



Effect of degummed procedure on crude palm oil properties and biodiesel product

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Gum is one of non-triglyceride components which must be removed from crude vegetable oil in pretreatment process. The objective of this work is finding the optimal degumming process for crude palm oil (CPO) preparation. The effect of degumming condition on kinematic viscosity at 40°C and acid content were studied. The viscosity of CPO is 39.84 cSt at the beginning. Phosphoric acid, hot water and lime juice were selected as degummed chemicals with various concentrations. Degummed crude palm oil samples were characterized for viscosity and acid content. The optimum condition was using inorganic phosphoric acid for 1 hr. at 80-90°C which showed the most decreased in crude palm oil viscosity. At the optimal concentrations of phosphoric acid and lime juice, the acid content of degummed sample still similar with the starting oil. For lime juice, the kinematic viscosity of degummed oil is less reduced from raw CPO than phosphoric acid. However, lime juice is still the good candidate for homemade edible oil pretreatment. Hot water is also an effect on the properties of degummed palm oil.

Keywords: Crude palm oil; Degumming; Kinematic viscosity