9th Global Chemistry Congress

July 23-24, 2018 | Lisbon, Portugal

The influence of metals on the production of biomass by microalgae in Goiás

Wesley da Silva Borges

Lutheran Institute of Higher Education of Itumbiara, Brazil

Microalgae have been increasingly highlighted as an alternative for carbon dioxide biomitigation due to their ability to use sunlight to convert CO₂ into lipids and biomass. Environmental problems, such as gas emissions from the burning of fossil fuels, spur the continually growing search for renewable fuels. Thus, microalgae have become an attractive alternative for carbon dioxide biomitigation due to their ability to use sunlight to convert carbon dioxide into lipids and proteins. Furthermore, microalgae may also become a source of energy, biofuels and biomass. The primary advantages of microalgae over vegetables are twofold. Firstly, microalgae can grow in soils unsuitable for agriculture. Secondly, microalgae require a smaller production area due to their superior productivity over oilseeds. Metals zinc and manganese stand out among the essential micronutrients for algae biomass production. With this in mind, this work studied the growth of *Scenedesmus sp.* microalgae in Guillard medium and maximize the biomass production. The key conditions investigated included the sources of zinc and manganese, culture time and age of the inoculating culture. The biomass obtained at the optimum conditions: 0.06 g/L of zinc sulfate heptahydrate and 0.5 g/L of manganese chloride tetrahydrate, a 30-day culture period.

Biography

Wesley da Silva Borges has received his PhD in Chemical Engineering from Federal University of Uberlândia and Master's degree in Chemical Engineering in the development of chemical processes at the same institution. He has a degree in Chemistry in Lutheran Institute of Higher Education of Itumbiara (2006) and Specialization in processing industry sugarcane by the Faculdades Associadas de Uberaba (FAZU). He has experience in Chemistry with emphasis in Chemistry and industrial processes of manufacturing of sugar and alcohol, also experience in Chemical Engineering with emphasis in Biochemistry and Bioprocesses. Currently, he is the Coordinator and Teacher of the Chemistry course at the Lutheran Institute of Higher Education in Itumbiara (ILES/ULBRA), Goiás, Brazil.

wesley.itb@gmail.com

Notes: