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ATIVITAS ANTIMIKROBA EKSTRAK DAUN KEMANGI (Ocimum basilicum L.) TERHADAP MIKROBA PATOGEN PANGAN

[ANTIMICROBIAL ACTIVITY OF SWEET BASIL LEAVES (Ocimum basilicum L.) EXTRACTS AGAINST FOOD PATHOGENIC MICROBES]

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ABSTRACT

Sweet basil has been known to have antimicrobial and antioxidant activity. The antimicrobial activity of sweet basil leaves extract against food pathogenic microbes was observed in this study. Streptomycin and penicillin were used as comparison to its antimicrobial activity. Two different methods were used for extraction and the extract resulted were subsequently tested against Pseudomonas sp, Enterobacter sp, L. monocytogenes, Penicillium sp and Rhizopus sp. The data showed that the extract from water showed an inhibition effect on Pseudomonas sp, Enterobacter sp, and L. monocytogenes. The antimicrobial activity of extract from water with 15% (w/v) concentration varies depend on pH and bacteria's strain. The antimicrobial activity of this extract was most effective at 4% salt and decreased by heating. The diametrical inhibition of this extract on the spheroplasts and protoplasts was greater than on the vegetative cells. These diametrical inhibition was equal to penicillin G 100 ppm on Pseudomonas sp and L. monocytogenes, streptomycin 50 ppm on Enterobacter sp and L. monocytogenes, and streptomycin 10 ppm on Pseudomonas sp. The extract caused the morphological damage of bacteria's cell as well as the metal ionic leakage.

Keywords: extraction, antimicrobial activity, solvent, inhibition

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