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UJI KUANTITATIF FENOLIK TOTAL EKSTRAK JAHE MERAH (*Zingiber officinale* Rosc. Var. *rubrum*) DENGAN VARIASI METODE PENGERINGAN SIMPLISIA

ABSTRAK

Latar Belakang: Jahe merah (*Zingiber officinale* Rosc var. *rubrum*) merupakan salah satu tanaman herbal yang banyak dimanfaatkan oleh masyarakat, karena memiliki berbagai aktivitas farmakologis seperti antiinflamasi dan antibakteri yang disebabkan oleh kandungan senyawa fenolik pada jahe merah seperti gingerol, zingeron, dan shogaol. Senyawa fenolik memiliki sifat sensitif terhadap perlakuan panas dan mudah terdegradasi, penelitian ini bertujuan untuk meneliti pengaruh variasi metode pengeringan terhadap kadar fenolik total ekstrak jahe merah.
Metode: Penelitian eksperimental laboratorium dengan membandingkan kadar fenolik total dari ekstrak jahe merah pada berbagai metode pengeringan, metode pengeringan simplisia yang digunakan dalam penelitian ini yaitu pengeringan dengan matahari langsung, matahari tidak langsung, kering angin, dan oven. Kadar fenolik total diuji menggunakan spektrofotomeri Uv-Vis dengan metode Folin-Ciocalteu menggunakan asam galat sebagai baku standar. Data dianalisis dengan uji statistik menggunakan *SPPS* versi 26.
Hasil: Standarisasi parameter non spesifik dilakukan pada simplisia dan ekstrak, dengan hasil seluruh uji memenuhi standar Farmakope Herbal Indonesia kecuali uji kadar abu. Uji kualitatif senyawa fenolik menggunakan $FeCl_3$ terhadap simplisia dan ekstrak jahe merah dari seluruh metode pengeringan menunjukkan hasil positif. Kadar fenolik total terbesar didapat pada metode pengeringan kering angin sebesar 212,41 mgGAE sedangkan kadar fenolik total terkecil didapat pada metode pengeringan matahari langsung sebesar 145,57 mgGAE. Hasil uji statistik menunjukkan nilai sig 0,000 ($p<0.05$) dengan taraf kepercayaan 95%.
Kesimpulan: Hasil uji statistik menunjukkan terdapat perbedaan yang signifikan antara kadar fenolik total dari tiap metode pengeringan simplisia. Metode pengeringan yang memiliki kadar fenolik total paling tinggi adalah kering angin.

Kata kunci: *Zingiber officinale,* fenolik, metode pengeringan

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PHENOLIC TOTAL QUANTITATIVE TEST OF RED GINGER (*Zingiber officinale* Rosc. Var. *rubrum*) EXTRACT WITH VARIATION OF SIMPLISIA DRYING METHOD

ABSTRACT

Abstract: Red ginger (*Zingiber officinale* Rosc var. *rubrum*) is one of the herbal plants that is widely used by the public, because it has various pharmacological activities such as anti-inflammatory and antibacterial caused by the content of phenolic compounds in red ginger such as gingerol, zingeron, and shogaol. Phenolic compounds have properties sensitive to heat treatment and are easily degraded, this study aims to examine the influence of variations in drying methods on the total phenolic content of red ginger extract
Method: Laboratory experimental research by comparing the total phenolic content of red ginger extract on various drying methods, the simplisia drying method used in this study is drying with direct sun, indirect sun, wind dry, and oven. Total phenolic levels were tested using Uv-Vis spectrophotometry by the Folin-Ciocalteu method using gallic acid as the standard standard. The data were analyzed by statistical tests using SPPS version 26.
Result: Standardization of non-specific parameters is carried out on simplisia and extracts, with the results of all tests meeting the standards of the Indonesian Herbal Pharmacopeia except for the ash content test. Qualitative tests of phenolic compounds using $FeCl_3$ against simplisia and red ginger extract from the entire drying method showed positive results. The largest total phenolic content was obtained in the wind dry drying method of 212.41 mgGAE while the smallest total phenolic level was obtained in the direct sun drying method of 145.57 mgGAE. The results of the statistical test showed a sig value of 0.000 ($p<0.05$) with a confidence level of 95%.
Conclusion: The results of statistical tests showed that there was a significant difference between the total phenolic levels of each simplisia drying method. The drying method that has the highest total phenolic content is wind dry.

Keywords: *Zingiber officinale*, phenolic, drying methods