PENGARUH PERBEDAAN WAKTU FERMENTASI BUAH NAGA MERAH (*Hylocereus polyrhizus*) TERHADAP TOTAL FLAVONOID DAN AKTIVITAS ANTIOKSIDAN

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INTISARI

Latar belakang: Kesadaran akan kesehatan memunculkan tren mengonsumsi pangan fungsional. Buah naga merah (*Hylocereus polyrhizus*) memiliki kandungan flavonoid dan antioksidan yang tinggi sehingga dapat membantu meningkatkan kesehatan. Fermentasi merupakan salah satu inovasi untuk menghasilkan minuman fungsional. Waktu fermentasi perlu dikaji untuk dapat mencapai total flavonoid dan aktivitas antioksidan yang optimal.
Tujuan: Mengetahui pengaruh perbedaan waktu fermentasi terhadap total flavonoid dan aktivitas antioksidan pada filtrat dan ampas minuman fermentasi buah naga merah.
Metode: Penelitian eksperimental dengan desain rancangan acak lengkap satu faktor. Uji total flavonoid menggunakan metode spektrofotometri dan aktivitas antioksidan menggunakan metode DPPH. Analisis data menggunakan uji *One Way ANOVA* dan *Paired T-Test.*
Hasil: Total flavonoid pada filtrat dan ampas antarkelompok perlakuan berbeda signifikan ($p<0,05$). Peningkatan total flavonoid tertinggi pada filtrat terjadi pada minggu 4. Aktivitas antioksidan pada filtrat dan ampas antarkelompok perlakuan berbeda signifikan ($p<0,05$). Peningkatan aktivitas antioksidan tertinggi pada filtrat terjadi pada minggu 3. Total flavonoid dan aktivitas antioksidan antara filtrat dan ampas menunjukkan perbedaan yang signifikan ($p<0,05$).
Kesimpulan: Perbedaan waktu fermentasi mempengaruhi total flavonoid dan aktivitas antioksidan pada filtrat dan ampas. Total flavonoid dan aktivitas antioksidan antara filtrat dan ampas menunjukkan perbedaan yang signifikan.

Kata Kunci: Buah naga merah, waktu fermentasi, total flavonoid, aktivitas antioksidan.

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THE EFFECT OF FERMENTATION TIME-DIFFERENCE IN RED DRAGON FRUIT (*Hylocereus polyrhizus*) TOWARDS TOTAL FLAVONOID AND ANTIOXIDANT ACTIVITIES

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ABSTRACT

Background: Health awareness raises trend of consumption of functional foods. Red dragon fruit (*Hylocereus polyrhizus*) has a high content of flavonoids and antioxidants that can improve health. Fermentation is an innovative method to produce functional drinks. Fermentation time needs to be studied to acquire knowledge on achieving optimal total flavonoids and antioxidant activity.
Objective: To determine effects of fermentation time-difference on the filtrate and pulp of red dragon fruit fermented drink towards total flavonoids and antioxidant activity.
Method: Experimental study with a single factor complete randomized design. The total flavonoid is tested using spectrophotometric methods while the antioxidant activities is tested using the DPPH method. Data is then further analyzed using One Way ANOVA test and Paired T-Test.
Result: The total flavonoids in the filtrate and pulp between treatment groups differed significantly ($p < 0.05$). The highest increase in total flavonoid for the filtrate occurred at week 4. Antioxidant activities in the filtrate and pulp between treatment groups differed significantly ($p < 0.05$). The highest increase in antioxidant activity for the filtrate occurred at week 3. The total flavonoids and antioxidant activity between filtrate and pulp showed a significant difference ($p < 0.05$).
Conclusion: The difference in fermentation time has an effect towards total flavonoids and antioxidant activity on filtrate and pulp of red dragon fruit (Hylocereus polyrhizus). The total flavonoids and antioxidant activity between filtrate and pulp showed a significant difference.

Keywords: Red dragon fruit, fermentation time, total flavonoids, antioxidant activity.

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