

ABSTRACT

The purpose of this research was to find the optimum fermentation time of starter Lactococcus lactis and Streptococcus thermophilus toward the characteristics of probiotic drinks fruitghurt black mulberry.

The reasearch methods consists of two phases : a preliminary study and main study. The preliminary study did starter Lactococcus lactis and Streptococcus thermophiles, did the analysis raw materials of black mulberry (total sugars) and the determination of black mulberries formulations. The main study did the fermentation process of formulation selected from the preliminary study and the use the starter Lactococcus lactis and Streptococcus thermophilus has been made, the duration of the fermentation process for 24 hours, 48 hours, 72 hours, 96 hours, 120 hours and 144 hours. The response of this study was to measure the lactic acid content, pH (acidity), and viscosity are influenced by the duration of fermentation

The results of this research showed that the analysis of the raw materials of black mulberries have a total sugar content of 15.65%. Based on th starter Lactobacillus lactis and Streptococcus thermophilus was found that the total number of cells has increased in every hour. Formulations were selected in the preliminary study that is a ratio of 2: 1 (mulberry black: water) is in getting the value of lactic acid levels of 1.796%. Differences in duration of effect on the fermentation of lactic acid content, pH and viscosity. Where the optimum fermentation time is at a time of 72 hours with 1.08% lactic acid levels, pH 3.86 and viscosity 125 mPas.

Keywords: black mulberry, Lactococcus lactis, Streptococcus thermophilus, long fermentation, fruitghurt.