

PERFORMANCE, EMISSION ANALYSIS AND WEAR CHARACTERISTICS OF VALVES OF I.C ENGINE FUELED WITH METHYL ESTERS OF COTTON SEED OIL AND ITS BLENDS

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Abstract

In this work, an attempt is made to investigate emissions and valve recession of different biodiesel blends of methyl esters of cotton seed oil using C.I engine.. It is observed that the biodiesel holds promise as an alternative for diesel engines, when compared with the rapidly depleting petroleum reserves. In the present study cotton seed oil has been chosen as test fuel. Methyl esters of cotton seed oil has been produced by transesterification of edible cotton seed oil, which reduce its viscosity. These methyl esters are known as biodiesel and will be used in a single cylinder direct injection C.I engine. The various properties of cotton seed oil, its methyl ester and ester blends with diesel oil are estimated. The performance and emission studies on 20%, 40%, 60%, 80% and 100% blends of cotton seed methyl ester has been conducted. The experimentation results have been used to determine the wear of valves based on abrasion and impact model.

Keywords: valve Recession, Cotton seed oil methyl esters (CSOME)