ABSTRACT

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EFFECTS OF BLANCHING AND DIFFERENT EXTRACTION SOLVENTS ON ANTIOXIDAN ACTIVITY OF KEMANGI (*Ocimum basilicum* L.) LEAVES

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Kemangi leaf is known for its distinct aroma due to the volatile aromatic compounds that are contained in the leaves. The volatile compounds are prone to evaporation due to heat processing; thus, the objectives of this study were to determine the best solvents and pre-treatment types for the extraction of total phenolic content, total flavonoid content and radical scavenging activity from fresh-freeze dried and blanched-freeze dried *kemangi* leaves. The solvents used were ethanol 70%, ethanol 99% and ethyl acetate. The radical scavenging activity of the leaf was evaluated using 1,1-diphenyl-2-picrylhydrazyl (DPPH) method, total phenolic content was evaluated using Folin-Ciocalteu index and total flavonoid content was evaluated using ferric-reducing power assay. Results showed that the extraction solvents significantly ($p<0.05$) affect total phenolic content, total flavonoid content, and radical scavenging activity of *kemangi* leaf extract. Pre-treatment type results showed that it significantly affects total phenolic content and radical scavenging activity ($p<0.05$), and no significant affect to total flavonoid content ($p>0.05$). Blanch pre-treatment with ethanol 70% solvent had a significantly higher total phenolic content at 3.93 ± 0.16 mg GAE/g extract and low IC_{50} at 4423.21 ± 449.67 ppm compared to other solvents. Total flavonoid content of ethanol 70% is the lowest when compared with other solvents at 0.72 ± 3.43 mg QE/g extract while the highest is ethyl acetate at 3.75 ± 2.61 mg QE/g extract.

Keywords: antioxidant, blanching, ethanol, ethyl acetate, *kemangi* leaves.
References: 46 (2001-2019)