

## ABSTRAK

**Latar Belakang :** Media pertumbuhan bakteri mengandung nutrisi yang lengkap dan sesuai diperlukan bakteri. Media *Nutrient agar* merupakan salah satu media media yang digunakan untuk pertumbuhan bakteri, namun memiliki harga relatif tinggi. Bahan alami seperti umbi talas, kacang kedelai dan ekstrak ragi memiliki kandungan karbohidrat, protein dan nitrogen dapat digunakan sebagai media alternatif pertumbuhan bakteri dengan harga relatif terjangkau.

**Tujuan :** Mengetahui campuran infusa talas, infusa kacang kedelai dengan ekstrak ragi dapat digunakan sebagai media alternatif pertumbuhan bakteri *Enterobacter aerogenes*.

**Metode :** Penelitian termasuk eksperimen murni dengan desain penelitian *Post Test Only Control Grup*. Penelitian dilakukan pengulangan sebanyak 15 kali dengan subyek bakteri *Enterobacter aerogenes*. Analisis data secara deskriptif, analitik dan statistik dengan *Independent sample t-test*.

**Hasil :** Pengamatan secara makroskopis memberikan hasil sama koloni bulat sedang hingga besar, warna krem hingga putih keruh, halus, keruh, terangkat rata seluruh bagian, lunak dan lembap. Hasil uji biokimia memberikan hasil sama pada media gula, SIM, TSIA, SC dan katalase. Persentase kesesuaian karakteristik adalah 100%. Berdasarkan hasil uji statistik, tidak ada perbedaan jumlah koloni bakteri dan ada perbedaan pada diameter koloni *Enterobacter aerogenes* pada media alternatif dan nutrient agar.

**Kesimpulan :** Mengetahui media alternatif campuran infusa talas (*Colocasia esculenta* (L.) Schott), infusa kacang kedelai (*Glycine max* (L.) Merr) dengan ekstrak ragi dapat digunakan sebagai media alternatif untuk menumbuhkan bakteri *Enterobacter aerogenes*.

**Kata Kunci :** Pertumbuhan, Media Alternatif, Talas, Kedelai, Ekstrak Ragi

## ABSTRACT

**Background :** Bacterial growth media contains complete nutrients and accordingly necessary bacteria. Nutrient media is one of the media used for bacterial growth, but has a relatively high price. Natural ingredients such as thalass, soybeans and yeast extracts have a carbohydrate content, protein and nitrogen can be used as an alternative medium for bacterial growth at a relatively affordable price.

**Objective :** Knowing the mixture of thalass infusion, soya infusion with yeast extract can be used as an alternative medium for the growth of *Enterobacter aerogenes* bacteria.

**Methods :** The research included pure experiments with the research design of the Post Test Only Control Group. The study was repeated 15 times with subjects of the bacterium *Enterobacter aerogenes*. Analyze data descriptively, analytically and statistically with Independent sample t-test.

**Result :** Macroscopic observations yield the same result of medium to large round colonies, cream-to-white colours, smooth, cranky, flatly lifted throughout the portion, soft and moist. Biochemical test results give the same results on sugar media, SIM, TSIA, SC and catalase. The percentage of characteristic conformity is 100%. Based on the results of statistical tests, there was no difference in the number of bacterial colonies and there were differences in the colonial diameter of *Enterobacter aerogenes* on alternative media and nutrient to.

**Conclusion :** Knowing the alternative media of mixed thalass infusion (*Colocasia esculenta* (L.) Schott.), soya bean infusion (*Glycine max* (L.) Merr) with yeast extract can be used as a medium for growing *Enterobacter aerogenes* bacteria.

**Keywords :** Growth, Alternative Media, Thallas, Soybean, Yeast Extract