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BOTTLE CULTIVATION FOR SPAWN PRODUCTION OF OYSTER MUSHROOM (*Pleurotus ostreatus*) USING DIFFERENT SUBSTRATES

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Oyster mushroom (*Pleurotus spp.*) is a commercially important, predominantly grown variety of mushroom in Sri Lanka. The Department of Agriculture recommends polypropylene bags for Oyster mushroom cultivation, which cannot be reused for the next mushroom cultivation. At the end of the cultivation, polypropylene bags may cause environmental pollution. Therefore reusable glass bottle containers are one of the options for oyster mushroom cultivation. The present study was carried out at the mushroom unit, University Experimental Station, Dodangolla to identify the suitability of glass bottles for Oyster mushroom cultivation and use of spawn run as the planting material for production.

Glass bottles of 15 cm height and 8 cm diameter and Polypropylene bags of 15 cm height, 8 cm diameter were used for the experiment. Each of the polypropylene bag and glass bottle was filled with 200 g of wet substrate and sterilised.

The primary inoculum was prepared from the fresh fruiting body of the mushroom through tissue culture and multiplied by sub-culturing on sterilized ***Potato Dextrose Agar*** medium in petri dishes, and incubated at room temperature of 28 ˚C. About 10 g of spawn of oyster mushroom were used as planting material for each in treatment 1 (polypropylene with saw dust) and 2 (glass with saw dust). About 20 g of spawn run were used as planting material in treatments 3 (polypropylene with saw dust) and 4 (glass with saw dust). About 20 g of spawn run was used as planting material in treatments 5 (polypropylene with paddy straw) and 6 (glass with paddy straw).

The experiment was laid according to a Complete Randomized Design with 6 treatments with 10 replicates. Mycelia growth rate, days taken from inoculation to complete spawn run and pinhead formation, were measured. Data were analysed using the analysis of variance (ANOVA) procedure by SAS and mean separation was done using Duncan's Multiple Range Test (DMRT) at p= 0.05.

This study revealed that spawn run can be used as the planting material for production. There was no significant difference between polypropylene bags and glass bottles, on spawn runing and pin head formation. Spawn runing and pin head formation of the above processes spent 20-23 days and 25-27 days respectively. No significant difference between paddy straw and saw dust was observed, but visually mycelia growth on paddy straw appeared to be better than saw dust.

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