

Internal combustion engine performance and emission from blends of jatropha bio fuel and diesel

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ABSTRACT : In the present investigation experimental work was carried out in studying of Jatropha biodiesel blends with High speed Diesel (HSD) from 20% to 60% by volume and in running a diesel engine with these fuels. Engine tests were carried out analyze the comparative performance and emission characteristic of Internal Combustion (IC) engine fuelled with Jatropha biodiesel blends and HSD at different load. Parameters like break power, break specific fuel consumption (BSFC), break thermal efficiency (BTE), exhaust gas temperature, carbon monoxide (CO), carbon dioxide (CO₂) and oxide of nitrogen (NO_x) were analyzed. Results indicated that without making any engine modification fuel used as a B20 and B40 and cost of operation of engine decreases. On these using fuel found comparative performance with diesel was slightly increased and exhaust emission of biodiesel blends were lower than the HSD fuel.

Key Words: Exhaust emission, High speed Diesel, Jatropha biodiesel blends, Oxide of Nitrogen