

## ABSTRACT

Khanifah. 2012. **Test Potential Probiotic *Lactobacillus plantarum* was Isolated From The Small Intestine Mojosari Duck (*Anas platyrhynchos*) *In Vitro*.** Thesis. Department of Biology, Faculty of Science and Technology, The State Islamic University of Maulana Malik Ibrahim Malang. Advisor: (I) Dr. Hj. Ulfah Utami, M.Si. (II) Dr. drh. Hj. Bayyinatul Muchtaromah, M.Si, (III) Anik Maunatin, M.P.

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Probiotic is a product containing non-pathogenic microbes live, which was given to animals or humans to fix the rate of growth, efficiency, and increase conversion ration of animal or human health by affecting positively the balance of the gut microbes and microbial pathogen control in the digestive tract. In order to potentially lactic acid bacteria as probiotic candidates must pass the test selection among others such as probiotic test resistance to acid pH, the bile salts, against pathogenic bacteria, and test its interaction with non-pathogenic bacteria.

This experimental research methods for descriptive use that aims to provide information about the potential of probiotic *Lactobacillus plantarum* was isolated from the small intestine Mojosari duck (*Anas platyrhynchos*) with the test *in vitro*: a study on the resistance of *Lactobacillus plantarum* on the condition of the pH of acidic (pH 2, 3, and 4), bile salt concentration of 0.3% (b/v), inhibition of pathogenic bacteria i.e. *Escherichia coli*, *Staphylococcus aureus* and *Salmonella typhi* and test its interaction with non-pathogenic bacteria including *Lactobacillus paracasei*.

The results showed that test endurance of *Lactobacillus plantarum* to pH 2 with an average number of cells of bacteria that lives of  $4.3 \cdot 10^7$  CFU/ml at pH 3, amounting to  $3.8 \cdot 10^9$  CFU/ml at pH 4 and amounted to  $2.7 \cdot 10^{10}$  CFU/ml. Endurance test of *Lactobacillus plantarum* of bile salts on average number of cells of bacteria, which grew by  $1.2 \cdot 10^9$  CFU/ml. Endurance test of the pathogenic bacteria *Lactobacillus plantarum* suggests that *Lactobacillus plantarum* strong in inhibiting *Escherichia coli* and *Staphylococcus aureus* with diameter drag zone formed of 12.7 mm and 13.3 mm but are on preventing *Salmonella typhi* drag zone diameter of 9.3 mm. Test the interaction with non-pathogenic bacteria (*Lactobacillus paracasei*) shows the result that both the colonies of the bacteria *Lactobacillus plantarum* with *Lactobacillus paracasei* fused to each other, do not form drag zone and from the results it can be concluded that the relationship is established by both the symbiotic bacteria do good. On the basis of the fourth test indicate that the potential probiotic *Lactobacillus plantarum* was isolated from the small intestine Mojosari duck (*Anas platyrhynchos*) potentially as a candidate for probiotics.