

## ABSTRAK

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### **KARAKTERISTIK FISIKOKIMIA DAN ORGANOLEPTIK KOPI BIJI SALAK (*Salacca zalacca*) DENGAN VARIASI WAKTU SANGRAI SERTA RASIO KONSENTRASI SERBUK JAHE (*Zingiber officinale*) DAN KAYU MANIS (*Cinnamomum burmanii*)**

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(ix + 70 halaman: 18 gambar, 10 tabel, dan 19 lampiran)

Biji salak berpotensi sebagai bahan alternatif pembuatan minuman kopi rendah kafein melalui proses penyangraian dengan variasi waktu dan suhu tertentu. Jahe dan kayu manis merupakan komoditas rempah di Indonesia yang dikenal memiliki manfaat sebagai antioksidan serta memiliki flavor khas. Tujuan umum dari penelitian ini adalah memanfaatkan biji salak dalam membuat minuman kopi rendah kafein. Penelitian terbagi menjadi penelitian pendahuluan, penelitian tahap pertama, dan penelitian tahap kedua. Pada penelitian pendahuluan dilakukan karakterisasi biji salak segar melalui analisis proksimat dan karakterisasi serbuk jahe dan kayu manis melalui analisis kadar air, aktivitas antioksidan, dan total fenolik. Pada penelitian tahap pertama dilakukan pembuatan bubuk kopi biji salak dengan variasi waktu sangrai (45, 55, 65, dan 75 menit) serta variasi jenis biji salak (Pondoh, Padang Sidempuan, dan Bali) dan dilakukan analisis kadar kafein serta uji hedonik (warna dan aroma). Pada penelitian tahap kedua dilakukan pembuatan minuman kopi biji salak dengan penambahan jahe dan kayu manis pada variasi rasio konsentrasi (100:0, 75:25, 50:50, 25:75, 0:100) dan dilakukan analisis aktivitas antioksidan, total fenolik, pH, warna, dan karakteristik organoleptik (skoring dan hedonik). Perlakuan terpilih pada tahap pertama adalah biji salak dengan waktu sangrai 75 menit dan jenis Salak Pondoh yang memiliki kadar kafein sebesar  $0,46 \pm 0,13\%$  dan kesukaan terhadap aroma adalah agak suka ( $5,30 \pm 1,31$ ). Adapun perlakuan terpilih pada tahap kedua adalah minuman kopi biji salak dengan rasio konsentrasi jahe dan kayu manis 0:100 yang memiliki aktivitas antioksidan ( $IC_{50}$ ) sebesar  $1131,46 \pm 18,21$  ppm, total fenolik sebesar  $47,46 \pm 0,24$  mg GAE/L, pH sebesar  $5,87 \pm 0,01$ , nilai *lightness* sebesar  $51,18 \pm 2,81$ , nilai °Hue sebesar  $88,82 \pm 1,58$ , dan hedonik terhadap warna  $4,3 \pm 1,62$  (netral), aroma  $4,6 \pm 1,30$  (agak suka), rasa  $4,0 \pm 1,19$  (netral), *aftertaste*  $4,0 \pm 1,23$  (netral), dan penerimaan keseluruhan  $4,1 \pm 1,18$  (netral).

Kata kunci : antioksidan, biji salak, kafein, kopi, jahe, kayu manis, waktu sangrai

Referensi : 90 (2005 – 2021)

## ABSTRACT

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### **PHYSICOCHEMICAL AND ORGANOLEPTIC CHARACTERISTICS OF SNAKE FRUIT (*Salacca zalacca*) SEED COFFEE WITH VARIATIONS OF ROASTING TIME AND GINGER (*Zingiber officinale*)-CINNAMON (*Cinnamomum burmanii*) POWDER CONCENTRATION RATIO**

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(ix + 70 pages, 8 figures, 10 tables, dan 19 appendices)

Snake fruit seeds has the potential to be an alternative to low-caffeine coffee drinks through a roasting process at a certain time and temperature. Ginger and cinnamon are spice commodities in Indonesia that are known to have health benefits as antioxidants and have a unique flavor. The general objective of this research was to utilize snake fruit seeds in making a low-caffeine coffee. The research was divided into preliminary research, first-stage research, and second-stage research. In the preliminary study, characterization of fresh snake fruit seeds was carried out through proximate analysis and characterization of ginger and cinnamon powder was carried out through analysis of water content, antioxidant activity, and total phenolic. In the first phase of the study, the production of snake fruit seed coffee powder was carried out with variations in roasting time (45, 55, 65, and 75 minutes) as well as variations in the types of snake fruit seeds (Pondoh, Padang Sidempuan, and Bali) and analysis of caffeine content and hedonic tests (color and aroma). In the second stage of research, the production of snake fruit seed coffee was made with the addition of ginger and cinnamon at various concentration ratios (100:0, 75:25, 50:50, 25:75, 0:100). The selected treatments in the first stage were snake fruit seeds with a roasting time of 75 minutes and the type of Salak Pondoh which had a caffeine content of  $0.46 \pm 0.13\%$  and a preference for aroma was moderately liked by the panelists ( $5.30 \pm 1.31$ ). As for, the selected treatment in the second stage was a coffee drink with snake fruit seed with a concentration ratio of ginger and cinnamon 0:100 which had antioxidant activity ( $IC_{50}$ ) of  $1131.46 \pm 18.21$  ppm, total phenolic of  $47.46 \pm 0.24$  mg GAE/L, pH of  $5.87 \pm 0.01$ , the lightness value is  $51.18 \pm 2.81$ , the °Hue value is  $88.82 \pm 1.58$ , and the hedonic to color is  $4.3 \pm 1.62$  (neutral), aroma is  $4.6 \pm 1.30$  (moderately like), taste  $4.0 \pm 1.19$  (neutral), aftertaste  $4.0 \pm 1.23$  (neutral), and overall acceptance  $4.1 \pm 1.18$  (neutral).

Keyword : antioxidant, caffeine, coffee, snake fruit seed, cinnamon, ginger, roasting time

Reference : 90 (2005 – 2021)