



UTILIZATION OF AM FUNGI IN *EX-SITU* CULTIVATION OF MICROPROPAGATED MULBERRY PLANTS FOR ENHANCED GROWTH AND QUALITATIVE IMPROVEMENT

B. Pushpavathi¹, P. Anitha² and D. H. Tejavathi^{1*}

¹Department of Botany, Bangalore University, Bengaluru 560056, India.

²Department of Botany, B. M. S. College for Women, Basavanagudi, Bengaluru 560004, India.

*E - mail: tejavathi_hanu@yahoo.com

ABSTRACT

Mulberry leaf is the sole food source of silkworm, *Bombyx mori* L., and hence, any step towards improvement in leaf quality and quantity will have a direct bearing on the cocoon productivity and quality. In an attempt towards this direction, conventionally raised and micropropagated mulberry plants (*Morus indica* var. Mysore local) were separately inoculated with arbuscular mycorrhizal fungi viz., *Glomus mosseae* and *G. fasciculatum*. Morphological and yield parameters were studied in normal and micropropagated plants with or without (control) AMF inoculation. Micropropagated plants inoculated with *G. fasciculatum* performed better in all the parameters studied. Phytochemical and phytoelementary studies have revealed that the leaves of micropropagated plants inoculated with *G. fasciculatum* had the highest content of primary metabolites and phytoelements indicating better quality of leaves for feeding the silkworm larvae, compared to other treatments. Moisture content and moisture retention capacity of leaves which play a vital role in improving nutrition levels of leaves and the palatability for silkworm, were estimated. The leaves of micropropagated plants inoculated with *G. fasciculatum* showed significantly more moisture content and moisture retention capacity compared to that of other samples. Rearing, cocoon silk productivity and grainage parameters analysed for Pure Mysore breed silkworms fed with the leaves of control and AMF treated normal and micropropagated plants substantiate the results of phytochemical and phytoelementary studies.

Key words: AM fungi, cocoon, growth performance, micropropagation, silk.