ANTIOXIDANT ACTIVITY TEST OF HERBAL TEA BAGS COMBINING SOURSOP LEAVES (Annona muricata L.) AND MULBERRY LEAVES (Morus alba L.) USING UV-VIS SPECTROPHOTOMETRY

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ABSTRACT

Background: *Excess free radicals in the body can trigger oxidative stress and various degenerative diseases. Consumption of exogenous antioxidants from natural materials, such as herbal teas, is important to maintain health. Soursop and mulberry leaves are known to be rich in phytochemical compounds with antioxidant potential.* ***Objective:*** *The aim of this study was to determine the formulation of soursop leaf and mulberry leaf combination tea bags that have the highest antioxidant activity and evaluate their organoleptic characteristics.* ***Research Methods:*** *This study used laboratory experimental method with three teabag formulations: F1 (1.5:1.5), F2 (1:2), and F3 (2:1). The soursop leaves were dried at 50°C for 7 hours, while the mulberry leaves at 45°C for 6 hours. Moisture content was measured using the gravimetric method. Antioxidant activity was tested using the DPPH (2,2-diphenyl-1-pycrilhdrazil) method with UV-Vis spectrophotometry at a wavelength of 517 nm, and the results were expressed in* IC_{50} *values. Data were analyzed using One-Way ANOVA and Duncan's test.* ***Research Results:*** *The results showed that Formulation F3 (2:1) showed the highest antioxidant activity with* IC_{50} *value of 76.56 ppm (strong category), compared to F1 of 157.25 ppm (medium category) and F2 of 167.20 ppm (medium category). Organoleptic test showed that F2 and F3 were preferred by panelists.* ***Conclusion:*** *From the results of the study it can be concluded that.*

Keywords: *Soursop Leaf, Mulberry Leaf, Formulation, Antioxidant Activity,* IC_{50}