

**EFFECTIVENESS TEST OF GALANGAL EXTRACT (*Kaempferia galanga L*)  
AND CELERY LEAF EXTRACT (*Apium graveolens L*) AS ANTIBACTERIAL  
TO REDUCE THE NUMBER OF GERMS ON PLATES**

Rengganis Hanifah Putri<sup>1</sup>, Sri Haryanti<sup>2</sup>, Narto<sup>3</sup>  
Department of Environmental Health Poltekkes Kemenkes Yogyakarta  
Jl. Tatabumi No.3 Banyuraden, Gamping, Sleman  
Email : [Rengganishnfpur@gmail.com](mailto:Rengganishnfpur@gmail.com) [sri.haryanti@poltekkesjogja.ac.id](mailto:sri.haryanti@poltekkesjogja.ac.id)  
[nartopoltekkes@gmail.com](mailto:nartopoltekkes@gmail.com)

**ABSTRACK**

**Background** : Microbial contamination on plates poses a health concern, spurring the search for natural antibacterial agents. Galangal (*Kaempferia galanga L.*) and celery leaves (*Apium graveolens L.*) are recognized for their antibacterial properties.

**Objective** : This study aimed to evaluate the effectiveness of galangal extract and celery leaf extract as antibacterial agents to reduce bacterial counts on plates.

**Method** : This quantitative research employed a comparative laboratory analytical experiment using a quasi-experimental design. Bacterial counts were measured via Total Plate Count (TPC) before and after treatment, expressed in CFU/cm<sup>2</sup>.

**Results** : A 15% concentration of galangal extract reduced bacterial counts from 234.60CFU/cm<sup>2</sup> to 72.92CFU/cm<sup>2</sup>, a 68% decrease. A 15% concentration of celery extract reduced counts from 269.59CFU/cm<sup>2</sup> to 160.55CFU/cm<sup>2</sup>, representing a 41% decrease. Although no statistically significant difference was observed, galangal extract showed a greater reduction in germ counts. Consequently, 15% galangal extract soap was more effective in reducing plate bacterial counts, achieving a reduction of 161.68CFU/cm<sup>2</sup> (68%), compared to 15% celery leaf extract soap, which reduced counts by 109.04CFU/cm<sup>2</sup> (41%).

**Conclusion** : These findings demonstrate the strong potential of galangal extract as a natural antibacterial agent for the sanitation of eating utensils.

**Keywords:** Kencur Extract, Celery Leaf Extract, Antibacterial, Germ Count, Sanitation.

**UJI EFEKTIVITAS EKSTRAK KENCUR (*Kaempferia galanga L*) DAN  
EKSTRAK DAUN SELEDRI (*Apium graveolens L*) SEBAGAI  
ANTIBAKTERI UNTUK MENURUNKAN ANGKA KUMAN  
PADA PIRING**

Rengganis Hanifah Putri<sup>1</sup>, Sri Haryanti<sup>2</sup>, Narto<sup>3</sup>  
Jurusan Kesehatan Lingkungan Poltekkes Kemenkes Yogyakarta  
Jl. Tatabumi No.3 Banyuraden, Gamping, Sleman  
Email : [Rengganishnfput@gmail.com](mailto:Rengganishnfput@gmail.com) [sri.haryanti@poltekkesjogja.ac.id](mailto:sri.haryanti@poltekkesjogja.ac.id)  
[nartopoltekkes@gmail.com](mailto:nartopoltekkes@gmail.com)

**INTISARI**

**Latar Belakang :** Kontaminasi mikroba pada piring menjadi perhatian kesehatan, mendorong pencarian agen antibakteri alami. Kencur (*Kaempferia galanga L*) dan daun seledri (*Apium graveolens L*) dikenal memiliki potensi antibakteri.

**Tujuan :** Penelitian ini bertujuan untuk menguji efektivitas ekstrak kencur (*Kaempferia galanga L*) dan ekstrak daun seledri (*Apium graveolens L*) sebagai antibakteri untuk menurunkan angka kuman pada piring.

**Metode :** Menggunakan metode kuantitatif dengan desain eksperimen analitik komparatif laboratorik jenis rancangan eksperimen semu (*Quasi Experiment*), Angka kuman diukur dengan *Total Plate Count* (TPC) sebelum dan sesudah perlakuan.

**Hasil :** Ekstrak kencur konsentrasi 15% menurunkan angka kuman dari 234,60 CFU/cm<sup>2</sup> menjadi 72,92 CFU/cm<sup>2</sup> (penurunan 68%). Ekstrak seledri konsentrasi 15% menurunkan dari 269,59 CFU/cm<sup>2</sup> menjadi 160,55 CFU/cm<sup>2</sup> (penurunan 41%). Meskipun tidak ada perbedaan signifikan secara statistik, ekstrak kencur menunjukkan penurunan angka kuman yang lebih tinggi sehingga sabun ekstrak kencur 15% lebih efektif dalam menurunkan angka kuman pada piring, dengan penurunan 161,68 CFU/cm<sup>2</sup> (68%), dibandingkan sabun ekstrak daun seledri 15% yang menurunkan 109,04 CFU/cm<sup>2</sup> (41%).

**Kesimpulan :** Hasil ini menunjukkan potensi kuat ekstrak kencur sebagai agen antibakteri alami untuk sanitasi peralatan makan.

**Kata Kunci:** Ekstrak Kencur, Ekstrak Daun Seledri, Antibakteri, Angka Kuman, Sanitasi.