

PART IINTRODUCTION

The yam (Dioscorea spp.) in the Caribbean was, until recently relatively free from pests and diseases both in the field and in storage. In the last four years, however, there appeared a condition, fairly early in the growing season (late August - early September), which started as a black spot on the leaves and spread down the petioles to the stems, causing complete necrosis of aerial parts of the plant within a few weeks in some cases. Diseases with similar if less severe symptoms have been noted several times in the Far East, West Africa and Jamaica (see Section B), and decrease in yields by as much as 80% have been noted on D. alata under unfavourable condition (SINGH and PRASAD, 1966). It seemed that in the Southern Caribbean, Trinidad, Barbados and Antigua (ITON, private communication, 1967) were the only islands in which the disease had been reported, but that with continued growth of susceptible cultivars, the yams in these islands, such as St. Vincent and Dominica, could become affected.

Dioscorea alata var. 'Lisbon' was by far the most popular yam in Trinidad. It was, however, one of the species most susceptible to anthracnose and the declining yields over the last four years at the Texaco Farm from over 8 tons/acre in 1964 to less than 2 in 1967 was probably due, in no small measure to the incidence of the disease. Yield trials have been carried out on seven 'alata' cultivars and observations on resistance to Colletotrichum indicated that the 'Oriental' cultivar was the least badly affected when 'cupravit' and 'zineb' spraying programmes were followed (ROYES, 1966).

/Cush-cush...

Cush-cush (D. trifida) a less common yam in Trinidad did not suffer as badly on its aerial parts as D. alata, and of fifteen lines observed one line 16/63/18 showed little infection, while three were mildly affected and eleven others showed quite heavy infection. As will be mentioned later, two other species of yam D. rotundata and D. bulbifera showed some resistance, from observations on a few plants, while D. cayenensis showed almost complete resistance until the end of the growing season.

In addition to the yam breeding programme which is being carried out, there is a need to understand the biology and epidemiology of the suspected pathogen as well as to find the cultural practises required to minimise its incidence. ITON (1964) carried out a preliminary survey in Barbados and Trinidad and suggested that a Colletotrichum sp. was involved in the disease. The author, after a few preliminary tests on infected material, concentrated on the Colletotrichum sp. found on yams, working on the taxonomy, the macroscopic and cellular symptoms on the yam plant; the methods of entry into the aerial parts and the possible presence of a perennial mycelium in the tuber.