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Taxonomic studies and optimization of *Lentinus tuberregium* (HM060586) Tamil Nadu, India

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Abstract: The genus *Lentinus* is a white rot fungus, with many taxonomic controversies and it has attracted the attention of many mycologists for many years. Basidiospore shape, size and structure and pileal surface have been used as primary taxonomic character in the identification of *Lentinus* spp. However, high levels of phenotypic plasticity and descriptive key led many taxonomists to explore chemical and molecular methods to distinguish the species of *Lentinus*. Phylogenetic studies were initiated in *Lentinus* during 1990's based on internal transcribed spacer (ITS) and 26SrDNA. Their studies implied the significance of ITS gene in systematic. Growth requirements of *Lentinus tuberregium* (Fr.), was optimized using different carbon, nitrogen, vitamins and amino acids followed by different ratio of C:N showed significant increment on biomass of mycelium with the amendment of dextrose, yeast extract, thiamine and glycine. Different rational supplement of dextrose and yeast extract confirmed the effective mycelia formation with 1:3 and 1:5 ratio.

Key words: Isolation, classical taxonomy, molecular taxonomy, phylogenetic tree, optimization.

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