Pengaruh variasi suhu terhadap kerapatan sel stanieria (cyanobacteria) HS-31B dan HS-48 pada medium BBM = The effect of temperature variation on cell density stanieria (cyanobacteria) HS-31B and HS-48 in BBM

Anggari Kirana Dewi, author

Abstrak

ABSTRAK
Penelitian bertujuan untuk mengetahui pengaruh suhu terhadap pertumbuhan Stanieria strain HS-31B dan HS-48. Stanieria strain HS-31B diisolasi dari sumber air panas Maribaya dan strain HS-48 diisolasi dari sumber air panas Ciater. Stanieria strain HS-31B dan HS-48 diinkubasi pada suhu 20 C, 35 C, dan 50 C dengan pH awal 6 dan intensitas cahaya 2500 mdash;3000 lux dalam medium BBM Bold Basal Medium . Parameter pertumbuhan yang digunakan, yaitu kerapatan sel dan kandungan klorofil. Kerapatan sel yang dihitung terdiri atas sel vegetatif dan baeocyte. Metode penghitungan kerapatan sel menggunakan kamar hitung Improved Neubauer, sedangkan pengukuran kandungan klorofil menggunakan spektrofotometer UV Vis Nanodrop. Hasil penelitian menunjukkan bahwa baeocyte strain HS-31B dan HS-48 tumbuh baik pada suhu 20 C dengan kerapatan sel sebesar 4,09 x 105 sel/mL strain HS-31B dan 5,11 x 105 sel/mL strain HS-48 . Sel vegetatif tumbuh baik pada suhu 50 C dengan rerata kerapatan sel 0,55 x 105 sel/mL strain HS-31B dan 1,74 x 105 sel/mL strain HS-48 . Uji korelasi antara total rerata kerapatan sel vegetatif dan baeocyte dengan kandungan klorofil Stanieria strain HS-31B dan HS-48 menunjukkan bahwa tidak terdapat korelasi antara kerapatan sel dan kandungan klorofil.
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ABSTRACT
The study aimed to find out the effect growth temperature of Stanieria strain HS 31B and HS 48. Stanieria strains HS 31B isolated from Maribaya hot springs and HS 48 isolated from Ciater hot springs. Stanieria strains of HS 31B and HS 48 were incubated at 20 C, 35 C and 50 C with initial pH 6 and light intensity 2500 mdash 3000 lux in BBM Bold Basal Medium . Growth parameters that used were cell density and chlorophyll content. The calculated cell density consists of vegetative cells and baeocyte. Method of calculating cell density using Improved Neubauer counting chamber and the measurement of chlorophyll content using UV Vis Nanodrop spectrophotometer. The results showed that baeocyte strains of HS 31B and HS 48 grew well at 20 C with cell density of 4.09 x 105 cells mL HS 31B strain and 5.11 x 105 cells mL HS 48 strain . Vegetative cells grew at a temperature of 50 C with a cell density of 0.55 x 105 cells mL HS 31B strain and 1.74 x 105 cells mL HS 48 strain . The result of correlation between total cell density vegetative and baeocyte with chlorophyll content of Stanieria strain HS 31B and HS 48 showed that there was no correlation between cell density and chlorophyll content.