

Antioxidant activity and phenolic content of raw and blanched *Amaranthus* species

ABSTRACT

The study was aimed to determine the antioxidant activity (total antioxidant and free radical-scavenging activities) and total phenolic content of *Amaranthus* sp. The effects of different blanching times (10 and 15 min) on antioxidant activity and phenolic content were also studied. Four types of *Amaranthus* species locally known as spinach, namely bayam putih (*Amaranthus paniculatus*) (BP), bayam merah (*Amaranthus gangeticus*) (BM), bayam itik (*Amaranthus blitum*) (BI) and bayam panjang (*Amaranthus viridis*) (BPG), were selected. Total antioxidant activity of water-soluble components in raw spinach was in the order of BI > BM > BPG > BP, whereas free radical-scavenging activity was in the order of BI > BPG > BM > BP. The total phenolic contents of BM and BP were significantly higher ($p < 0.05$) than other samples. All the studied spinach species possessed different antioxidant activities and phenolic contents. Antioxidant activities and phenolic contents of all the spinach were in the order of raw > blanched 10 min > blanched 15 min. Blanching up to 15 min may affect losses of antioxidant activity and phenolic content, depending on the species of spinach.

Keyword: Spinach; Blanching; Total antioxidant activity; Scavenging activity; Phenolic content