

ABSTRACT

The purpose of this test is to study the mixture of diesel and vegetable oils against the heat produced and to know the heating value of concentration and its effect on mixing diesel and vegetable oils. The results of combustion of a mixture of diesel fuel and vegetable oil were analyzed for heating value to determine vegetable oil which has the best heating value and the effect of the mixture composition on the heating value produced. The test results using a simple method show mixing olive oil with diesel fuel shows the results of the heating value which increases with increasing amount of mixture, while palm oil has a fairly high added value and the highest heating value of the type of vegetable oil used is 67456.2 J for the percentage mixture 20%. In addition, testing was also carried out using bomb calorimeters with heating values of 42.67 MJ / Kg for mixture of diesel fuel and clove oil, and 42.13 MJ / Kg for mixture of diesel fuel and palm oil. The value obtained using a bomb calorimeter is greater than using a simple method, because the system that occurs in bomb calorimeters and simple testing has a different system. But both simple testing and using a bomb calorimeter show the same trend for the calorific value.

Keyword : heaing value, vegetable oil, diesel fuel