

EVALUATION OF *HEVEA BRASILIENSIS* CLONES IN ACIDIC AND ALKALINE SOILS OF THE SUB-HIMALAYAN REGION OF NORTH BENGAL

Jayanta Sarkar, Sandeep Kumar¹ and Gitali Das²

Regional Research Station, Rubber Research Institute of India, Nagrakata,
Jalpaiguri-735 225, West Bengal

¹Department of Botany and Microbiology, Gurukula Kangri Viswavidyalaya, Haridwar,
Uttarakhand-249 404

²Regional Research Station, Rubber Research Institute of India, Dispur-781 006,
Guwahati, Assam

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Many hectares of land in northern parts of West Bengal have become unsuitable for cultivation of tea due to the rise in soil alkalinity following deposition of dolomite rich silts. In order to study the feasibility of growing rubber in such highly alkaline soils, six *Hevea* clones viz. RR208, RR247, RR242, RR249, RRIM 600 and RR265 were planted during 2011 at two sites viz. (i) Sarugaon Tea Estate (Falakata, West Bengal) where the soil pH is alkaline (pH 7.43) and (ii) Regional Research Station, RR2, Nagrakata where the soil pH is acidic (pH 4.40). In the alkaline soil at Sarugaon TE, RR247 recorded the highest tree girth (62.50 cm) followed by RR208 (60.51 cm) in the twelfth year of growth. In the year of opening of trees, the percentage of tappable trees was the highest in RR249 in acidic soil as compared to alkaline soil. The annual mean yield was also highest in RR249 in acidic soil. RR208 performed better than all other clones in terms of plant girth, bark thickness and annual yield in alkaline soil.

Keywords: Clones, Dolomite, *Hevea brasiliensis*, Natural rubber, Soil pH

INTRODUCTION

Cultivation of natural rubber (NR) tree is gaining momentum and importance in the non-traditional zones of India. The northern parts of West Bengal, with Sub-Himalayan agro-climatic conditions, are very much suitable for expansion of the cultivation of NR. To achieve high yields of NR, selection of location-specific suitable clones based on

climatic and soil pH conditions is very important. A standard package of practices based on soil fertility status for both immature and mature phases of rubber are crucial. The tropical soils generally have low pH, high exchangeable Al, low cation exchange capacity, low base saturation and high phosphate fixing capacity (Bolan *et al.*, 2003).