

Pengaruh Suhu Pengeringan dan Penambahan Serai (*Cymbopogon citratus*) Terhadap Aktivitas Antioksidan Teh Bawang Dayak (*Eleutherine bulbosa*)

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ABSTRAK

Latar Belakang: Salah satu produk pangan yang dapat diolah dari Bawang Dayak adalah teh. Namun, proses pengeringan dapat berpengaruh terhadap aktivitas antioksidan produk teh. Alternatif yang dapat dilakukan untuk meningkatkan aktivitas antioksidan adalah dengan menambahkan serai yang juga mengandung aktivitas antioksidan tinggi.

Tujuan: Mengetahui pengaruh variasi suhu pengeringan dan penambahan serai (*Cymbopogon citratus*) terhadap aktivitas antioksidan dari teh Bawang Dayak (*Eleutherine bulbosa*).

Metode: Penelitian eksperimental berupa Rancangan Acak Lengkap dengan 2 faktor, yaitu suhu pengeringan (50°C, 60°C) dan penambahan serai kering (0%, 30%, 50%). Formula terbagi menjadi 6 kelompok perlakuan dengan pengulangan sebanyak dua kali dan aktivitas antioksidan diuji secara duplo menggunakan metode DPPH (*1,1-dhipenyl-2-picrylhydrazyl*).

Hasil: Terdapat perbedaan signifikan pada aktivitas antioksidan antar formula teh Bawang Dayak ($p \text{ value} < 0,05$). Suhu pengeringan memberikan pengaruh signifikan ($p=0,00$) berupa penurunan aktivitas antioksidan pada produk teh Bawang Dayak. Sedangkan penambahan serai memberikan pengaruh signifikan ($p=0,00$) berupa peningkatan aktivitas antioksidan seiring dengan peningkatan konsentrasi penambahan serai. Aktivitas antioksidan tertinggi dihasilkan oleh formula A2B3 (pengeringan suhu 60°C dan penambahan serai sebanyak 50%) sebesar 5708,22 ppm (sangat lemah). Namun secara keseluruhan aktivitas antioksidan antar formula teh Bawang Dayak masih menunjukkan kemampuan menangkal radikal bebas yang sangat lemah (>200 ppm).

Simpulan: Perlakuan berupa suhu pengeringan menyebabkan penurunan aktivitas antioksidan teh Bawang Dayak. Sedangkan penambahan serai berbanding lurus dengan peningkatan aktivitas antioksidan teh Bawang Dayak yang dihasilkan. Secara keseluruhan, formula A2B3 menjadi formula yang menghasilkan aktivitas antioksidan tertinggi, yaitu sebesar 5708,22 ppm (sangat lemah).

Kata Kunci: Bawang Dayak, Teh, Serai, Pengeringan, Aktivitas Antioksidan

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The Effect of Drying Temperature and Addition of Lemongrass (*Cymbopogon citratus*) on the Antioxidant Activity of Dayak Onion Tea (*Eleutherine bulbosa*)

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ABSTRACT

Background: *One of the food products that can be processed from Dayak Onion is tea. However, the drying process may influence the antioxidant activity of the tea product. An alternative to enhance antioxidant activity is by adding lemongrass, which also contains high antioxidant activity.*

Objectives: *To analyze the effect of drying temperature variations and the addition of lemongrass (*Cymbopogon citratus*) on the antioxidant activity of Dayak Onion tea (*Eleutherine bulbosa*).*

Methods: *The experimental study used a Completely Randomized Design with two factors: drying temperature (50°C, 60°C) and the addition of dried lemongrass (0%, 30%, 50%). The formula was divided into 6 treatment groups with two replications. Antioxidant activity was tested in duplicate using the DPPH method. Univariate analysis took the form of a normality test with Shapiro-Wilk, while bivariate analysis was performed using Two Way ANOVA at a 95% confidence level with $\alpha=0.05$ and continued with the Duncan's Multiple Range Test (DMRT).*

Result: *A significant difference in antioxidant activity was observed among the various Dayak Onion tea formulations (p value < 0,05). Drying temperature had a significant effect ($p=0,00$), leading to a decrease in the antioxidant activity of the Dayak Onion tea products. Meanwhile, the addition of lemongrass also had a significant effect ($p=0,00$), resulting in increased antioxidant activity as the concentration of lemongrass increased. The highest antioxidant activity was observed in formulation A2B3 (dried at 60°C with 50% lemongrass addition), with a value of 5708.22 ppm (classified as very weak). However, overall, the antioxidant activity across all Dayak Onion tea formulations still indicated a very weak free radical scavenging ability (>200 ppm).*

Conclusion: *The antioxidant activity of Dayak onion tea decreased as a result of higher drying temperatures. In contrast, greater amounts of lemongrass added to the tea formulation led to increased antioxidant activity. Overall, formulation A2B3 showed the highest antioxidant activity, with a value of 5708.22 ppm (classified as very weak).*

Keywords: *Dayak Onion, Tea, Lemongrass, Drying, Antioxidant Activity*

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