

**KARAKTERISTIK TEH CELUP HERBAL DARI
CASCARA, BAWANG DAYAK DAN STEVIA
DENGAN PERBEDAAN UKURAN PARTIKEL
DAN FORMULASI BAHAN**

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KARAKTERISTIK TEH CELUP HERBAL DARI CASCARA, BAWANG DAYAK DAN STEVIA DENGAN PERBEDAAN UKURAN PARTIKEL DAN FORMULASI BAHAN

Risda Munarti Rusdy Harahap, Fitriani Kasim, dan Anwar Kasim

ABSTRAK

Teh celup herbal dari cascara, bawang dayak dan stevia memiliki potensi kesehatan bagi tubuh karena mengandung senyawa metabolit sekunder seperti golongan polifenol. Penelitian ini bertujuan untuk mendapatkan ukuran partikel terbaik, mengetahui pengaruh perbedaan persentase bawang dayak dan stevia terhadap karakteristik mutu sesuai SNI 3836:2013, dan menganalisis nilai tambah pada produk. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) dengan 6 variasi persentase bawang dayak dan stevia yaitu A= 40% : 0%; B= 30% : 10%, C= 25% : 15%, D= 20% : 20%, E= 15% : 25% dan F= 10% : 30%. Penelitian dilakukan 3 tahap yaitu: tahap I penentuan ukuran partikel bawang dayak dengan total flavonoid tertinggi, tahap II membuat teh herbal dengan berbagai formulasi untuk diuji bahan baku, kadar air, kadar abu, nilai pH, kadar polifenol dan uji organoleptik. Tahap III menentukan formulasi terbaik dengan metode MADM-SAW. Terhadap formulasi terpilih dilakukan analisis LC-MS, antioksidan, Angka Lempeng Total (ALT), cemaran logam timbal dan analisis nilai tambah. Data yang didapatkan dianalisis secara statistik menggunakan *Analysis of Variance* (ANNOVA) dan dilanjutkan dengan *Duncan's New Multiple Range Test* (DNMRT). Hasil pengamatan total flavonoid bawang dayak terbaik berdasarkan ukuran partikel yang berbeda yaitu ukuran 60 mesh sebesar 0,69 mgEQ/g. Perbedaan persentase bawang dayak dan stevia berpengaruh terhadap karakteristik kadar air, kadar abu, nilai pH, kadar polifenol, uji hedonik warna, aroma dan rasa. Perlakuan terbaik produk teh celup herbal berdasarkan karakteristik mutu sesuai SNI 3836:2013 dengan metode pengambilan keputusan MADM-SAW yaitu perlakuan D= 60: 20: 20 (cascara: bawang dayak: stevia) dengan nilai kadar air 7,38%, kadar abu 5,93%, nilai pH 4,73, kadar polifenol bubuk 9,19%, kadar polifenol seduhan 0,2012 %, serta kesukaan panelis terhadap warna 4,09 (suka), aroma 3,48 (agak suka), rasa 3,65 (suka), dan rasio nilai tambah 21,04%.

Kata Kunci: bawang dayak; cascara; LC-MS; MADM-SAW polifenol; stevia

CHARACTERISTICS OF HERBAL TEA BAGS FROM CASCARA, DAYAK ONION, AND STEVIA WITH DIFFERENT PARTICLE SIZES AND INGREDIENT FORMULATIONS

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ABSTRACT

Herbal tea made from cascara, Dayak onion, and stevia has health benefits for the body because it contains secondary metabolites such as polyphenols. This study aims to determine the optimal particle size, investigate the effect of varying percentages of Dayak onion and stevia on quality characteristics according to SNI 3836:2013, and analyze the added value of the product. This study used a Completely Randomized Design (CRD) with six variations in the percentage of Dayak onion and stevia: A=40%:0%; B=30%:10%; C=25%:15%; D=20%:20%; E=15%:25%; and F=10%:30%. The study was conducted in three stages: Stage I determined the particle size of Dayak onion with the highest total flavonoid content; Stage II involved preparing herbal tea with various formulations to test raw materials, moisture content, ash content, pH value, polyphenol content, and organoleptic testing. Stage III: determining the best formulation using the MADM-SAW method. The selected formulation was analyzed using LC-MS, antioxidant activity, Total Plate Count (TPC), lead contamination, and value-added analysis. The data obtained were statistically analyzed using Analysis of Variance (ANOVA) and followed by Duncan's New Multiple Range Test (DNMRT). The best total flavonoid content of Dayak onion based on different particle sizes was 0.69 mgEQ/g for the 60 mesh size. The percentage difference between Dayak onion and stevia affects the characteristics of moisture content, ash content, pH value, polyphenol content, and hedonic tests for color, aroma, and taste. The best treatment for herbal tea bags based on quality characteristics in accordance with SNI 3836:2013 using the MADM-SAW decision-making method was treatment D = 60:20:20 (cascara: Dayak onion: stevia) with a moisture content of 7.38%, ash content of 5.93%, pH value of 4.73%, polyphenol content of the powder at 9.19%, polyphenol content of the infusion at 0.2012%, and panelist preference for color at 4.09 (like), aroma at 3.48 (somewhat like), taste at 3.65 (like), and value-added ratio at 21.04%.

Key Words : cascara; dayak onion; LC-MS; MADM-SAW; polyphenols; stevia