Effect of Vesicular-Arbuscular Mycorrhizal Fungi on the Growth of Teak Seedlings[1]

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Abstract

Teak seedlings produced by a tissue culture technique were inoculated with the Following of species of vesicular-arbuscular mycorrhizal (VAM) fungi *Acaulospora scrobiculata* Trappe, *Glomus aqqreqatum* Schenck & Smith emend. Koske, *G. deserticola* Trappe, Bloss & Menge, *Gl. Multicaulis* Gerdemann & Bakshi, *Sclerocystis microcarpus* Igbal a Bushra and an unidentified species (black spore). Six months after inoculation, the inoculated teak seedlings showed greater height, diameter at root collar, shoot dry weight, root dry weight and total dry weight than the control seedlings. Most of the differences in these growth parameters were statistically significant. All vam fungi also increased the efficiency of nitrogen, phosphorus and potassium uptake in teak seedlings although not significantly. Analysis of seeding growth performance indicated that seedlings inoculated with *A. scrobiculata*, *G. aqqreqatum*, *G. deserticola* and an unidentified species (black spore) attained the highest seeding quality. However, the spores of the later species present in soils planted with corn or teak seedlings reproduced significantly fewer spore than the former 3 species. Therefore, for future teak planting program it is recommended that any of the fungi are suitable for mass production and inoculation into teak seedling roots further research should be carried out on the unidentified species (black spore) in order to determine its name, suitable root and optimal environmental condition for reproduction.

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[1] Ramanwong, K. and U. Sangwanit. 2000. Effect of Vesicular-Arbuscular Mycorrhizal Fungi on the Growth of Teak Seedlings. *In* Proceedings of the 8th International Workshop of BIO-REFOR, Kathmandu, Nepal, November 28-December 2, 1999 : Bio-Technology Applications for Reforestation and Biodiversity Conservation. p. 119-122.

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