

GROWTH AND YIELD PERFORMANCE OF OYSTER MUSHROOM ON DIFFERENT SUBSTRATES

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Oyster mushroom (*Pleurotus ostreatus*.) Jacq. Ex. Fr. (Kummer) cultivation is a profitable agri-business in Sri Lanka. Although, sawdust is the widely used substrate for Oyster mushroom cultivation low availability is major limitation for the industry. Therefore, discovering of alternative substrates is very important. Hence, the study was conducted to evaluate growth and yield performances of Oyster mushroom on different substrates. Eight treatments were tested as 100% mango sawdust (T₁), 50% mango sawdust + 50% paddy husk (T₂), 25% mango sawdust + 75% paddy husk (T₃), 50% mango sawdust + 50% guinea grass (T₄), 25% mango sawdust + 75% guinea grass (T₅), 100% teak sawdust (T₆), 25% mango sawdust + 75% teak sawdust (T₇), and 50% mango sawdust + 50% teak sawdust (T₈) using Completely Randomized Design with three replicates. Thirty kilograms of each treatment was mixed with 3 kg of rice bran, 300 g of mungbean flour, 600 g of CaO and 60 g of MgSO₄ as additives and mushroom grow bags were prepared. Mycelium growth rate, fresh and dry weights of mushroom, cap diameter, biological efficiency (BE), time taken for fully colonization, primordia initiation and first harvest were measured. Data were analysed by one-way ANOVA at $p \leq 0.05$ level. Results showed the highest mycelium growth rate in T₁. Fresh weight (561.07 gkg⁻¹) and BE (56.11%) were higher in T₄ than in T₁ (481.43 gkg⁻¹, 48.14%). Significantly high dry weights were observed in T₁, T₄ and T₅. T₃ produced a statistically similar BE (48.09%) to T₁, but dry weight and cap diameter were lower than in T₁. Time taken for fully colonization and first harvest were 25 – 29 and 39 – 46 days, respectively. In conclusion, 50% mango sawdust and 50% guinea grass combination is the best alternative substrate for Oyster mushroom cultivation and repeated trial need to be conducted to confirm the result.

Key words: Biological efficiency, Guinea grass, Oyster Mushroom, Paddy husk, Sawdust