

ABSTRACT

Oil palm is a plant that produces Crude Palm Oil (*CPO*) as the basic ingredient for making cooking oil and soap. The problem that often occurs in the palm oil industry is the low quantity and quality of oil palm yields. Handling of oil palm fruits is prone to damage resulting in a rapid hydrolysis process and an increase in free fatty acids. Efforts to prevent fruit damage can be done by spraying sodium benzoate solution and selecting the fraction level of fresh fruit bunches. The purpose of this study was to determine the effect of sodium benzoate and fresh fruit bunch fraction on the quality and quantity of oil palm *CPO*. The research was conducted using a two-factor Completely Randomized Design (CRD) method with three replications. The first factor is the concentration of sodium benzoate spraying (N) with 4 levels, namely $N_0 = 0$ ppm sodium benzoate; $N_1 = 2500$ ppm sodium benzoate; $N_2 = 3000$ ppm sodium benzoate; $N_3 = 3500$ ppm sodium benzoate and the second factor is the fraction of oil palm fresh fruit bunches (F), namely fraction 1 (F_1) = fresh fruit bunch fraction 1 (not ripe); fraction 2 (F_2) = fresh fruit bunch fraction 2 (ripe I); fraction 3 (F_3) = fresh fruit bunch fraction 3 (ripe II); fraction 4 (F_4) fresh fruit bunch fraction 4 (ripe pass I). The results showed that sodium benzoate (N) treatment significantly affected CPO yield, CPO free fatty acids, and CPO specific gravity. The treatment of oil palm fresh fruit bunch fraction had a very significant effect on CPO yield, CPO free fatty acids, CPO specific gravity, and was not significantly different from oil palm fruit moisture content and CPO impurity content. There was a very significant interaction between sodium benzoate and palm fresh fruit bunch fraction on palm fruit moisture content, CPO impurities content, CPO yield, CPO free fatty acids, and CPO specific gravit

Keywords: Free Fatty Acid, Kernel, Mesocarp, Yield.