ABSTRACT

Yusnia Belinda. 24020121120029. **Growth and Biomass Allocation Response of Shallot (*Allium cepa* L. cv. bima brebes) with the Addition of NAA and Mung Bean Sprout Extract**. Department of Biology, Faculty of Science and Mathematics, Diponegoro University, under the supervision of Dr. Dra. Endang Saptiningsih, M.Si and Dr. Sri Widodo Agung Suedy, S.Si., M.Si.

Shallot is a high-economic-value horticultural commodity that still faces challenges in increasing productivity. The application of growth hormones can be a solution to optimize vegetative growth, which supports crop yield. This study aimed to evaluate the effect of Naphthalene Acetic Acid (NAA) and mung bean sprout extract on the growth and biomass allocation of shallot 'Bima Brebes' shallot. The experiment was arranged in a Completely Randomized Design (CRD) with a single factor consisting of five treatments (control, NAA 0.005%, NAA 0.01%, mung bean sprout extract 2%, and mung bean sprout extract 4%) and 30 replications, resulting in 150 experimental units. Data were analyzed using ANOVA followed by LSD test at a 95% significance level. The observed parameters included sprout emergence rate, root number and length, plant height, leaf number, total chlorophyll content, and biomass allocation. The results showed that the application of NAA and mung bean sprout extract enhanced the growth of 'Bima Brebes' shallot. NAA 0.005% and mung bean sprout extract 4% were the most effective concentrations for all observed growth parameters. Biomass allocation to leaves was not significantly different between NAA and mung bean sprout extract treatments, while biomass allocation to roots was higher under the 4% mung bean sprout extract treatment compared to NAA.

Key word: shallot, NAA, mung bean sprout extract, growth, biomass allocation