

## عنوان مقاله:

Sanitary Wastewater Supplemented with Glycerol to Obtain Lipid-Rich Microalgal Biomass

## محل انتشار:

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## نویسندگان:

Eduarda Torres Amaral - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Giséle Alves - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Jennifer Julich - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Martiele Bizarro da Silva - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Gleison de Souza Celente - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Michele Hoeltz - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Rosana de Cassia de Souza Schneider - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

Lisianne Brittes Benitez - *Programa de Pós-Graduação em Tecnologia Ambiental, Universidade de Santa Cruz do Sul, Santa Cruz do Sul, RS, Brazil*

## خلاصه مقاله:

Introduction: Mixotrophic microalgae systems have great potential for bioenergy production and wastewater treatment. Anaerobic-treated wastewater supplemented with carbon can improve biomass yield and quality, as it presents low carbon content. Alternative carbon sources in microalgae cultivation, such as glycerol, are essential for minimizing the economic and environmental impacts caused by biomass production, and improving the profile of fatty acids. This study aimed to increase biomass production and the lipid content with glycerol as the carbon source for microalgae cultivation from sanitary wastewater. Materials and Methods: The microalgae behavior in the wastewater was pilot tested using glycerol supplementation at 7.5, 10.5, and 12.5 g L<sup>-1</sup>. Results: In all the experiments with sanitary wastewater, the microalgae production presented *Chlorella* sp. as the predominant species. The best biomass ( $3.78 \pm 1.12$  g L<sup>-1</sup>) and lipid ( $35.67 \pm 0.80\%$ ) yields were found at 12.5 and 10.5 g L<sup>-1</sup> of glycerol, respectively. Conclusion: The microalgae produced more lipids with glycerol supplementation. An attractive profile for biodiesel was found regarding

**کلمات کلیدی:**

Microalgae, Wastewater, Bioremediation, Glycerol, Fatty Acids

**لینک ثابت مقاله در پایگاه سیویلیکا:**

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