ABSTRACT

Salma Nur Hikam. 24020119140088. **Effect of Frequency of Abscisic Acid (ABA) Hormone Administration on the Growth of Pagoda Mustard Plants (*Brassica narinosa* L.) under Drought Stress Conditions.** Department of Biology, Faculty of Science and Mathematics, under the guidance of Endang Saptiningsih and Sri Widodo Agung Suedy.

Drought in the dry season reduces the water content in the soil. The reduced soil water content causes the growth of pagoda mustard plants to decrease, this is because water is an important factor for the growth of pagoda mustard. Abscisic Acid (ABA) hormone is able to maintain plant growth in the face of drought conditions. This study aims to examine the effect of the frequency of ABA administration on plant water content, stomata opening, and the growth of pagoda mustard in drought stress conditions. The research was conducted in a Greenhouse experimentally using a Completely Randomized Design (CRD) with a single factor, namely the frequency of ABA administration consisting of four treatments: field capacity without ABA application (KL (-ABA)), drought without ABA application (K (-ABA)), drought with ABA application once a day (K (+ ABA) P1), and drought with ABA application once every three days (K (+ ABA) P3). The parameters observed were the number and area of leaves, relative water content of the plant, leaf wilting, chlorophyll and carotenoid content, number of roots and length of lateral roots, opening and density of stomata, and dry weight. Data were analyzed using One Way ANOVA and LSD further test at a significance level of 5%. The results showed that the K (+ ABA) P1 and K (+ ABA) P3 treatments reduced stomatal opening and maintained plant water content (roots and leaves). The K (+ ABA) P3 treatment showed an increase in the growth of pagoda mustard greens compared to the K (+ ABA) P1 treatment. Giving ABA hormone once every three days is able to maintain the growth of pagoda mustard under drought stress conditions.

Keywords: ABA, plant water content, stomata, growth, water deficit