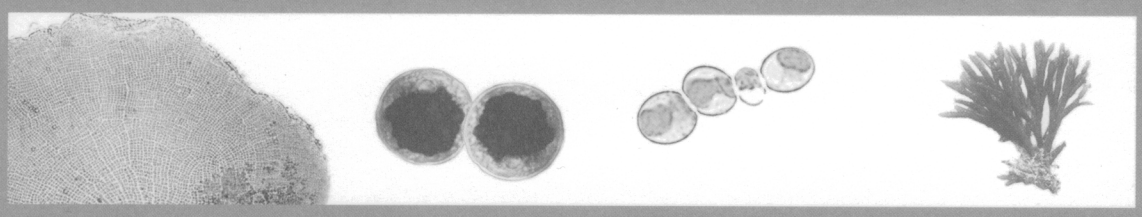


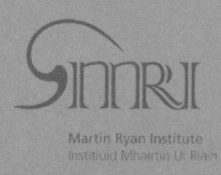
11th International Conference on Applied Phycology, Galway, Ireland, June 21-27, 2008

Applied phycology in the 21st century;
novel opportunities in a changing world

Program & Abstracts



Organised by
International Society for Applied Phycology
National University of Ireland, Galway
Irish Seaweed Centre, MRI



**261. BIOCHEMICAL PROFILES IN THE MICROALGA *PAVLOVA LUTHERI*:
COMBINED EFFECTS OF LIGHT INTENSITY AND TEMPERATURE**

Carvalho, A. P., Monteiro, C. M. and Malcata, F. X.

Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Rua Dr. António Bernardino de Almeida, P-4200-072 Porto, PORTUGAL

It is widely accepted that microalgae yield specific metabolic responses to variations in their surrounding environment; however, the nature and extent of such interactions is not yet fully understood. In terms of physical parameters, incident light intensity and operating temperature are the main factors that affect overall biomass productivities in microalgal systems; consequently, it is useful to experimentally establish their interdependence, aiming at their optimization. Towards this purpose, the microalga *Pavlova lutheri* was cultivated according to an experimental factorial design encompassing those factors. The dynamics of the culture were monitored *via* characterization of its biochemical profile, generated in response to both the environmental conditions provided and the actual growth phase. In order to rapidly assess the status of the culture, relationships between biochemical indicators and physiological indices were also hypothesized and validated.

It was found that the biochemical composition of the aforementioned microalga is determined by the stage of growth at harvest, the light intensity and the temperature, as well as by the interactions between them. The population biomass is well estimated in terms of carotenoid content, irrespective of the environmental conditions prevailing and the growth phase.