The Effect of Plant Growth Promoting Mycotricho Fungi on the Productivity of Edamame (Glycine Max (L.) Merrill) Soybean Plants

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ABSTRACT

Sustainable edamame cultivation using biological agents such as Plant Growth Promoting Fungi (PGPF) Mikotricho *is still not widely implemented by Indonesian farmers. The objective: To study the effect of plant growth promoting mycotricho fungi (mycorrhiza and Trichoderma* sp*) on the productivity of edamame soybean plants. This research was designed using a randomized block design (RBD) with 4 levels of treatments and 6 replications. The levels of treatment consisted of negative kontrol (P0), mycorrhiza (P1) at a dose of 15 g/plant, Trichoderma* sp *(P2) at a dose of 15 g/plant and mycorrhiza + Trichoderma* sp *(P3) at a dose of* 7,5 *g/plant each. The observation parameters consisted of plant height, leaf trifoliate, number of pods/sample, pod weight/sample, pod weight/plot, productive branches, flowering age, leaf chlorophyll content, and root infection. The results showed that giving a single treatment P1 (mycorrhiza) had an effect on the observation parameters of leaf trifoliate at age 14 dap (1.60), 21 dap (2.60), and 28 dap (4.40). While the parameters for observing flowering age in treatments P3 (mycorrhiza + Trichoderma* sp*) and P1 (mycorrhiza) had an influence with the first flower appearing 5 days earlier than the variety description and there were root infection in treatments P1 (mycorrhiza), P2 (Trichoderma* sp*), and P3 (mycorrhiza + Trichoderma* sp*). However the treatment had no effect on the observation parameters of plant height, number of pods/sample, pod weight/sample, pod weight/plot, productive branches, and chlorophyll content.*

Keyword: *edamame cultivation, PGPF, mycorrhiza, Trichoderma* sp*, mycotricho*