

# **THE EFFECT OF MYCORRHIZAL TYPES AND SOIL MOISTURE ON THE P ABSORPTION AND GROWTH OF MAIZE IN REGOSOL**

**By : Erlinda Maulani**

**Supervised by : Yanisworo Wijaya Ratih**

## **ABSTRACT**

The application of mycorrhiza as a biofertilizer positively impacts plant growth and productivity. This study aims to evaluate the effects of applying two types of mycorrhizal biofertilizers and varying soil moisture levels on phosphorus absorption and the growth of maize plants. The experiment was conducted in polybags within a greenhouse using a Completely Randomized Design (CRD) with two factors. The first factor was the mycorrhizal biofertilizer, consisting of M0 (without mycorrhizal fertilizer), M1 (MycoGrow mycorrhizal fertilizer), and M2 (Fumyco mycorrhizal fertilizer). The second factor was soil moisture variation with three levels: A1 (100% field capacity), A2 (80% field capacity), and A3 (60% field capacity). Each treatment was replicated three times. The observed parameters included soil available P analysis before and after treatment, plant height, leaf number, stem diameter, fresh plant weight, dry plant weight, P content in plant tissue, P absorption in plant tissue, and mycorrhizal infection morphology (root staining). The data were analyzed using ANOVA and further tested with DMRT at a 5% significance level. The results showed that the provision of mycorrhizal species was proven effective in increasing the availability of Regosol soil P, plant tissue P levels, plant P uptake, plant height, stem diameter, wet weight, and dry weight of corn plant crowns. However, the provision of mycorrhizal species did not affect the increase in the number of leaves and dry weight of roots. Meanwhile, variations in soil moisture did not increase all parameters measured. Meanwhile, the provision of mycorrhizal species and variations in soil moisture showed no interaction on all parameters observed.

**Keywords:** Interaction, maize, soil moisture, mycorrhiza, P absorption.