Seasonal variation in lipid level of <i>Botrycladia Occidentalis<i> from northern Rio Grande do Norte

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INTRODUCTION: The nutrient compositions of seaweeds are different depending on species, habitats, environmental conditions and seasons. Algae have many different chemical benefits that are useful in the energy sector, like the production of biodiesel. Over the past several decades demand for energy increased and continue growing drastically around the world. Biodiesel can leverage limited supplies of fossil fuels. The production of biofuel from microalgae has gained considerable attention due to the fact that they can be converted into several different types of renewable biofuels such as green diesel, jet fuel, methane biogas, ethanol and butanol. Recently macroalgae has arised as an alternative source of biodiesel. **OBJECTIVES:** The aim of this work is to determinate which season offers the highest lipid concentration of <i>Botrycladia Occidentalis<i>. **MATERIAL AND METHODS:** Seaweed was collected from the Rio do Fogo bay in northern Rio Grande do Norte on summer, spring, autumn and winter. Protein, ash, lipid, carbohydrate and moisture contents of seaweeds were determined as recommended by the Institute AOAC (2011). The mean values of each biochemical component were subjected to one-way ANOVA. **RESULTS AND DISCUSSION:** To find the ideal season, we monitored the physical and chemical characteristics of <i>Botrycladia Occidentalis<i> for 3 years. The lipid level that we found was 4,18 % on winter, 4,11 % on spring, 2,67 % on autumn and the highest concentration (8,71 %) on summer. In this season we gained 1,91 % of protein, 34,79 % of carbohydrate, 52,51 % of ash and 2,08 % of water. We observed that the concentration of biological compounds varies with species and seasons, but stay the same on the region in a determined season. **CONCLUSION:** The development biodiesel processes using <i>Botrycladia Occidentalis<i> lipids is promising. We found high lipid concentration during the seasons, especially on summer.

REFERENCES: AOAC. **ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS**. Official methods of analysis. 19 ed. Arlington, 2011.

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