

PEMANFAATAN MINYAK JELANTAH DAN EKSTRAK DAUN SERAI SEBAGAI BAHAN SABUN PENCUCI ALAT MAKAN

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INTISARI

Latar Belakang : Tanaman serai dapur (*Cymbopogon citratus*) mampu menghasilkan minyak atsiri dengan kadar sitronellal 30 – 45% dan geraniol 65 – 90%. Geraniol bekerja sebagai antibakteri dengan cara mengubah permeabilitas membran sel, menghilangkan ion-ion dalam sel.

Tujuan : Mengetahui penurunan angka kuman alat makan piring setelah penggunaan sabun pencuci piring dari limbah minyak jelantah dan ekstrak daun serai dan konsentrasi ekstrak daun serai pada sabun pencuci piring dari minyak jelantah yang paling efektif sebagai sabun dalam menurunkan angka kuman.

Metode : Penelitian ini adalah eksperimental (*Quasi Experiment*) dengan pendekatan *Nonequivalent Control Group Design*. Jumlah obyek penelitian sebanyak 12 buah piring makan. Variabel bebas penelitian ini adalah konsentrasi ekstrak daun serai 8,7%, 16,7% dan 20%. Variabel terikat pada penelitian ini adalah angka kuman piring makan.

Hasil : Penurunan angka kuman piring dengan sabun ekstrak daun serai konsentrasi 8,7% sebanyak 55,5 koloni/cm² atau 36,4%, konsentrasi 16,7% sebesar 65,7 koloni/cm² atau 85%, dan konsentrasi 20% sebesar 58,7 koloni/cm² atau 66,6%. Berdasarkan hasil uji *One Way Anova* didapatkan *p-value* sebesar 0,001 (*Sig.* <0,05), dilanjutkan dengan uji LSD memnunjukkan ada beda antar konsesentrasi.

Kesimpulan : Konsentrasi ekstrak daun serai pada sabun pencuci piring dari minyak jelantah yang paling efektif dalam menurunkan angka kuman piring yaitu pada konsentrasi 16,7%.

Kata Kunci : sabun, minyak jelantah, ekstrak daun serai, angka kuman piring

UTILIZATION OF WASTE COOKING OIL AND LEMONGRASS LEAF EXTRACT AS A CUTLERLY PLATE WASHING SOAP MATERIAL

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ABSTRACT

Background : Lemongrass plant (*Cymbopogon citratus*) can produce essential oil with Sitronellal levels 30 – 45% and Geraniol 65 – 90%. Geraniol works as an antibacterial by changing cell membrane permeability, eliminating the ions in the cell.

Objective : To determine the reduction in the number of germs for cutlery plate after using dish soap from waste cooking oil and lemongrass leaf extract and the concentration of lemongrass leaf extract which in dishwasher of waste cooking oil which is the most effective in rducing germs of plate.

Method : This study is experimental (Quasi Experiment) with approach Nonequivalent Control Group Design. The number of research objects were 12 plates. The independent variable of this study was the concentration of lemongrass leaf extract 8,7%, 16,7%, and 20%. The dependent variable of this study was the number of germs plate.

Results : Decreased the number of dish germs with lemongrass leaf extract soap concentration of 8,7% was 55,5 colonies/cm² or 36,4%, concentration of 16,7% was 65,7 colonies/cm² or 85%, and 25 concentration of 20% was 58,7 colonies/cm² or 66,6%. Based on results of the One Way Anova test the p-value was 0,001 (Sig <0,05), followed by LSD test showed that there was a difference between the concentrations.

Conclusion : The concentration of lemongrass leaf extract in dishwasher of waste cooking oil which is the most effective in reducing germs of plate is in the concentration of 16,7%

Keywords : soap, waste cooking oil, lemongrass leaf extract, plate germ number