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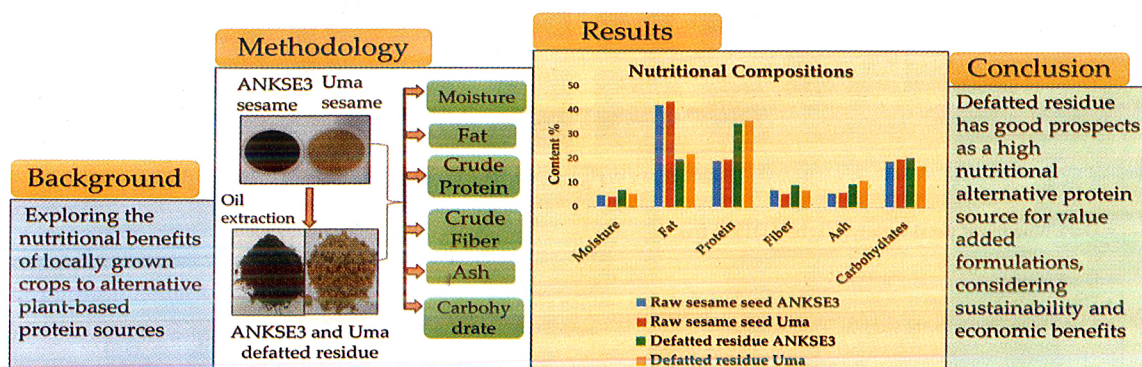
Effect of Oil Extraction on Proximate Composition of Sesame Seeds of Two Varieties: *Uma* and ANKSE3

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Plant-based protein has become a trend among researchers and environmental activists due to rising concerns about human health and environmental sustainability. Hence, identifying alternative plant-based protein sources and exploring the nutritional benefits of locally grown crops has been a focus of research. Sesame is a high-demand oil crop globally but remains less popular in Sri Lanka. This study compared the nutritional benefits of raw and defatted residue (DR) of Sri Lanka's sesame cultivars, namely *Uma* and ANKSE3 by analysing their proximate composition. Moisture, crude fat, crude protein, ash, crude fibre, and carbohydrate contents of ground samples were determined using AOAC methods. The major constituent of raw sesame regardless of cultivar was fat (42.01-43.75%), followed by carbohydrates (18.93-20.16%) and protein (18.99-19.84%). In DR, notable changes were observed in protein, moisture, fibre and ash contents. The protein (34.45-36.1%) content was the highest in the DR of both cultivars. The second most dominant constituent of ANKSE3 was carbohydrate (20.41%), followed by fat (19.59%). In contrast, fat (22.2%) was the second dominant constituent in *Uma*, followed by carbohydrate (17.37%). The DR of ANKSE3 reported the highest fibre content (9.1%), while *Uma* reported the highest ash (11.32%) content. The moisture content of both raw sesame and DR ranged from 4.77% to 4.36% and 6.96% to 5.76%, respectively. This study demonstrated that defatting drastically altered proximate parameters, with minimal impact from cultivar differences. The defatted residues of sesame have good prospects as a high nutritional alternative protein source for value added formulations, considering sustainability and economic benefits.

KEYWORDS: ANKSE3, Defatted residue, Proximate composition, Sesame, *Uma*



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