

Identifikasi dan Reduksi Senyawa Pahit Biji Kemiri (*Aleurites moluccana*) untuk Formulasi *Chocolate Spread*

ABSTRAK

Pengembangan produk olesan cokelat dengan biji kemiri merupakan salah satu inovasi untuk menambah varian produk dari kemiri dan meningkatkan daya saing produk turunan kakao di pasaran. Penambahan kemiri pada produk menghasilkan efek rasa pahit yang kurang disukai oleh konsumen. Penelitian ini bertujuan untuk mengidentifikasi senyawa pahit apa saja yang terdapat pada biji kemiri dan *chocolate spread* biji kemiri, serta mengetahui pengaruh natrium bisulfit dan natrium bikarbonat (masing-masing 100, 300, dan 500 ppm) pada perendaman biji kemiri terhadap penurunan kadar flavonoid, tannin, dan rasa pahit produk *chocolate spread* biji kemiri. Analisa kimiawi yang dilakukan berupa uji identifikasi senyawa menggunakan LC-MS. Pengujian kadar flavonoid dan tannin menggunakan spektrofotometri, serta pengujian sensori menggunakan uji deskriptif kuantitatif dengan metode *Rate All That Apply*. Hasil analisa berdasarkan uji kimiawi, penerapan perendaman pada biji kemiri sebelum diolah dapat menurunkan kadar flavonoid dan tannin. Perlakuan dengan natrium bikarbonat 300 ppm merupakan perlakuan yang paling efektif untuk mengurangi kadar flavonoid dan tannin pada biji kemiri dan *chocolate spread* biji kemiri. Selain itu, teridentifikasi 14 senyawa yang menyebabkan rasa pahit pada biji kemiri dan *chocolate spread* biji kemiri dari pengujian dengan LC-MS yakni *iso humolones*, *kolaflavone*, *quercetin*, *oleuropein*, *kaempferol*, *resveratrol dimer*, *luteolin*, *epikatekin*, *theobromine*, *caffeine*, *chlorogenic acid*, *linolenic acid*, *feruloyl-caffeoylquinic*, dan *coumarylquinic acid*. Secara sensori, teridentifikasi 14 atribut sensori pada seluruh sampel, salah satunya yakni rasa pahit. Perlakuan dengan natrium bisulfit 300 ppm dan natrium bikarbonat 300 ppm terbukti dapat menurunkan intensitas rasa pahit produk berdasarkan analisa PCA dan Friedman.

Kata kunci: kemiri, bisulfit, bikarbonat, chocolate spread, RATA

Identification and Reduction of Bitter Compounds in Candlenut Seed (*Aleurites moluccana*) for Formulation of *Chocolate Spread*

ABSTRACT

The development of chocolate spread products with candlenut seeds is one of the innovations to increase the variety of candlenut products and increase the competitiveness of cocoa derivative products on the market. The addition of candlenuts to the product produces a bitter taste effect that consumers do not like. This research aims to identify what bitter compounds are found in candlenut seeds and chocolate spread candlenut seeds, as well as determine the effect of sodium bisulfite and sodium bicarbonate (100, 300 and 500 ppm respectively) in soaking candlenut seeds on reducing levels of flavonoids and tannins, and the bitter taste of chocolate products spread with candlenut seeds. The chemical analysis carried out was in the form of a compound identification test using LC-MS. Flavonoid and tannin levels were tested using spectrophotometry, as well as sensory testing using a quantitative descriptive test with the Rate All That Apply method. The results of analysis based on chemical tests show that soaking candlenut seeds before processing can reduce flavonoid and tannin levels. Treatment with 300 ppm sodium bicarbonate is the most effective treatment for reducing flavonoid and tannin levels in candlenut seeds and chocolate spread. In addition, 14 compounds were identified that cause a bitter taste in candlenut seeds and chocolate spread candlenut seeds from testing with LC-MS, namely iso humolones, colaflavone, quercetin, oleuropein, kaemferol, resveratrol dimer, luteolin, epicatechin, theobromine, caffeine, chlorogenic acid, linolenic acid, feruloyl-caffeoulquinic, and coumarylquinic acid. Sensorily, 14 sensory attributes were identified in all samples, one of which was bitter taste. Treatment with 300 ppm sodium bisulfite and 300 ppm sodium bicarbonate was proven to reduce the intensity of the bitter taste of the product based on PCA and Friedman analysis.

Keywords: candlenut, bisulfite, bicarbonate, chocolate spread, RATA