



**RECLAMATION OF DEGRADED LAND THROUGH POND SEDIMENTARY SOIL
AND IMPACT OF BIOMASS PRODUCTION AND ARBUSCULAR MYCORRHIZAL
FUNGAL (AMF) STATUS OF SOYBEAN FIELD**

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ABSTRACT

A study was made to investigate the impact of pond sedimentary soil for renovation of degraded land and biomass production of soybean and mycorrhizal status. Pond soil when amended with renovated land soil decreased the plant height and shoot length than crop land soil. Length of root (26.66cm) was increased in renovated + pond soil than cropland soil. Cropland soil showed significant growth rate of nodule, leaves and auxillary branch. Number of pods (154) in cropland soil showed promising results than that of renovated soil+ pond soil. Fresh weight of shoot, fresh wt of root, dry weight of shoot, dry weight of root and area of total leaves were increased in cropland soil. Total yield per hector was increased in cropland soil than renovated + pond soil. Percent root AMF colonization and Arbuscular mycorrhizal fungi (AMF) spore density was found promising in both soils. In both soils *Acaulospora*, *Gigaspora*, *Glomus*, *Entrophospora* and *Scutellospora* was found frequently but *Acaulospora* and *Glomus* genera was found dominant. Vesicular, arbuscular and hyphal colonization was found in both soil of soybean plant root.

**Keywords: *Glycine max*, Renovated Land, Pond Soil, Biomass Production, Mycorrhizal
Root Colonization, AMF Spore Number**

INTRODUCTION

Glycine max (L.) Merr. Soybean is one of the important pulse and oilseed crops of India. It grows well during the *kharif* or monsoon, season (July-October) in the dry land areas of

peninsular India. It is a species of legume native to East Asia, widely grown for its edible bean which has numerous uses. Fat-free (defatted) soybean meal is a significant