

## ABSTRACT

Haryandani, Bekti S., 2014. **The Composition and Concentration Test of Starter Bacteria *Lactobacillus acidophilus* - *Bifidobacterium bifidum* on the Quality of Fermented Soybean Milk (Soyghurt)**. Supervisor: Ir. Liliek Hariani A.R., MP. Supervisor Religion: Dr. drh. Hj. Bayyinatul Muchtaromah, M.Sc.

Keywords: Soyghurt, Soy Milk, *Lactobacillus acidophilus*, *Bifidobacterium bifidum*

Soyghurt is a fermentation product of soy milk using lactic acid bacteria. In making soyghurt generally use a starter culture of *Lactobacillus bulgaricus* and *Streptococcus thermophilus* which has been commonly used in the process of making yogurt. But both the starter culture has a weakness in the fermentation process, which produces acidity level is too high, so it is necessary soyghurt manufacture of starter cultures of lactic acid bacteria such as *L. acidophilus* and *B. bifidum* in order to obtain soyghurt that is not too acidic. In addition, the advantages of using dairy ingredients as soy beverages are an alternative for people with lactose intolerance. The purpose of this study was to determine the effect of the composition and concentration of starter bacteria *L. acidophilus* and *B. bifidum* against soyghurt optimal quality and in according to ISO quality test.

This research was conducted at the Laboratory of Biology of UIN Maulana Malik Ibrahim Malang and Chemistry Laboratory University of Brawijaya from September to December 2013, using a randomized block design with 2 factors and 5 replications. The first factor is the combination of starter composition *L. acidophilus* and *B. bifidum* with ratio 1:1 , 2:1 and 1:2. The second factor is the concentration of starter *L. acidophilus* and *B. bifidum* much as 1,0 %, 1,5 % and 2,0 %. Data from this research were analyzed using 2-way analysis of variance (Two-way ANOVA) and further tested using HSD at 5 %. The organoleptic data were analyzed qualitatively. Parameters in this study include the measurement of percentage total lactic acid, fat, dry weight non-fat, appearance, aroma and flavor soyghurt.

The results showed that the composition of the starter *L. acidophilus* with *B. bifidum* on treatment P<sub>2</sub> (2:1) is the optimum treatment resulted in a total of lactic acid, lower levels of fat, increase lean dry weight, appearance, aroma and flavor typical of soyghurt. While the concentration of starter *L. acidophilus* and *B. bifidum* on K<sub>3</sub> treatment (2,0 %) resulted in an optimum concentration of total lactic acid, lower levels of fat, increase lean dry weight, resulting in color, aroma and flavor typical of soyghurt. The treatment P<sub>2</sub>K<sub>3</sub> (composition 2:1 at concentration 2,0 %) an optimal treatment effect on the quality of fermented soy milk (soyghurt).