

## ABSTRAK

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### **PENGARUH PENAMBAHAN SARI JERUK NIPIS DAN *Eucalyptus globulus* TERHADAP KARAKTERISTIK FISIKOKIMIA TEH HERBAL DAUN JAMBU BIJI**

Skripsi, Fakultas Sains dan Teknologi (2021).

(xvii + 88 halaman: 32 gambar, 11 tabel, dan 24 lampiran)

Daun jambu biji dapat dimanfaatkan menjadi teh herbal dikarenakan memiliki kandungan senyawa bioaktif. Pembuatan teh herbal daun jambu biji pada penelitian ini menggunakan proses pembuatan teh hitam. Teh herbal daun jambu biji cenderung memiliki rasa sepat sehingga ditambahkan sari jeruk nipis dan *Eucalyptus globulus* untuk meningkatkan karakteristik sensorinya. Tujuan dari penelitian ini adalah menentukan perlakuan suhu dan waktu penyeduhan terpilih, serta pengaruh penambahan konsentrasi sari jeruk nipis dan minyak esensial *Eucalyptus globulus* terhadap karakteristik fisikokimia serta sifat sensoris teh herbal daun jambu biji. Penelitian tahap I dilakukan pembuatan daun teh jambu biji kering dan penyeduhan teh herbal daun jambu biji pada suhu (70, 80, 90°C) dan waktu penyeduhan (5, 10, 15 menit). Suhu dan waktu penyeduhan terpilih adalah suhu 90°C selama 10 menit, yang memiliki aktivitas antioksidan (IC<sub>50</sub>) sebesar 4372,22±54,71 ppm, total fenolik 292,88±8,35 mg GAE/L, total flavonoid 80,83±1,61 mg QE/L, dan kandungan tanin terkondensasi 543,10±38,68 mg CE/L. Penelitian tahap II dilakukan pembuatan teh herbal daun jambu biji dengan penambahan konsentrasi jeruk nipis (1, 2, 3%) dan *Eucalyptus globulus* (0,05, 0,10, 0,15%). Jika dibandingkan dengan teh herbal tanpa penambahan *Eucalyptus globulus* dan jeruk nipis, teh herbal daun jambu biji dengan penambahan jeruk nipis 3% dan *Eucalyptus globulus* 0,15% memiliki aktivitas antioksidan (IC<sub>50</sub>) yang lebih rendah, yaitu sebesar 10199,18±289,35 ppm, serta total fenolik 303,12±19,70 mg GAE/L, total flavonoid 78,20±3,52 mg QE/L, dan kandungan tanin terkondensasi 362,40±12,40 mg CE/L. Namun, penambahan jeruk nipis dan *Eucalyptus globulus* pada teh herbal daun jambu biji meningkatkan tingkat kesukaan panelis pada warna dan rasa sepat.

Kata kunci : daun jambu biji, *Eucalyptus globulus*, jeruk nipis, penyeduhan, teh herbal

Referensi : 82 (2003-2020)

## ABSTRACT

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### **THE EFFECT OF ADDITION OF LIME JUICE AND *Eucalyptus globulus* ON THE PHYSICOCHEMICAL CHARACTERISTICS OF GUAVA LEAF HERBAL TEA**

Thesis, Faculty of Science and Technology (2021).

(xvii + 88 pages: 32 figures, 11 tables, dan 24 appendics)

Guava leaves can be utilized as herbal tea because it contains bioactive compounds. In this research, guava leaf herbal tea was prepared according to black tea making process. Guava leaf herbal tea tends to have an astringent taste, therefore lime juice and *Eucalyptus globulus* were added to improve the sensory characteristics. The purpose of this study was to determine the effect of brewing temperature and time aside from that, also to see how increasing the concentration of lime juice and *Eucalyptus globulus* essential oil affect physicochemical characteristics and sensory properties of guava leaf herbal tea. In the first stage research, dried guava tea leaves was made and brewing of guava leaf herbal tea was done at different temperature (70, 80, 90°C) and time (5, 10, 15 minutes). The selected brewing temperature and time was 90°C for 10 minutes, with antioxidant activity (IC<sub>50</sub>) of 4372.22±54.71 ppm, total phenolic 292.88±8.35 mg GAE/L, total flavonoids 80.83±1.61 mg QE/L, and condensed tannin 543.10 ±38.68 mg CE/L. In the second research stage, guava leaf herbal tea was prepared with the addition of lime (1, 2, 3%) and *Eucalyptus globulus* (0,05, 0,10, 0,15%). When compared to herbal teas without the addition of lime and *Eucalyptus globulus*, guava leaf herbal tea with addition of 3% lime and 0,15% *Eucalyptus globulus* has lower antioxidant activity (IC<sub>50</sub>) of 10199.18±289.35 ppm, as well as total phenolic of 303.12±19.70 mg GAE/L, total flavonoids of 78.20±3.52 mg QE/L, and condensed tannins of 362.40±12.40 mg CE/L. However, addition of lime and *Eucalyptus globulus* to the guava leaf herbal tea increased the panelists' preference in terms of color and astringency.

Keywords : brewing, *Eucalyptus globulus*, guava leaf, herbal tea, lime juice

References: 82 (2003-2020)