

ABSTRACT

This study aims to determine the interplay between the frequency of watering with inoculum Rhizobacteri indigenus Merapi volcanic and Mycorrhiza vesicular arbuscular on the growth and yield of rice plants, determine the level of resistance of rice Segreng Hand on the condition of drought stress were inoculated Rhizobacteri indigenus Merapi volcanic and Mycorrhizae vesicular arbuscular and determine inoculant best among indigenus Rhizobacteri Merapi volcanic and vesicular arbuscular Mycorrhizae best to be applied as a biological fertilizer in rice plants Segreng Handayani. This research has been conducted in Agrobiotecnology laboratory and field tests of Faculty of Agriculture, University of Muhammadiyah Yogyakarta from June to September 2015.

Research arranged in a completely randomized factorial design with the first factor is the frequency of watering which consists of three levels, namely every 3 days; 6 days; and 9 days. The second factor is the kind of inoculum consists of three levels, namely inoculum Rhizobacteri indigenus Merapi MB + MD; inoculum mix of indigenus Rhizobacteri Merapi MB + MD with mycorrhizae; and mycorrhizal inoculum, thus gained 9 treatment combinations, each of which was repeated 3 times. Thus obtained 27 treatment units. Each unit treatment plant samples contained 3 3 victims crop plants and 1 plant reserves.

Results of this study indicate that there is no mutual influence between the frequency of watering with a wide inoculum on all parameters of growth and yield of rice Segreng Handayani. Grain yield (tonnes / ha) is significantly higher in the watering three days (4.71 tons/ha) compared with the watering six days (2.77 tons/ha) and nine days (2.05 tons/ha). Inoculum Rhizobacteri indigenus Merapi MB + MD has tended to be higher grain yield (3.32 tons/ha) compared to the inoculum mix of indigenus Rhizobacteri Merapi MB + MD with mycorrhizal (2.92 tons/ha) as well as single-mycorrhizal inoculum (3.28 tons/ha).

Keywords: Rice Segreng Hand, Frequency of watering, Rhizobacteri indigenus Merapi, Mycorrhizae