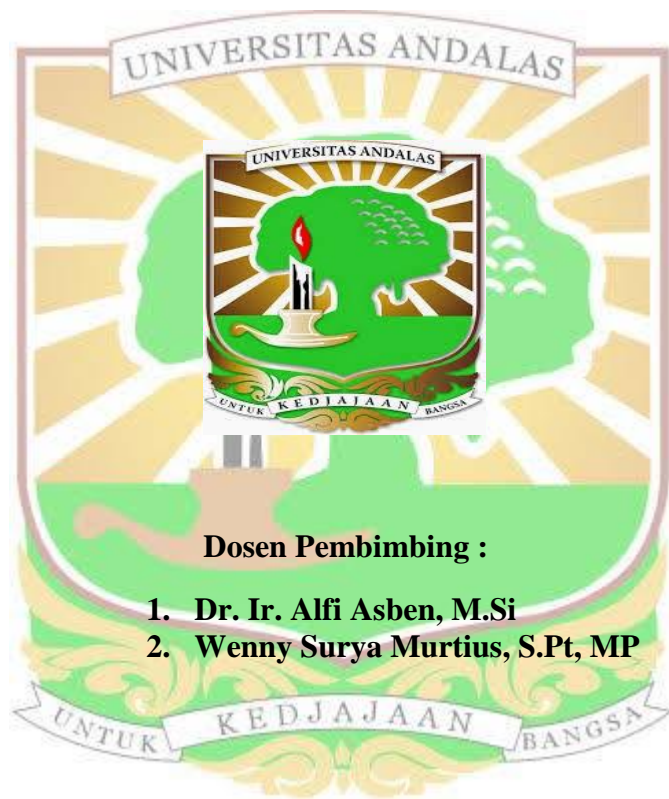


**PENGARUH BAHAN DAN METODE ENKAPSULASI
TERHADAP KARAKTERISIK BAKTERI ISOLAT
PROBIOTIK ASAL DADIH**

**MAISHARAH FADHINA
1211123011**



Dosen Pembimbing :

- 1. Dr. Ir. Alfi Asben, M.Si**
- 2. Wenny Surya Murtius, S.Pt, MP**

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Pengaruh Bahan dan Metode Enkapsulasi terhadap Karakteristik Bakteri Isolat Probiotik Asal Dadih

Maisharah Fadhina, Alfi Asben, Wenny Surya Murtius

ABSTRAK

Penelitian ini bertujuan untuk mengetahui karakteristik isolat probiotik terenkapsulasi dengan berbagai bahan enkapsulasi serta viabilitas dari isolat probiotik yang telah dienkapsulasi dengan metode *Spray Drying* dan *Freeze Drying*. Isolat disimpan pada suhu rendah (4°C) dan suhu ruang (28°C). Proses enkapsulasi isolat probiotik dilakukan dengan bahan pengisi enkapsulasi yaitu susu skim 10%, campuran susu skim 10% - gum arab 10% dan campuran susu skim 5% - gelatin 5%. Pengujian yang dilakukan yaitu viabilitas isolat probiotik terenkapsulasi yang disimpan selama 30 hari dengan interval waktu 1 minggu, pengujian terhadap pH rendah dan kadar air isolat probiotik terenkapsulasi. Hasil pengujian menunjukkan bahwa isolat *Lactobacillus paracasei ssp paracasei* mL3 setelah enkapsulasi dengan metode pengeringan *freeze drying* yang menggunakan bahan pengisi enkapsulasi campuran susu skim-gum arab pada penyimpanan suhu dingin (4°C) memiliki viabilitas yang tinggi hingga hari ke-30 yaitu 73,09% dengan jumlah populasi probiotik sekitar $7,1 \times 10^7$ cfu/ml, ketahanan terhadap pH rendah mengalami penurunan sel sebanyak 4,14 log dan memiliki kadar air 8,79%. Bakteri probiotik yang telah dienkapsulasi masih mampu bertahan hidup pada kondisi medium dengan pH rendah sehingga isolat probiotik terenkapsulasi masih tergolong ke dalam produk probiotik.

Kata kunci : probiotik, enkapsulasi, viabilitas, pengeringan

The Effect of Materials and Encapsulation Method on Bacterial Characteristic of Probiotic Isolates From Curd

Maisharah Fadhina, Alfi Asben, Wenny Surya Murtius

ABSTRACT

This study aims to determine the characteristics of probiotic isolates encapsulated with various encapsulation materials, as well as viability of isolates probiotics that have been encapsulated by Spray Drying and Freeze Drying methods. Storage is carried out at a low temperature (4°C) and room temperature (28°C). The process of encapsulating the probiotic isolate is carried out with an encapsulation filler of 10% skim milk, a mixture of skim milk 10% - 10% gum arabic, and mixture of skim milk 5% - gelatin 5%. The test performed was viability of the encapsulated probiotic isolates stored for 30 days at 1-week intervals, testing of low pH and moisture content of the encapsulated probiotic isolates. The test results showed that the isolate *Lactobacillus paracasei ssp paracasei mL3* after encapsulation with freeze drying method using an encapsulation filler which is a mixture of skim milk and gum arabic at cold temperature storage (4°C) has high viability until day-to- 30 was 73.09% with probiotic population of about 7.1×10^7 CFU/ml, resistance to low pH decreased 4.14 log and had a moisture content of 8.79%. Encapsulated probiotic bacteria are still able to survive under medium conditions with low pH, so that the encapsulated probiotic isolates are still classified into probiotic products.

Keywords: probiotics, encapsulation, viability, drying