

QUALITY ASSESSMENT OF SELECTED GHEE BRANDS AVAILABLE IN ANURADHAPURA TOWN AREA

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Ghee adulteration causes several health issues. The objective of this study was to assess the quality of selected ghee brands available in the *Anuradhapura* area. Brands were selected from a large-scale manufacturer (A), small-scale manufacturer (B), traditional medicine manufacturer (C), small-scale ayurvedic medicine outlet (D), and Sri Lanka ayurvedic drugs corporation approved manufacturer (E). The quality of ghee brands was determined based on physical [melting point, moisture content (MC), colour] and chemical [free-fatty acid content (FFA), Reichert-Miessl value (RM), Polenske value (PV), saponification value (SV), peroxide value, qualitative adulterant tests] analysis. Values were compared with the standards of Food act No.26. A score was given considering five parameters (MC, RM, PV, FFA, SV) based on the standards set for the same parameters in Food Act No.26. Labeling was evaluated using specifications of food regulations 2005. Brand A and E resulted in 5/5 and did not show adulteration of other fats. The lowest score was in brand D (1/5) and showed adulteration. RM, PV, SV, MC, FFA of brand E were 26.99 ± 0.63 , 1.90 ± 0.17 , 228.43 ± 7.12 mg KOH g⁻¹, $0.32 \pm 0.06\%$ and $0.58 \pm 0.54\%$ respectively and was not significantly ($p > 0.05$) different from the standards (27.5, 2.5, 226 mg KOH g⁻¹, <0.5 and <2.5 respectively). All brands showed negative results for the mineral oil and synthetic oil soluble colour test. Only brand B had positive results for the colour additive test. Out of the nine components that should be on a label, brand A, B, and E had all nine while brand C and D had only six components. Brand A, B and E had metal lids, while C and D had plastic lids as closures of glass bottles. In conclusion, brand A and E can be considered as the best over other brands based on the standards in Food Act.

Keywords: Adulteration, Ghee, Labeling, Packing material, Quality standards