

**Kadar Antosianin Total dan Karakteristik Mutu Sensoris Pada Teh Herbal Kombinasi Ekstrak Tongkol Jagung Ungu (*Zea mays L.*) dan Bunga Telang (*Clitoria ternatea L.*)**

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**ABSTRAK**

**Latar belakang:** Pasien diabetes melitus tipe 2 (DMT2) memerlukan antioksidan dari luar tubuh untuk mengurangi stress oksidatif. Teh herbal berbahan dasar tongkol jagung ungu dan bunga telang berpotensi untuk mengendalikan stress oksidatif.

**Tujuan:** Mengetahui kadar antosianin total dan karakteristik mutu sensoris (warna, aroma, dan rasa) pada teh herbal kombinasi ekstrak tongkol jagung ungu dan bunga telang dengan berbagai formulasi.

**Metode:** Penelitian eksperimental menggunakan Rancangan Acak Lengkap dengan dengan empat formulasi : F0 (0%:100%), F1 (46%:54%), F2 (59%:41%), dan F3 (83%:17%). Kadar antosianin total diuji menggunakan metode pH diferensial. Karakteristik mutu sensoris dinilai menggunakan uji hedonik, Just About Right (JAR), dan skala prioritas konsumen. Formulasi terbaik ditentukan dengan metode Multi-Attribute Decision Making (MADM). Data dianalisis menggunakan ANOVA, Tukey HSD, Kruskal-Wallis, dan Mann-Whitney U.

**Hasil:** Terdapat perbedaan signifikan ( $p < 0,05$ ) pada kadar antosianin total dan atribut warna, namun tidak pada aroma dan rasa. Kadar antosianin total berkisar antara 2,32 - 7,68 mg/L. Rata-rata tingkat kesukaan pada warna sebesar 3,27 - 4,62; aroma sebesar 3,74 - 3,91; dan rasa sebesar 3,61 - 3,74. Terdapat penalti aroma dan rasa pada F1, serta penalti warna pada F2. F1 menjadi formula terbaik dengan nilai bobot 0,98.

**Simpulan:** Kadar antosianin total tertinggi ditemukan pada F3. Formula terbaik adalah kelompok perlakuan F1.

**Kata kunci:** Antosianin, bunga telang, karakteristik mutu sensoris, teh herbal, tongkol jagung ungu

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## **Total Anthocyanin Content and Sensory Quality Characteristics of Herbal Tea Combination of Purple Corn Cob (*Zea mays L.*) and Butterfly Pea Flower (*Clitoria ternatea L.*) Extracts**

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### **ABSTRACT**

**Background:** Patients with type 2 diabetes mellitus (T2DM) require antioxidants from outside the body to reduce oxidative stress. Herbal tea made from purple corn cobs and butterfly pea flowers has the potential to control oxidative stress.

**Objective:** To determine the total anthocyanin content and sensory quality characteristics (color, aroma, and taste) of herbal tea made from a combination of purple corn cob and butterfly pea flower extract in various formulations.

**Methods:** This experimental study employed a Completely Randomized Design with four formulations: F0 (0%:100%), F1 (46%:54%), F2 (59%:41%), and F3 (83%:17%). The total anthocyanin content was tested using the pH differential method. Sensory quality characteristics were evaluated using hedonic tests, Just About Right (JAR), and consumer preference ranking. The optimal formulation was determined using the Multi-Attribute Decision Making (MADM) method. Data were analyzed using ANOVA, Tukey's HSD, Kruskal-Wallis, and Mann-Whitney U tests.

**Results:** Significant differences ( $p < 0.05$ ) were observed in total anthocyanin content and color attributes, but not in aroma and taste. The total anthocyanin content ranged from 2.32 to 7.68 mg/L. The average liking scores for color ranged from 3.27 to 4.62; for aroma, from 3.74 to 3.91; and for taste, from 3.61 to 3.74. Penalty analysis indicated penalties for aroma and taste in F1, and for color in F2. Formulation F1 was identified as the best formulation with a weight value of 0.98.

**Conclusion:** The highest total anthocyanin content was found in F3. The best formulation was treatment group F1.

**Keywords:** Anthocyanin, butterfly pea flower, sensory quality characteristics, herbal tea, purple corn cob

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