

Consumer Acceptability of Peanut Based Beverages: Promoting Peanut Consumption in Malawi

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Undernutrition remains a challenge in most developing countries like Malawi. To address this challenge, the search for effective nutrition interventions and nutritious foods especially from sustainable and resilient food sources, like peanuts, is ongoing. As one way of promoting peanut consumption, two formulations of a peanut-based beverage were developed, and each formulation had three flavor options (natural, vanilla, and caramel). One formulation contained barley malted milk powder while the other one had sorghum malted milk powder apart from water, peanut paste, sugar, salt, stabilizer, and the flavorings. Considering that the sensory appeal of food is one of the dominant food choice motives, sensory profiles of the prototypes were determined in this study. Malawian consumers ($n = 177$) scored appearance, aroma, flavor, texture, and overall liking of the prototypes using a 9-point hedonic scale. The consumers also characterized the prototypes using a Check–All-That-Apply (CATA) question.

Significant differences ($p < 0.05$) among the samples were found in all the evaluated parameters except texture. The mean overall liking scores of the samples ranged from 7.0 to 7.6. Irrespective of the formulation type, the two most liked samples had a caramel flavor with mean overall liking scores of 7.5 and 7.6, respectively. Based on impact analysis using the CATA responses, the term tasty had the highest positive mean impact (0.60) on the overall liking scores followed by creamy (0.58), thick (0.47), sweet (0.41), caramel flavor (0.38), and lastly brown color (0.18). On the other hand, when the term watery was cited, the mean overall liking score dropped by 0.42. Therefore, samples perceived to be watery were not liked by the consumers.

Three significant consumer clusters were identified. The mean overall liking scores for the samples in clusters 1(28.8%), 2 (49.7%), and 3 (21.5%) ranged from 6.6 to 7.5, 7.8 to 8.2, and 5.5 to 6.5, respectively. Irrespective of the cluster, caramel-flavored samples had relatively higher mean overall liking scores just like before clustering. Therefore, regardless of the formulation type, the caramel-flavored samples have the potential of promoting peanut consumption in Malawi and even in other countries if they could be equally acceptable.