

Antioxidant and Total Phenol Contents of Selected Spices Used in Jaffna Peninsula

K. Karthiha¹ V. Arasaratnam² and S. Balakumar²

¹Department of Agricultural chemistry, Faculty of Agriculture, University of Jaffna, Sri Lanka.

²Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka.

The aim of the study was to determine the antioxidant content and total phenol content of spices such as Onion (*Allium cepa*), big onion (*Allium cepa*), garlic (*Allium sativum*), green chilli (*Capsicum anum*), ginger (*Zingiber officinale*) and bell pepper (*Capsicum spp*) available in Jaffna. Total phenolics were measured using the Folin Cio-calteu reagent with gallic acid as standard. The antioxidant contents of spices were assayed by both phosphomolybdenum assay and reducing power assay with standards of ascorbic acid and butylated hydroxyl toluene respectively. Based on the phosphomolybdenum assay, highest antioxidant content was observed in garlic [897.26 (± 0.51) mg/100 g dry samples and the lowest value in green chilli [253.54 (± 0.37) mg/100 g dry samples. Based on the reducing power assay, highest antioxidant content was found in bell pepper [233.52 (± 0.38) mg/100g dry sample], and lowest antioxidant content was detected in garlic [1.07 (± 0.20) mg/100g dry sample]. Highest total phenol content was found in bell pepper [123.80 (± 0.39) mg/100 g dry samples and lowest total phenol content was detected in ginger [8.6 (± 0.45) mg/100g dry sample]. From this study, highest antioxidant content and total phenol contents were found in garlic while lowest amounts were found in green chilli. The present study shows that spices may contain a lot of antioxidants and total phenols to support human health.

Keywords: Antioxidant, total phenol, ascorbic acid, gallic acid, butylated hydroxyl toluene