

Influence of drying treatments on antioxidant capacity of forage legume leaves

Abstract

This study was aimed to investigate the antioxidant capacities of four common forage legume leaves namely, *Arachis pintoi* (Pintoi), *Calapogonium mucunoides* (Calapo), *Centrosema pubescens* (Centro), and *Stylosanthes guanensis* (Stylo). Two different drying methods (oven-drying and freeze-drying) were employed and antioxidant activities were determined by DPPH, Ferric Reducing Antioxidant Power (FRAP) and β -carotene bleaching assays. Total phenolic content (TPC) was determined using Folin-Ciocalteu assay. Freeze-dried extract showed the highest antioxidant activities by DPPH (EC50 values 1.17–2.13 mg/ml), FRAP (147.08–246.42 μ M of Fe²⁺/g), and β -carotene bleaching (57.11–78.60%) compared to oven drying. Hence, freeze drying treatment could be considered useful in retention of antioxidant activity and phenolic content.

Item Type: Article

Keyword: Antioxidants; Legume leaves; Phenolics; Oven-drying; Freeze-drying