International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.9, No.11 pp 63-70, 2016

Impact of Various Compression Ratio on the Compression Ignition Engine with Diesel and Mahua Biodiesel

Sivaganesan S[1]* and Chandrasekaran M[2]

[1, 2] **Department of Mechanical Engineering, Vels University, Chennai 600117, India.**

Abstract : In this paper, the experimental investigation analyses various characteristics of diesel engine like performance, combustion and emission with diesel and 20% concentration of mahua biodiesel blend in diesel. Both the diesel and biodiesel fuel was injected at 23 ºBTDC. The testing was carried out at various compression ratios. Biodiesel was extracted from mahua oil, 20% (B20) concentration with diesel is used in all compression ratios. The compression ratios were 17.5, 16.5 and 15.5 by raising the clearance volume. The main objective of analyzing the effect of various compression ratios is to reduce the oxides of nitrogen. The result concluded that higher the compression ratio better the performance and lower the emission. By reducing the compression ratio, the oxide of nitrogen was lower for both diesel and biodiesel compared with higher compression ratio of 17.5.

Keywords: Methyl Ester of Mahua, Biodiesel Blend, Performance, Combustion, Emission.

Sivaganesan S *et al* /International Journal of ChemTech Research, 2016,9(11),pp 63-70.

*****