ABSTRACT

Rice (*Oryza sativa* L.) is an important crop in Indonesia because the rice produced is the staple food source of the population in Indonesia. Efforts to increase production by using suboptimal land such as ex-mining land into productive land can be done by using mycorrhiza and adaptive varieties. This research aimed to select and study the growth characters and yield of upland rice varieties adaptive for ex-mining land and analyze the dose of mycorrhiza that affects the growth and yield of several varieties of upland rice cultivated. This research used a randomized block design (RBD) with two factors tested with 3 replications. The first factor is variety (V) consisting of 10 levels: V1 (Inpago 9 variety), V2 (Situbagendit variety), V3 (Inpago 6 variety), V4 (Batutegi variety), V5 (Situpatenggang variety), V6 (Inpago 4 variety), V7 (Towuti variety), V8 (Inpago 7 variety), V9 (Inpari 33 variety), and V10 (Sintanur variety). The second factor is Mycorrhiza (M) consisting of 3 levels, namely: M0 (without mycorrhiza), M1 (mycorrhiza 15 g/planting hole), and (25 g/planting hole). The results showed that the Sintanur variety is an upland rice variety that is adaptive for development in the location of ex-mining land. This can be seen in the influence on the variable percentage of root infection, plant height at 20, 40 and 50 DAP, number of tillers 30-50 DAP, root length, root volume, plant wet weight, plant dry weight and root dry weight, number of panicles/number of productive tillers, weight of 1000 grains, and dry grain yield per clump. Giving mycorrhiza 25 g / planting hole is the best dose in upland rice to improve soil structure. It can be seen that there is an effect of growth and yield on the variables of root infection of rice plants, plant height at 10 and 20 DAP, and dry grain yield per clump.

Keywords: *adaptive, Sintanur, root infection,Inpago, nutrient.*