ABSTRACT

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UTILIZATION OF SWEET POTATO LEAVES (*Ipomoea batatas* L.) AS “BLACK TEA”

(xvii + 80 pages: 30 figures, 11 tables, and 37 appendices)

Sweet potato is a tropical plant that spreaded all over Indonesia. Traditionally, sweet potato leaves is known as treatment for dengue fever or diabetes. Utilize sweet potato leaves as a “black tea” could be one of the way for product diversification and to give added value of it. The aim of this research are to find the effect of leaves processing and to determine the optimal drying temperature, steeping temperature and steeping time based on total phenolic content, total flavonoids, total condensed tanin, total antioxidant activity, hue color and sensory evaluation. Nine formulations of drying temperature (70°C, 85°C, 100°C) with steeping temperature (70°C, 85°C, 100°C) were analyzed. Drying temperature at 70°C and steeping temperature at 100°C is the best formulation that has 835.23 ± 30.43 mg/L for total antioxidant activity, 424.097 ± 7.91 mg GAE/L for total phenolic content, 76.9 ± 1.34 mg QE/L for total flavonoids, and 121.46 ± 3.07 mg CE/L for total condensed tanin. Twenty minutes was found to be the best steeping time and black tea was chosen to be the best way of leaves processing. Both of them show the highest total antioxidant activity (778.17 ± 22.74 mg/L), total phenolic content (485.41 ± 11.26 mg GAE/L), total flavonoid (122.1 ± 0.22 mg QE/L), total condensed tanin (173.54 ± 3.9 mg CE/L), and highest overall acceptability.

Keywords: antioxidant activity, black tea, sweet potato leaves, polyphenols

References: 98 (1988-2016)