PHYSICAL AND CHEMICAL PROPERTIES OF GREEN BANANA POWDER FROM AMBUL AND PUWALU (*Musa Spp.*) VARIETIES

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ABSTRACT

Green banana powder is a good source of resistant starch and also has prebiotic constituents present promote the growth of beneficial bacteria. This study was aimed to evaluate the physical (bulk density, water, and oil holding capacity, colour, and water activity) and chemical (pH, and titratable acidity) properties of the green banana powder made from two varieties, namely Ambul and Puwalu from Kilinochchi District, Sri Lanka. The green banana powder was prepared using a food dehydrator (18 hours, at 65 °C) and the yield obtained was, 26.67 ±0.2 % and 25.4±0.1 % for Ambul, and Puwalu, respectively. Collected data were analyzed using ANOVA in SAS programme (version 9.0) with 95% CI and the mean separation was done by Duncan's multiple range test. All the experiments were done in triplicate. Results showed that the physical parameters of powders from both varieties differed significantly ($p<0.05$). The bulk density of Ambul powder was recorded 0.49±0.01 g/mL, whereas 0.67±0.02 g/mL for Puwalu. The water holding capacity (g water/ g dry sample) of Ambul powder was higher (0.77±0.04) than Puwalu powder (0.58±0.05), while the oil holding capacity of Ambul (0.9±0.01) was higher compared to Puwalu (0.73±0.03). The colour values such as lightness (L*) and yellowness (b*) were high in Ambul powder (L*=35.84 ±1.02, b*= 10.89±0.01), whereas redness (a*) was high in Puwalu (1.22±0.07). The water activity was high in Ambul powder 0.42± 0.02, where 0.36±0.01 was obtained in Puwalu powder. The pH of the powder was ranged from 5.23-5.71 for both varieties. The titratable acidity (acetic acid %) was ranged from 0.24-0.34 % for both varieties. Results showed that the green banana powder had favorable physicochemical properties where it can be applied as a potential food ingredient in various food applications.

Keywords – Ambul; chemical Properties; oil holding capacity; Puwalu; dehydration; water activity; water holding capacity