PENGARUH PENAMBAHAN *STABILIZER* DAN SUSU SKIM TERHADAP KUALITAS FISIKOKIMIA DAN SENSORIS PRODUK SUSU FERMENTASI DENGAN KULTUR STARTER *Lacticaseibacillus casei* AP

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INTISARI

Penelitian ini memiliki tujuan untuk melihat efektivitas dari penambahan *stabilizer* dan susu skim terhadap kualitas fisikokimia dan sensoris produk susu fermentasi “Lowkol” sebagai agensia pangan kesehatan penurun kolesterol. Perlakuan dalam penelitian ini adalah penggunaan *stabilizer* sebesar 0,1%, 0,3%, dan 0,5% (w/v) dan penggunaan susu skim sebesar 0%, 2%, 4%, dan 6% (w/v). Data fisikokimia yang diperoleh dianalisis menggunakan metode *Two-way* ANOVA dan hasil analisis yang menunjukkan adanya perbedaan signifikan (P<0,05) dianalisis lebih lanjut dengan uji *Duncan’s New Multiple Range Test* (DMRT). Pengujian sensoris dianalisis menggunakan metode analisis data *Kruskall-Walles*, data yang menunjukkan adanya perbedaan signifikan (P<0,05) dianalisis lebih lanjut dengan uji Mann-Whitney. Susu fermentasi dibuat dengan inokulasi probiotik *Lacticaseibacillus casei* strain AP sebagai kultur starter. Parameter yang diamati adalah viskositas, sineresis, nilai pH, keasaman, kadar air, total *solid,* dan kualitas sensoris. Hasil penelitian menunjukkan bahwa penambahan *stabilizer* dan susu skim berpengaruh nyata (P<0,05) terhadap viskositas dan sineresis. Penambahan *stabilizer* tidak berpengaruh nyata (P>0,05) terhadap pH, keasaman, kadar air, dan total *solid.* Penambahan susu skim berpengaruh nyata (P<0,05) terhadap pH, keasaman, kadar air, dan total *solid.* Penambahan *stabilizer* dan susu skim tidak memberikan pengaruh nyata (P>0,05) terhadap kualitas sensoris warna dan aroma namun memberikan pengaruh nyata (P<0,05) terhadap kualitas sensoris rasa dan tekstur. Hasil penelitian menunjukkan bahwa formulasi *stabilizer* 0,3% dengan susu skim 4% menghasilkan susu fermentasi dengan kualitas yang baik berdasarkan dengan kualitas fisikokimia dan sensoris, serta efisiensi bahan baku.

Kata kunci: Susu fermentasi, Susu Skim, *Stabilizer, Lacticaseibacillus casei* AP, Kualitas susu fermentasi.

EFFECT OF STABILIZER AND SKIM MILK ADDITION ON PHYSICOCHEMICAL AND SENSORY QUALITY OF FERMENTED MILK PRODUCT WITH STARTER CULTURE *Lacticaseibacillus casei* AP

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ABSTRACT

This study aims to evaluate the effectiveness of adding stabilizers and skim milk on the physicochemical and sensory qualities of the fermented dairy product "*Lowkol*," designed as a healthy food for cholesterol reduction. The treatments applied were stabilizer concentrations of 0.1%, 0.3%, and 0.5% (w/v), and skim milk concentrations of 0%, 2%, 4%, and 6% (w/v). Physicochemical data were analysed using Two-way ANOVA, and significant differences ($P<0.05$) were further examined using Duncan's New Multiple Range Test (DMRT). Sensory data were analysed using the Kruskal-Wallis Test, with significant differences ($P<0.05$) subsequently assessed with the Mann-Whitney Test. The fermented milk was inoculated with the probiotic strain *Lacticaseibacillus casei* strain AP as the starter culture. Observed parameters included viscosity, synersesis, pH, acidity, water content, total solids, and sensory attributes. The results indicated that the addition of stabilizers and skim milk had a significant effect ($P<0.05$) on viscosity and syneresis. The addition of stabilizers did not significantly affect ($P>0.05$) pH, acidity, moisture content, or total solids. However, the addition of skim milk significantly impacted ($P<0.05$) pH, acidity, moisture content, and total solids. Neither stabilizer nor skim milk addition significantly influenced ($P>0.05$) the sensory attributes of colour and aroma, but both significantly affected ($P<0.05$) the sensory attributes of taste and texture. The research indicated that a formulation with 0.3% stabilizer and 4% skim milk produces fermented milk of high quality, as determined by physicochemical and sensory evaluations, and shows efficient use of raw materials.

Keywords: Fermented milk, Skim milk, Stabilizer, *Lacticaseibacillus casei* AP, Quality of fermented milk.