

SENSITIVITY RELATIONSHIP OF *HEVEA* CLONES TO THE BIOTIC STRESS OF POWDERY MILDEW (*OIDIUM HEVEAE* STEINM.)

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Field screening of 25 indigenous and exotic clones against powdery mildew (*Oidium heveae*) was carried out for four consecutive years relying on natural disease incidence. The phenotypic expression of symptom severity in terms of percent disease intensity (PDI) was used to compare the clones. The disease incidence of clones varied significantly in different years as evidenced by the significant clone x year interaction. Two methods viz., mean and CV of genotypes and Huhn's rank sum were used to identify the comparatively stable genotypes. The clones RRII 208 and PB 310 were found to have less disease intensity with greater stability over the years based on mean and CV. As per Huhn's rank sum method, clones SCATC 93-114, RRIM 703, IIT Ken 1, RRII 208, RRII 5 and PB 310 were identified as stable sources of resistance.

Key words : Biotic stress, *Hevea*, Powdery mildew, Stability.

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INTRODUCTION

Breeding for disease resistance is becoming more important in crop improvement programmes for natural rubber (NR). Powdery mildew caused by *Oidium heveae* is one of the major leaf diseases of rubber. Genotypes selected either by direct or indirect screening methods must be tested across a range of environments for their tolerance to powdery mildew. Differences in comparative performance (genotype x environment interaction) may be reflected in genotype rankings differing among environments. Tree species typically express traits differently in different environments and genotypic rankings for any trait may change with the environment (Carson and Carson, 1989). The pathogen may also vary in virulence in different environments which in turn can cause the host genotypes to show a change in its ranking for resistance. In the present paper an attempt is made to identify

clones, which exhibit stable response towards the incidence of *Oidium* over years through two different analyses.

MATERIALS AND METHODS

The 25 indigenous and exotic *Hevea* clones of diverse origin, which formed the material for the present study are listed in Table 1. These clones were laid out in two field experiments at the Rubber Research Institute of India (RRII), Kottayam, employing RBD with seven and five replications and seven plants per plot. Field screening for powdery mildew incidence was carried out at the peak season of incidence during four consecutive years. Leaf samples were collected from three trees per plot. In each tree, from the terminal whorls of two branches, five leaves per whorl were scored for disease intensity on a 0-4 scale and the mean score per plot was