

on the growth of some tree seedlings.

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Final report. Department of micrology faculty of science, Kasetsart University., 1976.

ABSTRACT

The present studies were carried out to examine effect of vesicular-arbuscular (V-A) mycorrhizal fungi on the growth of some tree seedlings. The inoculation of selected V-A mycorrhizal fungi to seedling beds would make the seedlings healthy enough for reforestation.

Soil samples from seedling plots and reforestation area of Sakaerat Environmental Station were collected. Spore of V-A mycorrhizal fungi were separated from soil by using the wet sieving and decanting method described by Gerdemann and Nicolson(1963). All type of spore found were identified as *Acaulospora*, *Entrophospora*, *Gigaspora*, *Glomus* and *Sclerocystis*. There were 12, 7, 7, 7, 6 and 4 type of spore were found from the soil in seedling pots of *Leucaena leucocephala*, *Acacia auriculiformis*, *Melia azedarach*, *Dalbergia cochinchinensis*, *Eucalyptus camaldulensis* and *Azelia xylocarpa*, respectively. Nine species unreported in Thailand were described in this study.

Propagation of V-A mycorrhizal fungi had been carried out by using the pot culture method, As a result, only eleven types of spores were found and identified as *Acaulospora scrobiculata*, *Entrophospora* sp. No.1, *Gigaspora margarita*, *Glomus multicaulis*, *Glomus* species No.1,2,3 and 5, *Sclerocystis clavispora*, *S. sinuosa* and unidentified species with black spore.

Comparative studies on the effect of three species of V-A mycorrhizal fungi on the growth of the two tested plants were conducted. *Entrophospora* sp. No.1 had been inoculated on *Leucaena leucocephala* and *Acacia auriculiformis*, while unidentified species with black spore and *Glomus* spp. No.1 had been inoculated on the former and the later plants respectively. A completely randomized design was used. The results showed that four months after inoculation, the two host plants inoculated with *Entrophospora* sp. No.1 responded to mycorrhizal infection.

The growth determined by height, fresh and dry weight was significantly improved, whereas the nonmycorrhizal effect had observed on *Leucaena leucocephala* and *Acacia auriculiformis* inoculated with unidentified species with black spore and *Glomus sp. No.1* respectively