

Characterization of Three Different Types of Pineapple Waste Powder

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ABSTRACT

Pineapple (*Ananas cosmocus*) is produced in Malaysia for domestic and export market which consists of 50% waste, thus lead to an industrial problem. Hence, this study was aimed to compare the composition and characterize the waste powders developed from different parts (peel and core) of three different types of pineapples (Josapine, Morris, and N36). Preliminary test on different drying temperatures (50°C, 70°C, 90°C) and time (7, 9 and 12 h) were conducted to form it into powders. Thus, temperature 90°C for 7 h was selected for further analysis due to higher phenolic content in peel (0.007±0.00 mg/g) and core (0.006±0.0 mg/g) respectively, compared to 50°C and 70°C. Physicochemical analysis such as composition of wastes (peel and core), color, water holding capacity (WHC), water solubility index (WSI) and total phenolic content (TPC) were compared between the powders. There was a significant difference in fiber content between N36 (3.50 ± 0.0%) and Morris peel (1.77 ± 0.05%) respectively. Peel powder of N36 pineapple has significantly higher ability to hold water (7.53%) compared to core powders. This might be due to N36 showed high in protein that helps increase the performance of the powder. However, Josapine powders have higher in yellowness (25.95 ± 0.12) than N36 and Morris. The waste powders (peel and core) from these pineapples may be considered as food functional ingredients.

Keywords: Josapine, Morris, N36, Pineapple waste, Total phenolic content, Water holding capacity

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