

Cultivation possibilities of some selected Sri Lankan indigenous mushrooms with special reference on *Ganoderma lucidum* (Fr). Karst

J.C. Rajapakse¹, C. Nanayakkara², R.Samarasekara³, I.J.De Zoysa⁴ and A. Karunatilake¹

¹ Agricultural Research Station, Department of Agriculture, Telijjawila, ²Department of Plant Sciences, Faculty of Science, University of Colombo, ³ Industrial Technological Institute, Colombo 7, ⁴ Department of Agriculture, Peradeniya.

The present investigation is aimed to collect and identify Sri Lankan indigenous mushrooms, *Ganoderma lucidum* in particular and explore and exploit the possibilities to domesticate the selected "elite" mushroom species. The study further envisages to promote the Sri Lankan mushroom industry and to open new avenues to the domestic mushroom market. Young basidiocarps of seven Sri Lankan indigenous mushrooms were collected from two locations at the southern and south east part of Sri Lanka, i.e Kanneliya and Walankanda forest reserves, during June – September 2009. The collected mushrooms belonged to the genera *Ganoderma*, *Polystictus*, *Mycena* (“Kanamediri Hathu”), *Hexagonia* (“Monara Hathu”), and *Plurotus*. The natural habitat and the vital diagnostic features of each mushroom were recorded in order to gain a better understanding of their ecology and growth requirements to ensure the formulation of an artificial cultivation technology for the development of sustainable use of these much-valued macro-fungi. Taxonomic identifications were made according to the literature. Malt Extract Agar was identified as the preferred medium to maintain mycelial cultures of each of the seven mushrooms. Spawn propagules of the respective cultures were made using mango saw dust based formulation and subsequently used for fruit body production. Among the three *Ganoderma* species [(White (GA_W), Orange (GA_O), and Purple (GA_P)] studied, GA_W and GA_O showed vigorous mycelial growth on sawdust substrate/s and slow and scanty growth was exhibited by GA_P. Furthermore, white and orange pigmentations were developed in GA_W and GA_O respectively but no colour change was visible in spawn substrates of GA_P. The spawn run period for species GA_W, GA_O and GA_P were 40, 42 and 55 days, respectively. Quite contrary to above result, after a protracted incubation period pin heads were formed only in GA_P and further developed to basidiocarp but no primodial development was observed from GA_W and GA_O. Further studies are being directed to understand the factors influencing carpogenesis and strategies to trigger early fructification.