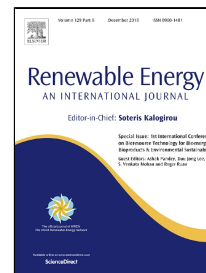


Accepted Manuscript

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PII: S0960-1481(18)30893-0
DOI: 10.1016/j.renene.2018.07.096
Reference: RENE 10370
To appear in: *Renewable Energy*
Received Date: 21 December 2017
Accepted Date: 19 July 2018

Please cite this article as: M. Arunkumar, M. Kannan, G. Murali, Experimental Studies On Engine Performance And Emission Characteristics Using Castor Biodiesel As Fuel In Ci Engine, *Renewable Energy* (2018), doi: 10.1016/j.renene.2018.07.096

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EXPERIMENTAL STUDIES ON ENGINE PERFORMANCE AND EMISSION CHARACTERISTICS USING CASTOR BIODIESEL AS FUEL IN CI ENGINE

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ABSTRACT

The petroleum fuels need a constraining research for another energy source as the diminish of diesel fuels and causes of health problems. This paper studies the castor biodiesel as another source of fuel for already having CI engines with the application of new biodiesel which having new fuel properties. The study explains the utilization of castor biodiesel as another fuel for the diesel, and it may considerably weaken the exhalation of greenhouse gases as well as strengthen the castor seed production which gives employment to farmers on the city or town sides. The study reveals that the usability of castor biodiesel as another source of fuel reduces carbon monoxide to 9% correlated to diesel HC reduced by 8.8% also a considerable reduction in oxides of nitrogen. Here there was increased in SFC by 4% and the thermal efficiency reduced by 2.2%. But the environmental issues and the employment for farmers and increase their production of castor plant prefers the castor biodiesel is another source of fuel for the automobiles, cultivation and power production sectors.

Keywords - *diesel, castor oil, ethanol, smoke, CI Engine, Engine performance.*

1. Introduction

The cautionary to the complete existence of the world is because of the atmospheric pollution and global warming. As there are many reasons for the pollution, the major reasons are the exhalation of pollutants from the automobiles and the power production unit, which uses petroleum

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