

Application of Mycorrhizal Biofertilizer (*Glomus* sp.) and Watering Interval Level on the Growth and Yield of Edamame Plants (*Glycine max* (L.)merr.)

Supervised by Christa Dyah Utami, S.P., M.P.

Yulia Putri Anggraini

Food Crop Technology Study Program

Department of Agriculture

ABSTRACT

*The edamame plant (*Glycine max* (L.) Merr.) is a legume with a relatively short growing season. This study aimed to analyze the effects of applying mycorrhizal biofertilizer (*Glomus* sp.) and varying irrigation intervals on the growth and yield of edamame plants. The study was conducted from July to October 2025 at the Patemon Village Greenhouse, Pakusari Subdistrict, Jember Regency, East Java. A completely randomized factorial design with two factors and three replications was used. The first factor was mycorrhizal dose—Control, 15, 30, and 45 grams per plant—while the second factor was watering interval—once every 1, 2, or 3 days. The observed parameters included plant height, number of leaves, canopy weight, pod weight, root length, and root weight. The results of the study showed that at 14 days after planting, before the watering interval treatments were applied, there were differences in the number of leaves among the K groups. These differences were treated as variations in initial growth conditions and were not interpreted as a response to the watering intervals. Group K3 had an average of 7.22 leaves, which was not significantly different from Group K1. Meanwhile, the mycorrhiza dose had a significant effect on the number of leaves at 28 days after planting. At 28 days after planting, the 15-gram/plant mycorrhiza dose resulted in an average of 15.33 leaves, but this was not significantly different from the 45-gram/plant dose or the control. At 42 days after planting, there were no significant differences in the number of leaves. Furthermore, the mycorrhiza dose, watering interval, and their interaction showed no significant effects on plant height, canopy weight, pod weight, root length, and root weight. The water status or stress level for each treatment could not be determined because water volume and soil moisture were not measured quantitatively.*

Keywords: *Edamame, Watering interval, *Glomus* sp. Mycorrhizae.*