

ABSTRACT

Siti Maisyaroh. 24020120120027. Growth of the Avicennia marina (Forssk.) Vierh Mangrove at Different Levels of Salinity and Inundation. Supervised by Prof. Dr. Endah Dwi Hastuti, M.Sc. and Prof. Dr. Erma Prihastanti, M.Sc.

Global climate change has resulted in changes in the environmental quality of the Avicennia marina mangrove, such as salinity and inundation. The A. marina mangrove is a non-halophytic plant so it is susceptible to stress. Unstable salinity and inundation have a negative impact on the growth of A. marina. High salinity causes osmotic disturbances which can interfere with water and nutrient absorption. High inundation causes hypoxia or disruption of gas exchange between plants and their environment so that the availability of oxygen needed by plant cells decreases. The research aims to determine the effect of different salinity and inundation on the growth of the A. marina mangrove and examine the interaction of salinity and inundation factors that produce the most optimal growth. The research used a Completely Randomized Design (CRD) with 2 factors, namely the first factor was salinity and the second factor was inundation with 3 replications for each treatment. Salinity levels include 15, 20, 25, 30, and 35 ppt and pool heights include 5, 10, and 15 cm. The parameters observed included stem height, stem diameter, number of leaves, and number of branches. Data analysis used the ANOVA test followed by the DMRT test. Research results showed that inundation affects stem height and stem diameter. A puddle of 15 cm produces greater stem height and diameter. There is an interaction between salinity and inundation on the number of leaves. The interaction between salinity of 20 ppt and inundation of 5 cm resulted in a greater number of leaves with an average of 62.67 pieces.

Key words: A. marina, growth, response, salinity, inundation