

Physicochemical and Biological Properties of the Ash-Plantain Corm (*Musa paradisiaca*) Flour Incorporated Butter Cake

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The present study was carried out to determine the possibility of utilization of underutilized but high nutritional ash plantain corm flour and butter cake as a value addition to the flour. Butter cake which was incorporated into ash plantain corm flour and wheat flour was developed to appraise the quality of the cakes. Several composite mixes of ash plantain corm flour and wheat flour in the ratios of 100:00, 75:25, 50:50, and 25:75 were created. Sensory evaluation was conducted for the prepared cake samples for 30 untrained panelists using five-point hedonic test. Friedman test and Tukey pairwise comparison test (One-way ANOVA) were conditioned to analyse the sensory data to check the significant differences among the samples. As stated by the statistical analysis, 75% wheat flour and 25% ash plantain corm flour mixture was given the expected sensory attributes to the cakes from the ash plantain corm flour incorporated samples. According to the proximate composition, it was found that moisture, crude protein, crude fat, crude fiber, and ash percentages of the butter cake as 7.25, 18.67, 7.66, 17.13, 21.25 and 1.82 respectively. CT3 Brookfield texture analyzer was used to analyze the textural properties of the best formulated cake sample. Hardness, adhesiveness, resilience, cohesiveness, gumminess and chewiness of the 25% ash plantain corm flour was 162.00 g, 0.11 mJ, 0.43, 0.86, 131.84 g, and 5.83 mJ respectively. In conclusion, ash-plantain corm flour can be effectively incorporated into butter-cake with desired physicochemical, microbiological, and acceptable sensory properties. The expected shelf life may be 21 days of period.

Keywords: Ash-Plantain Corm Flour, Banana Corm, Cake, Composite Flour