PENGOLAHAN KEJU *CHEDDAR* PROBIOTIK MENGGUNAKAN INOKULUM LOKAL DAN KOMERSIAL

ABSTRAK

Oleh :

AYU SARAH SALIMAH ZAKIYAH AL MUNIR

20/46720/TP/12998

Tujuan dari penelitian ini adalah mengetahui *yield* dan volume *whey* yang dihasilkan serta perubahan pH, kadar air dan cemaran mikrobiologis keju *cheddar* probiotik selama pemeraman. Keju *cheddar* probiotik dibuat menggunakan susu, garam, lipase, rennet, dan inokulum campuran lokal *Lactiplantibacillus plantarum* subsp. p*lantarum* Dad-13 dan *Streptococcus thermophilus* Dad-11. Sebagai pembanding, digunakan keju *cheddar* yang diproduksi menggunakan inokulum komersial MA4002. Selama pembuatan keju dilakukan pengukuran *yield* dan *whey*, serta perubahan pH, kadar air, dan cemaran mikrobiologis selama pemeraman. Hasil penelitian menunjukkan bahwa pengolahan keju *cheddar* dengan inokulum campuran lokal menghasilkan *yield* sebesar 8,83% dan total *whey* 13,69 liter. Hasil tidak berbeda jauh dengan pengolahan menggunakan inokulum komersial yang menghasilkan yield 8,67% dan total *whey* 14,09 liter. Keju dengan inokulum lokal memiliki pH akhir 5,23 ± 0,03 dan kadar air akhir 43,17 ± 0,21% lebih tinggi dari keju dengan inokulum komersial yang memiliki pH akhir 4,91 ± 0,01 dan kadar air akhir 41,35 ± 0,70%. Cemaran mikrobiologis akhir *Enterobacteriaceae* sebesar 5 log CFU/g pada keju dengan inokulum lokal dan 3 log CFU/g pada keju dengan inokulum komersial. Kapang dan Khamir meningkat selama pemeraman hingga 5 log CFU/g pada keju dengan inokulum lokal dan 4 log CFU/g pada keju dengan inokulum komersial.

Kata Kunci : *yield*, inokulum, *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13, *Streptococcus thermophilus* Dad-11, cemaran mikrobiologis

PROBIOTIC CHEDDAR CHEESE PROCESSING USING LOCAL AND COMMERCIAL INOCULUM

ABSTRACT

By :

AYU SARAH SALIMAH ZAKIYAH AL MUNIR

20/46720/TP/12998

The aim of this research is to determine the yield and volume of whey produced as well as changes in pH, water content and microbiological contamination of probiotic cheddar cheese during ripening. Probiotic cheddar cheese is made using milk, salt, lipase, rennet, and a local mixed inoculum of *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13 and *Streptococcus thermophilus* Dad-11. As a comparison, cheddar cheese produced using the commercial inoculum MA4002 was used. During cheese making, yield and whey are measured, as well as changes in pH, water content and microbiological contamination during ripening. The research results showed that processing cheddar cheese with a local mixed inoculum produced a yield of 8.83% and total whey 13.69 liters. The results were not much different from processing using commercial inoculum which produced a yield of 8.67% and total whey 14.09 liters. Cheese with local inoculum had a final pH of 5.23 ± 0.03 and the final water content was 43.17 ± 0,21% higher than cheese with commercial inoculum which had a final pH of 4.91 ± 0.01 and final water content 41.35 ± 0.70%. The final microbiological contamination of *Enterobacteriaceae* was 5 log CFU/g in cheese with local inoculum and 3 log CFU/g in cheese with commercial inoculum. Yeast and mold increased during ripening up to 5 log CFU/g on cheese with local inoculum and 4 log CFU/g on cheese with commercial inoculum.

Keywords: *yield*, inoculum, *Lactiplantibacillus plantarum* subsp. *plantarum* Dad-13, *Streptococcus thermophilus* Dad-11, microbiological contamination.