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Abstract

Comparison of Antioxidant Properties of Coconut Testa Flour of Selected Local Coconut Cultivars of Sri Lanka †

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Abstract: Coconut testa is the thin brown colored outer skin of coconut endosperm. It is often peeled off from the kernel during coconut processing due to unfavorable brown colour it might impart on finished products. An attempt was made to utilize coconut testa to produce defatted flour as a substitute for wheat flour in bakery products. Aim of this study was to compare the total phenolic content (TPC) and ferric reducing antioxidant power (FRAP) of coconut testa flour of four local cultivars namely san raman (SR), gon thembili (GT), ran thembili (RT), TallxTall (TxT) against the commercial hybrid (COM) grown in Sri Lanka. Hundred grams of coconut testa flour produced from partially defatted coconut pairings was extracted with 70% ethanol-water mixture. The TPC and FRAP assays were conducted using a 96 well micro plate reader. Percentage yield (%) of crude extracts of SR, RT, GT, TXT and COM were 8.26, 6.87, 7.66, 8.06 and 11.17, respectively. The maximum TPC content was observed in TXT (62.58 ± 5.99 mg GAE/g of extract) while the minimum TPC content was recorded for GT (27.53 ± 4.54 mg GAE/g of extract). The lowest FRAP value was observed for SR (0.26 ± 0.02 mmol $FeSO_4$/g of extract) while the highest FRAP value was observed for COM (0.67 ± 0.00 mmol $FeSO_4$/g of extract) variety. In conclusion, coconut testa flour is a rich source of phenolics and antioxidants. The presence of these bioactives would make it a potential functional ingredient in food processing industry.

Keywords: coconut testa; phenolic; antioxidants; extract; yield

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