

**OCCURRENCE OF *MACROPHOMINA*
PHASEOLI (MAUBL.) ASHBY ON
GARLIC BULBS**

Macrophomina phaseoli (Maubl.) Ashby has been reported from different regions of the world occurring on a large number of hosts. In India it has been reported on *Solanum tuberosum* L., *Cajanus cajan* (L.) Millsp., *Carica papaya* L., *Citrullus vulgaris* Schrad., *Cucurbita maxima* Duch. and a variety of other plants as root, stem and tuber parasite. Dastur (1935)¹ observed a disease of *Piper betle* L. (Vern. *Pan*) caused by *Macrophomina phaseoli* in Central Provinces. Recently Singh and Gupta (1954)² recorded it as root-rot pathogen of Spinach in Kanpur.

During the year 1962-63 the authors isolated this organism a number of times from Garlic bulbs stored in the local markets. Externally both healthy and diseased bulbs appear to be similar but a careful examination under lens after peeling the outer leaf-scales revealed the presence of large number of black pin-head dots like sclerotia on the inner leaf-scales. The sclerotia which show some differentiation between cortex and medulla are smooth, black and hard. Examination of the fully diseased bulbs showed that as a result of fungal infection the edible yellowish fleshy portion of the leaf-scales is reduced to a hard, brown mass without the usual smell of garlic.

The fungus grows well on Asthana and Hawker's medium 'A' and potato dextrose-agar medium at 25° C ($\pm 2^\circ$ C.) and shows the following morphological characters :

Fycnidia dark, sunken, globose with minute ostiole ; 123-132 μ diameter conidiophores simple, conidia hyaline, cylindrical, with rounded ends, one-celled, 22-32 \times 8-10 μ .

Pathogenicity experiments were carried out with pure culture of the fungus by soil inoculation technique. Healthy bulbs were sown in pots containing inoculated sand. Typical symptoms appeared after 20 days. The bulbs in controlled pots remained healthy. Cross-inoculation studies indicated inability of the fungus to infect bulbs of *Allium cepa* L. Both the varieties of onion were found to be non-susceptible to the disease.

In as early as 1943 Altstatt and Smith³ reported a bulb-rot of Garlic (*Allium sativum* L.) from Texas caused by *Sclerotium bataticola* Taub. (*Macrophomina phaseoli*). Since then no second record of this disease has been made from any part of the world.

The authors wish to express their grateful thanks to Dr. J. C. F. Hopkins for his help in the identification of the organism.

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 3. Altstatt, G. E. and Smith, H. P., *Circ. Tex. agric. Exp. Stat*, 1942 **98** 13.
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