

## ABSTRACT

Effects of Lactic Acid Bacteria (LAB) starters and cold storage period on the characteristic of durian lay juice probiotic were determined in this research. The research was designed in factorial randomized complete block designed with two factors and three replications. The first factor was kinds of LAB consisting at 3 levels (*Lactobacillus plantarum* FNCC-0265, *Lactobacillus acidophilus* FNCC-0051 and the mixture of the LABS). The second factor was cold storage period which consisted of 5 levels (0, 1, 2, 3 dan 4 weeks). Durian lay juice was inoculated with a 24 h – old culture starter and incubated at 4°C for 4 weeks. Change in pH, total lactic acid, sugar content, viable cell counts of LAB, total soluble solid, viability of LAB, and sensory during fermentation under controlled conditions were measured. During storage, pH decreased from 4.61 to 4.20; sugar content reduced from 4.52 to 0.75%; total soluble solid reduced from 8.93-7.97°brix, and sensory score reduced from 3.71 (like) to 3.40 (moderate like); meanwhile, the total lactic acid increased from 0.33 to 0.69%; viable cell counts of LAB increased from 8.86 log/ml to 9.14 log/ml; and viability of LAB increased from 95.41 to 95.90%. The best treatment based on sensory parameter was combination starters of *Lactobacillus plantarum* FNCC-0265 and *Lactobacillus acidophilus* FNCC-0051 and two weeks cold storage period. The characteristics of the durian lay juice probiotic were pH 4.50, total lactic acid 0.63%, sugar content 2.19%, viable cell counts of LAB 9.33 log/ml, total soluble solid 8.99°brix, and viability of LAB 95.90. The durian lay juice probiotic contained antioxidant 109.22 ppm and organic acid (oxalate, malic, lactic, ascorbic, citric acid) as much as 107.56 ppm, 527.895 ppm, 4381.49 ppm, 80.145 ppm, 351.245 ppm, respectively.

Key word : Durian Lay, Lactic Acid Bacteria, Probiotic.