

**APPLICATION OF *Trichoderma*. spp TO INCREASE THE QUALITY OF
COMPOS AS GROWTH MEDIUM COMPONENT OF PINE SEEDLING
(*Pinus merkusii* Jungh. et de Vriese)**

ABSTRACT

Death dan growth injury of seedlings on nursery commonly caused by the use of low quality of compos as the component of growth medium. *Trichoderma* spp. as potential decomposer, biological agent and growth stimulator has the capability to increase the quality of compos as the component of growth medium. The experiment aimed to evaluate the effect of *Trichoderma* spp. substitution during composition processing of the quality of resulted compos.

Compos, made from organic debris as the main component and fresh cow dung decomposer, was used as the compos mass for the decomposition process. Pellets of three species of *Trichoderma* i.e. *T. koningii* (T₁), *T. reesei* (T₁₃) and *T. harzianum* (T₂₇) were substituted into the compos at day 10, 20, 30 during the decomposition of organic debris by containerizing the treated compos in nylon gauze container and inoculated in the compos mass. At day 70 the compos were harvest and used as the component of medium to germinate pine seeds.

Results showed that application of *T. koningii* increased decomposition base on compos weight 35.15%, which was lower than control treatment. Application of *Trichoderma* at day 10 increased the quality of resulted compos compared to those at day 20 and day 30 by 31.09% and 62.18% respectively. Application of *T. reesei* at day 10 lowered the C-N ratio at the amount of 56.6%. *T. koningii* showed its biological potential at day 10 of application indicated by 60% increased survival percentage. Same potential was shown by *T. reesei* but at the application of day 30. *T. reesei* stimulated height growth of seedling 72.7% at the day 30 of application. Diameter increment of 16.67% was obtained on seedlings growing in medium substituted with all *Trichoderma* tested. Application of *T. harzianum* at day 20 resulted an ideal top-root ratio (4.49) compared to that on the other treatments.

Key word : *Trichoderma* spp., compos, pine seedling

