

2nd International Congress and Expo on

Biofuels & Bioenergy

August 29-31, 2016 Sao Paulo, Brazil

Alternative process of deacidification of Macauba oil (*Acrocomia aculeata*) aiming the biodiesel production

Daniel Bastos de Rezende

Universidade Federal de Minas Gerais, Brazil

The availability of low-cost raw material is a key factor for the economic viability of the biodiesel production. Together with the raw material, other factors that increase costs in the process of transformation of vegetable oil or animal fat by alkaline transesterification into biodiesel are associated with the purification steps of the raw materials and products. The Macauba is an oleaginous palm whose current extractive way of collecting classifies it as a raw material of high acidity, not suitable for biodiesel production by conventional processes. It is proposed in this work, an alternative process, technically feasible and environmentally friendly, for separation of free fatty acids of the Macauba pulp oil in order to adequate it for biodiesel production by transesterification via homogeneous alkaline catalysis. The process consists of two main steps: Liquid-liquid extraction for the recovery of free fatty acids; and neutralization of residual fatty acids through esterification. In the simulation, 50 kg/h of Macauba oil with acidity of 12.9% were treated, achieving 40.8 kg/h of a product with acidity of 0.5%. In the validation bench test, following the same steps of the simulation, the acidity achieved in the final product was 0.67%.

Biography

Daniel Bastos de Rezende has completed his Doctorate in 2015 from Universidade Federal de Minas Gerais, Brazil. He is a Researcher at LEC/UFMG (fuels and biofuels research laboratory). He has experience in automotive industry, R&D and as University Professor.

bastos_rezende@hotmail.com

Notes: