CHARACTERIZATION OF BANANA PEEL BASED ON VARIOUS RIPENING STAGES

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ABSTRACT

CHARACTERIZATION OF BANANA PEEL BASED ON VARIOUS RIPENING STAGES

The physicochemical characterization of banana peel has attracted a lot of attention because it is one of the most extensively consumed fruits worldwide. The ripening stages and physicochemical characteristics of banana peel, however, have not been thoroughly documented. Therefore, characterization in recent studies has been ambiguous. This research attempts to characterize the physical-chemical characteristics of banana peel *Musa* ABB cv. Awak and *Musa* AA cv. Mas at the unripe, ripe, and overripe stage to fill this knowledge gap. The fructose, sucrose, glucose, chlorophyll, carotenoid, and total phenolic contents of the peel will be ascertained using a variety of analyses, such as Fourier-transform infrared spectroscopy (FTIR) and high-performance liquid chromatography (HPLC). Furthermore, other experiments will be performed to measure total soluble solids, titratable acidity, total sugar analysis, pH, dry matter, weight loss, and changes in the color of banana peel. The pH value ranged from 5.3 to 6.6, demonstrating the acidic character of banana skin. The greatest value range for total titratable acidity was between 0.0001 and 0.0005. The study found that the sun-dried better for weight loss, which led to losses of between 63 and 82 percent, while the dry matter was recorded at 19%. The functional groups were measured between 4000 and 600 cm^{-1}. Caffeic acid, syringic acid, apigenin, quercetin, and other phenol compounds were found to make up the overall phenolic concentration. At 3305, 3278, and 3292 cm^{-1}, the solid soluble content was found. The amount of sugar in total was measured at 1041 cm^{-1}.