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EVALUATION OF THE MASS COLLECTION OF SARGASSUM IN RIVERA MAYA FOR PHARMACEUTICAL AND INDUSTRIAL HIGH SUPPLIES

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ABSTRACT

Since 2015, an excess of sargassum has been observed on the beaches of the Mexican Caribbean that has generated a negative impact due to its contamination of the environment and its effects on the tourism sector. Two species are commonly found in the Mexican Caribbean, namely Sargassum natans and Sargassum fluitans. Currently, much of the biomass of sargassum collected is that which from what is stranded on the beach. It is collected by locals and the tourism sector with the objective of minimizing the negative effects caused by sargassum stranded on the seashore. The present investigation characterizes sargassum biomass collected on the beaches, which may have differences in composition from sargassum collected offshore, to determine its potency for use as a raw industrial material. Sargassum extracts were characterized in different solvents by High-Performance Liquid Chromatography (HPLC), nuclear magnetic resonance spectroscopy, atomic absorption spectroscopy for trace minerals, mass spectrometry for lipid analysis, and Fourier Transform Infrared Spectroscopy (FTIR). The average composition of the sargassum extract was 11 % polyphenols, 12 % polysaccharides of alginic acid, 0.2 % trace minerals, 0.85 % fatty acid esters containing hydrocarbon chains from C8 to C20, a calorific value of 2260 KJ / Kg, ash percentage of 16 %, and energy content of 540 kcal / Kg.

KEYWORDS: *Fluitans, Natans, Sargassum, Polysaccharides, Polyphenols, Fatty Acids*

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