

ABSTRACT

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UTILIZATION OF CACAO LEAVES (*Theobroma cacao* L.) IN THE PRODUCTION OF KOMBUCHA

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Indonesia has been one of the biggest exporters of cacao and hence resulting in trimming and waste of cacao leaves. Studies have reported that cacao leaves (*Theobroma cacao* L.) has high contents of phenolic content as well as high antioxidant activity which provides an opportunity to further utilize cacao leaves into refreshing and beneficial beverages like kombucha. Thus, the objectives of this research were to determine the best tea processing method of cacao tea leaves and to determine the best ratio of cacao leaves tea to mother tea concentration and fermentation time to produce kombucha with the preferred physicochemical and sensory properties. Cacao leaves were processed with fresh tea, green tea and black tea processing method. Results showed that cacao leaves processed with green tea processing method achieved a yellow-red tea color with the highest antioxidant activity of 23267.75 ± 2117.60 ppm and total phenolic content, total flavonoid content and total condensed tannin of 564.05 ± 26.18 mg GAE/L, 123.55 ± 4.52 mg QE/L and 254.21 ± 17.39 mg CE/L respectively. Cacao leaves green tea was then further processed in the production of kombucha with ratio of cacao leaves tea to mother tea of 40:60, 50:50, 60:40 and was fermented for 7, 10 and 13 days. An increase of antioxidant activity to 5883.80 ± 429.14 ppm is achieved by kombucha made with ratio of cacao leaves tea to mother tea of 40:60 and is fermented for 10 days with a total phenolic and total flavonoid content of 1310.20 ± 23.85 mg GAE/L and 87.39 ± 5.83 mg QE/L respectively. Sensory evaluation of the chosen treatment showed that the chosen treatment has slightly not acidic aroma (3.23 ± 1.34), not acidic taste (2.59 ± 1.12), not alcoholic taste (2.17 ± 1.33) and slightly light color (4.41 ± 1.00). Hedonic value shows neutral acceptance for acid aroma (4.29 ± 1.49), acid taste (4.70 ± 1.57) and alcohol taste (4.76 ± 1.67), moderately like acceptance for color (5.00 ± 1.22) and overall acceptance (5.11 ± 1.45).

Keywords : Antioxidant activity, cacao leaves, kombucha, fermentation

Reference : 68 (2000-2022)