

**FERMENTASI *WHEY* KEJU DENGAN VARIASI PENAMBAHAN SUSU
SKIM MENGGUNAKAN KULTUR KOMERSIAL DAN KULTUR
KOMERSIAL YANG DIBERI TAMBAHAN PROBIOTIK**

ABSTRAK

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Penelitian ini dilakukan untuk mengetahui pengaruh variasi penambahan susu skim terhadap proses fermentasi dan penyimpanan *whey* keju. Digunakan tiga variasi susu skim yaitu 0%; 1,25%; dan 2,5% serta dua jenis kultur yaitu kultur komersial dan kultur komersial yang diberi tambahan probiotik lokal *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13. Selama fermentasi dilakukan enumerasi jumlah sel bakteri di jam ke-0, ke-4, ke-8, dan ke-24 serta pengukuran pH setiap 2 jam sekali, selama penyimpanan dilakukan pengukuran viabilitas sel dan pengukuran viskositas di minggu ke-4 serta pengukuran pH dan keasaman di minggu ke-2 dan ke-4. Berdasarkan hasil penelitian, diketahui bahwa variasi penambahan susu skim tidak memberi pengaruh terhadap pertumbuhan sel maupun viabilitas sel *whey* fermentasi selama penyimpanan. Jumlah sel BAL yang tumbuh selama fermentasi berada pada rentang 7-9 log CFU/mL dengan kisaran pH sebesar 4,2-4,5 dan viabilitas setelah penyimpanan sebesar 7-8 log CFU/mL dengan pH 4,1-4,3. Asam tertitrasi yang dihasilkan sebesar 0,6-1% sedangkan viskositasnya berada pada kisaran 6.97-16.43 cP.

Kata kunci : Bakteri asam laktat, fermentasi, *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13, *whey* keju

FERMENTATION OF CHEESE *WHEY* WITH VARIATIONS OF ADDED SKIM MILK USING COMMERCIAL CULTURES AND COMMERCIAL CULTURES PLUS LOCAL PROBIOTIC

ABSTRACT

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The aim of this research is to study the effect of variation in skim milk addition in fermented cheese *whey* during fermentation and storage process. Three concentration variation of skim milk 0%; 1,25%; and 2,5% and two different starter cultures which is commercial cultures and commercial cultures with addition of local probiotic *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 is used. During fermentation, cell enumeration is done at the 0th, 4th, 8th, and 24th hour while pH measurement is carried every 2 hours. During storage, cell viability enumeration and viscosity measurement is done at the 4th week while pH and acidity measurement is done at the 2nd and 4th week. Based on the research result, concentration of added skim milk didn't show any significant effect on cell growth during fermentation and cell viability during storage of fermented cheese *whey*. During fermentation, the cell number of LAB grow between 7-9 log CFU/mL with pH ranging from 4,1-4,3 and the cell viability throughout storage is 7-8 log CFU/mL with pH 4,1-4,3. The process produced titrable acidity as much as 0,6-1% while the viscosity of fermented *whey* ranged between 6.97-16.43 cP.

Keyword : Cheese *whey*, Fermentation, lactic acid bacteria, *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13