

USE OF WASTE FROM BIODIESEL PRODUCTION FROM DIFERENT INDUSTRIES FOR
BIOSURFACTANT PRODUCTION BY *Pseudomonas aeruginosa* LBI 2A1

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The use of biodiesel as alternative to replace fossil fuels has increased in recent years. Considering that each ton of biodiesel generate 100 kg of glycerol, there is a concern about the destination of this waste. In this way a solution is the use of glycerol as a carbon source in the biosurfactant production. The advantages of these compounds compared to synthetic surfactants are low toxicity, high biodegradability and production from renewable substrates. The present study purpose was evaluate the potential of glycerol from biodiesel for rhamnolipids production by *Pseudomonas aeruginosa* LBI 2A1. This purpose also includes to observe if there is difference on biosurfactant production when using this waste of distinct companies. The experiments were conducted in 1 L Erlenmeyer flasks in rotatory shaker for 120 hours at 37 ° C and 200 rpm. The rhamnolipid analysis was performed qualitatively in Thin-Layer Chromatography (TLC). The results revealed that the micro-organisms was able to produce rhamnolipids from biodiesel glycerol used as the carbon source. However, there was diferences in the waste metabolization of distinct companies, resulting in distinct concentrations of byproduct. This is probably due to waste composition that may be specific to each company because of the biodiesel production process. Thus, although there are variations in the waste constituents, the microorganism was able to produce rhamnolipids in these carbono source. The advantages is that this is a biodiesel production waste and for this reason has a low cost. The use of this carbon source can help reduce the cost of rhamnolipids production, adding value to the waste and consequently reduce environmental pollution.

Palavras-chave: Glycerol, Rhamnolipids, *Pseudomonas aeruginosa*.

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