

PENGARUH SUBSTITUSI SARI TERUNG BELANDA (*Solanum betaceum*) PADA BOBA TERHADAP KADAR PROKSIMAT, SENYAWA FENOLIK, DAN AKTIVITAS ANTIOKSIDAN

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INTISARI

Latar Belakang: Kurangnya konsumsi buah dan sayur dapat meningkatkan risiko penyakit tidak menular. Padahal, Indonesia memiliki berbagai macam buah dan sayur kaya gizi, salah satunya terung belanda. Terung belanda juga mengandung zat bioaktif yang berperan sebagai antioksidan. Pemanfaatan terung belanda pada produk pangan yang digemari masyarakat, yaitu boba, diharapkan dapat meningkatkan nilai gizi produk tersebut.

Tujuan: Mengetahui perbedaan kadar proksimat, senyawa fenolik, dan aktivitas antioksidan boba dengan adanya substitusi sari terung belanda.

Metode: Penelitian eksperimental ini terdiri dari 5 formulasi dengan substitusi sari terung belanda 0%, 25%, 50%, 75%, dan 100%. Kadar proksimat diujikan pada formula kontrol dan formula dengan daya terima keseluruhan tertinggi. Sementara uji kadar senyawa fenolik dan aktivitas antioksidan dilakukan pada seluruh formula. Analisis kadar air dan abu dilakukan dengan metode thermogravimetri, kadar protein dengan metode mikro Kjeldahl, kadar lemak dengan metode Soxhlet, dan karbohidrat menggunakan *by difference*. Uji senyawa fenolik menggunakan metode Folin Ciocalteu dan aktivitas antioksidan menggunakan metode DPPH (*1,1-diphenyl-2-picrylhydrazyl*).

Hasil: Kadar air, protein, dan karbohidrat boba terung belanda dibanding kontrol berbeda signifikan ($p < 0,05$); sedangkan kadar abu dan lemak tidak berbeda signifikan ($p > 0,05$). Kadar air dan protein boba terung belanda lebih rendah dibanding kontrol; sedangkan kadar abu, lemak, dan karbohidrat boba terung belanda lebih tinggi dibanding kontrol. Kandungan senyawa fenolik dan aktivitas antioksidan antar formulasi berbeda signifikan ($p < 0,05$). Kadar kedua senyawa tersebut semakin meningkat seiring penambahan konsentrasi sari terung belanda.

Kesimpulan: Substitusi sari terung belanda pada boba memengaruhi kadar air, protein, karbohidrat, senyawa fenolik dan aktivitas antioksidan tetapi tidak memengaruhi kadar abu dan lemak boba.

Kata kunci: boba, sari terung belanda, kadar proksimat, senyawa fenolik, aktivitas antioksidan

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EFFECT OF TAMARILLO JUICE (*Solanum betaceum*) SUBSTITUTION ON PROXIMATE LEVELS, PHENOLIC COMPOUNDS, AND ANTIOXIDANT ACTIVITY OF BOBA

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ABSTRACT

Background: A lack of fruit and vegetable consumption can increase the risk of non-communicable diseases. Indonesia has a variety of fruits and vegetables rich in nutrients, one of which is tamarillo. Tamarillo also contains bioactive compounds that act as antioxidants. The utilization of tamarillo in food products that are popular with the community, such as boba, is expected to increase the nutritional value of these products.

Objectives: To determine the difference in proximate levels, phenolic compounds, and antioxidant activity of boba with the substitution of tamarillo juice.

Method: This experimental study consisted of 5 formulations with 0%, 25%, 50%, 75%, and 100% substitution of tamarillo juice. Proximate content was tested on the control formula and the formula with the highest overall acceptability. Meanwhile, the analysis of phenolic compounds and antioxidant activity was carried out on five formulas. Moisture and ash content were analyzed using the thermogravimetric method, protein content using the micro-Kjeldahl method, fat content using the Soxhlet method, and carbohydrates using the by difference calculation. Phenolic compounds were tested using the Folin Ciocalteu method and antioxidant activity using the DPPH (1,1- diphenyl-2-picrylhydrazyl).

Result: The water, protein, and carbohydrate content in the formula of tamarillo boba compared to the control were significantly different ($p < 0.05$); while the ash and fat content were not significant ($p > 0.05$). The water and protein content of tamarillo boba was lower than control; while the ash, fat, and carbohydrate content were higher than control. The phenolic compounds and antioxidant activity between formulations differed significantly ($p < 0.05$). The levels of these two compounds increased with the addition of the concentration of tamarillo juice.

Conclusion: Tamarillo juice's substitution in boba affects water content, protein, carbohydrates, phenolic compounds and antioxidant activity but doesn't affect the ash and fat content of boba.

Keywords: boba, tamarillo juice, proximate, phenolic compounds, antioxidant activity

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