

ABSTRACT

Corn oil may be one of the solutions to overcome biodiesel mixing as a substitute for fossil energy. In this study, we investigate the combustion characteristics of a mixture of corn oil with diesel oil. We used corn oil mixed with diesel oil using percentages 10%, 20%, 30%, 40%, and 50%. Characteristics of combustion were investigated by the time of ignition, visualization (height of fire and color of fire), flame temperature, and rate of combustion. The results show the highest ignition delay time is shown by a mixture percentage of 50%, which is 6,28 s. The flame of combustion has a yellow color. The highest flame was shown by the percentage of the mixture 10% that was as high as 66mm. The highest flame temperature in the percentage of 50% mixture with a temperature of 63,7°C. The highest combustion rate test results are shown by a 50% mixed percentage that is 0.849 s.

Keywords : Droplets, Corn Oil, Combustion.