

(ID 111)

The Impact of Harvesting Interval on Bush Architecture and Stem Wood Production of *Cinnamomum verum* J. Presl

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Abstract

Given its great economic worth and excellent land use efficiency, Cinnamon is one of the best crops for Agroforestry. The design of the plant and proportion of stem wood of Cinnamon plants directly determine the economic and ecological returns from an Agroforestry system. Therefore, the experiment was designed to investigate how harvesting intervals affect the architecture of Cinnamon bushes and stem wood production. Cinnamon seedlings in a Randomized Complete Block Design were used in the experiment. Plants were harvested according to two harvesting intervals, six and eight months. Suitable parameters such as, the number of stems per plant, plant height, average stem diameter, and stem wood percentage were measured. Data was analyzed using SAS software with a statistical analysis at 5% significance levels. Results revealed that the effect of harvesting interval was significantly affected ($P < 0.05$) on the number of stems per plant and plant height. The highest number of stems per plant (3.1) and plant height (221.92 cm) were given by Cinnamon plants harvested in eight-month intervals. However, the effect of the harvesting interval was not significant ($P > 0.05$) on average stem diameter and stem wood percentage. The highest average stem diameter (27.18 mm) was given by eight-month interval harvesting while the six-month interval showed the highest stem wood percentage (28.18%). The findings suggest that the two distinct harvesting intervals have varied effects on the percentage of stem wood and bush architecture of Cinnamon. The findings may be greatly aided in designing, maintaining, and obtaining the economic and ecological returns from the Cinnamon-based agroforestry systems.

Keywords: Agroforestry, Cinnamon, Harvesting interval, Plant architecture, Stem wood production