



## Inhibitory Potential of *Eucheuma denticulatum* (N.L.Burman) F.S. Collins & Hervey Against Selected Foodborne Pathogens

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### ABSTRACT

Seaweed is reported to have antimicrobial properties that can possibly prevent the food from microbial invasion and spoilage. *Eucheuma denticulatum* (N.L.Burman) F.S. Collins & Hervey is very abundant seaweed in Leyte province, wherein it is a common part of the human diet. The common problem in food handling, especially street food, is the fast rate of spoilage due to improper handling and packaging. One way of preventing the incidence of food infection and intoxication due to improper packaging of food is the use of packaging material that can inhibit microbial growth. The study was undertaken to determine the antimicrobial potential of *E. denticulatum* against common food pathogens. Six pathogenic bacteria – namely, *Bacillus cereus*, *Staphylococcus aureus*, *Salmonella typhi*, *Escherichia coli* O157:H7 – plus yeast (*Candida albicans*) and a mold (*Aspergillus flavus*) were used as test organisms of the study. Agar well diffusion assay was used to test the inhibitory potential of *E. denticulatum* extract against the selected pathogens. The ethanolic extract exhibited inhibitory potential against the test microorganisms except for grampositive bacteria *B. cereus* and *S. aureus*. The extract is more effective against Gram-negative bacteria *S. typhi* and *E. coli*. The *C. albicans* exhibited the highest mean zone of inhibition of 16.11mm at 75% extract concentration, and *A. flavus* has the least zone of

inhibition of 2.78 mm. The observed inhibitory action of the ethanolic extract is a promising indication that *E. denticulatum* is a potential source of bioactive compounds that can be used as a natural food preservative.

### BIOGRAPHY



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Judife N. Magallanes has joined the corporate of food industry right out of College. After two years of bitter-sweet experience in the food industry, she pursued her Master of Science in Food Science and Technology with the help of scholarship from Department of Science and Technology-Accelerated Science and Technology Human Resource Development Program (DOST-ASTHRDP), and completed at the age of 24 from Visayas State University, Baybay City, Leyte 6521 Philippines. She is currently the department chairman of the Department of Food Processing and Technology in the University of Science and Technology of Southern Philippines – Claveria.