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MICROALGAS: POTENCIAL USO NA INDÚSTRIA DE ALIMENTOS
MICROALGAE: POTENTIAL USE IN FOOD INDUSTRY

The interest in microalgae has increased in recent years since these microorganisms are able to produce vitamins, minerals, amino acids and essential fatty acids and could be used by human feeding, animal, cosmetic, pharmaceutical and biofuel industries. This interest lies in the advantages that these microorganisms exhibit when compared to traditional sources of protein, such as plants, due to their greater efficiency in the conversion of solar energy to biomass (3 - 8% versus 0.5% in plants), resulting in high growth rates (1-3 replications per day) can be applied in areas not suitable for traditional crops, not competing with food production sites. For example: the three main components of microalgae biomass are carbohydrates, lipids and proteins, this defatted biomass could be explored to obtain proteins and cell walls components for applications as food ingredients, beyond the possibility of generating by-products for industrial use, such as vitamins, enzymes, dyes, minerals, antibiotics, supplements and nutraceuticals and other biologically active metabolites. However, the amount and variety of compounds of commercial interest that could be obtained from microalgae is still unknown. At global level, the need for the development of clean, sustainable and organic technologies for obtaining food products demands a continuous search for species and/or varieties capable of synthesizing large amounts of specific compounds. In order to do so, an alternative would be to potentiate the production of these compounds by changing culture conditions and by genetic improvement of these microalgae. Likewise, there is a need for researches on the development and optimization of production systems on large scales.

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