

AN INVESTIGATION IN SPAWN PRODUCTION OF  
OYSTER (*Pleurotus ostreatus*) MUSHROOM



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## Abstract

An investigation had been undertaken to find out the best medium for mushroom tissue culture, feasible technology of spawn production, suitable media for spawn production, and the efficacy of spawn produced. The aim of the study was mainly focused on the production of quality and efficient spawn during each step in the process.

Commonly used different types of synthetic and semi synthetic media were tested to identify the best media for the Oyster mushroom (*Pleurotus ostreatus*) tissue culture.

In addition, locally available grain media were tested for the suitability of spawn production and the performance of each grain spawn were also evaluated on a common standard medium consisting saw dust as the base.

The results of the study revealed that, modified PDA was found to be more suitable for Oyster mushroom (*Pleurotus ostreatus*) tissue culture. The highest growth rate of 0.479 mm/h was observed in modified PDA followed by PDA of 0.393 mm/h, modified MYA of 0.308 mm/h, and MYA of 0.255 mm/h.

Kurakkan (*Eleusine coracana*) showed a faster rate of spawn run followed by broken popcorn maize, sorghum, and paddy. Kurakkan (*Eleusine coracana*) spawn showed a higher rate of spawn run of 0.827cm/ day followed by broken popcorn (maize) (*Zea mays*), sorghum (*Sorghum bicolor*), and paddy (*Oryza sativa*) with spawn run rate of 0.797 cm/ day, 0.763 cm/ day, and 0.524 cm/ day respectively.

The highest mean yield was recorded in kurakkan (*Eleusine coracana*) spawn as  $52.94 \pm 0.67$  g and significantly differed from other three spawn types. Sorghum (*Sorghum bicolor*), broken popcorn (maize) (*Zea mays*) and paddy (*Oryza sativa*) spawns yielded  $48.85 \pm 0.67$ ,  $52.94 \pm 0.67$ , and  $24.35 \pm 1.37$  g respectively.

It was noted that media inoculated with Kurakkan (*Eleusine coracana*) spawn showed the highest biological efficiency of  $14.36 \pm 0.12$  (%) and significantly differed from other three types of spawns investigated.

Highest mean numbers of sporophore (fruiting bodies) were noticed in the harvests obtained from sorghum (*Sorghum bicolor*) spawn as  $9.50 \pm 0.87$  and significantly differed from the other three spawn types.

By and large, kurakkan (*Eleusine coracana*) treated with 0.5% copper sulphate ( $\text{CuSO}_4$ ) was found to be best for the production of grain spawns of oyster (*Pleurotus ostreatus*) out of the four grain media tested, followed by sorghum (*Sorghum bicolor*), broken popcorn (maize) (*Zea mays*), and paddy (*Oryza sativa*).



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