieties through crossing, by means of plant breeding.

4. PEST CONTROL.

As the acreage of avocados increases, a greater number of pests seem to appear and the damage is increasing. Since the avocado tree is sensitive to chemicals used, and most parasites become resistant to chemical treatment, an intensive study should be made to see if control could not be obtained biologically.

5. FERTILIZER AND NUTRIENT REQUIREMENTS OF THE AVOCADO.

Little is known of this, and intensive studies should be made.

6. DISEASES.

There are several diseases, including sun-blotch and verticillium wilt, affecting the avocado industry in California, but the cinnamon fungus problem remains the outstanding one. Studies should be made in order to better enable the avocado grower to prolong the useful life of his orchard.

7. SOIL MOISTURE.

Many variations in the amount of water applied, and the timing of applications, are observed in grove management. Some method should be developed whereby recommendations could be made for the best results of production, fruit quality, and tree health.

8. FRUIT MATURITY.

The oil content method now used for determination of fruit maturity is not satisfactory. Some method of determination of avocado maturity in the field should be devised.