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## #1960 Summary

SUMMARY REVIEW EDITING

### Submission

Authors	Alfrida Monica Salasa, St Ratnah
Title	HUBUNGAN KANDUNGAN TOTAL POLIFENOL DAN FLAVONOID DENGAN POTENSI ANTIMIKROBA LIMBAH KANGKUNG DAN BAYAM TERHADAP PERTUMBUHAN BAKTERI PENYEBAB INFEKSI NOSOKOMIAL
Original file	1960-8268-1-SM.DOC 2021-01-06
Supp. files	None
Submitter	St Ratnah
Date submitted	January 6, 2021 - 01:23 AM
Section	Articles
Editor	Sisilia Dewi
Abstract Views	302

### Status

Status	Published Vol 17, No 1 (2021): Media Farmasi
Initiated	2021-05-20
Last modified	2021-06-09

### Submission Metadata

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#### Title and Abstract

Title HUBUNGAN KANDUNGAN TOTAL POLIFENOL DAN FLAVONOID DENGAN POTENSI ANTIMIKROBA LIMBAH KANGKUNG DAN BAYAM TERHADAP PERTUMBUHAN BAKTERI PENYEBAB INFEKSI NOSOKOMIAL

Abstract *Correlation Between Total Polyphenol And Flavonoid Contents With Antimicrobial Potential Of Kale And Spinach Waste Against Bacterial Growth Causing Nosocomial Infection*

Spinach and kale are vegetables that are widely consumed by the public. However, parts of the plant that are not consumed are discarded and end up as household organic waste. Therefore, this research aims to determine the total polyphenol and flavonoid levels, as well as the potential of household organic waste as an antimicrobial cause of nosocomial infections. The household organic waste used in this research were untreated and waste parts of kale and spinach, extracted by the extortion method and then dried using a freeze dryer. Furthermore, the total polyphenol content was determined using the *Folin-Ciocalteu* method, the total flavonoids with  $AlCl_3$  reagent, and the antimicrobial potential using the agar diffusion method. The results showed that the total polyphenol content in kale and spinach waste were 4.67 and 3.91 mg GAE / gram extract respectively. Water spinach and spinach waste do not contain flavonoids, meanwhile, kale and spinach waste have antimicrobial potential against *Pseudomonas aeruginosa* and *Staphylococcus aureus*. The statistical results showed that there was a relationship between the total polyphenol content and the antimicrobial potential of Kale and spinach waste extracts, the higher the concentration of the extract the greater the inhibition against *Pseudomonas aeruginosa* and *Staphylococcus aureus*.

**Keywords :** Total polyphenols, total flavonoids, antimicrobial potential, organic household waste, nosocomial infections.

Bayam dan kangkung merupakan sayuran yang sering dikonsumsi masyarakat namun bagian tanaman yang tidak dikonsumsi dibuang dan berakhir sebagai limbah rumah tangga organik. Tujuan penelitian ini adalah untuk menentukan kandungan total polifenol dan total flavonoid, menentukan potensi limbah rumah tangga organik sebagai antimikroba penyebab infeksi nosokomial serta menentukan hubungan kandungan total polifenol dan kandungan total flavonoid terhadap potensi antimikroba limbah rumah tangga terhadap pertumbuhan bakteri penyebab nosokomial. Limbah rumah tangga organik yang digunakan adalah bagian kangkung dan bayam yang tidak diolah dan dikonsumsi, diekstraksi dengan metode perasan kemudian dikeringkan dengan menggunakan *freeze dryer*. Selanjutnya dilakukan uji kandungan total polifenol dengan metode *Folin-Ciocalteu* dan total flavonoid dengan pereaksi  $AlCl_3$ , penentuan potensi antimikroba dengan metode difusi agar. Hasil yang diperoleh kandungan total polifenol pada limbah kangkung sebesar 4,67 mg GAE/gram ekstrak sedangkan untuk Ekstrak limbah Bayam sebesar 3,91 mg GAE/gram ekstrak. Limbah Kangkung dan Bayam tidak mengandung senyawa flavonoid. Limbah Kangkung dan Bayam memiliki potensi antimikroba terhadap *Pseudomonas aeruginosa* dan *Staphylococcus aureus*. Hasil uji statistik menunjukkan Terdapat hubungan antara kandungan total polifenol dengan potensi antimikroba ekstrak limbah Kangkung dan Bayam dimana semakin tinggi konsentrasi ekstrak semakin besar daya hambatnya terhadap *Pseudomonas aeruginosa* dan *Staphylococcus aureus*.

**Kata Kunci :** Total polifenol, total flavonoid, potensi antimikroba, limbah rumah tangga organik, infeksi nosokomial.

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Language en

## Supporting Agencies

Agencies —

## References

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### Submission

Authors	Alfrida Monica Salasa, St Ratnah
Title	HUBUNGAN KANDUNGAN TOTAL POLIFENOL DAN FLAVONOID DENGAN POTENSI ANTIMIKROBA LIMBAH KANGKUNG DAN BAYAM TERHADAP PERTUMBUHAN BAKTERI PENYEBAB INFEKSI NOSOKOMIAL
Section	Articles
Editor	Sisilia Dewi

### Peer Review

#### Round 1

Review Version	1960-8269-2-RV.DOC	2021-03-18
Initiated	2021-03-18	
Last modified	2021-04-22	
Uploaded file	Reviewer A 1960-8713-1-RV.DOC	2021-04-18
	Reviewer B 1960-8726-1-RV.DOC	2021-04-22

### Editor Decision

Decision	Accept Submission	2021-05-03
Notify Editor	Editor/Author Email Record	2021-05-03
Editor Version	1960-8614-1-ED.DOC	2021-03-18
Author Version	1960-8741-1-ED.DOC	2021-04-27 <a href="#">DELETE</a>

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Section: Articles

Editor: Sisilia Dewi

### Copyediting

COPYEDIT INSTRUCTIONS

REVIEW METADATA	REQUEST	UNDERWAY	COMPLETE
1. Initial Copyedit File: 1960-8781-2-CE.DOC 2021-05-17	2021-05-03	—	2021-05-17
2. Author Copyedit File: 1960-8781-3-CE.DOC 2021-05-17 <input type="button" value="Choose File"/> No file chosen <input type="button" value="Upload"/>	2021-05-17	2021-05-17	2021-05-17
3. Final Copyedit File: 1960-8781-4-CE.DOC 2021-05-17	2021-05-17	—	2021-05-17

Copyedit Comments No Comments

### Layout

Galley Format	FILE	
1. PDF (Bahasa Indonesia) <a href="#">VIEW PROOF</a>	1960-8855-2-PB.PDF	2021-06-09 143
Supplementary Files	FILE	None

Layout Comments No Comments

### Proofreading

REVIEW METADATA

	REQUEST	UNDERWAY	COMPLETE
1. Author	2021-05-17	2021-05-18	2021-05-18
2. Proofreader	2021-05-18	—	2021-05-18
3. Layout Editor	2021-05-17	—	2021-05-18

Proofreading Corrections No Comments [PROOFING INSTRUCTIONS](#)

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