

**THE EFFECT OF LEAVEL LEGON EXTRACT (*Cymbopogon citrates*) AS A
NATUTAL INGREDIENT OF SOAP IN REDUCE THE NUMBER OF
GLASS GERMS**

Destiyaningrum Putri Ramadhan¹, Siti Hani Istiqomah², Sri Haryanti³
^{1,2,3}Department of Environmental Health Poltekkes Kemenkes Yogyakarta
Jl. Tatabumi No.3 Banyuraden, Gamping, Sleman
Email : destiyaningrumputriramadhan@gmail.com, hani_ist@yahoo.co.id,
sri.haryanti@poltekkesjogja.ac.id

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. Essential oil have a role as an antibacterial by interfering with the process of forming cell membranes that are not yet fully formed.

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

Method : This study is experimental (Quasi Experiment) with approach Nonequivalent Control Group Design. The number of research objects were 24 glasses. The independent variable of this study was the concentration of lemongrass leaf extract 20,67%, 24%, and 27,33%. The dependent variable of this study was the number of germs glass.

Results : Decreased the number of dish germs with lemongrass leaf extract soap concentration of 20,67% was 57,5 CFU/cm² or 60,2%, concentration of 24% was 70,7 CFU/cm² or 75,45%, and concentration of 27,33% was 83,2 CFU/cm² or 91%. Based on results of the One Way Anova test the p-value was 0,505 (Sig >0,05).

Conclusion : Statistically the three concentrations had no significant effect on reducing the number of glass germs, descriptively and statistically the concentration of 27.33% reduced the highest number of germs.

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

PENGARUH EKSTRAK DAUN SERAI (*Cymbopogon citrates*) SEBAGAI BAHAN ALAMI SABUN DALAM MENURUNKAN ANGKA KUMAN GELAS

Destiyaningrum Putri Ramadhan¹, Siti Hani Istiqomah², Sri Haryanti³

^{1,2,3}Jurusan Kesehatan Lingkungan Poltekkes Kemenkes Yogyakarta

Jl. Tatabumi No.3 Banyuraden, Gamping, Sleman

Email : destiyaningrumputriramadhan@gmail.com, hani_ist@yahoo.co.id,
sri.haryanti@poltekkesjogja.ac.id

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. Minyak atsiri memiliki peran sebagai antibakteri dengan cara mengganggu proses terbentuknya membrane sel hingga tidak berbentuk sempurna.

Tujuan : Mengetahui penurunan angka kuman alat makan gelas setelah penggunaan sabun pencuci alat makan dari limbah minyak jelantah dan ekstrak daun serai dan konsentrasi ekstrak daun serai pada sabun pencuci alat makan 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 24 buah gelas. Variabel bebas penelitian ini adalah konsentrasi ekstrak daun serai 20,67%, 24% dan 27,33%. Variabel terikat pada penelitian ini adalah angka kuman gelas.

Hasil : Penurunan angka kuman gelas dengan sabun ekstrak daun serai konsentrasi 20,67% sebanyak 57,5 CFU/cm² atau 60,2%, konsentrasi 24% sebesar 70,7 CFU/cm² atau 75,45%, dan konsentrasi 27,33% sebesar 83,2 CFU/cm² atau 91%. Berdasarkan hasil uji *One Way Anova* didapatkan *p-value* sebesar 0,505 (*Sig.* >0,05).

Kesimpulan : Secara statistik ketiga konsentrasi tidak ada pengaruh yang bermakna dalam menurunkan angka kuman gelas, secara deskriptif dan statistik konsentrasi 27,33% menurunkan angka kuman tertinggi.

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