

**IN VITRO ANTIOXIDANT POTENTIAL AND TOTAL POLYPHENOLIC, FLAVONOID AND ANTHOCYANIN CONTENT OF EDIBLE FLOWERS IN SRI LANKA**

**G. Janarny<sup>1\*</sup>, K.D.P.P. Gunathilake<sup>2</sup> and K.K.D.S. Ranaweera<sup>1</sup>**

<sup>1</sup>Department of Food Science and Technology, Faculty of Applied Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka

<sup>2</sup>Department of Food Science and Technology, Faculty of Livestock, Fisheries and Nutrition, Wayamba University of Sri Lanka, Makandura, Sri Lanka  
\*gjanarny3@gmail.com

Edible flowers which have been used in traditional cuisine as a component for visual appeal and aroma have received attention recently as rich sources of bioactives. Bioactives have been explored widely due to their antioxidant properties which control chronic diseases. Natural sources of antioxidants are of great importance currently and edible flowers are extensively investigated for their antioxidant potential. However, only a narrow spectrum of available flowers has been investigated in Sri Lanka. The flowers investigated in the present work have been consumed in China, Thailand and India in various forms. The aim of this study was to determine the content of bioactive compounds and evaluate the antioxidant potential of edible flowers available in Sri Lanka. Flower samples were randomly collected from different locations of Sri Lanka. Assays for total phenolic, total flavonoid and total anthocyanin content were used to evaluate the content of bioactives of the edible flower extracts. Antioxidant properties of edible flowers were determined using ferric reducing power assay, 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging assay and total antioxidant capacity assay. The studied flowers exhibited a wide range of variation in the phenolic, flavonoid and anthocyanin contents. Hydromethanolic extracts of flowers of *Cocos nucifera* showed the highest total phenolic content. Total flavonoid content of the extracts was within the range of 0.59 ( $\pm$  0.06) and 19.81 ( $\pm$  0.83) mg Rutin equivalents/g dry weight. Extracts of *Hibiscus rosa-sinensis* and *Clitoria ternatea* exhibited higher contents of monomeric anthocyanins compared to the other flowers investigated. Extracts of *Calendula officinalis* expressed the highest radical scavenging ability, reducing power and total antioxidant capacity. The outcomes of the study demonstrate that the edible flowers are good sources of bioactives with antioxidant potential which can be incorporated into food as a natural ingredient that could deliver health benefits to consumers.

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