

## Effect of stocking density on growth *Gracilariopsis persica* in Persian Gulf

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### Abstract

This study was conducted to investigate the effect of initial stocking density of red algae *Gracilariopsis persica* and *Gracilariacorticata* on the growth and biomass production of these species. Three stocking densities of 50 gm<sup>-1</sup>, 125 gm<sup>-1</sup> and 200 gm<sup>-1</sup> were used and algae cultivated in Persian Gulf (Bandar Abbas) in winter for 45 days. Algae collected from natural environment and cultivated on poly ethylene rope in the sea. Relative growth rate (RGR) and total biomass were measured fortnightly. Temperature, salinity, pH and nutrients (nitrate, nitrite and phosphate) were measured during the trial. The result of the present study showed that there were significant differences in growth rate between different treatments in both species ( $P < 0.05$ ). Algae that cultivated with 50 gm<sup>-1</sup> initial stocking density had the highest relative growth rate in both species. At the end of 45-day trial, total biomass was the highest in 200 gm<sup>-1</sup> treatment ( $P < 0.05$ ). Furthermore, the present study showed that the growth rate of *Gracilariopsis persica* was higher than *Gracilariacorticata*. The results of the present study showed that stocking density is able to affect the growth of red algae *Gracilariopsis persica* and *Gracilariacorticata* and *Gracilariopsis persica* have higher growth rate and better potential of commercial culture in the Persian Gulf compared to *Gracilariacorticata*.

**Keywords:** Red algae, *Gracilariopsis persica*, *Gracilariacorticata*, Stocking density, Growth rate, Persian Gulf