

## **ABSTRACT**

*The purpose of this study is to utilize the dragon fruit *Hylocereus polyrhizus* into refined products of fermentation. The benefits of this research are to make people with lactose intolerance to be able to consume dairy products and also to provide diversification of dairy products as well as dragon fruit *Hylocereus polyrhizus*.*

*The reasearch method is divide into three stages with different object: stage one to choose the best type of starters in producing the most optimum lactic acids. Stage two to determine the most optimum concentration of dragon fruit extract to producing the most optimum vitamin C and antioxidant capabilities. Stage three to analyze vitamin C, an antioxidant capabilities, pH, and viscosity of the best samples from organoleptic test.*

*The results of the study stage one is found that yoghurt by using starters consisting of three types of bacteria such as *Lactobacillus acidophilus*, *Lactobacillus bulgaricus* and *Streptococcus thermophilus* has a content of lactic acid which is high when compared with the yogurt products use two types of bacteria such as *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. For the results of the second phase of yoghurt which found that use of dragon fruit juice concentration *Hylocereus polyrhizus* as much as 20% had vitamin C and antioxidant abilities optimally. While the results of the study stage three results obtained from the three products selected by the panel of three replicates the results obtained for yogurt products with starter concentration 6% (601) had a content of vitamin C of 11.927 mg / 100 gram sample, amounting to 85.74% antioxidant ability, pH value of 3.90, and a viscosity of 14 d.Pas; for yogurt products with a concentration of 2% starter (201) has a vitamin C content of 9.713 mg / 100 gram sample, the antioxidant ability of 95.89%, pH value of 3.67, with a viscosity of 10 d.Pas; while for the starter yogurt products with a concentration of 4% (401) had a content of vitamin C of 10.404 mg / 100 gram sample, the antioxidant ability of 90.05%, pH value of 3.80, and a viscosity of 15 d.Pas.*

**Keywords:** *Yogurt, *Lactobacillus acidophilus*, *Lactobacillus bulgaricus*, *Streptococcus thermophilus*, the dragon fruit *Hylocereus polyrhizus*, lactic acids, Vitamin C, Antioxidants Ability, pH value, and Viscosity.*