

**PERUBAHAN VIABILITAS *LACTOBACILLUS PLANTARUM* DAD-13
PADA *CREAM CHEESE* PROBIOTIK SELAMA PENYIMPANAN
DINGIN**

INTISARI

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Meningkatnya permintaan konsumen akan bahan pangan fungsional yang disuplementasi dengan probiotik, termasuk bakteri asam laktat (BAL), memunculkan berbagai penelitian mengenai pengayaan makanan dengan bakteri ini. *Cream cheese* memiliki potensi yang besar untuk disuplementasi dengan probiotik. Tujuan utama dari penelitian ini adalah untuk mendapatkan produk *cream cheese* yang memiliki potensi probiotik menggunakan bakteri *Lactobacillus plantarum* Dad-13, dan mempelajari viabilitas bakteri *Lactobacillus plantarum* Dad-13 dalam *cream cheese* probiotik pada kondisi penyimpanan dingin yang umum ($\pm 2,5^{\circ}\text{C}$)

Perubahan viabilitas *Lactobacillus plantarum* Dad-13 dalam sampel *cream cheese* probiotik selama variasi waktu penyimpanan (1 dan 3 hari serta 1, 2, 3, 4, 5, dan 6 minggu) ditentukan dengan enumerasi *colony forming unit* (CFU) dalam media *Plate Count Agar*, *Violet Red Bile Agar* dan *Lactobacillus plantarum Selective Medium*. Data perubahan viabilitas *Lactobacillus plantarum* Dad-13 dianalisis menggunakan *Repeated Measures ANOVA* dan dilanjutkan dengan *post-hoc test* menggunakan koreksi Bonferroni

Hasil penelitian menunjukkan jumlah sel *Lactobacillus plantarum* Dad-13 hidup dalam *cream cheese* probiotik mampu dipertahankan pada 10^7 - 10^8 CFU/g setelah disimpan selama 6 minggu pada suhu $2,5^{\circ}\text{C}$. Perlakuan penyimpanan selama satu minggu pertama memberi pengaruh yang signifikan terhadap kenaikan viabilitas *Lactobacillus plantarum* Dad-13.

Kata kunci : *Lactobacillus plantarum* Dad-13, viabilitas, probiotik, *cream cheese*.

CHANGES IN THE VIABILITY OF *LACTOBACILLUS PLANTARUM* DAD-13 IN PROBIOTIC CREAM CHEESE DURING COLD STORAGE

ABSTRACT

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The increasing demand of consumers for functional foodstuffs supplemented with live probiotic, i.e Lactic Acid Bacteria (LAB), gave rise to a number of studies on the enrichment of various kinds of foods with these bacteria. Cream cheese has a great potential to be supplemented with probiotics. The main objective of this study was to obtain a potentially probiotic cream cheese using *Lactobacillus plantarum* Dad-13, and to study the viability of *Lactobacillus plantarum* Dad-13 in it under the typical cold storage conditions ($\pm 2,5^{\circ}\text{C}$)

Analysis of the viability changes of *Lactobacillus plantarum* Dad-13 in the probiotic cream cheese samples in various storage time (1, 3 days and 1, 2, 3, 4, 5, 6 weeks) were determined by counting the colony forming unit (CFU) in *Plate Count Agar*, *Violet Red Bile Agar* dan *Lactobacillus plantarum Selective Medium*. Data of the changes in viability of *Lactobacillus plantarum* Dad-13 were analyzed using *Repeated Measures ANOVA* and continued with post-hoc test using Bonferroni correction

Study result shows that the amount of viable *Lactobacillus plantarum* Dad-13 in probiotic cream cheese were able to be maintained at 10^7 - 10^8 CFU/g after keeping for 6 weeks at $2,5^{\circ}\text{C}$. The storage treatment during the first week had a significant effect on the increase in viability of *Lactobacillus plantarum* Dad-13.

Keywords : *Lactobacillus plantarum* Dad-13, viability, probiotic, cream cheese,