

ABSTRAK

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KARAKTERISTIK FISIKO-KIMIA DAN ORGANOLEPTIK SEDUHAN TEH HITAM DENGAN PENAMBAHAN PERASAN JERUK NIPIS (*Citrus aurantifolia*) DAN MINYAK *Eucalyptus globulus*
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Teh hitam memiliki aktivitas antioksidan yang kurang menonjol dan kandungan polifenol yang kurang stabil sehingga ditambahkan perasan jeruk nipis yang mengandung asam sitrat dan asam askorbat serta minyak esensial *Eucalyptus globulus* yang mengandung 1,8-*cineole* yang diharapkan dapat meningkatkan aktivitas antioksidan dan kestabilan polifenol. Tujuan dari penelitian ini adalah mengetahui pengaruh penambahan perasan jeruk nipis dan minyak esensial *Eucalyptus globulus* terhadap karakteristik fisiko-kimia dan organoleptik seduhan teh hitam. Metode yang digunakan dalam penelitian ini adalah metode eksperimental yang terdiri atas 2 tahap, yaitu tahap I dan tahap II. Tahap I meliputi waktu penyeduhan teh hitam dan tahap II meliputi penambahan perasan jeruk nipis dan minyak esensial *Eucalyptus globulus* ke dalam seduhan teh hitam. Hasil penelitian menunjukkan bahwa waktu penyeduhan teh terbaik adalah 8 menit dengan nilai IC_{50} sebesar $1411,24 \pm 75,79$ ppm, pH sebesar $5,25 \pm 0,02$, berwarna kuning kemerahan dengan $^{\circ}Hue$ sebesar $75,93 \pm 3,16$, dan nilai *lightness* sebesar $47,09 \pm 1,06$. Penambahan perasan jeruk nipis cenderung menyebabkan penurunan aktivitas antioksidan, total fenolik, total flavonoid, dan total tanin terkondensasi, sedangkan penambahan minyak esensial *Eucalyptus globulus* dapat meningkatkan aktivitas antioksidan, total fenolik, total flavonoid, dan total tanin terkondensasi pada seduhan teh hitam. Selain itu, penambahan perasan jeruk nipis dan minyak esensial *Eucalyptus globulus* ke dalam seduhan teh hitam dapat meningkatkan kecerahan warna, menurunkan pH, dan berpengaruh terhadap uji organoleptik. Kesimpulannya adalah penambahan perasan jeruk nipis cenderung menurunkan aktivitas antioksidan, total fenolik, total flavonoid, dan total tanin terkondensasi, sedangkan penambahan minyak esensial *Eucalyptus globulus* dapat meningkatkan aktivitas antioksidan, total fenolik, total flavonoid, dan total tanin terkondensasi seduhan teh hitam. Penambahan perasan jeruk nipis dan minyak esensial *Eucalyptus globulus* juga berpengaruh terhadap organoleptik (warna, aroma *Eucalyptus*, rasa asam, rasa sepat, dan rasa *mint*).

Kata kunci : seduhan teh hitam, perasan jeruk nipis, minyak esensial *Eucalyptus globulus*, aktivitas antioksidan

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ABSTRACT

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PHYSICO-CHEMICAL CHARACTERISTICS AND ORGANOLEPTICS OF STEEPED BLACK TEA WITH THE ADDITION OF LIME JUICE (*Citrus aurantifolia*) AND *Eucalyptus globulus* OIL

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Black tea is not prominent in antioxidant activity and less stable of tea polyphenol content, so it is added with lime juice containing citric acid and ascorbic acid as well as adding *Eucalyptus globulus* essential oil containing 1,8-cineole which is expected to increase the antioxidant activity and stability of tea polyphenol. The research aimed to determine the effect of adding lime juice and *Eucalyptus globulus* essential oil on the physico-chemical characteristics and organoleptics of steeped black tea. Research methodology used is experimental design that consisted of 2 stages, that was research stage 1 and research stage 2. Research stage 1 was steeping time for black tea and research stage 2 was adding the lime juice and *Eucalyptus globulus* essential oil to the steeped black tea. The results showed that the best steeping time was obtained at 8 minutes with IC_{50} value of $1411,24 \pm 75,79$ ppm, pH value of $5,25 \pm 0,02$, yellow red in color with Hue angle value of $75,93 \pm 3,16$, and lightness value of $47,09 \pm 1,06$. The addition of lime juice was tend to decrease the antioxidant activity, total phenolic, total flavonoid, and total condensed tannin, while adding *Eucalyptus globulus* essential oil increased the antioxidant activity, total phenolic, total flavonoid, and total condensed tannin in steeped black tea. Furthermore, the addition of lime juice and *Eucalyptus globulus* essential oil to the steeped black tea increased the brightness of the color, decreased the pH, and affected the organoleptic tests. To conclude, addition of lime juice was tend to decrease the antioxidant activity, total phenolic, total flavonoid, and total condensed tannin, while the addition of *Eucalyptus globulus* essential oil increased the antioxidant activity, total phenolic, total flavonoid, and total condensed tannin in steeped black tea. Addition of lime juice and *Eucalyptus globulus* essential oil also affected the organoleptics (color, *Eucalyptus* aroma, sour taste, astringency taste, and mint taste).

Keywords : steeped black tea, lime juice, *Eucalyptus globulus* essential oil, antioxidant activity

References : 103 (2003-2020)