

ABSTRAK

PENGARUH WAKTU PENYIMPANAN MEDIA *BLOOD AGAR PLATE* PADA SUHU 2-8°C TERHADAP PERTUMBUHAN BAKTERI *RECTAL SWAB*

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Kualitas media kultur berperan penting dalam pemeriksaan mikrobiologi karena memengaruhi pertumbuhan dan identifikasi bakteri. *Blood Agar Plate* (BAP) merupakan media yang digunakan untuk menumbuhkan bakteri *fastidious* dan mengamati pola hemolisis. Penyimpanan media pada suhu 2–8°C berpotensi memengaruhi kualitas media seiring bertambahnya waktu penyimpanan. Tujuan penelitian ini untuk mengetahui pengaruh waktu penyimpanan media BAP pada suhu 2–8°C terhadap pertumbuhan bakteri dari spesimen *rectal swab*. Penelitian ini termasuk pre-eksperimental dengan rancangan *post-test only* menggunakan 30 sampel yang dibagi menjadi tiga kelompok penyimpanan, yaitu 0 hari, 7 hari, dan 14 hari. Media diinokulasi dengan *rectal swab* dan diinkubasi pada suhu 37°C selama 24 jam. Pertumbuhan bakteri dinilai berdasarkan jumlah koloni dan karakteristik morfologi koloni. Analisis data menggunakan uji *One Way ANOVA* dan *Post Hoc Tukey HSD*. Ditemukan rerata jumlah koloni pada penyimpanan 0 hari, 7 hari, dan 14 hari berturut-turut adalah 617,90; 774,80; dan 166,60 koloni. Penyimpanan 7 hari menghasilkan pertumbuhan tertinggi, sedangkan 14 hari terendah. Perubahan morfologi koloni terlihat pada ukuran, pola pertumbuhan, dan hemolisis. Uji *One Way ANOVA* menunjukkan perbedaan yang signifikan antar kelompok ($p=0,000$). Lama penyimpanan media BAP berpengaruh terhadap kualitas pertumbuhan bakteri. Media yang disimpan selama 7 hari masih memberikan hasil yang baik, sedangkan penyimpanan 14 hari menurunkan kualitas media. Laboratorium disarankan membatasi lama penyimpanan media untuk menjaga kualitas kultur bakteri.

Kata Kunci: *Blood Agar Plate, Penyimpanan Media, Pertumbuhan Bakteri, Rectal Swab.*

ABSTRACT

THE EFFECT OF STORAGE DURATION OF BLOOD AGAR PLATE MEDIA AT 2–8°C ON THE GROWTH OF BACTERIA ISOLATED FROM RECTAL SWAB SPECIMENS

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The quality of culture media plays an important role in microbiological examinations because it affects bacterial growth and identification. Blood Agar Plate (BAP) is a commonly used medium for cultivating fastidious bacteria and observing hemolytic patterns. Storage of media at 2–8°C may affect media quality as storage duration increases. The aim is to determine the effect of Blood Agar Plate (BAP) storage duration at 2–8°C on bacterial growth from rectal swab specimens. This is pre-experimental study employed a post-test only design using 30 samples divided into three storage groups: 0 days, 7 days, and 14 days. The media were inoculated with rectal swab specimens and incubated at 37°C for 24 hours. Bacterial growth was assessed based on colony count and colony morphology characteristics. Data were analyzed using One-Way ANOVA followed by Tukey's HSD post hoc test. The mean colony counts for media stored for 0, 7, and 14 days were 617.90, 774.80, and 166.60 colonies, respectively. Media stored for 7 days produced the highest bacterial growth, whereas media stored for 14 days showed the lowest growth. Changes in colony morphology were observed in colony size, growth pattern, and hemolysis. One-Way ANOVA showed a significant difference among the groups ($p = 0.000$). Storage duration of BAP media affects the quality of bacterial growth. Media stored for 7 days still provided good growth results, whereas storage for 14 days reduced media quality. Laboratories are recommended to limit media storage duration to maintain optimal bacterial culture quality.

Keywords: Blood Agar Plate, Media Storage, Bacterial Growth, Rectal Swab