

**PERBANDINGAN EFEKTIVITAS YOGHURT SINGLE STRAIN
(*Lactobacillus bulgaricus*), SINGLE STRAIN (*Streptococcus thermophilus*),
DAN DOUBLE STRAIN (*Lactobacillus bulgaricus* dan *Streptococcus
thermophilus*) DALAM MENGHAMBAT PERTUMBUHAN *Staphylococcus
aureus***

ABSTRAK

Staphylococcus aureus merupakan bakteri gram positif sebagai flora normal pada tubuh manusia, namun bisa menjadi bakteri patogenik jika jumlah bakteri melebihi *quorum*. Upaya pengendalian sangat dibutuhkan sebagai langkah awal untuk mencegah infeksi *S.aureus* agar tidak terjadi komplikasi lebih lanjut yaitu menggunakan yoghurt. Yoghurt adalah produk susu fermentasi yang mengandung bakteri asam laktat penghasil zat antibakteri. Penelitian ini bertujuan untuk membandingkan keefektifan yoghurt *single strain* (*Lactobacillus bulgaricus*, *Streptococcus thermophilus*) dan *double strain* (*Lactobacillus bulgaricus* dan *Streptococcus thermophilus*) dalam menghambat pertumbuhan bakteri patogen *Staphylococcus aureus*. Penelitian ini merupakan penelitian *experimental post-test only with control group design*. Metode yang digunakan adalah difusi sumuran yaitu dengan mengisi sumuran menggunakan yoghurt yang dibuat dengan beberapa konsentrasi pada media MHA yang telah diberi *S.aureus*. Penelitian ini menggunakan yoghurt dengan konsentrasi 5%, 7,5%, 10%, 12,5%, 15%, 17,5%, 20%, 22,5%, dan 25% dengan pengulangan 2x secara *duplo*. Berdasarkan uji univariat didapatkan kelompok *double strain* memiliki rata-rata zona hambat yang paling besar dibandingkan dengan kelompok lainnya. Hasil uji non parametrik *Kruskall-Wallis* didapatkan $p>0,05$. Simpulan dari penelitian ini yaitu yoghurt *double strain* menghasilkan zona hambat lebih baik daripada yoghurt *single strain* dalam menghambat pertumbuhan *S.aureus*, walaupun secara statistika tidak bermakna.

Kata Kunci : Bakteri asam laktat (*Lactobacillus bulgaricus* dan *Streptococcus thermophilus*) yoghurt, Metode difusi sumuran, Perbandingan efektivitas, *Staphylococcus aureus*, Uji antibakteri.

COMPARISON OF THE EFFECTIVENESS OF YOGHURT SINGLE STRAIN (*Lactobacillus bulgaricus*), SINGLE STRAIN (*Streptococcus thermophilus*), AND DOUBLE STRAIN (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*) IN DELAYING THE GROWTH OF *Staphylococcus aureus*

ABSTRACT

Staphylococcus aureus is a gram-positive bacteria as normal flora in the human body, but can become pathogenic bacteria if the number of bacteria exceeds the quorum. Control efforts are needed as an initial step to prevent *S.aureus* infection so that there are no further complications by using yogurt. Yogurt is a fermented milk product that contains lactic acid bacteria that produce antibacterial substances. This studied aims to compare the effectiveness of single-strain yogurt (*Lactobacillus bulgaricus*, *Streptococcus thermophilus*) and double strains (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*) in inhibiting the growth of pathogenic bacteria *Staphylococcus aureus*. This researched was an experimental post-test only with controlled group design. The method used was well diffusion by filling the wells using yogurt made with several concentrations on mha media that had been given *S. aureus*. This studied used yogurt with a concentration of 5%, 7.5%, 10%, 12.5%, 15%, 17.5%, 20%, 22.5%, and 25% with duplo technique and repeated two times. Based on the univariate test, it was found that the double strain group had the largest average inhibition zone compared to other groups. The Kruskal-wallis non-parametric test results obtained $p > 0.05$. The conclusion of this research is that double strain yoghurt produces a better inhibition zone than single strain yogurt in inhibiting the growth of *S.aureus*, although it is not statistically significant.

Keywords : Lactic acid bacteria (*Lactobacillus bulgaricus* and *Streptococcus thermophilus*) yogurt, well diffusion method, Comparison of effectiveness, *Staphylococcus aureus*, Antibacterial test.