

**PENGARUH VARIASI RASIO KULTUR LOKAL TERHADAP
KARAKTERISTIK KIMIA DAN MIKROBIOLOGIS KEJU *CHEDDAR*
PROBIOTIK**

ABSTRAK

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Penelitian ini bertujuan untuk mengetahui karakteristik fisik (*yield*, pH, kadar air, dan *material balance*), cemaran mikrobiologis berupa *Enterobacteriaceae* serta *Yeast/Mold*, dan viabilitas sel antara keju *cheddar* yang dibuat menggunakan kultur lokal *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 dan *Streptococcus thermophilus* Dad-11 dengan variasi rasio 1:1 dan 1:3. Dilakukan pengujian pH serta *material balance* selama pembuatan keju *cheddar*, *yield* produk, kadar air dan cemaran mikrobiologis berupa *Enterobacteriaceae* serta *Yeast/Mold* sebelum serta sesudah pemeraman 2 bulan, dan viabilitas sel probiotik setelah pemeraman 2 bulan. Hasil penelitian menunjukkan bahwa keju *cheddar* dengan kultur starter local rasio 1:3 menghasilkan persentase *yield* (9,13) dan pH akhir (4,95) yang lebih tinggi dibandingkan keju *cheddar* dengan rasio 1:1 dengan persentase *yield* (9,08) dan pH akhir (5,13). Selain itu, keju *cheddar* dengan rasio kultur starter 1:3 dapat menekan jumlah cemaran mikrobiologis berupa *Enterobacteriaceae* serta *Yeast/Mold* lebih baik. Keju *cheddar* dengan kultur starter *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 dan *Streptococcus thermophilus* Dad-11 mengandung sel probiotik sebesar 8,63 – 8,66 log CFU/g sehingga dapat dikatakan sebagai produk pangan probiotik.

Kata kunci: keju *cheddar*, kultur lokal, probiotik, cemaran mikrobiologis

THE EFFECT OF LOCAL CULTURE RATIO VARIATIONS ON THE CHEMICAL AND MICROBIOLOGICAL CHARACTERISTICS OF PROBIOTIC CHEDDAR CHEESE

ABSTRACT

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This research aims to investigate the physical characteristics (yield, pH, moisture content, and material balance), microbiological contamination in terms of *Enterobacteriaceae* and *Yeast/Mold*, and cell viability in cheddar cheese using local culture *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 and *Streptococcus thermophilus* Dad-11 with ratios of 1:1 and 1:3. pH testing and material balance were conducted during cheddar cheese production, product yield, moisture content and microbiological contamination in terms of *Enterobacteriaceae* and *Yeast/Mold* were measured before and after 2 months of aging, and probiotic cell viability after 2 months of aging. The research results showed that cheddar cheese with a local starter culture ratio of 1:3 had a higher yield percentage (9.13) and final pH (4.95) compared to cheddar cheese with a ratio of 1:1 with yield percentage (9.08) and final pH (5.13). Furthermore, *cheddar* cheese with a 1:3 starter culture ratio showed better suppression of microbiological contamination such as *Enterobacteriaceae* and *Yeast/Mold*. Cheddar cheese with *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 and *Streptococcus thermophilus* Dad-11 starter cultures contained probiotic cells ranging from 8.63 to 8.66 log CFU/g, thus can be considered as a probiotic food product.

Keywords: cheddar cheese, local culture, probiotic, microbiological contamination