Pengaruh proses pengeringan dengan oven dan lama penyimpanan terhadap perubahan komposisi minyak bunga cengkeh (syzygium aromaticum) = Effect of oven drying and storage on essential oil composition of clove bud (syzygium aromaticum)

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Abstrak

Studi mengenai pasca panen cengkeh masih sangat terbatas terutama di Indonesia, sebagai salah satu produsen cengkeh terbesar di dunia. Penelitian ini bertujuan untuk mengetahui pengaruh proses pengeringan dan penyimpanan terhadap perubahan komposisi minyak cengkeh. Sampel berasal dari cengkeh Indonesia, yaitu dari wilayah Toli-toli dan Manado. Minyak cengkeh yang berasal dari cengkeh segar maupun kering diisolasi dengan menggunakan destilasi uap, kemudian komposisi minyak hasil isolasi dianalisis dengan kromatografi gas-spektrometri massa GC-MS. Dari semua jenis sampel minyak cengkeh, eugenol merupakan komponen utama, diikuti oleh kariofilena dan eugenol asetat. Metode pengeringan yang digunakan adalah pengeringan dengan oven pada suhu 50 C yang dilakukan hingga kadar air cengkeh mencapai 13 1. Komposisi minyak cengkeh mengalami perubahan yang bervariasi selama proses pengeringan. Kandungan eugenol meningkat, sementara beberapa kelompok senyawa ester dan monoterpen menurun. Berdasarkan karakteristik organoleptik, cengkeh kering tampak berwarna coklat dan memberikan aroma yang lebih pedas dibandingkan cengkeh segar. Cengkeh kering setelah pengeringan oven kemudian disimpan di kantung aluminium foil selama 6 bulan. Terdapat sedikit perubahan pada komposisi minyak cengkeh selama proses penyimpanan. Kandungan dari komponen mayor cengkeh seperti eugenol lebih rendah, sementara eugenol asetat lebih tinggi pada cengkeh yang telah disimpan selama 6 bulan dibandingkan dengan cengkeh kering sebelum disimpan.

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The research about post harvested clove is still limited especially in Indonesia, as the biggest producer of clove in the world. The present study was aimed to investigate the effect of drying process and storage on essential oil content and its composition of Indonesian clove originated from Toli toli. The essential oil of fresh and dried clove was obtained by steam distillation and the composition of oil was analysed by gas chromatography mass spectrometry GC MS. In all of the clove oil samples, eugenol was the major component, followed by caryophyllene and acetyleugenol. The drying method used was oven drying at 50 C and drying was conducted until clove's moisture content reaches 13 1. Clove oil composition changes variously during drying process. The content of eugenol was increased, while some of esters and monoterpenes were decreased. From the organoleptic characteristic, dried clove looked brown in color and gave spicier odor than that of fresh clove. As for storage, the composition of clove oil was studied from dried clove after oven drying, then stored in aluminium foil bags for 6 months. There were slightly change on clove oil composition during 6 months storage. The content of major components of clove such as eugenol was found to be lower while acetyleugenol was higher in clove stored for 6 months compared to clove before storage.