EX-VITRO ROOTING MEDIUM FOR IN-VITRO PROPAGATED SHOOTS OF TEA

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The study was carried out to develop an efficient *ex vitro* rooting medium for *in vitro* propagated shoots of tea (*Camellia sinensis* (L). O. Kuntze). Micro-shoots derived from the third sub-culture of cotyledon cultures of TRI 2043 cultivar were used as planting materials. Effect of five different rooting media were tested and those were 7C jiffy pellet (T1), coir dust: sand (1:1) (T2), coir dust (T3), coir dust: sand: soil (1: 1: 1) (T4) and refuse tea (T5). Micro-shoots were treated with IBA 50 mgL^{-1} pulse treatment for 3 hrs before introducing into plastic trays with different rooting substrates. Rooting performance was evaluated after 10 weeks by measuring survival rate of micro-shoots, root initiation, mean number of roots per plant and mean root length. Mean values were analyzed using ANOVA and results showed no significant difference ($p>0.05$) on mean number of roots per plant and mean root length among five different rooting media. The highest mean number of roots (21) per plant was observed in T3 medium. The highest mean root length of 2.96 cm was observed in the T2 medium. When considering physical properties *viz* bulk density, moisture, C: N ratio and chemical properties *viz* pH, EC of five different media, T4 medium showed the highest value in the preferable range. After six weeks of establishment, root initiation was 100% in T2, T3, and T4 media. Ten weeks after planting, survival percentages varied between 55-75% and the highest survival percentage of 75% was recorded in T4 medium. Material cost of T1, T2, T3, T4 and T5 media for rooting of 1000 micro-shoots were LKR 5000.00, 95, 90.00, 100.00 and 228.00, respectively. It is conclude that, T2 and T4 media could be selected as an optimum media for *ex vitro* rooting of tea micro-shoots.

Keywords: Micro propagation, Pulse treatment, Refuse tea, Root initiation and elongation.