

***THE EFFECT OF FUNGI MYCORRHIZAL ARBUSCULAR APPLICATION  
AND DROUGHT STRESS ON THE GROWTH OF EDAMAME PLANTS***

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***ABSTRACT***

*Drought stress caused by climate change has led to a decline in edamame production. Various efforts have been made to optimize edamame production under drought-stress conditions, one of which is utilizing fungi mycorrhizal arbuscular. These fungi benefit plants as they enhance nutrient absorption, plant resistance to drought stress, and protect against root pathogens. This study aims to analyze the effects of drought stress and fungi mycorrhizal arbuscular application on the growth and yield of edamame under drought-stress conditions. The study was conducted from July to October 2024 in the greenhouse of Politeknik Negeri Jember. The experimental design used was a randomized complete block design with two factors. The first factor was the field capacity level, consisting of two levels: 100% field capacity and 40% field capacity. The second factor was the dosage of fungi mycorrhizal arbuscular, composed of five levels: control, 10 grams/plant, 15 grams/plant, 20 grams/plant, and 25 grams/plant. The results showed that the application of fungi mycorrhizal arbuscular did not significantly affect all observed variables. On the other hand, 100% field capacity significantly resulted in the highest pod weight (29.2 g) per plant and shoot weight (33.7 g). Moreover, the interaction between fungi mycorrhizal arbuscular application and field capacity level showed no notable record on all observed variables.*

*Keywords: Drought stress, Edamame, Yield, Climate change*