

ABSTRACT

The pulping of oil-palm petioles with formic acid medium has been studied in an effort to develop an efficient and environmentally safe process. This research was conducted to study the effects of pulping condition on the pulp yield and lignin content. Experiment was run at formic acid concentration 65, 75 and 85%-wt, hydrogen peroxide concentration 1, 3 and 5%-wt and cooking time 1, 2 and 3 hour. The cooking of oil-palm petioles was accelerating in reactor bed at boiling temperature of formic acid in standard condition. The results obtained pulp yield 33.30 – 50.09% with lignin content 11.20 – 19.12% varies depend on cooking condition. The effect of cooking variable on the pulp yield and lignin content were studied by empirical model in second order. The empirical models satisfied to experimental data with confidence level of 95%.

Keywords: Organosolv pulping, formic acid, oil-palm petioles and empirical model.