

## MANAGEMENT OF PURPLE ROOT DISEASE OF *HEVEA BRASILIENSIS* IN IMMATURE PLANTATION

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Incidence of purple root disease was observed in a five-year-old rubber plantation at Hahara, Assam, India. The fungus, *Helicobasidium compactum*, upon infection, forms distinct spongy fruiting bodies encircling the collar region of the rubber plant. The efficacy of fungicides viz. 0.5 per cent tridemorph, 0.13 per cent propiconazole and 0.03 per cent hexaconazole was evaluated. Development of fruiting bodies of the pathogen on trees was completely checked, consequent to fungicide application. All the three fungicides were equally effective in containing the disease. Healthy plants recorded significantly higher girth compared to the affected plants. However, no significant variation was observed in girth among the treated plants. Influence of these chemicals on soil microflora was not observed at the end of the study after two years. Survey on host range of pathogen has identified *Pueraria phaseoloides* and *Cleome viscosa* as collateral hosts.

**Key words:** Fungicides, *Hevea brasiliensis*, Microbial population, Purple root disease

*Hevea brasiliensis* is the only economically and commercially important tree crop which produces natural rubber (NR). The increasing demand for NR has necessitated the extension of rubber plantation in the states of North East India. A number of diseases attack the rubber tree at different stages of its growth. Many affect growth and latex production and some lead to mortality of plants. Among the diseases of rubber, purple root disease caused by *Helicobasidium compactum* Boedijn, was also reported from forest trees in Europe, Australia, Asia and Africa (Gibson, 1979). The fungus infects the roots of a wide range of plant species like hardwood and conifers (Browne, 1968). Association of the pathogen

with root and collar rot of *Pinus* spp. has been reported from Zimbabwe, Nigeria, Kenya, Malawi, Tanzania and South Africa (Bottomley, 1937; Browne, 1968; Gibson, 1975; 1979). Severely affected plants show stunted growth of terminal shoots, yellowing of leaves, wilting and finally mortality of plants (Bottomley, 1937).

The incidence of purple root disease in rubber was first reported by Snowden (1921). Development of fruiting body of the fungus on the tapping panel of rubber was reported by Boedijn and Steinman (1930). Severe attack of the disease on the rubber plant was noticed during late 1930's in Java and Indonesia (DeFluiter, 1939). Several workers have reported that the purple root