

**FERMENTASI SARI KORO PEDANG PUTIH (*Canavalia ensiformis* L.)
MENGUNAKAN *Lactobacillus plantarum* WGK4 DAN *Lactobacillus paracasei* WGK5 DENGAN PENAMBAHAN SUKROSA DAN SUSU SKIM**

INTISARI

Oleh:

FAJARIKA ALIMAHANA
15/385562/TP/11431

Tujuan dari penelitian ini ialah mengetahui pengaruh penambahan kombinasi sukrosa dan skim terhadap pertumbuhan *Lactobacillus plantarum* WGK4 dan *Lactobacillus paracasei* WGK5 dalam fermentasi sari koro pedang putih, produksi asam laktat selama fermentasi, penurunan pH, karakteristik produk, serta stabilitasnya selama penyimpanan 14 hari pada suhu 4°C. Koro pedang putih di proses menjadi sari koro pedang putih melalui ekstraksi pada rasio koro pedang kupas dan air 1:3 (b/v). Fermentasi dilakukan dengan menginokulasikan 1% (v/v) kultur starter *L. plantarum* WGK4 dan *L. paracasei* WGK5 ke dalam sari koro pedang dengan penambahan sukrosa 8%, skim 4% , dan kombinasinya kemudian diinkubasi pada suhu 37°C selama 24 jam dan disimpan pada suhu 4°C selama 14 hari. Jumlah sel, pH, dan asam tertitrasi dalam sari koro pedang dianalisis pada awal dan akhir fermentasi serta akhir waktu penyimpanan. Aroma dan kenampakannya juga diamati dan dinilai secara deskriptif oleh peneliti. Hasil penelitian ini menunjukkan bahwa *L. plantarum* WGK4 dan *L. paracasei* WGK5 tumbuh dengan baik dengan kenaikan jumlah sel mencapai 8,85 log CFU/ml hingga 9.11 log CFU/ml dalam sari koro pedang dengan penambahan sukrosa, skim, dan kombinasinya, serta meningkatkan produksi asam rentang 0,89% hingga 1,28%. Jumlah sel maupun keasamannya tidak berubah secara signifikan setelah disimpan pada suhu 4°C selama 14 hari namun cenderung mengalami penurunan. Secara keseluruhan, sari koro pedang yang telah terfermentasi memiliki karakteristik fisik yang kental, terbentuk *curd* , dan terdapat aroma asam, namun terdapat tekstur berpasir.

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

**FERMENTATION OF JACK BEAN MILK (*Canavalia ensiformis* L.)
USING *Lactobacillus plantarum* WGK4 AND *Lactobacillus paracasei* WGK5
WITH ADDITION OF SUCROSE AND SKIM MILK**

ABSTRACT

By :

FAJARIKA ALIMAHANA
15/385562/TP/11431

The objectives of this research were to study the the effect of sucrose and skim milk addition on the growth of *L. plantarum* WGK4 and *L. paracasei* WGK5, production of acid during fermentation, and to investigate the characteristic and the stability of fermented jack bean milk during storage at 4°C for 14 days. Jack bean seeds was extracted by ratio dehulled jack bean and water 1 : 3 (w/v). Fermentation was done by inoculation of 1% (v/v) *L. plantarum* WGK4 and *L. paracasei* WGK5 starter culture to jack bean milk with addition of sucrose 8% (w/v) , skim milk 4% (w/v) , and its combination then incubation at 37 °C for 24 hours. Fermented jack bean milk was stored at 4°C for 14 days. The viable cell count, pH value and titratable acidity were determined at the initial and the end of fermentation, also at the end of storage time. Its flavour and appearance were also observed and assessed descriptively by the researcher. The results showed that *L. plantarum* WGK4 and *L. paracasei* WGK5 grew well in the jack bean milk with the number of cell increases reached 8.85 log CFU/ml – 9.11 log CFU/ml and increased % titratable acid of 0,89%-1,28%. The number of viable cell count and acidity of fermented jack bean milk didn't significantly change after storage at 4°C for 14 days. Overall, jack bean milk fermentation with addition of sucrose, skim milk, and its combination could produce an acidic aroma, produce *curd* and viscosity in the fermented jack bean milk, but has a sandy texture.

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