

# Effect of Photon Flux Density and Temperature on the Production of Halogenated Monoterpenes by *Plocamium cartilagineum* (Plocamiaceae, Rhodophyta)

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The effect of different photon flux densities (PFD) and temperatures on the relative growth rate (RGR) and the concentration of three halogenated monoterpenes in samples of *Plocamium cartilagineum* L. (Dixon), a marine alga (Rhodophyceae), were studied. The highest RGR ( $22.8 \pm 0.04 \text{ d}^{-1}$ ) was obtained at 15 °C and  $41 \mu\text{mol m}^{-2} \text{ s}^{-1}$  of PFD and the lowest ( $18.0 \pm 0.12 \text{ d}^{-1}$ ) was obtained at 18 °C and  $120 \mu\text{mol m}^{-2} \text{ s}^{-1}$ . The different temperatures and light used in assays did not affect significantly the production of organic compounds. The production of mertensene and violacene was not affected significantly. However, compound 1 reached the highest concentration at 15 °C and  $65 \mu\text{mol m}^{-2} \text{ s}^{-1}$ . The relationship between growth and production of monoterpenes of *P. cartilagineum* and the effect of temperature and the PFD were analyzed.

*Key words:* *Plocamium cartilagineum*, Halogenated Monoterpenes