

Short Term Tests on Performance Evaluation of Water-Washed and Dry-Washed Biodiesel from Used Cooking Oil

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Abstract : In this study, biodiesel from used cooking oil was produced as purified by washing with water (water wash) and amberlite (dry wash). The work presents the results of short term tests on performance characteristics of diesel engine using both biodiesel-fuel samples. In this investigation, the water wash biodiesel and dry wash biodiesel and diesel were compared for performance using a four-cylinder diesel engine. The torque, brake power, specific fuel consumption and brake thermal efficiency were analyzed. The tests showed that in all cases, dry wash biodiesel performed marginally poorer compared to water wash biodiesel. Except for brake thermal efficiency, diesel fuel had better engine performance characteristics compared to the biodiesel-fuel samples. According to these results, dry washing of biodiesel has a marginal effect on engine performance.

Keywords : biodiesel, engine performance, used cooking oil, water wash, dry wash

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