ABSTRACT

Silvia, Mega. 2014. The Effect of Aloe vera (Aloe vera) Juice Addition on Peroxide Level and Color Absorbance of Re-Used Cooking Oil. Final Project, Nutrition Department Faculty of Medicine, University of Brawijaya. Supervisor: (1) Dr. dr. Yuni Dwi Nur Hidayati, M.Kes (2) Laksmi Karunia Tanuwijaya, S.Gz

Repeated used cooking oil will change the chemical and physical properties. The examples of damage such as increasing peroxide level and oil colors become darker. High peroxide (>2 meq/kg) is able to cause diseases such as cancer, constriction of blood vessels, etc. Antioxidants are chemical compounds that inhibit the breakage of fat due to oxidation process. Aloe vera contain antioxidants, such as vitamin A, C, E, lignin, etc which active in oxidation reaction inhibition. The purpose of this study were to determine the effect of Aloe vera juice addition on peroxide level and absorbance color number of re-used cooking oil. This study used a complete randomized split plot design or 4x5x2 design. The independent variable were various volume of Aloe vera juice addition (0ml, 16ml, 32ml, 48ml in 100ml re-used cooking oil) and frequency of frying (1st, 2nd, 3rd, 4th, 5th) while the dependent variable were the peroxide level (meq/kg) and absorbance color number. Statistical test which used split plot anova (95%) and post hoc test (95%). The result showed that there was effect of Aloe vera juice addition in decreasing peroxide level (p-value = 0.019), but Aloe vera juice addition didn’t give effect in absorbance color number decreasing (p-value = 0.448). In conclusion, there is effect of Aloe vera juice addition on decrease peroxide level of re-used cooking oil with the best result of decrease peroxide level is 44%, it’s because of antioxidant in Aloe vera which active in oxidation reaction inhibition.

Keywords: Aloe vera, antioxidant, color, peroxide, re-used cooking oil.