Influences of Three Different Arbuscular Mycorrhizal Fungi on the Growth and Phosphorus Contents of Cajanus cajan L. Seedlings

Sujata Bhattacharjee* and G.D. Sharma

Department of Life Sciences, Assam University, Silchar - 788011, India.

Received on 02 September 2009 and accepted on 11 October 2009

ABSTRACT

The present study was undertaken to assess the effects of three different Arbuscular mycorrhizal fungi (AMF) namely Glomus fasciculatum, Glomus aggregatum and Acaulospora scrobiculata on the growth and phosphorus contents of Cajanus cajan L. seedlings at different inoculum potential (IP) levels. An initial inoculum potential level of 13000 infective propagules (1IP) per polythene bag determined by most probable number (MPN) method was used. Different inoculum potential levels were 1/2 (IP), 1(IP), 2(IP) and 4(IP). It was observed that plants inoculated with AM fungi showed significant increase in plant height, total dry weight, root colonization and phosphorus contents as compared to un inoculated ones. The plants inoculated with Glomus fasciculatum showed maximum increase in the plant growth, root colonization and phosphorus contents as compared to the plants inoculated with either of the two AMF. Plants varied in their growth response with different inoculum potential levels of AM fungi. Growth parameters showed an increasing trend with the increasing inoculum potential levels and maximum response was observed at an inoculum potential level of 4(IP).

Keywords : Arbuscular mycorrhizal fungi, inoculum potential, phosphorus content, root colonization