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CHARACTERISTIC OF RED BEET (*Beta vulgaris* L.) EXTRACT AS ANTIMICROBIAL COMPOUND

(xiv + 111 pages : 5 tables, 12 pictures, 21 appendixes)

Red beet have been used as food coloring or consumed as fruit juice. In this study, antimicrobial activity of red beet was tested to against Staphylococcus aureus, Listeria monocytogenes, Enterobacter sp., Escherichia coli, Aspergillus flavus, and Rhizopus sp using agar diffusion method. Red beet was extracted by three treatments, which were combination of two different solvent (ethanol:ethyl acetate = 100:0, 80:20, 60:40, 40:60, 20:80 and 0:100), temperature of extraction (25°C and 40°C), and duration of extraction (1 hour, 2 hour, 3 hour 4 hour, 5 hour, and 6 hour). Red beet extract were diluted into five different solvent (5%, 10%, 15%, 20%, and 25%) using each solvent. The data showed that ethanol extract 100% (25°C, 6 hour) could inhibited S. aureus (4,88 – 9,13 mm inhibition diametre), L. monocytogenes (4,08 – 7,78 mm inhibition diametre), Enterobacter sp. (2,95 – 7,00 mm inhibition diametre), E. coli (2,78 – 6,48 mm inhibition diametre), A. flavus (no inhibition), and Rhizopus sp. (no inhibition). The extract was effective at low pH (6,98 – 10,50 mm inhibition diametre). Heating, saline solution, and sugar solution did not affect the activity of red beet extract. The phytochemical compound in red beet extract were tanin, flavonoid, saponin, triterpenoid, and phenolic compound.

Keywords: Red beet, extraction, antimicrobial activity, pH, saline, sugar, heat.

References: 59 (1996-2010)