Determination of Antioxidant Properties of Blossoms of Banana (*Musa acuminata*) Varieties Available in Jaffna District

Y. Theepana[1*], R. Sarathadevi[1], S. Subajini[1]

[1]University of Jaffna, Kilinochchi, SriLanka
**theena1709@gmail.com*

Banana blossom is a by-product of banana cultivation and is a rich source of antioxidants. The aim of this study was to evaluate and compare the antioxidant properties of blossoms of fourvarieties of banana (*Itharai, Kathali, Monthan* and *Kappal*). Fresh banana blossoms were collected from four Divisional Secretariat Divisions (Chankanai, Atchuvely, Neerveli and Karaveddy) of the Jaffna District, Sri Lanka. Banana blossoms were cut and soaked in anti-browning solution (0.3% citric acid) for 30 minutes. After draining, composite sample was prepared by mixing the blossoms of the same variety collected from different areas. Samples were macerated and prepared samples (3 g) were extracted using 60 mL of solvent (either ethanol (70%, v/v) or methanol (70%, v/v)) by shaking at 200 rpm at ambient conditions for 2, 4 and 6 h. Dry extracts obtained after evaporation of solvent were used to analyze antioxidant properties by determining total phenolic content (TPC), total flavonoid content (TFC), antioxidant capacity (AC) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity. Efficiency of extraction of antioxidant significantly ($p<0.05$) increased with increasing extraction duration. Compared with methanol extract, ethanol extract exhibited high antioxidant properties. *Itharai* exhibited significantly ($p<0.05$) highest total phenolic content (142.45±12 mg gallic acid equivalent/g dry matter), whereas, *Monthan* showed highest total flavonoid content (68.85±1.2 mg catechin equivalent/g dry matter). Highest antioxidant capacity (309.7±5 mg ascorbic acid equivalent/g dry matter) and highest DPPH radical scavenging activity (IC50 value, 0.049±0.004 mg/mL) were exhibited by Kathali and Kappal, respectively. This study concludes that extracts of four varieties of banana blossom used in this study are potent sources of natural antioxidants

Key words: Antioxidant, Banana blossom, Jaffna, Radical scavenging activity