

A BACTERIAL WILT OF EGGPLANTS

(Preliminary Paper)

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A wilting of the eggplants at the Insular Experiment Station is the cause of heavy losses. Specimens of this disease have been sent to us from other parts of the Island.

The disease does not attack the plants until they begin blooming and fruiting but, when a plant is attacked the disease progresses very rapidly. The first evidence of the disease is a wilting and drying of the lower leaves, followed by a gradual wilting of all the leaves, those at the top wilting last. The leaves are often dry before they have lost all their green color. They finally become brown. If the bark on the stem is removed at the surface of the ground a black zone is found between the bark and the hard wood. This blackening of the tissues can be traced for a considerable distance into the roots and branches, especially in the severe cases. A microscopic examination of a cross section of this blackened tissue shows that the tracheary tubes are filled with bacteria.

The bacteria are very easily isolated and grown in culture. In fact, most of the cultures are pure. This organism was inoculated into plants of various ages by means of punctures into the stem just below the surface of the ground. These punctures were covered by a pad of cotton and proper checks made. Regardless of the ages of the plants inoculated, there was no evidence of the disease in any of them until they commenced blooming or bearing fruit, when they developed the symptoms previously described. Tomato, pepper and tobacco plants were inoculated with this organism and grown along side the inoculated eggplants, but did not develop the disease.

This disease occurs on every crop planted in our truck crop plots but not in crops planted in soil not previously used for eggplants, which indicates that the organism persists in the soil.

The growth on potato agar was heavy, white, slightly tinted with yellow on the second day with a tendency to liquify the agar and form a gas.

The growth on Cooks No. II was almost equally good, white, tinted with yellow and tendency to form gas.

The growth on oatmeal was slight and tinted with yellow.



Diseased and Healthy Eggplants