

**THE INHIBITION OF *Trichoderma* spp. AGAINST *Rhizoctonia* sp.
ON TEAK SEEDLING (*Tectona grandis* L.f)**

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ABSTRACT

Teak forest is one of those producing high quality timber in Indonesia. Teak forest regeneration using seed as plant material so far, has been partially replaced using vegetative plant material preparing in nursery. Teak seedlings in nursery are commonly suffering from pest and diseases. One of the most deleterious injury attacking teak seedlings is leaf and stem decay caused by *Rhizoctonia* sp. which finally could kill the seedlings. Chemical control using pesticide has not successful yet.

The experiment aimed to evaluate (1) the intensity of the fungal attack, (2) the effectivity of *Trichoderma* spp. as biological control agent *in vitro* and *in vivo*, and (3) to identify the inhibition mechanism of *Trichoderma* spp. against the pathogen *in vitro*. The species of *Trichoderma* spp. *ei. Trichoderma koningii* (T₁), *T. reesei* (T₁₃) and *T. harzianum* (T₂₇) were used and evaluated through (1) pathogenicity test of *Rhizoctonia* sp. on teak cutting, (2) antagonistic inhibition of *Trichoderma* spp. against *Rhizoctonia* sp. *in vitro* and *in vivo*, and (3) it's activity as biological agent compered to Mankozeb fungicide.

The result indicated that *Rhizoctonia* sp.caused laef and stem decay of early growth of teak seedling at average of 56,7% of the total seedlings. *T. koningii* (T₁), *T. reseei* (T₁₃) and *T. harzianum* (T₂₇) inhibited *Rhizoctonia* sp. at average of 78,21%, 100% and 100% accordingly. Mankozeb fungicide inhibited *Rhizoctonia* sp. at average of 20,5%. The mechanism inhibits *Rhizoctonia* sp. might be through micoparasitism and antibiosis. The aplication of *Trichoderma* spp. as biological control agent against *Rhizoctonia* sp. showed high effectivity and even higher than fungicide Mankozeb.

Key word: *Trichoderma* spp. *Tectona grandis*, *Rhizoctonia* sp.

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