

ABSTRACT

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PHYSICOCHEMICAL AND ORGANOLEPTIC CHARACTERISTICS OF FERMENTED COFFEE BEVERAGE USING *Coffea liberica*, AND *Coffea excelsa* BEANS

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Indonesia is known to be one of the vastest coffee producers. The *C. liberica* and *C. excelsa* coffee beans are less popular compared to *C. robusta* and *C. arabica* due to its sensory qualities and flavor compounds. In this study, the utilization of *C. liberica* and *C. excelsa* coffee beans as fermented beverage is done to increase its utilization as well as studying the organoleptic acceptance of coffee-based fermented beverage that is rarely found in the market. Furthermore, the effect of different yeast and sugar concentrations as well as different fermentation time on the physicochemical and organoleptic properties of the fermented coffee beverage was also studied. This study found that 40% sugar and 30% starter concentrations resulted in one of the most preferred fermented coffee beverages in terms of overall acceptance. In addition, it produced good hedonic results with values of 6.24 ± 0.02 (Very like), 5.35 ± 0.77 (like) and 6.45 ± 0.77 (Very like) for hedonic wine aroma, coffee taste and coffee aroma respectively. The chosen starter and sugar concentrations resulted in beverage with the lowest pH of 3.52 ± 0.00 and highest alcohol content with a value of 10.0 ± 0.16 . Showing that the coffee beverage had experienced a high degree of fermentation. This study also found that 21 days fermented Aceh *C. excelsa* has the highest hedonic overall acceptance of 5.04 ± 0.66 out of 1-7 hedonic scale with the most intense wine aroma and coffee taste with values of 2.12 and 2.72 respectively. In addition, the pH value of the preferred fermented coffee beverage is 2.88 ± 0.00 , considered as one of the lowest pH values among other formula, one of the lowest TSS value of 14.5 ± 0.33 , and highest alcohol content of 6.56 ± 0.05 . Since coffee is a popular beverage in Indonesia, this product can be a unique alternative to conventional wine and might be of interest to the Indonesian market.

Keywords : Coffee, *C. excelsa*, *C. liberica*, Fermented coffee beverage

References : 57 (1996-2021)