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# Domestication of Two Edible Wild Mushrooms, *Lentinus squarrosulus* and *Lentinus tuber-regium* from Sri Lanka

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Tropical ecosystems are rich in species diversity of wild edible mushrooms but very few domestication attempts were recorded in Sri Lanka. The objective of this study was to domesticate two wild mushroom species, *L. squarrosulus* and *L. tuber-regium* freshly collected from Sri Lanka and to evaluate suitable growth conditions for both strains. *L. squarrosulus* (M013) and *L. tuber-regium* (LSK005) were collected from Ragama and Matale respectively. Species were morphologically identified initially and to confirm the identification Internal Transcribed Spacer (ITS) region was sequenced. Sequences were verified with available sequences in GenBank and a phylogenetic analysis was performed with reference *Lentinus* sequences. Growth rates of the isolates were determined in four different culture media. Rice grains with 0.5% $CaSO_4$ and corn grains with 1.2% $CaSO_4$ and 0.3% $CaCO_3$ were tested as mother spawn media while rubber and mango saw dust were utilized as the carbon source of the growth media. A commercially available *Pleurotus ostreatus* mushroom strain was used in parallel as a control in each of the above experiments. Results confirmed that the highest growth rates of both wild mushroom cultures were observed on Potato Dextrose Agar. Both the isolates colonized corn based mother spawn medium with a higher mycelial density rate. Out of the two saw dust culture media, both isolates showed a better colonization with mango. *L. tuber-regium* produced fruiting bodies after 70 days of inoculation of culture media whereas *L. squarrosulus* and commercially grown *Pleurotus* produced fruiting bodies after 66 and 63 days, respectively. When two culture media are compared rubber saw dust produced higher yield than mango saw dust based media. In conclusion, both wild mushroom strains, *L. squarrosulus* and *L. tuber-regium* can be successfully domesticated and are potential candidates to introduce to the consumers and commercial mushroom growers in Sri Lanka.

*Keywords*: Phylogeny, Mother spawn culture

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