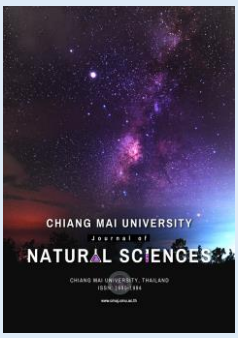

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Research article

Evaluation of the Antioxidant Activity of Bignay (*Antidesma bunius* (Linn.) Spreng var. Kalabaw) Flesh and Seeds as Affected by Maturity and Processing Method

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Abstract This study aimed to determine the influence of maturity stages and processing methods (blanching and steaming) on the antioxidant profile and in vitro antioxidant activities of bignay (*Antidesma bunius* (Linn.) Spreng var. Kalabaw) flesh and seeds. Bignay fruits of three maturities (unripe, half ripe, and fully ripe) were collected from Laguna, Philippines. Each maturity stage was subdivided into three lots. One lot underwent blanching at 90 ± 5°C for 2 minutes, and another underwent steaming at 105 ± 5°C for 5 minutes while the last did not undergo treatment. Seeds of the samples were then separated from the flesh. Both seeds and flesh were freeze-dried, extracted, and analyzed for antioxidant contents (total phenolic content, total flavonoid content, and total anthocyanin content) and antioxidant activity by DPPH, ABTS, and FRAP assays. Results show that both the maturity and processing methods significantly affect the antioxidant content and activity of the samples. Moreover, except for the FRAP assay done on flesh samples, all assays showed that there is significant interaction between the effect of maturity and processing method on the antioxidant contents and activity of bignay flesh and seeds. Results also show that fully ripe flesh and seeds yielded greater antioxidant content and antioxidant activity than their half-ripe and unripe counterparts; whereas, blanched flesh and seeds generally had higher antioxidant activities than their unprocessed and steamed counterparts.

Keywords: Antioxidant activity, Bignay, Blanching, Maturity stage, Steaming

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