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# Investigation of Production and Evaluation of Mono Alkyl Esters in Compression ignition Engines

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**Abstract:** This article is based on review of biodiesel fuel for Compression Ignition engines. The depletion of fossil fuels increases day by day and it has become a mandatory for an alternative fuel to satisfy the demand energy. Many researchers and scientists have reported that the biodiesel is one of the most offered recourses because of its benefits and applications. The results that are obtained using different processes proved that performance and combustion characteristics of biodiesel in IC engines are more effective as diesel. The combustion characteristics of various biodiesel blend ratios with diesel were found to be the shorter ignition of the physical and chemical delay, higher ignition temperature and pressure, and combustion peak heat release. The evaluation process demonstrates the better outcome for BSFC and BTE at increased compression ratio. For any kind of biodiesel test fuels, varying in compression ratio decreases the emissions of hydro carbon and carbon monoxide while oxides of nitrogen emissions increases.

**Keywords:** Biodiesel, Transesterification, Retention Time, combustion, Gas chromatography / Mass spectrometry.