TS OF VESICULAR ARBUSCULAR MYCORRHIZAL ROOT INOCULANT ON THE GROWTH OF JATROPHA (*Jatropha curcas*) SEEDLINGS

THESIS

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EFFECTS OF VESICULAR ARBUSCULAR MYCORRHIZAL ROOT INOCULANT ON THE GROWTH OF JATROPHA (Jatropha curcas) SEEDLINGS

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ABSTRACT

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The effects of VAM root inoculant on the growth of Jatropha (*Jatropha curcas*) seedlings were evaluated from November 2006 to January 2007.

A total of 75 seedlings were arranged in a Completely Randomized Design (CRD) with five treatments and three replications. Treatments evaluated were as follows: T1- Unsterilized soil without VAM and fertilizer, T2- Sterilized soil without VAM and fertilizer, T3-Sterilized soil with VAM inoculant, T4-Sterilized soil with VAM inoculant + Fertilizer, and T5-Sterilized soil + Fertilizer.

Significant results were obtained in the average height of plant, stem diameter, leaf number, total fresh weight and shoot fresh weight. Results showed the redundancy of applying fertilizer on the plant already with VAM inoculation. Growth of inoculated seedlings was comparable to those of uninoculated seedlings and with addition of fertilizer. Uninoculated seedlings grown without fertilizer had the slowest rate of plant growth.

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INTRODUCTION

Jatropha (*Jatropha curcas)* is an oil producing plant which is also known in the Philippines as *Tuba-tuba* or *Tubang-bakod*, and physic nut in English (Philippine Herbal Medicine Site, 2006). The botanic name "Jatropha" is derived from the Greek word "*Jatras*" meaning doctor and "*trophe*" which means nutrition. Locally, it is grown as a boundary fence or live hedge and can be used to reclaim eroded areas (Heller, 1996; Joker and Jepsen, 2003). The plant grows to about 3 m and can be grown practically anywhere (ordinary soil, sandy, gravely or rocky soil). Furthermore, it adapts easily to different climatic conditions and is drought resistant. It can stand up to two years without rainfall and produces seeds up to 30 years. The tree also has a short gestation period, bears several fruits starting six months after planting and reaches full fruit bearing capacity in one to two years (Philippine Herbal Medicine Site, 2006).