Biodegradación anaerobia de las aguas generadas en el despulpado del café [

Universidad Nacional de Colombia: Instituto de Biotecnología, 2010

text (article)

Analítica

The cultivation and processing of coffee is one of the most important agro-industrial activities in several Latin-American countries; however, such activity leads to great negative environmental impact because wastewater having high pollution load is produced. The ecological danger of these discharges has promoted the search for treatment and final disposal alternatives. This work used a microbial community from bovine ruminal fluid to investigate the feasibility of using it in treating wastewater produced by pulping coffee by reducing organic load expressed as COD, as well as the volume of methane so produced. Degradation kinetics were followed up in a two litre anaerobic and mesophilic batch reactor at different temperatures (28C and 36C) and pH (4.6, 7 and 8.5). The results gave a 0.44 ml/g sludge volume index and 0.0076 gDQO/gSST*d specific methanogenic activity. In most cases, COD removal resulted in more than half initial organic content, reaching 91.2% with 4.6 pH and 28C in 16 days. The results showed that the consortium being studied was able to adapt itself to the substrate and degrade most organic load, thereby making it an interesting biotechnological option for treating wastewater from coffee pulping
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