

Rizka Ayu Wulandari. NIM 190341100040 “Uji Efektivitas Iodium Berasal dari Rumput Laut (*Eucheuma Spinosum*) terhadap Bakteri patogen dalam Bimbingan Dr. Apri Arisandi, S.Pi, M.Si.

ABSTRAK

Rumput laut jenis *Eucheuma* sangat mudah untuk dibudidaya, daerah Kabupaten Sumenep dikenal dengan masyarakat budidaya Rumput laut terbaik. Tercatat bahwa 16.420 ha dan baru dimanfaatkan 372 ha atau 2,27% lahan yang digunakan masyarakat sebagai budidaya rumput laut *Eucheuma cottoni*, dan *Eucheuma spinosum*. Rumput laut merah spesies *Eucheuma* sp. memiliki kandungan metabolit sekunder yang berperan sebagai antibakteri. Pengolahan Sampel, Rumput laut *Eucheuma spinosum* yang diperoleh dari Kecamatan Saronggi, Kabupaten Sumenep. Sampel dibeli dalam keadaan disortasi basah, dicuci dengan air bersih mengalir. Ekstraksi Senyawa Bioaktif Rumput Laut (*Eucheuma spinosum*) dilakukan dengan cara menghaluskan 50 gr sampel rumput laut menggunakan blender. Rendeman *Eucheuma spinosum* pada perlakuan sentrifuge satu kali dua kali didapatkan hasil sebesar 8% dan 7% berturut-turut, sedangkan pada perlakuan oven 48 jam sebesar 17% dan 18,5 %. Kadar iodium *Eucheuma spinosum* pada perlakuan sentrifuge 1 kali dan sentrifuge 2 kali kadar iodium sama yakni 0,36 %, sedangkan kadar iodium pada *Eucheuma spinosum* pada ekstrak murni tanpa dicentrifuge sebesar 0,38 %. Kadar iodium *Eucheuma spinosum* pada oven 48 jam 1,22%. Zona hambat ekstrak iodium pada *Eucheuma spinosum* terhadap bakteri *Staphylococcus aureus* sebesar 11,5 mm $\pm$ 1,59, pada *Salmonella* sp. 12 mm $\pm$ 5,16, dan pada *Escherichia coli* 20,7 mm $\pm$ 2,18. Hasil penelitian menunjukkan semakin tinggi atau besar kandungan iodium yang dimiliki ekstrak *Eucheuma spinosum*, maka semakin besar zona hambatnya berdasarkan perlakuan yang diberikan. Hal ini dapat dipengaruhi oleh jenis pelarut yang digunakan, dimana pelarut yang digunakan harus mampu mengikat kandungan iodium yang terdapat pada rumput laut *Eucheuma spinosum*.

Kata kunci : Bakteri patogen, *Eucheuma spinosum*, Iodium, antibakteri

Rizka Ayu Wulandari. NIM 190341100040 “Effectiveness Test of Iodine Derived from Seaweed (*Eucheuma Spinosum*) Against Pathogenic bacteria”, in Guidance Dr. Apri Arisandi, S.Pi, M.Si.

ABSTRACT

Eucheuma type of seaweed is very easy to cultivate, the Sumenep Regency area is known as the best seaweed farming community. It was recorded that 16,420 ha and only 372 ha or 2.27% of the land used by the community for the cultivation of seaweed, *Eucheuma cottoni* and *Eucheuma spinosum*. Red seaweed species *Eucheuma* sp. contains secondary metabolites that act as antibacterial. Sample Processing, *Eucheuma spinosum* seaweed obtained from Saronggi District, Sumenep Regency. Samples were purchased in a wet dissorted state, washed with clean running water. Extraction of Seaweed Bioactive Compounds (*Eucheuma spinosum*) was carried out by pulverizing 50 grams of seaweed samples using a blender. The yield of *Eucheuma spinosum* in the centrifuge treatment once or twice obtained yields of 8% and 7% respectively, while in the 48 hour oven treatment it was 17% and 18.5%. The iodine content of *Eucheuma spinosum* in the centrifuge treatment 1 time and centrifuge 2 times, the iodine content was the same, namely 0.36%, while the iodine content in *Eucheuma spinosum* in pure extract without centrifuge was 0.38%. *Eucheuma spinosum* iodine content in the oven 48 hours 1.22%. The inhibition zone of iodine extract on *Eucheuma spinosum* against *Staphylococcus aureus* was 11.5 mm + 1.59, on *Salmonella* sp. 12 mm + 5.16, and in *Escherichia coli* 20.7 mm + 2.18. The results showed that the higher or greater the iodine content of *Eucheuma spinosum* extract, the greater the inhibition zone based on the treatment given. This can be influenced by the type of solvent used, where the solvent used must be able to bind the iodine content found in *Eucheuma spinosum* seaweed.

Keywords: Pathogenic bacteria, *Eucheuma Spinosum*, Iodine, Antibacterial