

***ANALYSIS OF THE EFFECT OF BIODIESEL FUEL MIXTURE
WITH ANTIOXIDANT KETAPANG LEAVES EXTRACT ON
DIESEL ENGINE PERFORMANCE***

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ABSTRACT

This research was conducted with the aim of knowing the effect of adding antioxidants from ketapang leaves extract to biodiesel B35 on engine torque, engine power and specific fuel consumption. The addition of antioxidants from ketapang leaves extract to biodiesel B35 can affect the values of engine torque, engine power and specific fuel consumption. The results of this research were that the addition of antioxidants from ketapang leaves extract to biodiesel B35 could affect engine torque after adding 0.1 ml, 1 ml and 10 ml of ketapang leaves antioxidants, the values respectively increased by 1.6%; 2.13%; 4.27%. The power value after adding of ketapang leaves antioxidants 0.1 ml, 1 ml and 10 ml also increased by 2.80%; 3.23%; 5.11%. Similar to engine torque and engine power, the value of specific fuel consumption also increased after adding 0.1 ml, 1 ml and 10 ml of ketapang leaves antioxidant additives, the values respectively tended to increase by 2.62%; 3.85%; 0.81%.

Keywords : *Diesel engine, Engine torque, Engine power, Specific fuel consumption, Antioxidant, Terminalia cattapa leaf*