ANALISIS SIFAT FISIK DAN KIMIA TEH BUNGA TELANG (*Clitoria Ternatea* L.) PADA BERBAGAI METODE PENGERINGAN

INTISARI

Bunga telang (*Clitoria ternatea* L.) merupakan tanaman merambat yang mudah tumbuh dan memiliki banyak manfaat baik di bidang kuliner maupun di bidang kesehatan. Komponen bioaktif bunga telang yang memberikan berbagai macam manfaat fungsional bagi tubuh manusia tersebut antara lain senyawa fenol, flavonoid, antosianin, dan glikosida flavonol. Proses pengeringan bunga telang menjadi faktor penting dalam menjaga kualitas kandungan olahan bunga telang. Penelitian ini bertujuan untuk mengetahui pengaruh pengeringan efek rumah kaca, *cabinet drying*, dan *freeze drying* terhadap perubahan sifat fisik dan kimia teh telang. Bahan yang digunakan dalam penelitian ini adalah bunga telang segar yang diperoleh dari petani lokal Kepuh Kulon, Wirokerten, Banguntapan, Bantul, Yogyakarta dengan rata-rata kadar air 88,82%. Rancangan percobaan menggunakan variasi 7 metode pengeringan yaitu pengeringan efek rumah kaca, *cabinet drying* suhu 50^{o}C, *cabinet drying* suhu 60^{o}C, *cabinet drying* suhu 70^{o}C, *freeze drying* suhu 40^{o}C, *freeze drying* suhu 50^{o}C, dan *freeze drying* suhu 60^{o}C. Parameter yang diukur berupa penyusutan dimensi (panjang, lebar, dan tebal), kadar air, warna, kandungan senyawa fenolik, dan analisis foto mikrostruktur menggunakan *Scanning Electron Microscopy* (SEM). Hasil penelitian menunjukkan bahwa perlakuan *freeze drying* suhu 40^{o}C merupakan perlakuan optimal dengan nilai penyusutan panjang 22,12%, penyusutan lebar 36,47%, penyusutan tebal 29,59%, kadar air basis basah 6,09%, warna *euclidean distance* (ΔE) 29.11%, dan senyawa fenolik 23,195 mg.GAE/g.

Kata kunci: Bunga telang, *cabinet drying*, *freeze drying*, laju pengeringan, pengeringan efek rumah kaca

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ANALYSIS OF PHYSICAL AND CHEMICAL PROPERTIES OF BUTTERFLY PEA FLOWER TEA (*Clitoria ternatea* L.) ON VARIOUS DRYING METHODS

ABSTRACT

Butterfly pea flower (*Clitoria ternatea* L.) is a vine that is easy to grow and has many benefits both in the culinary and health fields. The bioactive components of bunga telang that provide various kinds of functional benefits for the human body include phenolic compounds, flavonoids, anthocyanins, and flavonol glycosides. The process of bunga telang's drying is an important factor in order to maintain the quality of the processed content of the bunga telang. This study aims to determine the effect of drying the greenhouse effect, cabinet drying, and freeze drying on changes in the physical and chemical properties of telang tea. The material used in this study was fresh bunga telang obtained from local farmers in Kepuh Kulon, Wirokerten, Banguntapan, Bantul, Yogyakarta with an average moisture content of 88.82%. The experimental design uses a variation of 7 drying methods, namely drying the greenhouse effect, cabinet drying at 50^{o}C, cabinet drying at 60^{o}C, cabinet drying at 70^{o}C, freeze drying at 40^{o}C, freeze drying at 50^{o}C, and freeze drying at 60^{o}C. Parameters measured were dimensional shrinkage (length, width, and thickness), moisture content, color, content of phenolic compounds, and photo microstructure analysis using Scanning Electron Microscopy (SEM). The experimental results showed that the freeze drying treatment at 40^{o}C was the optimal treatment with a length shrinkage of 22,12%, 36,47% width shrinkage, 29.59% thickness shrinkage, a wet base moisture content of 6,09%, a color change in the Euclidean distance (ΔE) 29.11%, and a phenolic compound value of 23.195 mg.GAE/g.

Keywords : Butterfly pea flowers, cabinet drying, drying rate, freeze drying, greenhouse effect

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