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PENGARUH TEPUNG TAPIOKA SEBAGAI ADSORBEN PURIFIKASI MINYAK JELANTAH TERHADAP KUALITAS MINYAK

ABSTRAK

Latar Belakang: Penggunaan minyak goreng berulang-ulang mengakibatkan terjadinya kerusakan minyak yang dapat meningkatkan bilangan peroksida, asam lemak bebas dan menurunkan tingkat kejernihan sehingga perlu dilakukan penelitian menggunakan tepung tapioka yang dapat memperbaiki kualitas minyak. Tujuan penelitian ini menganalisis pengaruh tepung tapioka terhadap bilangan peroksuda, asam lemak bebas dan tingkat kejernihan minyak pada pemurnian minyak jelantah
Metode: Penelitian dengan desain *pre-post test with control groups*. Tepung tapioka 5, 10, dan 20 g, dimasukkan kedalam 100 ml minyak dan digoreng pada suhu 50°C selama 60 menit dengan 1 kali proses adsorbsi. Penetapan bilangan peroksida secara yodimetri, kadar asam lemak bebas secara alkalimetri, dan tingkat kejernihan secara visual Data dianalisis menggunakan *OneWay Anova*, dan uji LSD, dan *Paired Sampel T* test.
Hasil: Tepung tapioka berpengaruh menurunkan bilangan peroksida sesuai variasi konsentrasi tepung tapioka yaitu 17.97 ± , 16.76± dan 14.48± meq O_2/kg. Kadar asam lemak bebas berpengaruh yaitu 3.49%, 3.30% dan 3.28%. Hasil uji tingkat kejernihan menunjukkan warna minyak tidak berubah dibandingkan sebelum adsorbsi
Kesimpulan: Tepung tapioka berpengaruh menurunkan bilangan peroksida, dan kadar asam lemak bebas pada konsentrasi 5%, 10% dan 20% dan tidak berpengaruh meningkatkan tingkat kejernihan

Kata kunci: tapioka, bilangan peroksida, asam lemak bebas, tingkat kejernihan

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THE EFFECT OF TAPIOKA FLOUR AS ADSORBENT OF COOKING OIL PURIFICATION ON OIL QUALITY

ABSTRACT

Background: The use of cooking oil repeatedly causes damage to the oil which can increase the number of peroxides, free fatty acids and reduce the level of clarity so it is necessary to do research using tapioca flour which can improve the quality of the oil. The purpose of this study was to analyze the effect of tapioca flour on the peroxide number, free fatty acids and the level of oil clarity in the purification of used cooking oil.

Methods: Research with pre-post test design with control groups. Tapioca flour 5, 10, and 20 g were put into 100 ml of oil and fried at 50°C for 60 minutes with 1 time adsorption process. Determination of peroxide number by iodimetry, alkalimetric free fatty acid content, and visual clarity. Data were analyzed using OneWay Anova, LSD test, and Paired Sample T test.

Results: Tapioca flour has an effect on reducing the peroxide value according to variations in the concentration of tapioca flour, namely 17.97 ± , 16.76± and 14.48± meq O2/kg. Free fatty acid levels have an effect, namely 3.49%, 3.28% and 3.30%. The results of the clarity level test show that the color of the oil does not change compared to before adsorption

Conclusion: Tapioca flour has an effect on reducing peroxide value, and free fatty acid levels at concentrations of 5%, 10% and 20% and does no effect increase the level of clarity.

Keywords: tapioca, peroxide value, free fatty acids, clarity level