

SUMMARY

HERINIAINA OLIVIA RANDRIAMAMISOA. Antibacterial Activity Test of *Avicennia marina* Leaves Extract against *Vibrio alginolyticus* and *Vibrio parahaemolyticus* found in White Shrimp affected by white feces disease. Supervisors: Dr. Endang Dewi Masithah, Ir., MP. and Rahayu Kusdarwati, Ir., M.Kes.

White Feces Disease (WFD) is a disease that is becoming the problem on white shrimp farmers. Previous researches that have been done point out that some species of bacteria from the genus *Vibrio* has been associated with the disease, among the species *Vibrio alginolyticus* and *Vibrio parahaemolyticus* that are most dominant (Mastan, 2015). The use of the antibiotic as treatment of bacterial disease has led to various problems, therefore treatment by using natural ingredients is recommended. *Avicennia marina* leaf is a natural ingredient that can be used as it has antibacterial potency (Danata and Yamidango, 2014).

This research aims to know the existence of the antibacterial activity of *Avicennia marina* leaf extract against *Vibrio alginolyticus* and *Vibrio parahaemolyticus* found in white shrimp affected by WFD and to know the best concentration of the leaf extract. This research uses experimental methods to compare the different concentrations of extract with the control. Treatment was given among others *Avicennia marina* leaves extract with different concentration respectively 1800 ppm, 1600 ppm and 1400 ppm, chloramphenicol as a positive control and 10% DMSO as negative control. This research was conducted by preliminary research which are determination of mangrove leaves and phytochemicals screening. The determination was made at the Indonesia Institute of Science (LIPI), its aim is to ensure the sample that will be used, while the phytochemical test was conducted at the chemical laboratory using conventional method, its aim is to determine if there is antibacterial substances in the extract or not.

The results of the research showed that the best concentration of *Avicennia marina* leaf extract that was compared with positive control was the concentration of 1800 ppm. The results were obtained by antibacterial activity test diffusion, using

Kirby-Bauer method by measuring the diameter of inhibitory zone around the paper disc. The diameter of inhibitory zone obtained at a concentration of 1800 ppm are 8,940 mm in *Vibrio alginolyticus* and 8.771 mm in *Vibrio parahaemolyticus*. The results obtained showed that *Avicennia marina* leaf extract produced weak sensitivity against *Vibrio alginolyticus* and *Vibrio parahaemolyticus*.