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# Performance and Emission Characteristics of Diesel Engine Fuelled with Palm Biodiesel Blends

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**Abstract :** Palm oil may be employed in diesel engine as an alternative fuel. Biofuel has so far been backed by government policies in the quest for low carbon fuel in the near future and promises to ensure energy security through partially replacing fossil fuels. This paper presents an experimental investigation of performance and emission characteristics by using palm oil in diesel engine. The properties of palm oil can be compared favorably with the characteristics required for internal combustion engine fuels especially diesel engine. Experiments will be performed for fixed compression ratio i.e. 18 using biodiesel-diesel blends i.e. B0, B10, B20, B30, B40, B50 with load variation from no load to full load and compared with base cases i.e. engine using diesel as a fuel. The parameters studied in performance characteristics are brake power, brake specific fuel consumption and brake thermal efficiency, in emission characteristics are carbon monoxide, unburnt hydrocarbons and nitrogen oxide. After experimental results B20 (20% palm oil and 80% diesel) is best in performance, but NOx formation is little higher in B20.

**Keywords :** palm biodiesel, performance, emission, diesel-biodiesel blend
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