

**COMPARISON OF PERFORMANCE CHARACTERISTICS OF  
VEGETABLE OILS BEFORE AND AFTER  
TRANSESTERIFICATION**

A PROJECT REPORT IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE  
AWARD OF DEGREE OF

**BACHELOR OF TECHNOLOGY**

**IN**

**MECHANICAL ENGINEERING**

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**CERTIFICATE**

This is to certify that mini project report is entitled “**COMPARISION OF PERFORMANCE CHARACTERISTICS OF VEGETABLE OILS BEFORE AND AFTER TRANSESTERIFICATION**” was carried out by **M.Somanath Gupta (16815A0327), T. Rama Krishna (15811A03D2), T.Murali Krishna (15811A03C9) , N.V.S.S.Naidu (15811A03D0)** in partial fulfillment of the requirements for the award of the **Degree of Bachelor of Technology in “Mechanical Engineering”** To JNTUK university at **AVANTHI INSTITUTE OF ENGINEERING & TECHNOLOGY , Narsipatnam, during the acadamic years 2015-2019.**

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## ABSTRACT

Chemical and physical characteristics of some compression-ignition fuels derived from vegetable oils are recorded and some relationships between them established. From consideration of the literature relating to spark-ignition engine performance and its dependence upon hydrocarbon fuel structure, guidelines are proposed for the chemical structure requirements of compression-ignition engine fuels derived from plant seed oils.

The process of exchanging the organic group  $R''$  of an ester with the organic group  $R'$  of an alcohol is called Transesterification. These reactions are often catalyzed by the addition of acid or base catalyst. The reaction can also be accomplished with the help of enzymes (biocatalysts) particularly lipases.

The guidelines have proved successful in predicting the ignition quality of a range of vegetable oil fuels evaluated by means of performance curves.