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CONSERVATION AND PRODUCTION OF PLANT MATERIAL AND MICROALGAE WITH  
IMPORTANT IN THE IMPLEMENTATION OF HUMAN COLONIES IN THE SOLAR SYSTEM  
THROUGH THE ENCAPSULATION TECHNIQUE

**Abstract**

The somatic embryos of plants for different uses such as fruit, ornamental, and oxygen-generating microalgae, obtained from germinated seeds and microalgal strains in a MS medium supplemented with naphthalene-acetic acid (ANA), 6, benzylaminopurine (BAP) and indole-3-acetic acid (IAA), 2 mg liter<sup>-1</sup> and Bristol Medium respectively. Each of them was encapsulated in a sodium alginate matrix in a complex with 75 mM calcium chloride (CaCl<sub>2</sub>·2H<sub>2</sub>O), to produce synthetic seeds, as a long-term conservation strategy. To determine the effect of physical and chemical factors such as temperature and storage time, consistency of the alginate matrix, concentration of mineral nutrients, and plant growth regulators, on the percentage and time of germination, as well as viability of synthetic seeds both of plants and microalgae, concentrations of sodium alginate at 2.0, 3.0 and 4.0