

Comparative study of pomegranate peel and apple skin powder on nutritional, antioxidant and total phenolic contents of cookies

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Abstract

Utilization of byproducts of fruits and vegetables increased from the recent decades that is helpful to prevent many digestive, heart and other diseases. Present study was done by the incorporation of pomegranate peel powder (PPP) and apple skin powder (ASP) in cookies to improve the compositional, antioxidant and physical characteristics of supplemented cookies. Raw material analysis showed that PPP has more antioxidant potential while ASP has more fiber contents. After that, seven treatments of cookies were prepared as T_0 (control), T_1 (5% PPP), T_2 (10% PPP), T_3 (5% ASP), T_4 (10% ASP), T_5 (2.5% PPP+2.5% ASP) and T_6 (5% PPP+5% ASP). Proximate composition of supplemented cookies like moisture content randomly increased with best percentage in T_6 (5.17 ± 0.02), crude protein content showed declining trend between different treatments having maximum value in T_0 ($7.65\pm0.03\%$) while crude fat content remained unchanged. Crude fiber content only enhanced in treatments having PPP and ASP with maximum value in T_5 ($3.95\pm0.01\%$) having 2.5% PPP +2.5% ASP and the total ash content increased by the addition of PPP and ASP, found highest percentage in T_5 ($2.01\pm0.02\%$) treatment. Antioxidant activity of DPPH and FRAP was maximum in treatment T_2 having 10% PPP was $44.08\pm0.85\%$ RSA and 12.54 ± 0.95 mmol/100g respectively of supplemented cookies. TPC was also highest in T_2 (124.47 ± 1.11 mg GAE/100g) considered the better treatment regarding antioxidant potential. Color of cookies showed reddish due to PPP and whitish due to ASP and the hardness of the supplemented cookies increased in treatments having PPP and ASP with maximum hardness was 1571.33 ± 17.09 N in T_6 . Sensory evaluation of supplemented cookies was also done and the overall acceptability of T_0 (8.62 ± 0.41) got highest score and treatment T_2 got the lowest score.

Biography:



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Experienced Associate Professor with a demonstrated history of working in the education management industry. Skilled in , Food Science, Strategic Planning, and Lecturing. Strong education professional graduated from University of Agriculture, Faisalabad.

Speaker Publications:

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