Influence of fertilizer rates and soil series on growth performance of natural rubber (Hevea brasiliensis) latex timber clones

ABSTRACT

The increasing demand for natural rubber is due to its preference over synthetic rubber, especially in the automobile industries. Adequate nutrition for immature rubber is considerably necessary to boost its vegetative growth and yield in later stage. This study was conducted in the nursery with complete randomized design (CRD) in factorial over a period of 24 weeks. The plants used were RRIM 2001, RRIM 2025 and RRIM 3001 in two different soil series Holyrood (Oxisols) and Munchong (Ultisols) with five fertilizer treatments as 0% (F1), 50% (F2), 100% (F3), 150% (F4), 200% (F5). The fertilizer rates (which were represented in percentage) are F2 (78gm-2), F3 (156gm-2), F4 (234gm-2), F5 (312gm-2), respectively. Information on plant height and girth were recorded together with foliar analysis on different treatments. There was a significant differences among the treatments ($p<0.05$). Poor performances were recorded in control, 50% and 100% fertilizer rates which caused retarded growth and undesirable symptoms in the plants. However, optimum fertilizer level was achieved at 150% (234gm-2) as growth and development was significantly increased at the medium level. However, 200% appeared in excessive for the plants and showed a detrimental effect. Generally, Munchong soil series and RRIM 3001 showed better performance compared to Holyrood soil series and other clones. Therefore, increase in growth and development will be achieved if this optimum fertilizer level is adopted by rubber growers in the estate especially at the immature stage of rubber.

Keyword: Hevea brasiliensis; Immature rubber; Latex timber clones; Soil series