

Evaluation of Refused Tea as an Alternative Medium for Coir Dust in Potting Mixtures using Hot Pepper (*Capsicum chinense* Jacq)

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Coir dust is a by-product of coconut industry and used as a potting mixture. It is scarcely available in local market due to its high demand, Conversely, refused tea is a waste of tea industry and a threat to the environment due to its accumulation. The objective of present study was to evaluate refused tea as an alternative medium for coir dust in potting mixtures using hot pepper (*Capsicum chinense* Jacq). A study under polytunnel conditions was carried out at Regional Agriculture Research and Development Centre, Makandura, Sri Lanka. Complete Randomized Design was adapted assigning six treatments according to the volume basis: T1 [soil], T2 [Soil + Compost, 1 : 1], T3 [Soil + Compost +Coir dust, 1: 1 : 1], T4 [Soil + Compost + Coir dust + Refused tea, 1 : 1 : 1/2:1/2], T5 [Soil + Compost + Refused tea, 1 : 1 : 1], T6 [Soil + Compost + Refused tea, 1:1:2] with four replicates. Soil moisture content, bulk density (g cm^{-3}), pH, electrical conductivity, organic C, exchangeable K, available P and total N were determined. Number of days for the first and 100% flowering, height and canopy width at the first and 100% flowering, number of primary branches, plant fresh and dry weight, root: shoot ratio and root length were also recorded. Yield parameters were recorded every week: number of pods per plant and mean weight per pod (g pod^{-1}). All tested refused tea media showed similar physico-chemical properties to the commercially available coir dust growth media. Out of the growth parameters T5 formed significantly higher root length and plant height compared to T3 ($P < 0.05$). With respect to the mean pod weight T3, T4 and T5 showed no significant difference ($P > 0.05$). The findings indicate that there was no significant ($P > 0.05$) difference between the both coir dust and refused tea media, it emphasizes soils mixed with refused tea result better plant performance. Hence; refused tea can be used as an alternative media for coir dust in potting mixtures in hot pepper cultivation.

Keywords: Refused tea, Coir dust, *Capsicum chinense* hub Growing media parameters, Plant growth parameters