



STRAINS OF MICROALGAE ISOLATED FROM SEVERAL WATER SOURCES IN MEXICO.

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Introduction. Microalgae are interesting and important organisms since via photosynthesis produce a great biomass quantity. This biomass is potentially be used as food, biofuel, fertilizer, for the production of high aggregated value products like pigments, immunoregulators, medicines, etc. The first experiences in Mexico had the aim of biomass production in order to feed fishes and crustaceans larvae. Nowadays crop algae is a good opportunity for solving water pollution problems, hunger situations in poor countries, poor fossil fuel stocks, among others (1). At UAM-Iztapalapa laboratory of Applied Phycology we have settled up a collection of microalgae strains for the study of life cycles, biodiesel production, molecular analyses, biogeography, ecology, secondary metabolites, toxins, etc. These strains have been isolated from waste water, marine water, fresh water, and brackish water from a diversity of places in Mexico.

Methods. Living microalgae cultures were concentrated by inverse filtration techniques, microbiological handgrip on microbiological agar, seriated dilutions and micropipette isolation on f/2 medium, L1 and/or L1SE. Culture media were prepared with pre-filtrated and sterilized water from the same localities. These cultures are non-axenic, semi-continuous, maintained with 12:12 light-darkness cycle and 18-200C ± 10C with a 90.5 μmol m² s⁻¹ and 166.8 μmol m² s⁻¹ light irradiation, respectively (2). Strains are inoculated depending of growth rate in each species.

Results

Till now strains collection count with 345 strains representing 200 species that were isolated from different water sources in Mexico, ie, they are native species. Some of them are potentially important for biotechnology purposes like *Arthrospira platensis*, *A. máxima*, *Botryococcus braunii*, *Chlorella vulgaris*, *Desmodesmus quadricauda*, *Pseudokirchneriella subcapitata*, *Nannochloropsis oculata*.

Figure 1. Collection sites of microalgae Collection



Conclusions. UAM strains collection is a very important tool for research on different aspects of algal biology as well as biotechnology demands. Actually we are working on the algal secondary metabolites with ecological importance as well as high aggregated value substances. Investigation on profitable economic topics can help to make algae cultures cheaper.

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