

ABSTRAK

PENGARUH LAMA WAKTU FERMENTASI TERHADAP TOTAL ASAM TERTITRASI, TOTAL FLAVONOID DAN AKTIVITAS ANTIOKSIDAN KOMBUCHA BUNGA TELANG (*Clitoria ternatea* L.)

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Bunga telang (*Clitoria ternatea* L.) telah lama dimanfaatkan sebagai obat tradisional untuk menyembuhkan berbagai penyakit. Penelitian terdahulu menunjukkan bahwa bunga telang mengandung komponen senyawa bioaktif yang berperan sebagai antioksidan, salah satunya adalah flavonoid. Bunga telang dapat dijadikan bahan alternatif lain dalam pembuatan minuman teh kombucha. Fermentasi kombucha dapat meningkatkan manfaat bunga telang dengan adanya asam organik, mineral dan vitamin yang dihasilkan dalam fermentasi kombucha. Penelitian ini bertujuan untuk mengetahui pengaruh lama waktu fermentasi terhadap kadar total asam tertitrasi, kadar total flavonoid dan aktivitas antioksidan kombucha bunga telang.

Penelitian dilakukan pada Maret sampai dengan Mei 2018 bertempat di Laboratorium Biologi dan Laboratorium Farmasi, Universitas Sanata Dharma. Penelitian ini menggunakan desain Rancangan Acak Lengkap (RAL) dengan 6 perlakuan lama waktu fermentasi yaitu 0, 4, 8, 12, 16 dan 20 hari. Data hasil penelitian dianalisis dengan menggunakan analisis statistika uji korelasi dan regresi.

Hasil analisis korelasi dan regresi menunjukkan bahwa perlakuan lama waktu fermentasi memiliki hubungan yang sangat kuat, signifikan ($\text{sig.} < \alpha$) dan positif terhadap kadar total asam tertitrasi dan total flavonoid. Semakin lama waktu fermentasi maka semakin tinggi kadar total asam tertitrasi dan total flavonoid. Analisis korelasi dan regresi terhadap aktivitas antioksidan menunjukkan bahwa perlakuan lama waktu fermentasi tidak memiliki hubungan yang signifikan terhadap aktivitas antioksidan kombucha bunga telang ($\text{sig.} > \alpha$).

Kata kunci: bunga telang, total asam tertitrasi, total flavonoid, aktivitas antioksidan, kombucha.

ABSTRACT**THE EFFECT OF FERMENTATION LENGTH TO TOTAL TITRABLE ACIDS, TOTAL FLAVONOID AND ANTIOXIDANT ACTIVITY OF KOMBUCHA MADE FROM BUTTERFLY PEA (*Clitoria ternatea* L.)**

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*Butterfly pea (*Clitoria ternatea* L.) has been utilized as traditional medicine to cure many kind of diseases. Previous study indicated that Butterfly pea contains bioactive compounds that can be used as antioxidant, such as flavonoid. Butterfly pea can be used as alternative kombucha. Kombucha fermentation can improve the benefits of butterfly pea with the presence of organic acids, minerals, and vitamins which can be produced during kombucha fermentation. The aim of this research was to study about the effect of fermentation length towards total titrable acids content, total flavonoid content and antioxidant activity of kombucha made from butterfly pea.*

This research was conducted from March until May 2018 at the Laboratory of Biology and Pharmacy Department, Sanata Dharma University. This research used Completely Randomized Design (CRD) with the treatment of six different fermentation length, which was 0 day, 4 days, 8 days, 12 days, 16 days and 20 days. Each data obtained from this research were analyzed using correlation and regression statistic test.

The results of the test showed that the treatment of fermentation length gave a strong, significant and positive correlation towards total titrable acids content and total flavonoid content. It means that the longer of fermentation length leads to higher of total titrable acids content and total flavonoid content. Whereas, the statistic test of antioxidant activity data showed that there was no significant correlation between the treatment of fermentation length to the levels of antioxidant activity of butterfly pea kombucha.

Keywords : *antioxidant activity, butterfly pea, total flavonoid, total titrable acids, kombucha.*