**Impact of Above Ground Morphology of Cinnamon Plant on Yield and Processing: Traits Desirable for Variety Improvement**

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*Cinnamomum zeylanicum* Blume, commonly known as Ceylon cinnamon or true cinnamon is a the most important traditional spice crop in Sri Lanka which has a vital demand especially in the international market. Thus, identification of high yielding cinnamon cultivars is a crucial requirement in the present scenario to fulfill the annual demand. However, there was very minimum information available to select high yielding cinnamon accessions, observing morphological characteristics. Considering this aspect, the study was conducted to investigate the impact of above ground morphology of cinnamon plant on bark yield and processing, during September to November 2022 at National Cinnamon Research and Training Center, Thihagoda, Matara. Forty-five cinnamon accessions were selected for this study and as morphological characteristics; leaf surface area, canopy spread, branching habit, shoot angle, stem straightness, internodal length, number of nodes in the stem were considered. Simultaneously, dry bark weight, peelability, and peeling time were considered as yield parameters. Data were collected on a weekly basis throughout the experiment period. Data were analyzed through multivariate analysis using ANOVA whereas Pearson correlation analysis was performed to identify correlations between morphological characteristics with yield followed by cluster analysis. According to the results, morphological characters; internodal length, stem straightness, canopy diameter and number of nodes in stem were given significant impact on final bark yield at p<0.05 probability level. As well, stem straightness, shoot angle, number of nodes in stems were given significant impact on peeling time and stem straightness was given significant impact on peelability. Moreover, through cluster analysis three clusters were identified. Among these clusters, cluster number three (accessions representing CH 11-1, CH12-1, CH 6-1, CH 26-1, CH 24-1) consisted of superior morphological characters; thus, have high potential to utilize for future cinnamon improvement programs.

**Key words:** *Bark yield, cinnamon accessions, Cinnamomum zeylanicum, morphological characteristics*