**Seaweed Biorefinery**

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**Abstract**

Seaweeds are a lot of bio-compounds and others chemical sources that can be used in industry, and in the last years came gained attention, mainly in areas of food, drug, agriculture, aquaculture, bio-energy, and degradable film and others products.

They can be found in the oceans and fresh water as well that have light access. Macro-algae are eukaryotic, macroscopic multicellular algae commonly know by seaweeds. They need to be fixed on solids subtracts to live, can be rock, ship hulls, immersed woods, even pipes because they benthonic habits. They don’t have a complexes structure at all, owing thallus, lamina, kelp, holdfast and frond sorus, thus morphologically differentiating it from the typical terrestrial plant, consisting of complex tissue and organ organization. (Milledge et al. 2014).

Seaweeds are divided in three groups based on their most important pigments, are they: Chlorophyceae (green algae, with chlorophylls a and b), Phaeophyceae (brown algae, with chlorophylls a and c) and Rhodophyceae (red algae, with chlorophylls a and d). Green algae can absorb a huge amount of light energy, while red and brown algae cannot as they live in deeper waters where there is insufficient sunlight. Brown algae account for approximately 59% of the total macroalgae cultivated in the world, followed by red algae at 40% and green algae at less than 1% (Christaki et al., 2012).

The purpose of this study is to show some products extracted from macroalgae, such as fertilizers, drugs, drugs, pigments and biofuels.

**Key Words:** Macroalgae, bioremediation, Bio-fuel, Industrial products, Global warming