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Peanut Virginia type (*Arachis hypogaea L.*) as feedstock for biodiesel production: Comparative analysis from methylic and ethylic routes

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The potential of Peanut Virginia type (*Arachis hypogaea L.*) as feedstock for biodiesel production was studied according to agricultural management criteria, oil extraction and biodiesel production. After harvest and crop trituration, the peanut oil was attained by solvent extraction procedure resulting in 43.74% oil per grains weight using hexane, in spite of 33.8% when ethanol was used as solvent. The biodiesel production was carried out by conventional chemical transesterification, but using, both, methoxide and potassium ethoxide, as well as, their respective short chain alcohols, methyl and/or ethyl alcohol. The reactions yield was accomplished by GC analysis and comparativelythe formed biodiesel were 97.14 % and 95 %, respectively. The quality of the purified biodiesel contained no glycerol-bound compounds, was characterized by 1H NMR and another properties such as specific gravity (879.3 and 877.1 kgm−3) and kinematic viscosity (4.66 and 5.06 mm2s−1) for methyl and ethyl esters, respectively, whose values were in accordance with standard fuel specifications ASTM D1298 and D445, respectively, suggesting the potential of this oil as feedstock for biodiesel production.

Biography

Euripides G Silveira Junior has completed his MSc degree in Natural Resources at the State University of Mato Grosso do Sul, Brazil, in year of 2012. Actually he is PhD Researcher at the State University of Northern of Rio de Janeiro, Brazil, whose major field and research areas are basically biodiesel production from different non-edible feed stocks and heterogeneous catalysts.

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