Physicochemical and Sensorial Evaluation of Astringency Reduction in Cashew Apple (Annacardium occidentale L.) Powder Processing in Cookie Elaboration

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Abstract : Cashew agroindustry obtained from cashew apple crop (Anacardium occidentale L.) generates large amounts of unused waste in Campeche, Mexico. Despite having a high content of nutritional compounds such as ascorbic acid, carotenoids, fiber, carbohydrates, and minerals, it is not consumed due to its astringent sensation. The aim of this work was to develop a processing method for cashew apple waste in order to obtain a powder with reduced astringency able to be used as an additive in the food industry. The processing method consisted first in reducing astringency by inducing tannins from cashew apple peel to react and form precipitating complexes with a colloid rich in proline and histidine. Then cashew apples were processed to obtain a dry powder. Astringency reduction was determined by total phenolic content and evaluated by sensorial analysis in cashew-apple-powder based cookies. Total phenolic content in processed powders showed up to 72% lower concentration compared to control samples. The sensorial evaluation indicated that cookies baked using cashew apple powder with reduced astringency were 96.8% preferred. Sensorial characteristics like texture, color and taste were also well-accepted attributes. In conclusion, the method applied for astringency reduction is a viable tool to produce cashew apple powder with desirable sensorial properties to be used in the development of food products.

Keywords : astringency reduction, cashew apple waste, food industry, sensorial evaluation

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