



Abstract

Chick'n Fiber: Development of Breeding Mix Using Banana (*Musa sapientum* var. *lacatan*) Peel as a Good Source of Dietary Fiber[†]

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Abstract: Banana is one of the fruit crops that is mainly consumed and produced in the Philippines. As a result, banana peels (BPs) are neglected as waste. Furthermore, numerous studies have investigated and stated that BPs are a good source of dietary fiber (DF). The aim of the study was to develop a breeding mix (BM), determine the most acceptable formulation of BM with BPs, and evaluate its nutrient and microbial content. One (1) control commercial BM and three (3) BMs with different formulations, including the substitution of all-purpose flour (APF) with partially fine-dried banana peel (PFDBP) for 25%, 30%, and 35% in the production of the BM formulation, were tested in terms of nutrient and microbiological content. For sensory evaluation, Quantitative Descriptive Analysis was conducted by eleven (11) trained panelists and the Consumer Acceptability Test was facilitated by fifty (50) untrained panelists using the 9-point hedonic scale, utilizing chicken breast fillet as a carrier. The statistical treatments used were weighted mean and one-factor repeated measures analysis of variance. The BM formulations produced were all found to be high in total dietary fiber (TDF), except for the control. Hence, it was proven that BPs are a suitable dietary source for BM formulations. Furthermore, the BM with DF had a lower fat content than the control due to its low oil-holding capacity, which is beneficial with fried foods. Apart from color, all the BM samples tested on pan-fried chicken breast fillets were comparable to the control's sensory characteristics. Therefore, the most favorable sample was BM A, which contains a 25% substitution of APF with PFDBP, as it has shown an impressive result regarding TDF, fat and microbiological analysis, and evaluation in terms of its sensory attributes.

Keywords: dietary fiber; breeding mix; banana peel; sensory evaluation; dehydration; product development

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