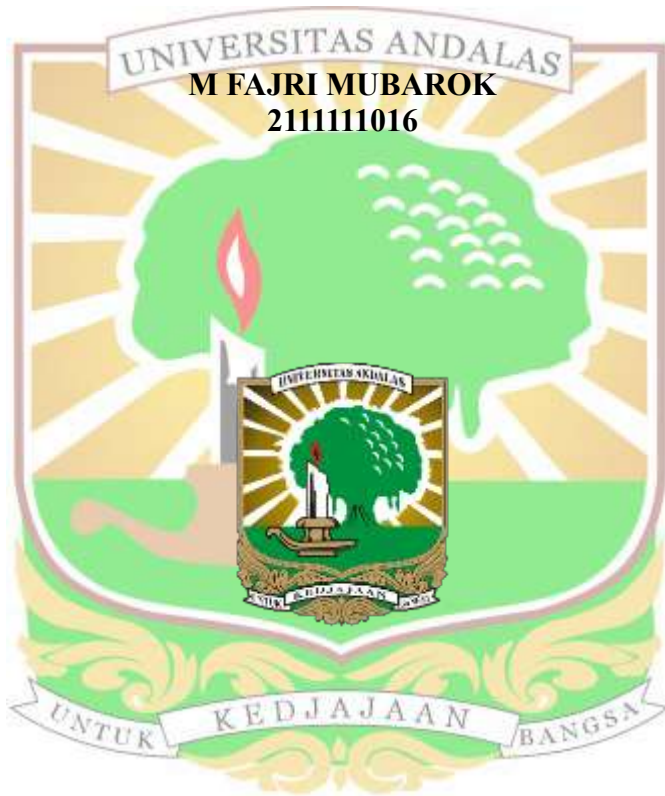


**PENGARUH SUHU DAN PELAYUAN TERHADAP
MUTU MINYAK DAUN CENGKEH (*Syzygium
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**FAKULTAS TEKNOLOGI PERTANIAN
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PENGARUH SUHU DAN PELAYUAN TERHADAP MUTU MINYAK DAUN CENGKEH (*Syzygium aromaticum*) MENGGUNAKAN ALAT PENYULINGAN DENGAN KONTROL WAKTU DAN SUHU

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi perlakuan suhu penyulingan dan lama pelayuan terhadap, rendemen, daya, laju penyulingan dan kualitas minyak atsiri daun cengkeh. Cengkeh memiliki kandungan utama berupa eugenol. Eugenol dapat diekstrak dari daun cengkeh, yang kaya akan minyak esensial dan memiliki sifat anti-inflamasi yang baik. Minyak daun cengkeh diekstrak menggunakan alat penyulingan daun cengkeh tipe uap langsung dengan kontrol waktu dan suhu menggunakan metode eksperimen dengan rancangan percobaan RAL (Rancangan Acak Lengkap) faktorial. Hasil penelitian menunjukkan bahwa perlakuan kombinasi suhu penyulingan (100°C, 150°C dan 170°C) dan lama pelayuan (1 dan 2 hari) mampu menghasilkan rendemen minyak daun cengkeh yang tinggi, rendemen tertinggi diperoleh pada perlakuan pelayuan 1 hari dan suhu 170°C sebesar 4,83%. Uji ANOVA perlakuan suhu penyulingan dan lama pelayuan menunjukkan nilai signifikansi > 0,05, sehingga H_0 diterima sehingga perlakuan tidak berpengaruh nyata terhadap rendemen daun cengkeh. Hasil tertinggi kadar eugenol minyak daun cengkeh pada perlakuan pelayuan 2 hari, suhu 100°C berkisar 66,31% dan terendah perlakuan pelayuan 1 hari, suhu 170°C hanya 9,28%. Biaya pokok produksi alat penyulingan daun cengkeh, yaitu berkisar antara Rp 3.101,09/ml hingga Rp 3.300,11/ml. maka dapat disimpulkan bahwa seluruh perlakuan masih belum terlalu memberikan margin keuntungan jika dibandingkan dengan harga pasar.

Kata kunci: Alat Penyulingan, Daun Cengkeh, Eugenol, Lama Pelayuan, Suhu Penyulingan

THE EFFECT OF TEMPERATURE AND WITHERING ON THE QUALITY OF CLOVE OIL (*Syzygium aromaticum*) USING A DISTILLATION TOOL WITH TIME AND TEMPERATURE CONTROL

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ABSTRACT

This research aims to determine the effect of the combination of distillation temperature treatment and withering duration on the yield, potency, distillation rate, and quality of clove leaf essential oil. Cloves are plants that produce essential oil with the main component being eugenol. Eugenol can be extracted from clove leaves, which are rich in essential oils and have good anti-inflammatory properties. Clove leaf oil is extracted using a direct steam distillation apparatus with time and temperature control through an experimental method with a factorial RAL. The results show that the combination of distillation temperatures (100°C, 150°C, and 170°C) and withering times (1 and 2 days) can produce high yields of clove leaf oil, where the highest yield was obtained at 1-day withering treatment at 170°C amounting to 4.83%. The ANOVA test for the effects of distillation temperature and withering time showed a significance value > 0.05 , thus H_0 is accepted indicating that the treatments do not have a significant effect on the yield of clove leaves. The highest eugenol content in clove leaf oil was found in the 2-days withering treatment at 100°C, which was around 66.31%, and the lowest in the 1-day withering treatment at 170°C, which was only 9.28%. The production cost of the clove leaf distillation equipment ranges from Rp 3.101,09/ml to Rp 3.300,11/ml. Therefore, it can be concluded that all treatments have not yet provided a significant profit margin compared to market prices.

Keywords: Distillation Equipment, Clove Leaves, Eugenol, Duration of Wilting, Distillation Temperature