

ABSTRACT

Andre Danu Prasetyo (03420070083)

STUDY OF ANTIOXIDANT ACTIVITY OF *Parkia speciosa* BASED ON THE DIFFERENT LOCATIONS, PROCESSING METHODS, AND VITAMIN C CONTENT

(xiii + 61 Pages; 23 tables; 13 figures)

Parkia speciosa or commonly known as *petai* is one of vegetables that people dislike to eat, but actually some antioxidants such as phenolic compounds, anthocyanin, and vitamin C are present there. They are good antioxidant for protecting human's body from free radicals. Different locations, processing steps, and vitamin C content of *Parkia speciosa* are assumed to have different antioxidant activity. This researched was performed to study the effect of different locations, processing methods, and vitamin C content to the antioxidant activity of *Parkia speciosa*. The locations were West Java (Tangerang), Central Java (Purwokerto), Riau (Rengat), and West Kalimantan (Pontianak). The processing methods were boiling (100°C for 5 minutes), steaming (100°C for 5 minutes), and frying (170°C for 5 minutes). The analysis were total phenolic compounds (Folin Ciocalteu methods), concentration of anthocyanin (pH differential method), vitamin C content (indophenol titration method), and IC₅₀ value (DPPH method) Results showed that interaction between different locations and processing methods affected phenolic compounds, concentration of anthocyanin, vitamin C content, and IC₅₀ value of *Parkia speciosa*. The results could be changed if the environmental factors, degree of maturity, and storage time of the samples were controlled, since they were not considered in the present study. Anthocyanin, vitamin C, and antioxidant activity (IC₅₀ value) decreased due to the heat treatment of processing methods, however phenolic compounds showed the opposite phenomena. The elimination of vitamin C also decreased the antioxidant activity of *Parkia speciosa*. The best combination for total phenolic compounds was fried Riau (175.593 mg/100g samples), anthocyanin was raw West Kalimantan (25.636 mg/100g samples), vitamin C was raw West Java (37.675 mg/100g samples), and antioxidant activity (IC₅₀ value) was raw Central Java (0.0018 g).

Keywords : *Parkia speciosa*, *petai*, antioxidant activity, location, vitamin C, processing methods.

References : 46 (1987-2011)