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Production from macro algae as a biofuel for diesel engine (Article)

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Abstract

Plant oils or triglycerides are converted through the trans-esterification reaction with methanol and base catalyst to produce fatty acid methyl esters (FAME) or Biodiesel. **Production** of biodiesel from plant oil is **a** renewable, sustainable and alternative of petroleum based fuel. **Algae** oil (AO) from macroalgae has the potential to become **a** sustainable fuel source **as** biodiesel. The lipid contents or oil in **algae**, once extracted and purified, represent an excellent sustainable feedstock for biodiesel **production**. Ulva Lactucaspecies of macroalgae were used for algal oil extraction in this study. The AO was extracted by chemical extraction method. The transesterification reaction of AO with methanol and base catalyst was used for the **production** of biodiesel. In **engine** performance test, it showed slight increase in specific fuel consumption but biodiesel blends showed higher brake power. The emission of CO, HC and NOx reduced **as** biodiesel blend percentage increased over **engine** speed range. © Research India Publications.

Author keywords

Algal oil; Biodiesel; Fatty acid methyl esters (FAME); Transesterification; Triglycerides

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