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PHYSICO-FUNCTIONAL, CHEMICAL, NUTRITIONAL AND ANTIOXIDANT PROPERTIES OF FLOUR FROM THREE VARIETIES OF UNRIPE BANANA (*MUSA* SP.) CULTIVATED IN SRI LANKA

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ABSTRACT

Banana, scientifically known as *Musa acuminate* L., is a valuable source of nutrients and widely grown in tropical and subtropical regions. They can be consumed either in their natural state or after undergoing various processing methods. Green banana flour is an excellent alternative to keep the nutritional value of fresh bananas while minimizing post-harvest losses. The present study aimed to evaluate the physico-functional, chemical, nutritional, and antioxidant properties of flour obtained from three different banana varieties (*Seeni* banana, *Ambul* banana, and Cavendish banana) grown abundantly in Sri Lanka. Different properties of banana flour from selected banana varieties were measured using standard methods. Green banana flours showed significant differences ($p<0.05$) in colour parameters (CIE L*a*b*), swelling capacity, transparency, gelatinization temperature, pH, and titratable acidity, with no significant difference ($p>0.05$) in bulk, and tapped densities, water holding, oil holding and foaming capacities. There was no significant difference ($p>0.05$) in the amount of crude fiber content among all three flour types, while *Seeni* banana flour showed a significant amount of carbohydrate (88.65±0.39 g per 100 g wet weight), polyphenols (31.41±0.61 mg GAE/100 g of sample) and flavonoids content (337.7±31.11 mg QE/100 g of sample). Cavendish banana flour showed the highest antioxidant activity (576±0.028 mg of TE/g of the dried sample) compared to the other two banana varieties. The obtained results confirmed that green banana flour is a good source of nutrients and can be effectively used in developing value added products.