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EFFECT OF SALT CONCENTRATION AND LIGHT INTENSITY ON CAROTENOGENESIS OF *HAEMATOCOCCUS PLUVIALIS*

RIJO, P., TSAVALOS, A.*, MORAIS, R., YOUNG, A.*
Escola Superior de Biotecnologia – Universidade Católica Portuguesa
R. Dr. António Bernardino de Almeida, 4200 Porto, Portugal
*Liverpool John Moores University, School of Biological and Earth Sciences,
Byrom Street, Liverpool L3 3AF, England

***Haematococcus*, carotenogenesis, astaxanthin, salt tolerance**

H. pluvialis is a freshwater microalgae which synthesizes and accumulates astaxanthin in the cytoplasm when submitted to stress conditions that inhibit cellular division, e.g. high salt levels, nutrient depletion, high light intensities and temperatures in excess of 22 °C. Astaxanthin is a ketocarotenoid used in aquaculture for salmonid pigmentation, and can also be used as anti carcinogenic agent.
With these experiments we have studied the interaction between salt concentration and light intensity on carotenogenesis in *H. pluvialis*, using a statistical approach: Response Surface Methodology. The cultures were grown in modified BBM at 26 °C. Total pigments were determined by UV/Vis and HPLC. The results indicated that the optimum conditions for carotenogenesis, are 10.0-12.0 mM NaCl and a light intensity of 145 µmol·m-2·s-1. The highest concentration of total carotenoids obtained was 30 µg per ml for a culture with a cellular density of 1.08E10 (90 % of the total carotenoid was astaxanthin).
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