

KEMAMPUAN ISOLAT BAKTERI ASAM LAKTAT DARI KOLOSTRUM KAMBING SAANEN TERHADAP BERBAGAI MACAM ANTIBIOTIK MENGUNAKAN METODE DIFUSI *PAPER DISK*

ABSTRAK

Dyah Ari Wulan (222410025). Kemampuan Isolat Bakteri Asam Laktat dari Kolostrum Kambing Saanen terhadap Berbagai Macam Antibiotik Menggunakan Metode Difusi *Paper Disk*. *Skripsi*. Program Studi Peternakan, Fakultas Pertanian, Universitas Muhammadiyah Purworejo, 2026. Pembimbing: Dr. Roisu Eny Mudawaroch, S.Pt., M.P. dan Rinawidiastuti, S.Pt., M.Si.

Penelitian ini bertujuan untuk mengetahui: 1) respons isolat bakteri asam laktat (BAL) dari kolostrum kambing Saanen terhadap antibiotik *amoxicillin*, *cefadroxil*, *cefixime*, dan *ciprofloxacin* berdasarkan zona hambat yang terbentuk, dan 2) menentukan isolat BAL yang berpotensi sebagai kultur starter berdasarkan tingkat resistensinya. Penelitian ini menggunakan metode deskriptif dengan pengujian menggunakan metode *difusi paper disk*. Sampel yang digunakan sebanyak 9 isolat BAL yang diperoleh dari kolostrum kambing Saanen. Parameter yang diamati adalah diameter zona hambat di sekitar cakram antibiotik yang diukur menggunakan jangka sorong, kemudian dirata-ratakan. Data dianalisis secara deskriptif berdasarkan nilai rata-rata zona hambat dan dikategorikan menjadi resisten, intermediate, dan sensitif. Hasil penelitian menunjukkan bahwa rata-rata zona hambat antibiotik *amoxicillin* sebesar 23,81 dan *cefadroxil* sebesar 22,75 mm yang termasuk dalam kategori sensitif. Pada antibiotik *cefixime* diperoleh rata-rata zona hambat sebesar 17,92 dan *ciprofloxacin* sebesar 18,78 mm yang termasuk dalam kategori intermediate. Isolat KS-H, KS-U, dan KS-T menunjukkan tingkat resistensi lebih tinggi dibandingkan isolat lainnya, sehingga berpotensi dipilih sebagai kultur starter.

Kata kunci: Bakteri Asam Laktat, Antibiotik, Difusi *Paper Disk*, Zona Hambat

**THE ABILITY OF LACTIC ACID BACTERIA ISOLATES (BAL) FROM
SAANEN GOAT COLOSTRUM AGAINST VARIOUS ANTIBIOTICS
USING THE PAPER DISK DIFFUSION METHOD**

ABSTRACT

Dyah Ari Wulan (222410025). The Ability of Lactic Acid Bacteria Isolates (BAL) from Saanen Goat Colostrum against Various Antibiotics Using the Paper Disk Diffusion Method. Thesis. Animal Science Program, Faculty of Agriculture, Muhammadiyah Purworejo University, 2026. Supervisors: Dr. Roisu Eny Mudawaroch, S.Pt., M.P. and Rinawidiastuti, S.Pt., M.Si.

This study aimed to: 1) examine the response of lactic acid bacteria (LAB) isolates derived from Saanen goat colostrum to amoxicillin, cefadroxil, cefixime, and ciprofloxacin based on the inhibition zones formed; and 2) identify LAB isolates with potential as starter cultures based on their resistance characteristics. A descriptive approach was applied using the paper disk diffusion method. A total of nine LAB isolates obtained from Saanen goat colostrum were used as samples. The observed parameter was the diameter of the inhibition zone surrounding each antibiotic disk, measured using a caliper and expressed as mean values. The data were analyzed descriptively and classified into resistant, intermediate, and sensitive categories based on the inhibition zone diameter. The findings showed that the mean inhibition zone diameters for amoxicillin and cefadroxil were 23.81 and 22.75 mm, respectively, indicating a sensitive response. In contrast, cefixime and ciprofloxacin produced mean inhibition zone diameters of 17.92 and 18.78 mm, which were categorized as intermediate. Among the tested isolates, KS-H, KS-U, and KS-T demonstrated relatively higher resistance, suggesting their potential use as starter cultures.

Keywords: Lactic Acid Bacteria, Antibiotics, Paper Disk Diffusion, Inhibition Zonet