

THE EFFECT OF LIGHT REGIMEN AND INTENSITY ON  
PHOTOSYNTHETIC RATE OF *Chlorella kuetzingii*

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**THE EFFECT OF LIGHT SPECTRUM AND INTENSITY ON  
PHOTOSYNTHETIC RATE OF *Galaxea fascicularis***

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**This project report is submitted in partial fulfillment of the requirement of the  
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## ABSTRACT

This study aims to study the effect of light spectrum and intensity on *Galaxea fascicularis*. Photosynthetic rates of *Galaxea fascicularis* were determined under different light spectrum and intensities. The specimens were exposed to white, yellow, primary green, deep blue, medium amber and plasma red light treatment for three hours. Control was conducted by treating the corals under dark condition. Each light treatment was supplied with a constant intensity of  $11.25 \mu\text{molm}^{-2}\text{s}^{-1}$ . Results revealed that plasma red light (622-780nm) showed the highest photosynthetic rates of  $0.04 \text{ mgO}_2\text{cm}^{-2}\text{h}^{-1}$ . After the optimal wavelength was known, the effect of light intensity to photosynthetic rate was conducted. *Galaxea fascicularis* was exposed to different light intensity, 0, 2.25, 5.62 and  $11.25 \mu\text{molm}^{-2}\text{s}^{-1}$  of white, medium amber and plasma red spectrum. Again, plasma red light at  $11.25 \mu\text{molm}^{-2}\text{s}^{-1}$  showed the highest photosynthetic rates at  $0.04 \text{ mgO}_2\text{cm}^{-2}\text{h}^{-1}$ . Results revealed significant influences of light spectrums and intensities on photosynthetic rates of *Galaxea fascicularis*. Maximum photosynthetic rates was measured at plasma red with light intensity of  $11.25 \mu\text{molm}^{-2}\text{s}^{-1}$ .