

**ABSTRACT****THE EFFECT OF INLET TEMPERATURE ON RELEASE EFFICIENCY OF *Lactobacillus casei* FNCC 0090 FROM MICROPARTICLE**

(Using Combination of Methacrylic Acid Copolymer L-type and S-type Matrix with Feed Flow Rate 10 mL/min)

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Probiotics are living microorganisms that provide health benefit to the host when administrated with minimum concentration of  $10^6$  CFU/ mL. One of the most widely used probiotics is *Lactobacillus casei*. *Lactobacillus casei* will be damaged at gastric juice whereas the target of action in intestine. Drug delivery system like microparticle is needed to protect probiotics from extreme condition in gastrointestinal tract and release in the intestine. Microparticle *Lactobacillus casei* was made by spray drying. The aim of this research is to know the effect of inlet temperature on release of *Lactobacillus casei* FNCC 0090 from microparticle. Three different inlet temperature were 100 °C, 120 °C, and 140 °C. The combination of methacrylc acid copolymer L-type and S-type (1:1) is used as matrix in this research because that is resistance to acid condition and dissolves in base condition. The result showed that the highest release efficiency is microparticle was produced by inlet temperature 120 °C with no significant difference between each inlet temperature. The conclusion of this study is increasing inlet temperature of 100 °C, 120 °C, and 140 °C has no difference on release efficiency of *Lactobacillus casei* FNCC 0090 from microparticle.

**Keywords** : Inlet temperature, *Lactobacillus casei*, microparticle, methacrylic acid copolymer L-type, methacrylic acid copolymer L-type, release efficiency, spray dry.