



Ant Induced Soil Modifications and its effects on Plant Growth

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Abstract : A study was conducted to find out the soil fertility of ant mounds of *Camponotus compressus* and *Solenopsis geminata*. Ant mound soil samples were collected and nearby soil were also collected for the control setup. The physical compositions of the samples were tested. The plant, *Vicia faba* was planted in these samples and its growth was recorded for 15 days at an interval of 5 days. The results showed that the soil samples of *Camponotus compressus* was most fertile and showed maximum growth compared to the fertility and growth in *Solenopsis geminata* and control setup.

Keywords: Ant, Mound, Fertility, Growth.

Introduction :

Since their origin about 120 million years ago (mya), ants have evolved to become the most rich species and ecologically diverse group of social insects (Grimaldi and Engel 2005; Holldobler and Wilson 1990). Ants perform major ecological functions (predators, scavengers, soil turners, nutrient cyclers, pollinators) and are responsible for dispersal of numerous plant species (Del Toro et al. 2012,).

Ant nests contribute to soil nutrient heterogeneity in many ecosystems. The ant nest soils often contain higher concentrations of organic matter and mineral forms of nitrogen and phosphorous than soils collected off the nest mound (reviewed by Petal, 1978; Folgarait, 1998; MacMahon et al., 2000).

By building up their nests in soil and for their regular activities to attain the society, ants can modify the physical and chemical properties of soil. These modifications, in turn, exert effects on other living resources of soil also. Physical changes are concerned with the involvement of smaller particles of soil and organic matters both in vertical and horizontal directions by the activities of ants (Petal,

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