

**EFFECT OF TEA WASTE AS ALTERNATIVE SUBSTRATE FOR
OYSTER MUSHROOM CULTIVATION AND EVALUATION OF
QUALITY PARAMETER**

(Pleurotus ostreatus)



BY

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ABSTRACT

Oyster mushroom is generally cultivated on sawdust and paddy straw substrates. Due to the decreasing supply of sawdust and other substrates there is an urgent need to identify alternative substrates. In this context, this experiment was planned to investigate the suitability of tea waste as an alternative substrate for oyster mushroom cultivation. Tea waste is the residue that remains after leaves have been extracted by hot water to obtain water-soluble components.

The study was conducted at mushroom producer hut in Bogahamadiththa, Badulla. The experimental design was a Complete Randomized Design. Five different substrates were prepared by mixing different percentages of sawdust and tea waste. There were four replicates in each treatment the general procedure was followed and spawn running rate and mushroom media mixture analysis were measured. The qualitative analysis was done and statistical analysis was done and statistical analysis of mean values and its comparison was done using Minitab by Turkey's pairwise comparison test.

The spawn running rate of oyster mushroom mycelium was evaluated on different percentage containing tea waste substrates. Insufficient moisture levels, inappropriate nitrogen content and antifungal substance (tannin) found in the tea waste inhibit the spawn running in the substrate containing 80% of tea waste. The positive results were obtained substrate mixture containing different proportions of tea waste and sawdust. The substrates containing 20% tea waste and 60% sawdust showed promising results in terms of mycelium running even though the substrate mixture containing 80% sawdust showed the best performance among other treatments. There was no mycelium running in the substrate containing 80% of tea waste.

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