Anita Noer Heryani, 2012. Study of Viability and Pattern Growth of *Bacillus megaterium* on Different Variation Concentration Molasses and Incubation Time. This script was guidanced by Drs. Agus Supriyanto, M. Kes and Dr. Ni’matuzahroh. Biology Department, Sains and Technology Faculty, Airlangga University, Surabaya.

**ABSTRACT**

This study was aims to determine the growth pattern probiotic bacteria of *Bacillus megaterium* on varying the concentration of molasses, the combined effect of molasses concentration and incubation time on total probiotic bacteria of *Bacillus megaterium* and viability probiotic bacteria of *Bacillus megaterium* at the end of incubation on varying molasses concentration. Varying the concentration of molasses made from molasses concentration of 0% (NB), molasses concentration of 1%, molasses concentration of 2% and 3% molasses concentration with an incubation period of 12 weeks. Data patterns growth and and viability probiotic bacteria of *Bacillus megaterium* on the final incubation in molasses concentration variation obtained from the average total bacteria of *Bacillus megaterium* every week. Data combination concentration molasses and incubation time on total probiotic bacteria of *Bacillus megaterium* were statistically and analyzed by Brown Forsythe test. Differences between treatments were tested using the Games Howell. The results total bacteria showed different growth patterns *Bacillus megaterium* bacteria at variation concentration of molasses. Statistical analysis showed that the combined effect of molasses concentration and incubation time influenced the total probiotic bacteria of *Bacillus megaterium*. Viability probiotic bacteria of *Bacillus megaterium* at the end of the incubation period on varying the concentration of molasses still good.

Keyword: Total bacteria, *Bacillus megaterium*, Molasses concentration, Incubation, Growth Pattern, Viability