

## ABSTRACT

Miftakhul Fadzilah. 24020121120005. **The Effect of Various Water Contents in Planting Media on the Growth of Cavendish Banana Seedlings (*Musa acuminata* L. cv. cavendish) and Mycorrhizal Infection After Acclimatization.** Under the guidance of Endang Saptiningsih and Nintya Setiari.

The growth of Cavendish banana seedlings (*Musa acuminata* L. cv. cavendish) is influenced by the availability of water in the planting medium. Banana seedlings after the acclimatization phase tend to be sensitive to drought stress. The provision of mycorrhizae can help plants overcome water shortages to support growth. The purpose of this study was to examine the effect of water content in the planting medium on the growth of Cavendish banana seedlings (*Musa acuminata* L. cv. cavendish) and mycorrhizal infection and to analyze the water content that gives the highest results on the growth of Cavendish banana seedlings (*Musa acuminata* L. cv. cavendish) and mycorrhizal infection after acclimatization. The study was conducted experimentally using a Completely Randomized Design (CRD) with water content treatments of 100% KL, 75% KL, and 50% KL. Treatments were given by adjusting the water volume in the planting medium, namely by maintaining the weight of the planting medium according to the weight that represents each level of field capacity. In all treatments, *Glomus* sp. mycorrhizae were given at the same dose. Banana plantlets were acclimatized for 30 days after planting, transferred to treatment pots for 7 days after planting, and given treatment until 35 days after planting and 62 days after planting. Data analysis used One-Way ANOVA followed by LSD test with a 95% confidence level. The parameters observed were root growth, leaf RWC, leaf wilting rate, stomata opening and closing, chlorophyll and carotenoid tests, leaf growth, root and shoot dry weight, and spore and hyphae infection in seedling roots. The results showed that at a water content of 75% - 100% KL it was able to increase the growth of Cavendish banana seedlings, while at a water content of 50% KL it was able to increase the percentage of mycorrhizal infection.

*Keywords: cavendish banana, water content, mycorrhiza, drought stress*