

## **ABSTRACT**

### **EFFECT OF ADDING 25 GRAMS OF TURMERIC POWDER IN WOSTED COOKED OIL ON ACID NUMBER WITH VARIATIONS IN ADSORPTION TIME**

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Used cooking oil is waste oil that has been used more than three or four times. Continuous use of used cooking oil can cause damage to the human body because it contains free fatty acid compounds which are carcinogenic. Therefore, it is necessary to carry out research to reduce the acid number using the adsorption method. In this study, 25 grams of turmeric powder adsorbent was used with variations in the length of contact time 35, 45, 50, 55, and 60 minute. The length of contact time is a parameter that plays an important role in determining the conditions where the adsorption process has reached a balanced state. Based on the research results, it shows that there is an effect of adding turmeric powder to used cooking oil on reducing the acid number with variations in the length of adsorption time. The initial used cooking oil before the adsorption process was carried out in this research resulted in an average acid number of 2,0256 mgKOH/g after the adsorption process is carried out 35, 45, 50, 55, and 60 minute The acid number obtained is 1,9101, 1,7975, 1,6339, 1,3894, and 1,2806 mgKOH/g with a decrease in the acid number of 5,7020, 11,2608, 19,3374, 31,4079, dan 36,7792 mgKOH/g. The best results in reducing the acid number are in the long contact time 60 minute obtained amounted to 36,7792 mgKOH/g.

Keyword : used cooking oil, acid number, adsorption, turmeric.