PENGARUH LAMA PENYIMPANAN BAHAN SEBELUM PENYULINGAN DENGAN METODE PEREBUSAN TERHADAP RENDEMEN, SIFAT FISIKO-KIMIA DAN KOMPOSISI KIMIA MINYAK KAYU PUTIH

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ABSTRAK

Pemanenan daun kayu putih di dalam pabrik dilakukan dengan kapasitas yang banyak, namun banyaknya bahan baku menyebabkan bahan baku tidak dapat disuling langsung seluruhnya dikarenakan keterbatasan alat penyulinga. Penelitian ini bertujuan untuk mengetahui pengaruh lama penyimpanan daun kayu putih terhadap rendemen dan mutu minyak kayu putih terhadap perlakuan lama penyimpanan daun berdasarkan beberapa parameter persyaratan mutu minyak kayu putih SNI 3954:2014. Penelitian ini menggunakan Rancangan Acak Lengkap atau *Completely Randomized Design* (CRD) dengan faktor tunggal yaitu lama penyimpanan daun kayu putih yang terdiri dari lima aras yaitu lama penyimpanan 1 hari, 2 hari, 3 hari, 4 hari dan 5 hari. Sampel diuji berdasarkan 7 parameter SNI 3954: 2014 yaitu uji warna, bau, bobot jenis, indeks bias, kelarutan dalam etanol 80%, putaran optik, dan kadar sineol. Kadar sineol diketahui dengan melalui pengujian komposisi kimia minyak kayu putih menggunakan *Gas Chromatograph-Mass Spectrometry* (GC-MS). Komponen utama penyusun minyak kayu putih pada penelitian ini yaitu *1,8-Cineole, D-Limonene, dan (Z)-β-Caryophyllene*. Komposisi kimia tertinggi pada penelitian ini yaitu kadar sineol, dimana kadar sineol yang dihasilkan berkisar 61,60% - 65,64%. Kadar sineol tertinggi terdapat pada sampel lama penyimpanan daun selama 5 hari. Hasil penelitian menunjukkan bahwa rata-rata rendemen basah yang dihasilkan berkisar antara 0,431%- 0,577%, sedangkan rata-rata rendemen kering yang dihasilkan pada penelitian ini berkisar antara 0,597%-1,344%. Pengujian sifat fisiko-kimia dan komposisi kimia menunjukkan sampel dengan perlakuan lama penyimpanan daun 1 hari tidak memenuhi SNI, sampel perlakuan lama penyimpanan 5 hari memiliki mutu terbaik diantara keempat sampel yang memenuhi SNI, serta sampel perlakuan lama penyimpanan 3 hari memiliki mutu paling rendah diantara keempat sampel yang memenuhi SNI. Mutu sampel lama penyimpanan 1 hari hingga 5 hari yaitu mutu super.

Kata kunci: Kayu Putih, Komposisi Kimia, Lama Penyimpanan Daun, Rendemen, Sifat Fisiko-Kimia,

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EFFECT OF TIME STORAGE OF MATERIALS BEFORE WATER DISTILATION ON YIELD, PHYSICO-CHEMICAL CHARACTERISTICS, AND CHEMICAL COMPOSITION OF CAJUPUT OIL

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ABSTRACT

Harvesting of cajuputi leaves in the factory is carried out with a large capacity, but the amount of raw materials causes the raw materials to not be completely distilled directly due to the limitation of the distillation device. This study aims to determine the effect of the storage time of cajuputi leaves on the yield and quality of cajuputi oil on the treatment of long leaf storage based on several parameters of cajuputi oil quality requirements SNI 3954: 2014. This study used a Completely Randomized Design (CRD) with a single factor, namely the storage time of cajuputi leaves consisting of five levels, namely the storage time of 1 day, 2 days, 3 days, 4 days and 5 days. Samples were tested based on SNI 3954: 2014 7 parameters namely color, odor, specific gravity, refractive index, solubility in 80% ethanol, optical rotation, and cineol levels. The levels of cineol are known by testing the chemical composition of cajuputi oil using Gas Chromatograph-Mass Spectrometry (GC-MS). The main constituent components of eucalyptus oil in this study were 1,8-Cineole, D-Limonene, and (Z) -β-Caryophyllene. The highest chemical composition in this study was cineol levels, where the levels of cineol produced ranged from 61,60% - 65,64%. The highest levels of cineol were available in 5-day long leaf storage samples. The results showed that the average wet yield produced ranged from 0,431% - 0,577%, while the average dry yield produced in this study ranged from 0,597% -1,34%. Testing the physico-chemical properties and chemical composition showed that the samples with the treatment of leaf storage for 1 day did not meet SNI, samples of 5 days storage had the best quality among the four samples that met SNI, and samples of storage for 3 days had the lowest quality among the four samples that meet SNI. The quality of the sample is 1 days to 5 days, which is super quality.

Key word: Chemical Composition, *Melaleuca cajuputi* Powell, Physico-Chemical Characteristics, Time of Leaf Storage, and Yield.

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