

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 mostly consumed and produced in the Philippines (PSA, 2017). As a result, the banana peels (BPs) are neglected as a waste. Furthermore, numerous studies have investigated and stated that the BP is a good source of dietary fiber (DF). This study aims to develop a breeding mix (BM), determine the most acceptable formulation of BM with BP, and evaluate its nutrient and microbial content. One (1) control commercial BM and three (3) BM with different formulations, substitution of all-purpose flour (APF) with partially fine dried banana peel (PFDBP) for 25%, 30%, and 35% in production of BM formulation, were tested in terms of nutrient and microbiological content. For sensory evaluation, Quantitative Descriptive Analysis was conducted by 11 trained panelists and Consumer Acceptability Test was facilitated by 50 untrained panelists using the 9-point hedonic scale, utilizing chicken breast fillet as 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 BP is a suitable dietary source for the BM formulations. Furthermore, the BM with DF had a lower fat content as compared to control due to its low oil-holding capacity that is beneficial with fried foods. Apart from color, all of the BM samples tested on pan-fried chicken breast fillet were found to be comparable to the sensory characteristics of the control. Therefore, the most favorable sample was BM A, which contains 25% substitution of APF with PFDBP, as it has shown an impressive result regarding TDF, fat analysis, and microbiological analysis, and in evaluation in terms of its sensory attributes.

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