

**PERTUMBUHAN BAKTERI *Limosilactobacillus fermentum* BN21
PADA MEDIUM PERTUMBUHAN YANG BERBEDA**

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh jenis medium pertumbuhan untuk pertumbuhan bakteri *Limosilactobacillus fermentum* BN21. Jenis medium yang digunakan pada penelitian ini yaitu medium MRS, Yeast extract (YE) pro analys, dan YE ekonomis. Parameter pertumbuhan yang digunakan *total plate count* (TPC), penurunan pH medium, total angka asam, produksi asam laktat, dan kadar glukosa akhir medium yang dihasilkan pada jam ke-0, 8, 16 dan 24 pada suhu 37°C. Data penelitian dianalisis dengan menggunakan analisis statistik Rancangan Acak Lengkap (RAL) pola searah. Hasil penelitian menunjukkan jumlah TPC (Log CFU/mL) pada medium MRS, YE pro analys, dan YE ekonomis berturut-turut $8,87 \pm 0,05$; $8,54 \pm 0,05$; $8,55 \pm 0,05$. Kadar asam laktat (mg/mL) yang diproduksi pada medium MRS, YE pro analys, dan YE ekonomis berturut-turut $4,04 \pm 0,04$; $3,08 \pm 0,02$; $3,06 \pm 0,04$. Angka asam (mg/mL) pada medium MRS, YE pro analys, dan YE ekonomis berturut-turut $85,43 \pm 1,44$; $23,22 \pm 0,08$; $23,28 \pm 0,22$. Nilai pH pada medium MRS, YE pro analys, dan YE ekonomis berturut-turut $4,41 \pm 0,01$; $5,63 \pm 0,10$; $5,55 \pm 0,13$. Kadar glukosa akhir pada medium MRS, YE pro analys, dan YE ekonomis berturut-turut $7,68 \pm 0,44$; $4,17 \pm 0,12$; $4,05 \pm 0,12$. Kesimpulan dari hasil penelitian ini yaitu secara umum medium YE belum mampu menyamai medium MRS sebagai medium pertumbuhan bakteri asam laktat, akan tetapi perbedaan jenis YE tidak berpengaruh secara nyata terhadap pertumbuhan BAL.

Kata kunci: bakteri asam laktat, medium, yeast extract.

***Limosilactobacillus fermentum* BN21 BACTERIA GROWTH ON DIFFERENT GROWTH MEDIUMS**

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ABSTRACT

This study aims to determine the effect of growth medium type on the growth of *Limosilactobacillus fermentum* BN21 bacteria. The types of medium used in this study were MRS medium, Yeast extract (YE) pro analys, and economical YE. The growth parameters used were total plate count (TPC), pH decrease of the medium, total acidity, lactic acid production, and final glucose concentration of the medium at 0, 8, 16, and 24 hours at 37°C. The research data were analysed using a completely randomised design (CRD) with a one-way layout. The results showed that the TPC (Log CFU/mL) in MRS medium, YE pro analys, and YE ekonomis were 8.87 ± 0.05 , 8.54 ± 0.05 , and 8.55 ± 0.05 , respectively. The lactic acid content (mg/mL) produced in MRS medium, YE pro analys, and YE ekonomis was 4.04 ± 0.04 ; 3.08 ± 0.02 ; 3.06 ± 0.04 , respectively. The acidity (mg/mL) in MRS medium, YE pro analys, and YE ekonomis was 85.43 ± 1.44 ; 23.22 ± 0.08 ; 23.28 ± 0.22 , respectively. The pH values in MRS medium, YE pro analys, and YE ekonomis were 4.41 ± 0.01 ; 5.63 ± 0.10 ; 5.55 ± 0.13 , respectively. The final glucose concentration in the MRS medium, YE pro analys medium, and YE economical medium were 7.68 ± 0.44 ; 4.17 ± 0.12 ; 4.05 ± 0.12 , respectively. The conclusion from this study is that, in general, the YE medium has not yet been able to match the MRS medium as a growth medium for lactic acid bacteria; however, the differences in YE types do not significantly affect the growth of BAL.

Keyword: lactic acid bacteria, medium, yeast extract.