

## A Sclerotial Wilt of Pineapple from India

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Pineapple, *Ananas comosus* (L.) Merr., is one of the most important fruit crops in India. Its area under cultivation is increasing significantly. A few fungal diseases attacking this crop have been reported from this country. A hitherto undescribed disease causing wilt of pineapple was observed in the pineapple growing areas of Shillong (Assam) during the year 1965 and a species of *Sclerotium* was associated with the disease.

*Sclerotium* wilt has a very wide host range and is distributed throughout the tropics and warmer parts of the temperate zones and is one of the most destructive diseases of plants (Weber & George, F., 1931, West & Erdman, 1971) (8, 9). The first record of *Sclerotium* wilt was by Rolfs from Florida in 1893. Saccardo in 1911 named this wilt organism *Sclerotium rolfsii* in recognition of Rolfs' pioneer work. The *Sclerotium* wilt of pineapple was first reported by Fajardo and Mendoza (1) in 1935 from Philippines.

The initial symptom of the disease is characterized by a conspicuous web of white rosy or fluffy extrametrical mycelial growth on plant at the soil level as well as on the soil around the plant. Later, the white mycelium disappeared and masses of small, hard, round to ovoid, light to dark-brown sclerotia, about the size of mustard seeds were observed at the collar region. In advanced cases, both the upper and lower portions of the plant are fully covered by the mycelium and later on sclerotical bodies are formed. The fungus attacks the root zone resulting in the death of the plant. The plant starts wilting and finally collapses (Fig. 1). The percentage of incidence calculated due to this disease ranged between 5—10.

The pure culture of the fungus was obtained on Potato Dextrose Agar (PDA) medium and in about 4 days abundant, radial growth of white, septate branching mycelium was observed in the petri plates. The fungus growth was rapid covering the entire petri plate in about 9—10 days. After full growth of mycelium, the medium was consumed by the organism and hyphae collected in small, dense, white, pin-head like structures, changed gradually in colour and size and finally became brown or black coloured sclerotia within 10—12 days.

Pathogenicity was established by inoculating the pure culture of the pathogen in healthy suckers of pineapple which were grown in

12 inches earthen pots. The inoculum was placed by scooping the soil around at basal portion of the suckers and then the inoculum was covered with soil. The plants were kept in the humid chamber for 48 hours. After 7 days a web of white mycelium was seen at the soil level as well as on the soil around the plant after one week of inoculation. By the time *sclerotia* were formed the lower region of the stem was girdled resulting in ultimate death of the plant. Repeated re-isolations resulted the same pathogen.

Host range: The fungus was found to be pathogenic on *Capsicum annum* Linn., *Cicer arietinum* Linn., *Crotalaria juncea* Linn., *Lycopersicon esculentum* Mill., *Pisum sativum* L., *Solanum melongena* Linn., *Solanum tuberosum* Linn. and *Zinnia elegans* Jacq.

Cross pathogenicity: The fungus was isolated from *Lycopersicon esculentum*, *Solanum melongena*, *Capsicum annum*, *Zinnia elegans* and *Ananas comosus* were found to be cross pathogenic when tested artificial. The isolate from *Lycopersicon esculentum* was found to be more virulent as compared to others.

The pathogen causing wilt on this host was identified as *Sclerotium rolfsii* Sacc. and the description agrees with the type described by Earle (1), Higgins (3), Rolfs (4, 5, 6) and Saccardo (7). A perusal of literature revealed that this fungus has not been recorded on the host and being reported for the first time from India.

#### Literature

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