ID 63

Quality Variation in Processed Cinnamon along the Value Chain in Southern Province of Sri Lanka

A.A. Wijeweera[1*], C.U. Widanapathirana[1], G.S.M. Perera[2] and G.G. Jayasinghe[1]

[1] National Cinnamon Research and Training Centre, Palolpitiya, Thihagoda, Sri Lanka.
[2] Faculty of Technological Studies, Uva Wellassa University, Sri Lanka.

Abstract

For decades, Sri Lanka has been regarded as the world's largest producer of real cinnamon (*Cinnamomum zeylanicum* Blume) and a destination for high-quality cinnamon. Sri Lanka, currently provides around 90% of the true cinnamon to the world, earning 206 million US dollar of foreign exchange in 2020.Cinnamon may expose to a wide range of contaminations along the value chain, and this may greatly reduce the export quality, ultimately affecting the export income. In this study, samples of processed cinnamon quills from three major value chain players of processers, collectors and exporters in Galle, Matara and Hambantota districts were extensively analyzed for physio–chemical properties under 8 major quality parameters for its relative compliance to the Sri Lanka Standard (SLS 81:2021) and International standards(ISO 6539:2014, Codex GSFA) as a two factor factorials design taking the districts and different levels of the value chain as the factors. Moisture content significantly varied along the value chain but not among the districts. The highest moisture content (19%) was observed at farmer level which was higher than the recommended. Sulphur content was significantly varied along the three levels as well as the districts. No sulphur residues were detected at farmer and collector levels. Even the highest sulphur content observed in the level of exporter was lower than the Maximum Recommended Level (MRL). Volatile oil content and total and acid-insoluble ash content were not different in three levels or among districts. However, total ash content exceeded the required levels in the standards (5%) in all levels of value chain and all districts. Insect count, microbial count and water activity in the three levels showed a significant difference in all districts. Lowest insect count and microbial count were observed in the exporter level. The highest microbial contaminants were observed in Hambanthota district. Mean percentage values of colour for three levels of value chain in three districts showed no significant difference. This study could be the baseline for further research to identify the reasons for the quality gaps in each level and possible ways of overcoming them.

Keywords: *Ceylon Cinnamon,* Quality, Sri Lanka, Standards, Value Chain

[*]***Corresponding Author:*** achiniawije@gmail.com