

Mycorrhiza Population in the Rhizosphere of Tree Legumes in Mine Tailings and their Effect on Narra (*Pterocarpus indicus* Willd.)

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This screenhouse experiment aimed to isolate and determine the effectiveness of arbuscular mycorrhizal fungi (AMF) associated with legume trees in an abandoned mine in Mogpog, Marinduque, for use in rehabilitating mine tailing areas. Soils were collected from 5 yr old narra (*Pterocarpus indicus*) plots previously inoculated with AMF coded as NarraMyko, and in acacia (*Acacia auriculiformis*) interspersed in the mycorrhiza inoculated narra stand coded as AcaciaMyko, from *A. auriculiformis* growing 100 m away from the narra stand which are either with green or yellow colored leaves, coded AcaciaGreen (healthy) and AcaciaYellow (stunted), respectively. *Glomus* spp. dominated all samples. *Gigaspora* sp. in AcaciaMyko, *Entrophospora* sp. and *Acaulospora* sp. in AcaciaYellow and *Gigaspora* sp., *Acaulospora* sp., and *Scutellospora* sp. in NarraMyko. Narra seedlings inoculated with AMF spores during transfer from germination trays into individual polybags filled with soil sand mixture showed better height and greater stem diameter than the uninoculated counterpart after 2 months. After 3 months growth in mine tailing soil, following a 2-month growth in soil-sand mixture, the height (28.74 cm), stem diameter increment (3.58 cm), and root colonization (93%) of narra seedlings were all highest using inoculum isolated from AcaciaYellow. Phosphorus and heavy metal uptakes were higher in inoculated plants than control ones. Spores isolated from plants previously inoculated with mycorrhiza and from healthy plants in mine tailing sites promoted better growth of narra, which, can be used in the rehabilitation of abandoned mine tailings in Mogpog, Marinduque and in other similar sites in the Philippines.

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