

Benefit of lactose concentration between goat's milk and commercialized powder milk

ABSTRACT

Even though goat's milk naturally has lower lactose than cow's milk (~4.39% compared to 4.51%), when it's consumed in a large amount, those intolerant to lactose may suffer several inconvenient symptoms, such as bloating, nausea, and diarrhoea. Previous study had established that a high level of lactose removal from goat's milk could be attained by 10 KDa sized ultrafiltration (UF) membrane. Hence, the concentrated goat's milk obtained from the UF process and five local brands of commercial milk powder were compared in terms of nutrition facts. Lactose concentration as important nutrition is evaluated for the quality and the competitiveness between the products. While, proximate analysis was used as part of method to determine the chemical composition in the goat's milk, including moisture, protein, fat, ash, and carbohydrate. Then, the composition of the reconstituted concentrated powder milk and five others commercialized milk which homogenized with water was analysed by HPLC to determine the lactose concentration. As a finding, concentrated milk contained 5.63 g per 100 ml lactose concentration, which ranked at the second lowest concentration in the range of 2.81 to 7.91 g per 100 ml, proved that it is similar and comparable in standard as to commercial milk.

Keyword: Membrane; Ultrafiltration; Goat's milk; Proximate; Lactose concentration; Powder mil