

## INTISARI

**Alvindo Thiananda Devi. Nim 3181004.** *Pengaruh Variasi Konsentrasi (Pachyrrhizus erosus) Sebagai Media Alternatif Pertumbuhan Bakteri Staphylococcus aureus.*

Peningkatan pemeriksaan di laboratorium mikrobiologi membuat penggunaan media umum *Nutrient Agar* (NA) semakin meningkat, media ini juga memiliki harga yang relatif mahal. Bengkuang (*Pachyrrhizus erosus*) merupakan bahan alami pembuatan media alternatif yang mengandung berbagai nutrisi untuk pertumbuhan dan perkembangan bakteri, serta memiliki harga yang relatif murah, dan mudah didapat. Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi *P. erosus* sebagai media alternatif terhadap pertumbuhan *Staphylococcus aureus*, serta karakteristik koloni *S. aureus* pada media alternatif *P. erosus*. Penelitian ini bersifat eksperimental dengan desain penelitian *Posttest only with control group* menggunakan enam replikasi pada media kontrol positif NA, media kontrol negatif dan media alternatif *P. erosus* konsentrasi 10%, 15%, 20%. Berdasarkan hasil penelitian didapatkan perbedaan karakteristik ukuran serta kemunculan pigmen koloni *S. aureus* pada media alternatif *P. erosus* dengan media NA. Koloni *S. aureus* pada media alternatif *P. erosus* memiliki ukuran lebih kecil dengan munculnya pigmen yang lebih lambat dibanding media NA, serta rata-rata pertumbuhan koloni *S. aureus* pada masing-masing konsentrasi media alternatif *P. erosus* 10%, 15%, 20% yaitu  $3 \times 10^6$  CFU/mL,  $7,5 \times 10^6$  CFU/mL,  $123,8 \times 10^6$  CFU/mL. Hasil analisis data uji *One Way ANOVA* didapatkan hasil Sig. < 0,005 yang berarti ada pengaruh variasi konsentrasi bengkuang (*P. erosus*) sebagai media alternatif pertumbuhan *S. aureus*. Hasil Uji *Post-Hoc* LSD menunjukkan media alternatif *P. erosus* konsentrasi 20% nilai Sig (0,000) < 0,005 memiliki perbedaan yang signifikan terhadap semua konsentrasi (10%, 15%) dan kontrol positif NA.

Kata Kunci : Media alternatif, Bengkuang, *Nutrient Agar*, *Staphylococcus aureus*, Variasi konsentrasi

## ABSTRACT

**Alvindo Thiananda Devi. Nim 3181004.** *The Effect of Variation in Concentration of Yam Bean (*Pachyrrhizus erosus*) As an Alternative Medium of Growth *Staphylococcus aureus*.*

The increase in examinations in microbiology laboratories makes the use of nutrient agar (NA) general media increased, this media also has a relatively expensive price. Yam bean (*Pachyrrhizus erosus*) is a natural ingredient in making alternative media that contains various nutrients for the growth and development of bacteria, and has a relatively cheap price, and is easy to obtain. This study aims to determine the influence of variations in *P. erosus* concentrations as an alternative medium for the growth of *Staphylococcus aureus*, as well as the characteristics of *S. aureus* colonies on alternative media *P. erosus*. This study was experimental with the posttest only with control group research design using six replications in NA positive control media, negative control media and alternative media *P. erosus* concentrations of 10%, 15%, 20%. Based on the results of the study, there were differences in size characteristics and the appearance of *S. aureus* colony pigments in alternative media *P. erosus* with NA media. Colonies of *S. aureus* in alternative media *P. erosus* have a smaller size with the appearance of pigments that are slower than NA media, as well as the average growth of *S. aureus* colonies in each concentration of alternative media *P. erosus* 10%, 15%, 20% i.e.  $3 \times 10^6$  CFU/mL,  $7.5 \times 10^6$  CFU/mL,  $123.8 \times 10^6$  CFU/mL. The results of the Analysis of One Way ANOVA test data were obtained by Sig results.  $< 0.005$  which means there is an influence of variation in yam bean concentration (*P. erosus*) as an alternative medium of *S. aureus* growth. The results of the LSD Post-Hoc Test showed that alternative media *P. erosus* concentrations of 20% sig (0.000)  $< 0.005$  had significant differences in all concentrations (10%, 15%) and positive control of NA.

Keywords : Alternative media, Yam bean, Nutrient Agar, *Staphylococcus aureus*, Concentration variation