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Experimental Investigations On DI Diesel Engine Using Non-Edible Oils – A Review

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Abstract : Biodiesel is an alternative to conventional diesel fuel made from renewable resources such as non – edible vegetable oils. The oil from seeds (e.g., Jatropha, Pongamia etc) can be converted in to fuel commonly referred to as “Biodiesel.” No engine modifications are required to use biodiesel in place of petroleum-based diesel. Biodiesel can be mixed with petroleum based diesel in any proportion. This interest is based on a number of properties of biodiesel including the fact that, it is produced from a renewable domestic source, its biodegradability, and its potential to reduce exhaust emissions. The present work attempts to make a detailed review of literature available on experimental investigations and the effect of biodiesel derived from various feedstock on a DI diesel engine, selection of fuel that gives better performance, and the effect of injection parameters on the engine using various biodiesels. From the present review work, it has been concluded that, through various biodiesels with different blends of seed oils give emerging results in the load tests, the intercomparison of performance of various blends with various seeds revealed that, variation of improvements are marginal. In some seeds it may be more than conventional diesel and viceversa. However, the success of biodiesel applications depends on the abundant availability / production of seeds and the cost of extracting oil from the seeds. Hence this survey will pave way for exploring the optimum methods of seed production and oil extraction.