Chemical, Microbiological and Antioxidant Effects of Banana Peels on Butter Cake.

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Abstract

Alarge amount of banana peel garbage collected every day by juice enterprises in addition to fruit markets represents a significant bio-resource that is an important task for environmental protection. Rather than being discarded in a landfill, it is possible to turn into valuable material, reducing environmental extra economic problems. In this research, we focused on adding banana peels to cake as a low-cost and natural source of antioxidants and antimicrobials, which led to maintaining and prolonged shelf life. The powder of banana peel contains phenols, flavonoids, fiber, and the IC50 of DPPH radical scavenging with their respective values of 24.22 mg GAE/g, 19.12 mg/g, 16.40%, and 1.4. Banana peel is also rich in minerals such as phosphorus (216.01 mg/100 g), calcium (264.52 mg/100 g), and potassium1560 mg/100 g. Banana peel powder was added to the butter cake in proportions 4, 8, 12, and 16 %., Increasing the supplementation level of banana peel powder increased the specific volume of cakes as compared with the control. The addition of banana peel powder to the butter cake resulted in a higher percentage of protein, ether extract, fiber, and ash compared to the control butter cake. Also, the cake containing the highest percentage of banana peels 16% had the lowest value of peroxide (0.99 ± 0.1 meq. peroxide/Kg fat) and microbial load (96±8.7 CFU) at the end of the storage period.