



Performance Evaluation of Bio-Fuel Blends For Replacing Diesel in A Diesel Engine

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Abstract : This study is to investigate a bio-fuel to replace diesel consumption. Bio-diesel from cotton seed oil (non – edible) prepared by trans-esterification process and ethanol anhydrous are blended in various proportions, the properties of the blends are determined as per the ASTM standards. Blends containing 5%, 15%, 25% of ethanol and rest biodiesel are tested in a diesel engine for the performance and emission characteristics at various loads. Results are compared with diesel as base fuel. From the results it is observed that the BTE of all the blends are closer to diesel. BSFC and emissions of CO, HC and NO_x emission for the blends are lesser than diesel. The study shows that using of these blends can replace diesel to a greater extent and also reduce the emission affecting the environment impact.

Keywords : Bio-fuel, Cotton seed oil, Transesterification, Ethanol.

B. Prabakaran *et al* /International Journal of ChemTech Research, 2016,9(5),pp 482-488.
