PRODUKSI DAN KUALITAS KEJU CHEDDAR DARI SUSU ORGANIK MENGGUNAKAN KULTUR PROBIOTIK LOKAL DENGAN VARIASI KADAR GARAM PADA SKALA INDUSTRI

ABSTRAK

Oleh:

THIFA ANDRIANITA RAHMAWATI

21/474350/TP/13095

Keju Cheddar merupakan salah satu produk olahan susu yang diproses melalui fermentasi menggunakan kultur starter. Penelitian ini bertujuan untuk mengetahui penggunaan kultur starter lokal campuran *Streptococcus thermophilus* Dad-11 dan *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 pada pembuatan Keju Cheddar menggunakan susu organik dengan variasi garam 1% dan 2% pada skala industri. Pengujian dilakukan dengan menganalisis karakteristik kimia, fisik, serta viabilitas bakteri asam laktat dan probiotik setelah masa pemeraman 8 minggu. Hasil penelitian menunjukkan bahwa kultur starter lokal mampu menurunkan pH selama pembuatan Keju Cheddar dan menghasilkan rendemen yang memenuhi standar untuk keju. Karakteristik kimia berupa kadar lemak, karbohidrat, protein, air, serta karakteristik fisik keju yaitu tekstur dan warna tidak menunjukkan perbedaan signifikan pada variasi kadar garam 1% dan 2% kecuali untuk kandungan abu, garam, dan natrium. Viabilitas bakteri asam laktat sedikit menurun selama pemeraman, sedangkan bakteri probiotik tetap stabil pada 7 log CFU/g. Hasil penelitian menunjukkan kultur starter lokal dapat digunakan untuk pembuatan Keju Cheddar dan secara keseluruhan penambahan garam 1 dan 2% tidak menunjukkan perbedaan pada karakteristik keju yang dihasilkan.

Kata kunci: Keju Cheddar, kultur starter probiotik, susu organik, kadar garam, viabilitas bakteri.

PRODUCTION AND QUALITY OF CHEDDAR CHEESE FROM ORGANIC MILK USING LOCAL PROBIOTIC CULTURES WITH VARYING SALT CONTENT AT INDUSTRIAL SCALE

ABSTRACT

By:

THIFA ANDRIANITA RAHMAWATI

21/474350/TP/13095

Cheddar Cheese is one of the dairy products processed through fermentation using a starter culture. This study investigates using a local starter culture mixture of *Streptococcus thermophilus* Dad-11 and *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 in making Cheddar Cheese using organic cow's milk with 1% and 2% salt variation at industrial scale. The test was conducted by analyzing the chemical, physical, and viability characteristics of lactic acid bacteria and probiotics after 8 weeks of aging. The results showed that the local starter culture was able to reduce pH during the manufacture of Cheddar Cheese and produce yields that met the standards for cheese. Chemical characteristics in the form of fat, carbohydrate, protein, water, and physical characteristics of cheese, namely texture, and color, did not show significant differences between 1% and 2% salt content variations except for ash, salt, and sodium content. Viability of lactic acid bacteria decreased slightly during aging, while probiotic bacteria remained stable at 7 log CFU/g. The results showed that local starter cultures can be used to make Cheddar Cheese and overall, the addition of 1 and 2% salt showed no difference in the characteristics of the cheese produced.

Keywords: Cheddar cheese, probiotic starter culture, organic milk, salt content, bacterial viability.