

## POSTHARVEST PRACTICES AND HYGIENIC ADAPTATIONS IN CINNAMON PROCESSING: A STUDY IN MATARA DISTRICT OF SRI LANKA

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The growing global demand for high-quality cinnamon emphasizes the importance of maintaining strict hygiene standards during its processing. This study evaluated the postharvest practices and hygienic conditions of the cinnamon processing centers in *Matara*, a key cinnamon-producing district of Sri Lanka. A total of 50 cinnamon processors were randomly selected. Data were collected through a survey using a pre-tested questionnaire, key informant interviews, and secondary sources. Physicochemical parameters and microbial quality were assessed in the laboratory to evaluate the quality of processed cinnamon obtained from the surveyed processing centers. Data were analyzed using descriptive statistics, one sample t-test and one-way ANOVA. The postharvest practices of the processing centers included; field harvesting, scrapping, rubbing, peeling, drying and grading. Among the processing centers, 78% had dusty environments and only 30% were equipped with proper sanitary facilities. Just 4% of processing centers had drying racks. Only 10% of centers cleaned their storage areas daily, while 16% neglected the building maintenance. Among the processing centers, only 12% organized their buildings according to processing steps, while in 58% of cases, processing areas were not adequately separated, increasing the risk of cross-contamination. Accordingly, 36% of centers lacked proper dining areas, forcing workers to eat within the processing areas. All the samples collected from the processing centers had significantly higher ( $p>0.05$ ) water activity (WA) and insect counts (IC) than the control samples and the reference values (WA 0.55-0.70, IC 0). Further, the diameter of cinnamon quills was significantly higher ( $p>0.05$ ) than the control sample (12.39 mm). The L\*, a\*, and b\* values for color of the cinnamon collected from processing centers were 43.7, 12.5, and 20.5 respectively. Total plate count and yeast and mold count were significantly higher ( $p>0.05$ ) than in the control sample (0 CFU mL<sup>-1</sup>). In conclusion, the samples collected complied only to few good manufacturing practice requirements related to hygiene.

**Keywords:** Color, Physicochemical parameters, Processing centers, Water activity