

ABSTRAK

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PENGARUH PENAMBAHAN LEMON (*Citrus limon* [L.] Osbeck) DAN KAYU MANIS (*Cinnamomum* spp.) TERHADAP AKTIVITAS ANTIOKSIDAN DAN SIFAT FISIKOKIMIA *HONEY WINE*
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Karakteristik produk akhir *honey wine* dapat ditingkatkan dengan penambahan bahan-bahan seperti buah, rempah, dan herbal dalam pembuatannya. Lemon dan kayu manis memiliki kandungan senyawa fenolik dan flavonoid yang dapat berperan sebagai senyawa antioksidan. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan lemon dan kayu manis terhadap aktivitas antioksidan dan sifat fisikokimia *honey wine*. Penambahan lemon dalam bentuk sari buah menggunakan variasi dua jenis lemon, yaitu lemon lokal dan lemon impor, dengan kontrol dipakai asam sitrat. Penambahan kayu manis dalam bentuk potongan kayu manis menggunakan variasi dua jenis kayu manis, yaitu kayu manis cassia dan kayu manis ceylon, dengan kontrol tanpa penambahan kayu manis. Produk akhir yang berupa *honey wine* akan dilakukan analisis aktivitas antioksidan (DPPH *Radical-Scavenging Activity*, total fenolik, dan total flavonoid) dan sifat fisikokimia (kadar alkohol, massa jenis, tingkat keasaman (pH), total asam tertitrasi, total padatan terlarut, dan warna). Penentuan formulasi terbaik berdasarkan aktivitas antioksidan tertinggi. Formulasi *honey wine* terbaik yaitu *honey wine* dengan penambahan sari buah lemon impor dan kayu manis cassia. Formulasi *honey wine* terbaik memiliki aktivitas antioksidan dengan nilai IC_{50} DPPH *Radical-Scavenging Activity* $18166,0896 \pm 646,2423$ ppm, total fenolik $794,6198 \pm 13,0386$ mg GAE/L, total flavonoid $23,4511 \pm 0,4284$ mg QE/L, kadar alkohol $13,93 \pm 0,05\%$, massa jenis $0,9878 \pm 0,0005$ g/mL, pH $3,28 \pm 0,02$, total asam tertitrasi $1,24 \pm 0,02\%$, total padatan terlarut $9,42 \pm 0,12$ °Brix, *lightness* $53,83 \pm 0,49$, dan °Hue $86,26 \pm 0,11$ °. Penambahan sari buah lemon impor dan kayu manis cassia dalam pembuatan *honey wine* meningkatkan aktivitas antioksidan, total fenolik, total flavonoid, kadar alkohol, dan nilai pH, serta menurunkan total asam tertitrasi dan °Hue dari *honey wine*.

Kata Kunci : Antioksidan, *honey wine*, kayu manis, lemon, madu

Referensi : 77 (1914-2021)

ABSTRACT

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THE EFFECT OF LEMON (*Citrus limon* [L.] Osbeck) AND CINNAMON (*Cinnamomum* spp.) ADDITION ON ANTIOXIDANT ACTIVITY AND PHYSICOCHEMICAL PROPERTIES OF HONEY WINE

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Characteristics of the final product of honey wine can be improve by the addition of fruit, spices, and herbs in the making of honey wine. Lemon and cinnamon contain phenolic and flavonoid compounds that can act as antioxidant compounds. This study aims to determine the effect of adding lemon and cinnamon in the making of honey wine on the antioxidant activity and physicochemical properties of honey wine. The addition of lemons in the form of fruit juice uses variations of two types of lemons, i.e. local lemon and imported lemon, and control, i.e. citric acid. The addition of cinnamon in the form of cinnamon stick piece uses variations of two types of cinnamon, i.e. cassia cinnamon and ceylon cinnamon, and control, without the addition of cinnamon. Honey wine will be analyzed for antioxidant activity (DPPH Radical-Scavenging Activity, total phenolic and total flavonoids) and physicochemical properties (alcohol content, density, acidity level (pH), total titrated acid, total dissolved solids and color). Determination of the best formulation based on the highest antioxidant. The best honey wine formulation is honey wine with the addition of imported lemon juice and cassia cinnamon. The best honey wine formulation has antioxidant activity with IC₅₀ values of DPPH Radical-Scavenging Activity 18166.0896±646.2423 ppm, total phenolic 794.6198±13.0386 mg GAE/L, total flavonoids 23.4511±0.4284 mg QE/L, alcohol content 13.93±0.05%, density 0.9878±0.0005 g/mL, pH 3.28±0.02, total titrated acid 1.24±0.02%, total dissolved solids 9.42±0.12 °Brix, lightness 53.83±0.49 and °Hue 86.26±0.11°. The addition of imported lemon juice and cassia cinnamon in the making of honey wine increase the antioxidant activity, total phenolic, total flavonoids, alcohol content, pH value, and decrease the total titrated acid and °Hue of honey wine.

Keywords : Antioxidant, cinnamon, honey, honey wine, lemon

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