SOIL PHOSPHORUS AVAILABILITY IN RELATION TO ORGANIC CARBON IN DIFFERENTLY MANAGED IMMATURE RUBBER GROWN IN *BORALU* AND *HOMAGAMA* SOIL SERIES

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Rubber (*Hevea brasiliensis*) is one of the major plantation crops in Sri Lanka. Improper management practices have resulted nutrient imbalances in many rubber plantations due to either depletion or accumulation of nutrients in the soil. Hence, this study was carried out to determine the behaviour of P in relation to organic carbon and soil pH in differently managed rubber plantations in *Boralu* and *Homagama* soil series. Soil samples were collected in three replicates from plantations under different management practices in both soil series. Sample analyses were done using standard laboratory methods to determine soil pH, organic C and available P. The highest soil P content (28.8 ppm) was observed in properly managed (PM) *Boralu* plantations, and the lowest value (10.5 ppm) was observed in the non-properly managed (NPM) *Homagama* plantations. There were significant differences in available P ($p=0.049$) and organic carbon content ($p=0.027$), whereas no significant difference was reported in soil pH ($p=0.091$) between PM and NPM plantations, in *Boralu* series. In addition, significant differences were observed between the PM and NPM plantations in *Homagama* series in available P ($p=0.01$), organic carbon ($p=0.004$) and soil pH ($p=0.028$). Available P exhibited a positive correlation with organic carbon and a negative correlation with soil pH under both management practices in *Homagama* and *Boralu* soil series. Results revealed that improving soil organic carbon pool is an important factor to enhance soil P availability in rubber grown soils in both *Homagama* and *Boralu* soil series.

Keywords: Available phosphorus, *Boralu* series, *Homagama* series, Organic carbon, Soil pH