ABSTRACT

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POTENTIAL OF *Streptococcus thermophilus* AND *Lactobacillus plantarum* ON PROCESSING EGGPLANT (*Solanum melongena* L.) FERMENTED BEVERAGES
(xviii + 77 pages: 25 figures, 12 tables, and 30 appendices)

Diversification of vegetable food product is one of the ways to optimizing the utilization of phytochemical compound regarding the aspect of human health. Eggplant is known to be one of the sources of natural antioxidant since it has several phytochemical compounds. The aim of this research is to determine total phenolic, total flavonoid, antioxidant activity, and concentration of lactic acid from the result of diversification using eggplant as its source and also *Streptococcus thermophilus* and *Lactobacillus plantarum* as the lactic acid bacteria to produce eggplant fermented beverage. Twelve formulations of skim milk (4%, 6%, 8%) and sucrose (4%, 6%, 8%, 10%) were analyzed to produce fermented beverages based on the standard of pH value, total titratable acidity, and total lactic acid bacteria. Eggplant fermented beverage with formulation of 4% skim milk and 4% sucrose was chosen (pH value 4.03, total titratable acidity 0.73%, total lactic acid bacteria 4.55x10^8 CFU/mL) to determine eggplant juice concentration (100%, 75%, 50%, 25%). Eggplant juice with the concentration of 50% was chosen based on total phenolic (571.84±13.84 mgGAE/L), total flavonoid (522.95±16.11 mgQE/L), antioxidant activity (6.052±0.169 mgVCE/L), and acceptability (3.42±1.26). Eggplant fermented beverage contains 1.75% lactic acid measured quantitatively using HPLC.

Keywords : eggplant, fermented beverages, lactic acid bacteria
References : 165 (1997-2016)