

Isolasi dan identifikasi senyawa kimia mayor dan minor dalam minyak bunga cengkeh (*syzygium aromaticum*) Bali dan Toli-Toli dengan metode GC-MS = Isolation and identification major and minor compound in clove bud oil (*syzygium aromaticum*) from Bali and Toli-Toli by GC-MS analysis)

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Abstrak

Indonesia merupakan Negara penghasil cengkeh terbesar di dunia. Pada tahun 2012, produksi cengkeh dunia sebesar 113.215 ton dimana sekitar 71 79.250 ton berasal dari Indonesia. Meskipun Indonesia merupakan Negara penghasil cengkeh utama di dunia, penelitian dan publikasi mengenai cengkeh di Negara ini sangat jarang dan oleh karena itu pengetahuan tentang perbedaan karakteristik varietas cengkeh dibutuhkan.

Penelitian ini bertujuan untuk membandingkan komposisi senyawa mayor dan minor dalam minyak cengkeh yang bertanggungjawab terhadap aroma berdasarkan origin. Minyak atsiri cengkeh diperoleh dengan distilasi uap. Komposisi kimia minyak cengkeh dianalisis menggunakan GC-MS. Komposisi senyawa kimia mayor minyak cengkeh Bali yaitu eugenol 73,34, kariofilena 12,51,  $\gamma$ -humulena 2,34 dan eugenol asetat 5,34 dan cengkeh Toli-Toli yaitu eugenol 66,37, kariofilena 15,38,  $\gamma$ -humulena 1,97 dan eugenol asetat 12,99 . Senyawa unik cengkeh Bali yaitu valensena 0,17,  $\beta$ -selinena 0.22, alloaromadendrena 0.24 and kariofilladienol II 0,14 sedangkan cengkeh Toli-Toli yaitu  $\beta$ -kariofilladienol 0.19 . Total 51 senyawa teridentifikasi dari cengkeh Bali dan 52 senyawa dari cengkeh Toli-Toli.

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Indonesia is the largest clove producer in the world. In 2012, total world clove production is 113,215 tons where nearly 71 79,250 tons comes from Indonesia. Although Indonesia is a major producer of clove in the world, research and publications about cloves in this country are scarce and hence knowledge about characteristics of difference varieties of cloves is very limited. The present study was aimed to compare major and minor constituents in clove oil responsible for their flavor based on origin which are cloves from Toli Toli and Bali. The essential oil from clove bud *Syzygium aromaticum* was obtained by steam distillation. The chemical composition of clove oil was analyzed by GC MS. The major compounds of clove oil were eugenol, caryophyllene, humulene and eugenyl acetate with composition 72,34, 12,51, 2,34 and 5,34, respectively Bali and clove from Toli Toli were 66,37, 15,38, 1,97 and 12,99 respectively. The unique minor compounds of clove oil from Bali were valencene 0.17, selinene 0.22, alloaromadendrene 0.24 and caryophylladienol II 0,14 while in clove Toli Toli was caryophylladienol 0.19 . A total of 51 compounds were identified from the clove bud oil Bali and 52 compounds from the clove bud oil Toli Toli.