GROWTH PERFORMANCE AND ROOTING ABILITY OF STEM CUTTINGS OF *Coffea arabica* L. VARIETIES IN DIFFERENT GROWING MEDIA

W.S.H. Premajayantha[1], P.G.A.L. Kumara[2] and W.M.R.S.K. Warnasooriya[1]

[1]Department of Plant Sciences, Faculty of Agriculture, Rajarata University of Sri Lanka, Puliyankulama, Anuradhapura, Sri Lanka.
[2]Central Research Station, Department of Export Agriculture, Matale, Sri Lanka.

Coffee (*Coffea arabica* L.**)** is generally propagated by seeds, resulting in greater heterogeneity in yield and cup quality. Vegetative propagation with stem cuttings ensures uniformity of the planting materials, yet very limited research has focused on it. Recommended growing media for coffee consists of topsoil: sand: coir dust: cow dung in 1:1:1:1. However, cost for sand and unavailability of cow dung in adequate quantities invite alternative growing media. The present study assessed the rooting ability and the growth performance of stem cuttings of *C. arabica* varieties (*Lak Perakum* and S9) growing in two media; M1 (topsoil:sand:coir dust:cow dung in 1:1:1:1) and M2 (coir dust:topsoil in 2:1). A factorial experiment was conducted as CRD with four treatments; T1: S9 with M2, T2: S9 with M1: T3: *Lak Perakum* with M2 and T4: *Lak Perakum* with M1 and three replicates, each consisting of 25 plants. Growth parameters; shoot height, leaf area, number of leaves, root length, shoot and root fresh and dry weight, and root:shoot ratio were measured. Data were analysed using ANOVA in R statistical software with 95% confidence level and treatment means were separated by LSD test. Results revealed that shoot height, leaf area, number of leaves, root length, shoot and root fresh weight and dry weight, root:shoot ratio were not significantly ($p>0.05$) affected by the variety. However, shoot height was significantly ($p<0.05$) affected by the growing media. Root parameters such as root length, root fresh and dry weight were significantly greater in both varieties growing in coir dust: topsoil in 2:1. In conclusion, coir dust: topsoil in 2:1 promotes rooting in both coffee varieties. Continuation of the research throughout the nursery period is recommended to draw a better conclusion.

Keywords: Coffee, *Lak perakum*, S9, Vegetative propagation