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Experimental Investigation of Performance and Emission Characteristics of Cebia petandra Biodiesel in CI Engine

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Abstract: Industrialization throughout the globe has increased in past two decades which in turn being the reason for decrease in the Fossil Fuels. The decrease in Fossil Fuels has resulted in research of alternate fuels which can efficiently decrease the usage of fossil fuel consumption either by direct usage of Alternate fuel or in addition with fossil fuel produced Petroleum Product such as Petrol/Diesel. The Experimental Project work was inspired from the increasing research work that has been done in the field of "BIOFUELS" produced from the non-edible oils. The non-edible oil used in the project is extracted from Cebia Pentandra seed (silk cotton seed, Kapok seed), through two step esterification process the oil is converted to Biodiesel. Five different Blends of Biodiesel-Diesel is used, whose Engine performance and emission characteristics are studied by fueling CI engine at constant compression ratio. In this experimental work the results of Engine Performance and Emission characteristics of the Biodiesel Blends are compared to the Diesel Performance and emission characteristics.

Keywords : Alternate Fuels, Biofuels, Non-edible oils, Silk cotton seed oil, Methyl Ester, Biodiesel Blends, Performance and Emission characteristics, Two step esterification, CI Engine.

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