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Experimental investigation on engine performances, combustion characteristics and emission of exhaust gases of VCR engine fuelled with cottonseed oil methyl ester blended with diesel

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ABSTRACT

This research work investigates the engine performances, combustion characteristics, and emi with cottonse ysis showed that hea blends. Higher B lower SFC are c ctive pressu sure and combust 51 bar, higher H % for B30 at BMEP of 4.64 bar when compared to diesel. Ignition delay decreased by 15.16% for

B100, by the increment of blend proportions when compared to diesel, at BMEP of 4.64 bar. Lower smoke, HC and CO emissions are observed when increasing the blend proportions, whereas the nitric oxide emissions increases due to the better combustion resulted in higher temperatures. At BMEP of 4.64 bar, the CO emissions are reduced to 25.24% for neat biodiesel when compared with the diesel.

KEYWORDS: Cottonseed oil methyl ester | cylinder pressure | emission | heat release rate | VCR Engine

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