

**USE OF SUBSOIL ENRICHED VERMI-COMPOST  
AS A POTTING MIXTURE FOR CINNAMON  
(*Cinnamomum zeylanicum* Blume)  
SEEDLINGS**

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## ABSTRACT

Top soil, cow dung, coarse sand and coir dust are the most commonly used materials in cinnamon nursery potting mixtures. Collection of top soil has become a limitation for making potting mixtures and the removal of it causes on site soil degradation. In this study, the possibility of substituting top soil by sub soil enriched with vermi compost was evaluated as a potting mixture for cinnamon seedlings. The experiment was arranged in a Randomized Complete Block Design with four replicates and conducted at Cinnamon Research Station, Department of Export Agriculture, Thihagoda. Seven treatments were used as T<sub>1</sub> (top soil: cow dung: coarse sand: coir dust at a ratio of 1:1:1:1 as control), T<sub>2</sub> (sub soil: cow dung: coarse sand: coir dust at a ratio of 1:1:1:1), T<sub>3</sub> (sub soil: vermi compost at a ratio of 10:1), T<sub>4</sub> (sub soil: vermi compost at a ratio of 8:1), T<sub>5</sub> (sub soil: vermi compost at a ratio of 6:1), T<sub>6</sub> (sub soil: vermi compost at a ratio of 4:1) and T<sub>7</sub> (sub soil: vermi compost at a ratio of 2:1) to test the germination and growth of cinnamon seedlings. The results revealed that the plants grown in potting mixture T<sub>7</sub> consisted of sub soil: vermi compost (2:1) recorded significantly ( $p < 0.05$ ) greater plant height (cm), number of leaves per plant, shoot length (cm), root volume (cm<sup>3</sup>), dry shoot weight (g) and dry root weight (g) followed by plants grown in potting mixture in treatment T<sub>1</sub> (control) with top soil: cow dung: coarse sand: coir dust (1:1:1:1). The treatment T<sub>7</sub> sub soil: vermi compost (2:1) potting mixture showed the most favorable values of chemical and physical parameters with respect to seedling growth in initial potting mixture analysis. The lowest values with respect to growth parameters of cinnamon seedlings were recorded in T<sub>2</sub> treatment with consisted of sub soil: cow dung: coarse sand: coir dust at a ratio of 1:1:1:1. The potting mixture T<sub>7</sub> was the most favorable treatment among all the potting mixtures tested. This study suggests that sub soil enriched vermi compost can be used as an alternative for top soil in making cinnamon potting mixture.

**Key words:** vermi compost, germination, nursery, chemical and physical parameters