

RINGKASAN

Minuman probiotik merupakan minuman yang mengandung Bakteri asam laktat yang dapat menguntungkan saluran pencernaan. Hal ini diperoleh karena bakteri baik yang masuk dalam saluran pencernaan mampu memperbaiki mikroflora usus sehingga mendominasi bakteri yang menguntungkan bagi kesehatan. Bunga kecombrang (*Etlintera elatior*) berpotensi dijadikan substrat probiotik karena kandungan flavonoid dan antioksidannya. Penelitian ini bertujuan untuk menganalisis penerimaan konsumen terhadap minuman probiotik berbasis ekstrak bunga kecombrang serta menentukan kombinasi perlakuan terbaik berdasarkan preferensi konsumen.

Penelitian dilaksanakan pada Laboratorium Teknologi Pengolahan, Universitas Jenderal Soedirman, Purwokerto. Metode penelitian menggunakan Rancangan Acak Lengkap (RAL) dengan 12 perlakuan dengan variasi lama fermentasi (0, 24, 36, 48 jam) dan persentase penambahan Bakteri asam laktat (1, 3, 5%). Panelis yang dipilih merupakan panelis terlatih sebanyak 20 panelis yang terpilih setelah melewati tahapan seleksi. Selanjutnya panelis melakukan analisis sensori hedonik dan analisis sensori mutu hedonik menggunakan skala 7-poin untuk mengetahui kombinasi perlakuan minuman probiotik kecombrang yang paling disukai oleh konsumen, kemudian data dianalisis menggunakan uji *Friedman* dan uji *Wilcoxon* pada SPSS. Hasil terbaik dari setiap atribut analisis hedonik dan mutu hedonik kemudian dilanjutkan dengan *Quantitative Descriptive Analysis* (QDA). Panelis yang telah mendapatkan pelatihan kemudian menetapkan standar atribut (rasa manis, rasa asam, aroma floral, flavor floral dan tekstur) menggunakan skala garis tak terstruktur 15 cm untuk menjadi batas atas dan batas bawah pada uji QDA. Hasil dari uji QDA kemudian diolah menggunakan *Repeated Measures Anova* atau *Friedman*, disajikan dalam spiderweb, dan dipetakan melalui *Principal Component Analysis* (PCA).

Hasil penelitian menunjukkan bahwa perlakuan terbaik menggunakan TOPSIS (*Technique for Order Preference by Similarity to Ideal Solution*) berdasarkan uji hedonik dan mutu hedonik mendapatkan hasil perlakuan penambahan BAL 1% dan lama fermentasi 24 jam paling diterima oleh konsumen jika dibandingkan perlakuan lainnya dengan mutu warna merah muda, aroma agak khas kecombrang, rasa netral dengan skala rasa asam, dan tekstur cair. Perlakuan terbaik dari setiap atribut analisis hedonik dan analisis mutu hedonik kemudian diuji menggunakan QDA dan mendapatkan hasil lima atribut sensori utama yaitu taste manis, taste asam, aroma floral, flavor floral, dan tekstur. Hasil dari uji QDA kemudian dipetakan menggunakan biplot PCA (82,75 % varian) yang memperlihatkan korelasi positif kuat antara manis dan aroma floral, korelasi negatif antara aroma floral dan tekstur. Penelitian ini mendapatkan formulasi penambahan BAL 1 % dan lama fermentasi 24 jam sebagai pilihan produk minuman probiotik kecombrang yang paling diterima konsumen dengan hasil QDA memiliki kecenderungan rasa manis, aroma floral, flavor floral tinggi, serta memiliki rasa asam yang rendah dan tekstur ringan.

SUMMARY

*Probiotic beverages are beverages that contain lactic acid bacteria that can benefit the digestive tract. This is because the good bacteria that enter the digestive tract are able to improve the intestinal microflora so that beneficial bacteria dominate for health. The kecombrang flower (*Etlingera elatior*) has the potential to be used as a probiotic substrate due to its flavonoid and antioxidant content. This study aims to analyze consumer acceptance of probiotic beverages based on kecombrang flower extract and determine the best treatment combination based on consumer preferences.*

*The research was conducted at the Food Processing Technology Laboratory, Jenderal Soedirman University, Purwokerto. The research method used a Completely Randomized Design (CRD) with 12 combinations, varying fermentation time (0, 24, 36, 48 hours) and the percentage of *Lactobacillus* bacteria addition (1, 3, 5%). The selected panelists were 20 trained panelists chosen after undergoing a selection process. The panelists then conducted hedonic sensory analysis and hedonic quality sensory analysis using a 7-point scale to determine the most preferred combination of kecombrang probiotic beverage treatments by consumers. The data were analyzed using the Friedman and Wilcoxon tests in SPSS. The best results from each attribute of the hedonic and hedonic quality analyses were then subjected to Quantitative Descriptive Analysis (QDA). The panelists, who had received training, then established attribute standards (sweetness, acidity, floral aroma, floral flavor, and texture) using a 15 cm unstructured line scale to set upper and lower limits for the QDA test. The results of the QDA test were then processed using Repeated Measures ANOVA or Friedman's test, presented in a spiderweb diagram, and mapped through Principal Component Analysis (PCA).*

The results of the study showed that the best treatment using the De Garmo Effectiveness Index based on hedonic and hedonic quality tests was the addition of 1% BAL and a fermentation time of 24 hours, which was most accepted by consumers compared to other treatments with pink color quality, a slightly distinctive kecombrang aroma, neutral taste with an acidic taste scale, and a liquid texture. The best treatment for each attribute of the hedonic analysis and hedonic quality analysis was then tested using QDA and yielded five main sensory attributes: sweet taste, sour taste, floral aroma, floral flavor, and texture. The results of the QDA test were then mapped using PCA biplot (82.75% variance), showing a strong positive correlation between sweetness and floral aroma, a negative correlation between floral aroma and texture, and the best sample located in the quadrant with dominant sweet-floral characteristics. This study identified the formulation of 1% BAL addition and a fermentation time of 24 hours as the most consumer-preferred option for kecombrang probiotic beverages, with QDA results showing a tendency toward sweet taste, high floral aroma, high floral flavor, low sourness, and light texture.