

PENGARUH PENAMBAHAN SUSU SKIM PADA FERMENTASI SARI KORO PEDANG PUTIH (*Canavalia ensiformis* (L.) DC) TERHADAP PERTUMBUHAN BAKTERI ASAM LAKTAT, PRODUKSI ASAM, DAN KARAKTERISTIK FISIKNYA

INTISARI

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Tujuan dari penelitian ini yaitu untuk mengetahui pengaruh penambahan susu skim terhadap pertumbuhan bakteri asam laktat (*Lactobacillus plantarum* W GK 4, *Lactobacillus. paracasei* W GK 5, *Streptococcus thermophilus* Dad 11, dan *Lactobacillus plantarum* Dad 13), produksi asam, dan kenampakan dan aroma pada sari koro pedang putih terfermentasi. Koro pedang putih diekstraksi menjadi sari koro pedang putih dengan rasio koro pedang putih kupas : air (b/v) yaitu 1:3. Fermentasi dilakukan dengan menginokulasikan 1% (v/v) masing-masing kultur bakteri asam laktat ke dalam sari koro pedang putih dengan penambahan susu skim (2%, 4%, 6%, 8%, dan 10% (b/v)) serta tanpa penambahan susu skim (0%) dan diinkubasi pada suhu 37° C selama 24 jam. Analisis jumlah sel, asam tertitiasi, dan pH dilakukan pada awal dan akhir fermentasi. Aroma dan kenampakannya diamati secara deskriptif oleh peneliti. Bakteri asam laktat yang digunakan tumbuh dengan baik pada sari koro pedang putih dengan dan tanpa penambahan susu skim dan produksi asam meningkat signifikan dan pH menurun drastis pada fermentasi dengan penambahan susu skim 2% selanjutnya tidak berbeda signifikan pada penambahan 4% hingga 10%. Sari koro pedang putih terfermentasi akan membentuk curd dan memiliki aroma asam laktat yang akan menutupi aroma khas koro pedang putih yang kurang disukai. Pada konsentrasi 4% menghasilkan tekstur yang paling baik dengan kekentalan yang tinggi dan tekstur berpasir yang rendah.

Kata kunci : Fermentasi sari koro pedang putih, bakteri asam laktat, konsentrasi susu skim

EFFECT OF SKIM MILK ADDITION IN THE FERMENTATION OF JACK BEAN (*Canavalia ensiformis* (L.) DC) MILK ON LACTIC ACID BACTERIA GROWTH, ACID PRODUCTION, AND PHYSICAL CHARACTERISTICS

ABSTRACT

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The objectives of this research were to study the the effect of skim milk addition on growth of *Lactobacillus plantarum* WGK 4, *Lactobacillus. paracasei* WGK 5, *Streptococcus thermophilus* Dad 11, dan *Lactobacillus plantarum* Dad 13, acid production, flavor and appearance of fermented jack bean milk. Jack bean seeds were proceed with extraction and used the ratio between peeled jack bean : water 1:3 (w/v). Fermentation was done with 1 % (v/v) of each starter culture to jack bean milk with skim milk addition (2%, 4%, 6%, 8%, and 10%(w/v)) and without skim milk addition (0%). Then they were incubated at 37° C for 24 hours. Analysis of the viable count, pH value, and titratable acidity were carried out at the initial and the end of fermentation. Its flavor and appearance were observed and assessed descriptively by the researcher. The result showed that those lactic acid bacteria grew well at jack bean milk with and without skim milk addition. The addition of skim milk 2% increased the acid production significantly and pH dropped drastically during fermentation. However, further addition of skim milk 4%-10% resulted in no significant difference of acid production and pH. Jack bean milk formed curd after fermentation with skim milk addition. And also acid flavor would mask the unpleasant jack bean flavor. Addition 4% of skim milk produced best result with high thick concistency but low of *sandy texture*

Keywords : Jack bean milk fermentation, lactic acid bacteria, skim milk addition