

## **ABSTRACT**

### **CHEMICAL AND SENSORY CHARACTERISTICS OF KEPOK BANANA FLOUR YOGURT (*Musa paradisiaca formatypica*) WITH THE ADDITION OF PROBIOTIC BACTERIA *Lactobacillus casei***

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*Yoghurt is produced using lactic acid bacteria starters from the *Streptococcus thermophilus* and *Lactobacillus bulgaricus* groups. The addition of the probiotic bacterium *Lactobacillus casei* and prebiotic banana flour (*Musa paradisiaca formatypica*) is intended to enhance its functional value and economic potential. This study aimed to determine the effect of different *L. casei* concentrations and to identify the best treatment on the chemical characteristics (pH and total acidity) and sensory properties (texture, aroma, color, taste, and overall acceptability) of banana flour yoghurt. The research was conducted using a Completely Randomized Block Design (CRBD) with one factor, consisting of five treatments (0%, 2.5%, 5%, 7.5%, and 10% *L. casei*) and four replications. Data were analyzed using analysis of variance (ANOVA) and continued with the Least Significant Difference (LSD) test at a 5% significance level. The results showed that the addition of *L. casei* to banana flour yoghurt significantly affected the reduction of pH, increased total acidity, and improved sensory preference scores compared to yogurt without *L. casei*. The best treatment was achieved at a 7.5% *L. casei* concentration (P3), resulting in a pH value of 4.16 and total acidity of 1.06%, meeting the Indonesian National Standard (SNI) requirements. This treatment also produced the highest average hedonic scores for texture (3.76), aroma (3.48), color (3.83), taste (3.03), and overall acceptability (3.53).*

**Keywords:** *banana flour, L. casei, yoghurt*

## ABSTRAK

### KARAKTERISTIK KIMIA DAN SENSORI YOGURT TEPUNG PISANG KEPOK (*Musa paradisiaca formatypica*) DENGAN PENAMBAHAN BAKTERI PROBIOTIK *Lactobacillus casei*

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Yogurt dibuat dengan bantuan starter bakteri asam laktat dari golongan *Streptococcus thermophilus* dan *Lactobacillus bulgaricus*. Penambahan bakteri probiotik *Lactobacillus casei* dan prebiotik tepung pisang kepok (*Musa paradisiaca formatypica*) digunakan untuk meningkatkan nilai fungsional serta nilai ekonomis produksinya. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan konsentrasi *L. casei* yang berbeda serta menentukan perlakuan terbaik terhadap karakteristik kimia (pH dan total asam) dan sifat sensori (tekstur, aroma, warna, rasa, dan penerimaan keseluruhan) yogurt tepung pisang kepok. Penelitian disusun dengan metode Rancangan Acak Kelompok Lengkap (RAKL) satu faktor dengan lima perlakuan (0%, 2,5%, 5%, 7,5%, dan 10% *L. casei*) dan empat ulangan. Data dianalisis menggunakan sidik ragam (ANARA) dan dilanjutkan dengan uji Beda Nyata Terkecil (BNT) pada taraf 5%. Hasil penelitian menunjukkan bahwa yogurt tepung pisang kepok dengan penambahan *L. casei* berpengaruh nyata terhadap penurunan pH, peningkatan total asam, dan meningkatkan skor kesukaan sensori dibandingkan tanpa penambahan *L. casei*. Perlakuan terbaik diperoleh pada yogurt tepung pisang kepok konsentrasi *L. casei* 7,5% (P3) dengan nilai pH 4,16 dan total asam 1,06% sesuai syarat SNI, serta skor rata-rata hedonik tertinggi untuk tekstur (3,76), aroma (3,48), warna (3,83), rasa (3,03), dan penerimaan keseluruhan (3,53).

**Kata Kunci:** *L. casei*, tepung pisang kepok, yogurt