**Effect of Different Potting Mixtures on Growth of Cinnamon (*Cinnamomum* *zeylanicum* Blume) Seedlings.**

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**ABSTRACT**

The use of correct potting mixture is a prerequisite to produce healthy plants. Department of Export Agriculture (DEA) recommended potting media for cinnamon nursery is a mixture of top soil: coir dust: cow dung: sand (1:1:1:1). Unavailability of required major potting mixture ingredients, especially top soil and cow dung, is the main problem in cinnamon nurseries. The research was conducted to find out the most effective alternative potting mixtures on growth of cinnamon seedlings. The DEA recommendation (T1), Sub soil(SS): half burnt paddy husk (HBPH) (6:1): 20% CMS and 30% cow dung (CD )(T2), SS: HBPH (9:1):20% CMS: 30%CD (T3), SS: HBPH (6:1): 30% CMS:30% CD (T4), SS: HBPH(9:1): 30%CMS: 30% CD (T5) and SS: 30% CD (T6) were the treatment with four replicate which were arranged in Randomized Complete Block Design (RCBD). Germination percentage, plant height, tap root length, leaf area, dry weight of above ground and below ground biomass were measured as growth parameters. Leaf caterpillar, upper leaf gall, lower leaf gall, leaf blight counted as pest and diseases. Chemical properties were measured in potting media, CMS and CD. The bacterial colony count was recorded from first day to day 14 of CMS preparation. Result reviewed DEA recommended potting mixture was the best for the considered growth parameters. T2 showed the highest data on leaf area, plant height, dry weight of below ground biomass out of considered alternative potting mixtures. The amount of nutrient applied to the pots ((T2,T4:Nitrogen (N)- 1180(ppm),Phosphorus (P)-0.176(ppm), Potassium (K)-3.324(ppm)), (T3,T5:N-1380(ppm), P-0.234(ppm),K-4.486(ppm)), (T6:N-780(ppm), P-0.054(ppm), K-1.001(ppm)) were the reasons for poor growth of cinnamon seedlings, compare to DEA (T1:N-2070(ppm), P-5.25(ppm),K-37.647(ppm) media. There by, Sub soil: half burnt paddy husk (6:1): 20% CMS and 30% cow dung (T2) has the potential to be developed as an alternative potting mixture instead department recommendation. The best time for application of CMS is 11 to 14 days after preparation.

**Keywords:** *bio-fertilizer, concentrated microbial solution, half burnt paddy husk*