PENGARUH LAMA PENYINARAN TERHADAP PERTUMBUHAN DAN KLOROFIL a Gracilaria verrucosa PADA SISTEM BUDIDAYA INDOOR

Abstrak :

Gracilaria cultivation is basically in need of lighting for photosynthesis process which will be a great effect on growth. The use of fluorescent (FL) as a replacement for the sun light is used for fluorescent lamps produce white light, except that fluorescent lights do not increase the room temperature drastically culture (temperature stable) and the intensity of light produced in the culture room suitable for the growth of shoots Gracilaria verrucosa. In addition to light intensity, while irradiation also affects the growth of cultured algae. Long exposures are generally set according to the needs of algae in natural conditions. In the process of photosynthesis is need a light and dark reaction. Light reaction occurs in the conversion of light energy into chemical energy and dark reactions occur for the formation of glucose that used for catabolism system. This study aims to determine the best long exposures of the different long exposures which can affect the growth and the amount of chlorophyll a of G. verrucosa. The methods is an experimental that used Complete Random Design (RAL) as the experimental design. The treatment used is different irradiation time, the treatment A (long irradiation for 24 hours, control), treatment B (irradiation time 12 hours light: 12 hours dark), treatment C (irradiation time 8 hours light: 16 hours dark) and D treatment (irradiation time 16 hours light: 8 hours dark) of each treatment is repeated five times. The main parameters were observed daily growth rate (%/day) and the amount of chlorophyll a (&micro;g/ml) of G. verrucosa. Supporting the observed parameters are pH, temperature (°C) and salinity (‰) The analysis data is using of variants analysis (ANOVA), if there is a difference data followed by Duncans Multiple Range Test to determine the best treatment. The results showed that different irradiation time take a real effect (P <0.05) on the growth and the amount of chlorophyll a G. verrucosa. Daily weight growth rate of the highest average found in treatment D (irradiation time 16-hour light: 8-hours dark) of 0.62%/day, and the lowest in treatment A (24-hour long light irradiation) of 0.23%/day. The highest number of chlorophyll a average at the end of the study are in treatment D (irradiation time 16-hours light : 8 hours dark) of 0.0068 &micro;g/ml and the lowest in treatment A (24-hour long light irradiation) of 0.0048 &micro;g/ml. The increasing daily growth rate of G. verrucosa can used of the irradiation time 16-hours light : 8-hours dark.

Keyword :

radiation time, chlorophyll a, Gracilaria verrucosa