Bark, Leaf and Stem Yield of Cinnamon as Affected by Spacing and Type of Planting Material: At the Stage of First Harvest

H.N. Aluthgamage[1], D.L.C.K. Fonseka[1*], C.K. Benaragama[2] and H.K.M.S. Kumarasinghe[1]

[1]Department of Crop Science, Faculty of Agriculture, University of Ruhuna, Sri Lanka*
[2]Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Sri Lanka

Cinnamomum verum J. Presl (cinnamon), is an evergreen aromatic plant with several uses and considered as a prominent spice throughout the world. Though, quills produced from bark are the most familiar product of cinnamon, leaves and stems also yield some economically valuable products. Therefore, this study was aimed at identifying the effect of spacing and type of planting material on the yield of leaves, bark, and stems of cinnamon at the stage of the first harvest. Seedlings and vegetatively propagated plants of cinnamon variety Sri Gemunu were planted under three different spacing as 1.2×0.6 m with three plants per hill, 1.2×0.4 m with two plants per hill and 1.2×0.2 m with one plant per hill as two-factor factorial RCBD at the Agriculture Faculty premises of University of Ruhuna, Sri Lanka. Seedlings in 1.2×0.6 m spacing with three plants per hill were used as the control. The first harvest was collected after two years from the establishment and the measurements were taken. According to the results highest mean dry weight of bark (59.68 g), leaves (267.9 g), and stems (600.1 g) were recorded in control. But it was not significantly different (p<0.05) from seedlings in 1.2×0.2 m spacing with one plant per hill. The highest yield of quills per plant (55.58 g) and the highest mean weight of bark per centimeter of the harvested shoot (215.41 mg cm-1) were also recorded in the control. But it was significantly different (p<0.05) only from vegetatively propagated plants in 1.2×0.2 m spacing with one plant per hill. The type of planting material and spacing does not have any significant influence (p<0.05) on the bark stem ratio of cinnamon plants at the stage of the first harvest. When considering the results of the study, seedlings tend to produce more bark, leaf, and stem yield when compared with vegetatively propagated plants at the stage of the first harvest. Though vegetatively propagated plants have higher yield potential, it appears to require more time to develop a better structure which can give a higher yield.

Keywords: Cinnamomum verum J. Presl, Spacing, Planting material, Yield