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Determination of Antioxidant Properties in Ati-Ati Plants

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Coleus spp. are widely used in the region of tropical countries such as Vietnam, India and Indonesia as remedies for abdominal colic, respiratory disorders, painful menstruation and fever. In Malaysia, Coleus spp. are locally known as 'Ati-ati' plant and used primarily as ornamental. The use of Coleus spp. as remedies in Malaysia was previously unknown. The study was aimed to determine the total antioxidants content in three different Coleus spp., namely, Coleus amboinicus Lour. (CAL), Coleus blumei (purple

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hybrid) (CBP) and Coleus blumei (mix colour hybrid) (CBMC). The quantities of total antioxidants in different parts (stems, petioles and leaves) of the plants were also evaluated. Fresh CAL samples were randomly collected from Jakarta, Indonesia and samples of CBR and CBMC were randomly collected from Kuantan, Malaysia. Samples were freeze-dried, ground and extracted using methanol. The antioxidants content of the extracted samples were measured on the basis of scavenging activity of the stable 1,1-diphenyl-2-picrylhydrazyl (DPPH) free radical (DPPH radical-scavenging assay). Ascorbic acid and butylated hydroxyl anisole (BHA) were used as positive control. Absorbance at 517 nm was determined after 30 min, and the percent inhibition activity was then calculated. Results showed that the total antioxidants content in CBR and CBMC were significantly higher ($P < 0.05$) than in CAL but there was no significant difference ($P > 0.05$) of total antioxidants content in CBR and CBMC. Different parts of CAL have the same ($P > 0.05$) amounts of total antioxidants content. In CBP and CBMC, the leaves have the highest ($P < 0.05$) content of the total antioxidants followed by petioles and stems. Coleus blumei showed greater amount of total antioxidants content compared to Coleus amboinicus Lour. The study showed the potential of Coleus spp. from Malaysia to be developed as natural functional food.