

**PENURUNAN BILANGAN PEROKSIDA PADA MINYAK  
JELANTAH MENGGUNAKAN SERBUK KULIT JERUK MANIS  
(*Citrus sinensis*)**

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**ABSTRAK**

Bilangan peroksida dinyatakan dalam  $O_2/100g$  minyak goreng yang ditetapkan menggunakan metode iodometri. Minyak jelantah adalah minyak goreng yang telah dipakai berulang kali berwarna coklat sampai kehitaman. Kulit jeruk manis mengandung senyawa fenolik, flavonoid, betakaroten dan antosianin, berfungsi sebagai antioksidan yang dapat menurunkan bilangan peroksida. Tujuan penelitian untuk mengetahui penurunan bilangan peroksida pada minyak jelantah menggunakan variasi serbuk kulit jeruk manis dengan konsentrasi 8% b/v, 10% b/v, 12% b/v, 14% b/v dan 16% b/v selama 1 hari, 2 hari, 3 hari, 4 hari dan 5 hari. Sampel penelitian adalah minyak jelantah dari pedagang gorengan daerah Pedurungan sebanyak 4 Liter. Penelitian dilakukan di Laboratorium Kimia FIKKES UNIMUS Pada bulan Oktober 2016 - September 2017. Hasil penelitian bilangan peroksida awal adalah sebesar  $7,18 \pm 0,00\%$  mg  $O_2/100g$ . Penurunan bilangan peroksida tertinggi dari  $6,43 \pm 0,01\%$  mg  $O_2/100g$  menjadi  $5,53 \pm 0,01\%$  mg  $O_2/100g$  setelah penambahan serbuk kulit jeruk manis dengan konsentrasi 16% b/v selama 5 hari. Penurunan presentase bilangan peroksida didapatkan hasil tertinggi dari  $10,52 \pm 0,07\%$  menjadi  $22,98 \pm 0,00\%$  setelah penambahan serbuk kulit jeruk manis konsentrasi 16% b/v selama 5 hari. Ada pengaruh variasi konsentrasi serbuk kulit jeruk manis 8% b/v, 10% b/v, 12% b/v, 14% b/v, dan 16% b/v dengan lama perendaman 1 hari, 2 hari, 3 hari, 4 hari dan 5 hari terhadap penurunan bilangan peroksida pada minyak jelantah.

**Kata Kunci : Bilangan Peroksida, Minyak Jelantah, Serbuk Kulit Jeruk Manis.**

## DECREASE OF THE PEROXIDE NUMBERS ON WASTED COOKING OIL USING SWEET ORANGE PEEL (*Citrus sinensis*)

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### ABSTRACT

The peroxide number is expressed in  $O_2/100g$  of cooking oil specified using the iodometric method. Cooking oil is that has been used repeatedly brown to blackish. Sweet orange peel contains phenolic compounds, flavonoids, beta-carotene and anthocyanins, serving as antioxidants that can lower peroxide numbers. The objective of this research is to know the decrease of peroxide number in jelantah oil using orange peel powder with concentration of 8% w/v, 10% w/v, 12% w/v, 14% w/v and 16% w/v for 1 day, 2 days, 3 days, 4 days and 5 days . The sample of research is cooking oil from trader of fried area Pedurungan as much as 4 Liter. The experiment was done at the Chemical Laboratory FIKKES UNIMUS since October 2016 - September 2017. The result of initial peroxide number is equal to  $7.18 \pm 0.00\%$  mg  $O_2/100g$ . Highest decrease of peroxide number from  $6.43 \pm 0.01\%$  mg  $O_2/100g$  to  $5.53 \pm 0.01\%$  mg  $O_2/100g$  after addition of sweet orange skin powder with concentration 16% w/v for 5 days. Decrease percentage peroxide number obtained highest result from  $10.52 \pm 0.07\%$  to  $22.98 \pm 0.00\%$  after addition of sweet orange skin powder with concentration 16% w/v for 5 days. There was an effect of variation in the concentration of 8% w/v, 10% w/v, 12% w/v, 14% w/v, and 16% w/v vapor dosage 1 days, 2 days, 3 days, 4 days and 5 days to decrease peroxide number in cooking oil.

**Keywords: The Number of Peroxide , Wasted Cooking Oil, Sweet Orange Peel**