

Abstract

Yogurt is considered as one of the fermented dairy products with a smooth texture and mild sour taste because of the used of Lactic acid bacteria (LAB) in its fermentation process. The LAB that was commonly used are *Streptococcus thermophilus* and *Lactobacillus delbrueckii subsp bulgaricus*. This fermented dairy products is rich in proteins, milk fat, calcium, potassium, magnesium, Vitamin B2, B6, and B12. To cultivate yogurt, it requires a sterilized milk before the additional of suitable bacteria culture for the fermentation process. There are factors that could affects the yogurt fermentation, such as duration, temperature, inoculation percentage, types of milk and types of mixed culture used during the fermentation process. In this experiment, the yogurt will be cultivated in different parameters, such as differences in temperature range, different range of fermentation time, different percentage of inoculation and different commercial mixed starters with 5 different . Once it was fermented, its physical and chemical properties will be tested. In physical properties, it was tested for its viscosity. To test the viscosity the equipment that Viscometer equipment. While for the chemical properties, it was tested for its pH value, protein and sugar content. The equipment and methods that was used for this chemical properties are, pH meter, Bradford assay and dinitrosalicylic acid (DNS) method. The aim of this study is to investigate and analyze the effects of different parameters such as the percentage of inoculant, temperature, and different commercial mixed culture of the yogurt fermentation process on its physical and chemical properties. The project hypothesis is that different temperatures, inoculation percentagestage and commercial mixed cultures will have an effect on the physical and chemical properties of the yogurt. In conclusion, the parameters does affects the physical and chemical properties of the yogurt. Where the highest pH goes to negative control and both sample at 4°C. White lowest pH goes to all samples in 25°C and 45°C. Secondly, the highest Viscosity goes to Sample 1A, while the lowest goes to sample at 4°C and the negative control. Thirdly, the highest protein content goes to sample at 4°C and the negative control, while the lowest goes to Mix 2 in 25°C. Lastly, the highest sugar content goes to sample Mix 1 at 25°C, while the lowest goes to sample 1B at 45°C.

Keywords: Yogurt, Fermentation, Parameters, Percentage inoculation, Temperature, Mixed Cultures, Cultures, Viscosity, pH, Protein content, Sugar Content, Bradford Assay and DNS Assay.