

## EVALUATION OF *HEVEA BRASILIENSIS* CLONES AGAINST ABNORMAL LEAF FALL DISEASE CAUSED BY *PHYTOPHTHORA* SPP.

Sadanand K. Mushrif, Annakutty Joseph, Alice John and C. Kuruville Jacob  
Rubber Research Institute of India, Kottayam - 686 009, Kerala, India.

Submitted: 03 September 2002 Accepted: 30 July 2004

Mushrif, S.K., Joseph, A., John, A. and Jacob, C.K. (2004). Evaluation of *Hevea brasiliensis* clones against abnormal leaf fall disease caused by *Phytophthora* spp. *Natural Rubber Research*, 17(1): 74-78.

Twenty five modern clones of rubber (*Hevea brasiliensis*) were evaluated for tolerance to abnormal leaf fall disease caused by *Phytophthora* spp., consecutively for seven years under standard prophylactic spray. Two trials each consisting of 13 clones were included in the evaluation. High leaf retention was noticed in the clone RR11 105 closely followed by RR11 5 while it was poor in RRIM 703, RRIM 600, Haiken 1, PB 280, PB 260 and PB 314. Rainfall was found to be a major predisposing factor influencing the disease development.

**Key words:** Abnormal leaf fall, *Hevea brasiliensis*, Clone evaluation, *Phytophthora*.

### INTRODUCTION

Abnormal leaf fall caused by *Phytophthora* spp. is the most destructive disease of rubber (*Hevea brasiliensis*) in South India (Edathil *et al.*, 2000). The disease was first reported during 1910 at Palapilly in Trichur District of Kerala State (McRae, 1919). This disease recurs annually during the southwest monsoon period (Ramakrishnan and Pillay, 1961a). An annual yield loss of 9-16 per cent is estimated due to the disease (Jacob *et al.*, 1989). The cumulative crop loss was reported to be 30-50 per cent (Pillay *et al.*, 1980). Besides the direct effect on yield, the disease also favours weed growth due to sparse canopy, ultimately increasing the input costs (Jacob *et al.*, 1989).

One of the efficient methods of protection against the disease is the use of tolerant / resistant cultivars. All the high yielding clones are susceptible to this disease

under Indian conditions. The clones PB 86, PB 235, PB 260, PB 311, PB 28/59, RRIM 600, RRIM 628, RRIM 703, RR11 5, PR 107, PR 255, PR 261, Tjir 1 and Tjir 16 are found to be susceptible to this disease while RR11 105, GI 1, GT 1, PB 217 and BD 10 are observed to retain more leaves than the susceptible clones under one round of pre-monsoon prophylactic spraying (Ramakrishnan and Pillay, 1961b; Pillay *et al.*, 1980), which is a regular practice in South India. However, when left unsprayed, these clones are observed to be affected severely, under conducive weather conditions. Evaluation of clones for disease tolerance is a pre-requisite for their large-scale planting. The present study was aimed at evaluating the relative performance of 25 modern clones under a similar prophylactic fungicidal spray.

### MATERIALS AND METHODS

Two field experiments laid out at the