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Utilization and conservation of *Morus indica* by using *in vitro* technology and bioinoculants

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Morus indica commonly known as Mulberry is of paramount importance in sericulture industries. *Morus indica*, member of the family Moraceae is a multipurpose tree. Though mulberry foliage constitute the chief food for silkworms, extract from flowers fruits, bark, leaves are of great medicinal value. The most active ingredients are Rutoside and DNJ (1-deoxynojirimycin HCl). Leaf extract is rich in amino acids, vitamin C and antioxidants. DNJ and rutoside are very effective in the treatment of curing diabetes mellitus in addition to regulating blood fat levels balancing blood pressure and boosting metabolism. DNJ has been proved to inhibit the activities of α -glucosidase which lowers blood sugar levels. Hence to meet the demand and supply an attempt has been made to conserve by *in vitro* techniques (mass multiplication) and by utilization of biofertilizers. Arbuscular mycorrhizal fungi (AMF) can form a symbiosis with a wide variety of plant hosts. Beneficial interactions between AMF and commercial plants have been well documented. In the present investigations both normal and micropropagated plants of *Morus indica* were inoculated with two species of *Glomus mosseae* and *Glomus fasciculatum*. The percent of root colonization and morphological parameters were investigated in the field conditions. Alpha glucosidase enzyme inhibition assay in leaf samples of field grown control and micropropagated plants with or without AMF inoculation was conducted to estimate IC50 value. The inoculated plants showed better colonization and better growth performance. Thus AMF influenced the whole physiological status of the host plants as biofertilizers.

Biography

B Pushpavathi has completed her PhD degree in the 2010 under the guidance of Dr. D.H. Tejavathi on utilization of AM fungi in *ex situ* cultivation of micropropagated mulberry plants for better establishment and yield. She has published papers in national and international journals and has made presentations at many international and national conferences. She was conferred with "Young Scientist" award at 4th international conference on medicinal plants and herbal products held at Johns Hopkins University, USA in 2012.

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