

**EKSPLORASI BAKTERI-BAKTERI PEMFERMENTASI DAN AKTIVITAS
ENZIMATIS DALAM BEBERAPA PRODUK TEMPE DI KOTA PADANG**

SKRIPSI SARJANA BIOLOGI

OLEH :

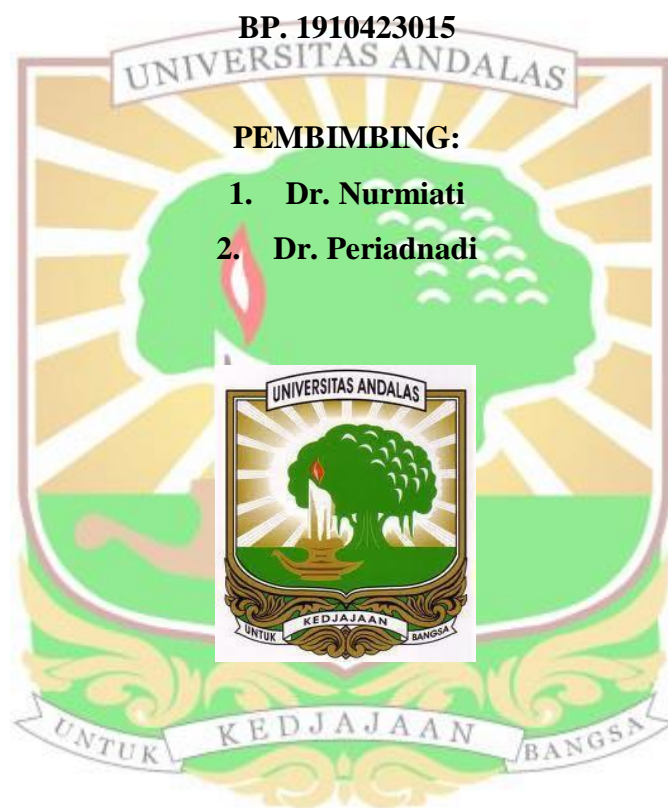
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ABSTRAK

Penelitian Eksplorasi Bakteri-Bakteri Pemfermentasi dan Aktivitas Enzimatis Beberapa Produk Tempe di Kota Padang telah dilaksanakan dari bulan Mei sampai Juli 2023 di Laboratorium Riset Mikrobiologi, Universitas Andalas, Padang. Penelitian ini bertujuan untuk mengetahui keberadaan dan proporsional bakteri pemfermentasi, serta aktivitas enzimatis beberapa produk tempe kedelai di Kota Padang. Penelitian ini dilakukan dengan metode survey dan data yang didapat dianalisis secara deskriptif. Hasil penelitian menunjukkan bahwa rata-rata total keberadaan bakteri pada ketiga sampel tempe kedelai ($11,2 - 15,3 \times 10^6$ cfu/g). Dalam ketiga sampel tempe kedelai ditemukan bakteri fermentatif ($3,30 - 6,10 \times 10^6$ cfu/g), bakteri asam asetat ($0,90 - 1,50 \times 10^6$ cfu/g), bakteri proteolitik ($2,10 - 3,70 \times 10^6$ cfu/g), bakteri selulolitik ($4,60 - 6,50 \times 10^6$ cfu/g), dan bakteri amilolitik ($2,20 - 4,90 \times 10^6$ cfu/g). Dalam ketiga sampel tempe kedelai diperoleh aktivitas enzim amilase ($0,853 - 0,996 \mu\text{mol/g}$). Aktivitas enzim protease ($754 - 1.051 \text{ NU/g}$).

Kata Kunci : Tempe, enzim, bakteri pemfermentasi, amilase, protease



ABSTRACT

Exploratory research on fermenting bacteria and enzymatic activity of several tempe products in Padang City was carried out from May to July 2023 at the Microbiology Research Laboratory, Andalas University, Padang. This research aims to determine the presence and proportion of fermenting bacteria, as well as the enzymatic activity of several soybean tempeh products in Padang City. This research was conducted using a survey method and the data obtained was analyzed descriptively. The results showed that the average total presence of bacteria in the three soybean tempeh samples was $(11.2 - 15.3 \times 10^6 \text{ cfu/g})$. In soybean tempeh samples fermentative bacteria were found $(3.30 - 6.10 \times 10^6 \text{ cfu/g})$, acetic acid bacteria $(0.90 - 1.50 \times 10^6 \text{ cfu/g})$, proteolytic bacteria $(2.10 - 3.70 \times 10^6 \text{ cfu/g})$, cellulotic bacteria $(4.60 - 6.50 \times 10^6 \text{ cfu/g})$, and amyolytic bacteria $(2.20 - 4.90 \times 10^6 \text{ cfu/g})$. In the three soybean tempeh samples, amylase enzyme activity was obtained $(0.853 - 0.996 \mu\text{mol/g})$. Protease enzyme activity $(754 - 1,051 \text{ NU/g})$.

Keywords: Tempeh, enzymes, fermenting bacteria, amylase, protease

