World Academy of Science, Engineering and Technology
International Journal of Bioengineering and Life Sciences
Vol:9, No:12, 2015

Medicinal Plants and Arbuscular mycorrhizal Colonization

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Abstract : Demands of traditional herbal medicines are increasing day by day over the world. Considering the growing demand of medicinal plants in curative treatments and the role of VAM fungi in augmentation of the production of active secondary metabolites by the medicinal plants, the present work has been undertaken to survey the mycorrhizal status in 30 different medicinal plants belonging to various families from Krishna district, Andhra Pradesh. The roots were collected carefully and stained by the Phillips & Hayman technique. Basing on the occurrence of vesicles and arbuscules, categorized into four grades; Excellent: mycelia, vesicles or arbuscules present more than 75% of root bits, Good: mycelia, vesicles or arbuscules present 50-75% in surface of root bits, moderate: mycelia, vesicles or arbuscules present 25-50% in surface of root bits, and poor: mycelia, vesicles or arbuscules present 1-25% in surface of root bits. The study reveals that the roots of all plants were colonized by AM fungi. Percentage of root colonization by AM fungi was more in Aloe vera, Phylanthus emblica, Azadiracta indica and least in plants such as Aerva lanata, Vinca rosea, Crotalaria verrucosa among the 30 medicinal plants in present study. The enhancement of growth and vigour and increased production of bioactive compounds of the medicinal plants is desirable which may be achieved by inoculation of the roots with Arbuscular mycorrhizal fungi. There is a steady increase in the cultivation of medicinal plants to maintain a steady supply to support the increasing demand but corresponding researches of VAM fungi and their association in medicinal plants have received very little attention as compared to the studies on forest species and field crops. So a vast research on this field is necessary for a better tomorrow.

Keywords : Arbuscular mycorrhizae, colonization, categories, medicinal plants
Conference Title : ICMAP 2015 : International Conference on Medicinal and Aromatic Plants
Conference Location : Penang, Malaysia
Conference Dates : December 03-04, 2015