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## A BACTERIAL WILT OF COSMOS

(Preliminary Paper)

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This disease appears in the Cosmos plants of any age and has proved very destructive at the Insular Experiment Station and in flower gardens in this vicinity. The foliage wilts and finally turns black. If the bark is removed from the stem just above the surface of the ground, the tissues between the bark and the wood are found to be brown or black. These discolorations may extend to a considerable distance into the branches and the roots. A microscopic examination of a cross section of the discolored part shows an abundance of bacteria and sometimes a fungus in the tracheary tubes. Cultures almost invariably developed a bacterium and a fusarium. Inoculation with these two organisms proved that the bacteria was the cause of the disease.

On potato agar the organism starts slowly but produces a heavy white or almost clear growth within two days.

The growth on oat-meal agar is less than on potato.

The growth on Cooks No. II agar is heavier than on the potato and is slightly tinted yellow. There is considerable gas formation on the third day.