

Growth of Albizia in vitro: Endophytic Fungi as Plant Growth Promote of Albizia

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Abstract : Albizia (*Paraserianthes falcataria*) is a woody plant species that has a high economic value and multifunctional. Albizia is important timber, medicinal plants and can also be used as a plant to rehabilitate critical lands. The demand value of Albizia is increased so that the large quantities and high quality of seeds are required. In vitro propagation techniques are seed propagation that can produce more seeds and quality in a short time. In vitro cultures require growth regulators that can be obtained from biological agents such as endophytic fungi. Endophytic fungi are micro fungi that colonize live plant tissue without producing symptoms or other negative effects on host plants and increase plant growth. The purposes of this research were to isolate and identify endophytic fungi isolated from the root of Albizia and to study the effect of endophytic fungus on the growth of Albizia in vitro. The methods were root isolation, endophytic fungal identification, and inoculation of endophytic fungi to Albizia plants in vitro. Endophytic fungus isolates were grown on PDA media before being inoculated with Albizia sprouts. Incubation is done for 4 (four) weeks. The observed growth parameters were live explant percentage, percentage of explant shoot, and percentage of explant rooted. The results of the research showed that 6 (six) endophytic fungal isolates obtained from the root of Albizia, namely *Aspergillus* sp., *Verticillium* sp, *Penicillium* sp., *Trichoderma* sp., *Fusarium* sp., and *Acremonium* sp. Statistical analysis found that *Trichoderma* sp. and *Fusarium* sp. affect in vitro growth of Albizia. Endophytic fungi from the results of this research were potential as plant growth promoting. It can be applied to increase productivity either through increased plant growth and increased endurance of Albizia seedlings to pests and diseases.

Keywords : Albizia, endophytic fungi, propagation, in vitro

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