

Effect of Storage Time on the Properties of Seeds, Oil and Biodiesel from *Reutealis trisperma*

Authors : Muhammad Yusuf Abduh, Syaripudin, Laksmitha Dyanie, Robert Manurung

Abstract : The time profile of moisture content for different fractions (PT-3, PT-7, PT-14, NPT-21) of trisperma seeds (*Reutealis trisperma*) was determined at a relative humidity of 67% and 27°C for a four months period. The diffusion coefficient of water in the trisperma seeds was determined using an analytical solution of instationary diffusion equation and used to model the moisture content in the seeds. The total oil content of the seeds and the acid value of the extracted oil from the stored seeds were periodically measured for four months. The acid value of the extracted oil from the stored seeds increased for all conditions (1.1 to 2.8 mg KOH/g for PT-3, 1.9 to 9.9 mg KOH/g for PT-7, 3.4 to 11.6 mg KOH/g for PT-14 and 4.7 to 25.4 mg KOH/g for NPT-21). The acid value of trisperma oil and biodiesel that has been stored for four months (27°C, closed container) was also determined. Upon storage, the acid value of trisperma oil and biodiesel only slightly increased from 1.1 to 1.3 mg KOH/g and 0.4 to 0.43 mg KOH/g, respectively.

Keywords : acid value, biodiesel, moisture content, *Reutealis trisperma*, storage

Conference Title : ICBB 2018 : International Conference on Bioenergy and Biorefineries

Conference Location : Boston, United States

Conference Dates : April 23-24, 2018