

ABSTRAK

Kebutuhan garam di Indonesia seiring dengan bertambahnya penduduk dimanfaatkan untuk garam konsumsi maupun industri terus meningkat. Produksi garam di Indonesia hanya mampu memenuhi garam konsumsi saja, untuk garam industri masih mengandalkan garam impor. Rendahnya produksi garam rakyat selain karena masih diproduksi secara tradisional oleh petani garam, faktor cuaca dan iklim juga sangat mempengaruhi proses produksi garam, hal ini karena faktor cuaca dan iklim berkaitan erat dengan laju penguapan pada proses produksi garam. Bakteri halofilik ekstim berpigmen merah memiliki peranan penting untuk menyerap sinar matahari sehingga suhu air akan meningkat dan laju penguapan juga akan meningkat, tingginya laju penguapan dapat meningkatkan konsentrasi ion-ion penyusun garam sehingga pembentukan kristal garam menjadi lebih cepat. Pada penelitian ini menggunakan hasil isolasi bakteri halofilik yang hidup pada kadar garam 20-30% diambil pada tambak garam rakyat yang berada di Ds.Lembung Kec.Galis Kab.Pamekasan. Penelitian laju penguapan air dengan penambahan bakteri halofilik dilakukan pada kolam prototype yang dilakukan pada rumah garam Universitas Trunojoyo Madura. Bakteri halofilik mampu menguapkan air sebanyak 0,48 liter/hari, sedangkan kolam prototype tanpa penambahan bakteri halofilik hanya mampu menguapkan air sebanyak 0,24 liter/hari. Kadar Natrium Chlorida pada garam yang dihasilkan pada kolam dengan penambahan bakteri halofilik sebesar 98,16 % sedangkan pada garam tanpa penambahan bakteri halofilik menghasilkan kadar Natrium Chlorida sebesar 94,09%.

Kata Kunci : Laju Penguapan, Bakteri Halofilik, Natrium Chlorida

ABSTRACT

The need for salt in Indonesia along with the increasing population used for consumption and industrial salt continues to increase. Salt production in Indonesia is only able to meet consumption salt, for industrial salt still relies on imported salt. The low production of salt is not only because it is still traditionally produced by salt farmers, weather and climate factors also greatly affect the salt production process, this is because the weather and climate factors are closely related to the rate of evaporation in the salt production process. Extreme halophilic bacteria in red pigment have an important role to absorb sunlight so that the water temperature will increase and the rate of evaporation will also increase, the high rate of evaporation can increase the concentration of salt making ions so that the formation of salt crystals becomes faster. In this study, the results of the isolation of halophilic bacteria that live at 20-30% salt levels were taken in the people's salt ponds located in Ds.Lembung Kec.Galis Kab.Pamekasan. Research on the rate of evaporation of water by the addition of halophilic bacteria was carried out in a prototype pool conducted at the salt house of Trunojoyo University, Madura. Halophilic bacteria can evaporate water as much as 0.48 liters / day, while the prototype pool without the addition of halophilic bacteria is only able to evaporate as much as 0.24 liters of water / day. The level of Sodium Chloride in salt produced in ponds with the addition of halophilic bacteria was 98.16% while in salt without the addition of halophilic bacteria the level of Sodium Chloride was 94.09%.

Keywords: *Evaporation Rate, Halophilic Bacteria, Sodium Chloride*