

NUTRITIONAL STATUS OF IMMATURE RUBBER PLANTATIONS IN *BORALU* AND *HOMAGAMA* SOIL SERIES MANAGING UNDER DIFFERENT AGRICULTURAL PRACTICES

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Rubber (*Hevea brasiliensis*) plays a major role in the economy of Sri Lanka as a cash crop. Continuous cultivation and low soil productivity have been critical for crop growth and productivity in recent years. This study assessed the soil fertility of immature rubber plantations managed either with good agricultural practices (GAP) or without GAP (NON-GAP) for two rubber-growing soil series; *Boralu* and *Homagama*. Soil samples were collected in three replicates from plantations managed under GAP and NON-GAP in both soil series to analyse soil pH; soil organic carbon (SOC); exchangeable K, Mg, NH_4^+ -N, NO_3^- -N; and soil texture. The data was first compared between the soil series and then the GAP and NON-GAP for each soil series. Among the two soil series, SOC; exchangeable K and Mg contents; and clay content were significantly higher in the *Boralu* series but pH, NO_3^- -N were not significantly different between the two soil series. The SOC was higher in GAP compared to NON-GAP in *Boralu* series. The pH, SOC, and exchangeable K of the *Homagama* soil series were significantly higher under the GAP than NON-GAP rubber fields. However, other soil parameters tested were not significantly different among the two practices in each series. Extractable K, Mg, SOC, available NH_4^+ -N, and NO_3^- -N positively correlated with soil pH, and extractable K and Mg also showed a positive correlation with SOC. However, the NH_4^+ -N and NO_3^- -N showed a negative correlation with SOC, possibly due to temporarily immobilizing nutrients with organic matter. The research concludes that properly-managed soils through good agricultural practices enhance fertility levels in *Boralu* and *Homagama* soil series.

Keywords: *Boralu* soil series, Good agricultural practices, *Homagama* soil series, Immature rubber, Soil fertility