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Development and biochemical assessment of peanut beverage

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Peanut (*Arachis hypogea*) is one of the major types of pulses grown in Sri Lanka which condensed with fat (40.1%) , protein (25.3%) and number of other nutrients essential for a healthy life. But it is still underutilized in Sri Lanka. The study was conducted to improve the peanut utilization by developing a peanut beverage similar to milk.

The peanut variety known as Tissa, which was purchased from local markets was used in this study. Mainly two procedures were adopted to determine the exact production procedure of peanut milk with the best organoleptic properties. In the first method, dehusked peanuts were directly ground and boiled to produce peanut milk while in the second method the dehusked kernels were boiled in water for ten minutes before being subjected to grinding. Flavor enhancement of the beverage was done using vanilla and banana flavors other than sugar.

Results of the paired comparison test done for the two outcomes (of the two methods) revealed that the procedure in which dehusked peanuts were boiled for 10 minutes before the grinding of kernels produced a whitish - milk like - beverage which is superior to the other. Color, thickness, taste and the overall acceptability of the plain and flavored (using vanilla and banana flavors) peanut beverage samples were evaluated. At a significance level of $P < 0.05$, there were no significant differences of color and thickness between the three samples. The results showed that the banana flavored beverage was better than the rest in taste and overall acceptability. Proximate analysis tests showed that the product had 91% moisture, 2.33% ash (wet basis), 1.5% fat (wb) and 3.03% protein (wb). Shelf life of the peanut beverage was determined based on the microbial growth and the free fatty acid content (FFA%). FFA level significantly increased impairing a rancid taste limiting the shelf life to 14 days under refrigeration (10^{o}C). However, no noteworthy growth of microbes could be seen during the storage period.

According to the results, boiling the soaked peanuts in water for 10 minutes provides a better quality beverage with least beany flavor. In terms of flavor reformulation, banana flavor is more suitable than the vanilla flavor. The results portray the essentiality of improving the packing and storage conditions in order to increase the shelf life of the product. Further investigations are required to determine the optimum conditions for preparing peanut beverage with improved nutritional composition.

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