

PENGARUH KONSENTRASI *Lactobacillus plantarum* Dad-13 PADA ISIAN KEJU MASCARPONE PROBIOTIK TERHADAP KARAKTERISTIK GRANOLA BAR

INTISARI

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Pada penelitian sebelumnya, telah dikembangkan *granola bar* berbasis pangan lokal dari kacang-kacangan dan umbi-umbian, tetapi aspek yang diteliti masih terbatas. Pengembangan *granola bar* dengan penambahan probiotik penting dilakukan untuk meningkatkan sifat fungsional produk yang bermanfaat bagi pencernaan. Salah satu aspek yang perlu diketahui adalah konsentrasi probiotik yang harus ditambahkan agar viabilitas sel tetap bertahan. Tujuan penelitian ini untuk mengetahui pengaruh konsentrasi probiotik terhadap sifat sensoris, kimia, fisik, dan viabilitas sel dari *granola bar*.

Telah dilakukan formulasi keju mascarpone dan starter bakteri yang digunakan tiga variasi rasio, diantaranya 60:0,225 (P1); 60:2,25 (P2); dan 60:22,5 (P3). Ketiga formula tersebut diuji secara sensoris dengan uji deskriptif dan uji kesukaan, analisis sifat kimia berupa pH dan kadar asam laktat, analisis sifat fisik berupa tekstur, serta analisis mikrobiologis untuk mengetahui viabilitas selnya.

Hasil uji sensoris menunjukkan bahwa konsentrasi probiotik yang berbeda memberikan perbedaan signifikan pada parameter sensoris, meliputi uji hedonik serta uji deskriptif ($P < 0,05$). Hasil analisis pada berbagai konsentrasi probiotik berpengaruh terhadap sifat kimia, fisik, dan viabilitas sel *granola bar* ($P < 0,05$). Semakin tinggi konsentrasi *Lactobacillus plantarum* Dad-13 dapat menaikkan viabilitas sel probiotik, menambah keasaman ditinjau dari peningkatan kadar asam laktat dan penurunan pH, serta meningkatkan tekstur dari *granola bar*. Formula *granola bar* terbaik dengan mempertimbangkan sifat sensoris, kimia, fisik, dan viabilitas sel probiotik adalah formula P2 dengan rasio keju mascarpone dan starter bakteri sebesar 60 : 2,25.

Kata kunci : keju mascarpone probiotik, *granola bar*, dan konsentrasi probiotik

EFFECT OF CONCENTRATION OF *Lactobacillus plantarum* Dad-13 ON PROBIOTIC MASCARPONE CHEESE FILLING ON CHARACTERISTICS OF GRANOLA BARS

ABSTRACT

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In previous studies, local food-based granola bars have been developed from nuts and tubers, but the aspects studied are still limited. The development of granola bars with the addition of probiotics is important to improve the functional properties of products that are beneficial for digestion. One aspect that needs to be known is the concentration of probiotics that must be added to maintain cell viability. The purpose of this study was to determine the effect of the concentration of probiotics on the sensory, chemical, physical, and cell viability properties of granola bars.

The mascarpone cheese and bacterial starter formulations have been used in three different ratios, including 60:0,225 (P1); 60:2.25 (P2); and 60:22.5 (P3). The three formulas were tested sensory with descriptive and preference tests, chemical properties analysis in the form of pH and lactic acid levels, physical properties analysis in the form of texture, and microbiological analysis to determine cell viability.

Sensory test results showed that different concentrations of probiotics gave significant differences in sensory parameters, including hedonic tests and descriptive tests ($P < 0.05$). The results of the analysis at various concentrations of probiotics affected the chemical, physical, and cell viability of granola bar ($P < 0.05$). The higher concentration of *Lactobacillus plantarum* Dad-13 can increase the viability of probiotic cells, increase acidity in terms of increasing lactic acid levels and decreasing pH, as well as improving the texture of granola bars. The best granola bar formula by considering the sensory, chemical, physical, and cell viability properties of the probiotic is the P2 formula with a ratio of mascarpone cheese and bacterial starter of 60 : 2.25.

Keywords : probiotic mascarpone cheese, granola bar, and probiotic concentration