

**EVALUATION OF THE QUALITY OF CINNAMON  
QUILLS (*Cinnamomum zeylanicum* Blume) AFTER  
PRIMARY PROCESSING IN MATARA DISTRICT:  
A CASE STUDY**

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## ABSTRACT

Ceylon cinnamon (*Cinnamomum zeylanicum* Blume) is an indigenous spice crop to Sri Lanka and the main export product is cinnamon quills. Maintenance the quality of the cinnamon quills is a challenge as it is exposed to a wide range of contaminations during post-harvest practices. Cinnamon growers, processors and dealers not much concern about the maintenance of hygienic conditions. Therefore, this case study was conducted to evaluate the quality and major contaminations of cinnamon quills handled by different parties, viz., growers (T1), collectors (T2) and exporters (T3) present in Matara district. Three different parties and the control (T4) which prepared in the cinnamon research center were served as four treatments. Samples were collected proportionate to the population of each party and physical, chemical and biological properties of collected quills were compared with the control. Data analysis was done using Minitab 17 statistical package using analysis of covariance. Moisture % of quills collected from growers (21.8%) statistically significant ( $P < 0.05$ ) compared to quills handled by collectors and exporters. Oil content present in quills of control (1%) statistically on par with other three treatments. Sulphur was the major chemical contaminant present on cinnamon quills and it was significantly highest in exporter level as 20 ppm ( $P < 0.05$ ). Quills collected from growers and collectors exhibited statistically same values for acid insoluble ash % (2.26 and 2.92, respectively), water activity ( $a_w$ ) (0.83 and 0.84, respectively) and bark colour while the collectors maintained significantly different insoluble ash % and  $a_w$  collated to control and exporters ( $P < 0.05$ ). Insects are the biological contaminants present in cinnamon quills and it was significantly highest in grower and collector levels, 75 and 68 per 100 g of quills, respectively. The results revealed that the attention paid by the farmers and collectors on possible contaminants and quality aspects of cinnamon quills in a poor stage and the findings will support in quality control and regulation amendments on cinnamon quills in Matara district.

*Keywords:* Cinnamon quills, Contaminants, Grower, Matara district, Quality