

Microbial solubilization of P and *Arbuscular mycorrhizal* fungi use for yield and phosphate uptake in improvement of nodulation and yield of [*Vicia faba* L.]

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ABSTRACT

The influence of a phosphate solubilizing bacterium (*Bacillus polymyxa*) and arbuscular mycorrhizal fungus (*Glomus fasciculatum*) on growth of *Vicia faba* L. (Broad bean) and phosphorus uptake were studied. Green house experiments were conducted using both sterilized and unsterilized garden soil (sandy loam). Mycorrhiza and P-solubilizing bacteria inoculated to sterilized soil produced significantly higher growth, dry matter, increase in nodule number and P uptake in shoot. Moderate or lower growth response was observed among the plants grown in unsterilized soil and either PSB or AM inoculated. On the contrary uninoculated plants in sterilized garden soil did not show good growth and higher total P uptake. A synergistic effect was recorded with increased plant dry matter, nodule number and P uptake in the treated with both the inoculums in sterilized soil.

Key words : Microbial solubilization, AMF, Arbuscular mycorrhizal fungi, *Vicia faba* L., Broad bean

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