

**SENSORY EVALUATION AND CHEMICAL ANALYSIS
OF OYSTER MUSHROOM (*Pleurotus ostreatus*) GROWN
ON DIFFERENT SUBSTRATES**

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ABSTRACT

Mushroom plays an important role in vegetarian meal and as a promising alternative for people prone to Protein deficiency malnutrition. Edible mushroom is a rich source of vegetable protein and vitamins and minerals. Oyster mushroom (*Pleurotus ostreatus*) is the most suitable species for cultivation in Sri Lanka. Mushroom can be artificially cultivated on a variety of prepared substrates. Oyster mushroom is usually grown indoors on sterilized organic waste materials. The objective of present study was to finding the differences in nutrient content and organoleptic quality of oyster mushroom raised on different substrates. This study was carried out in the Department of Agricultural Biology and the laboratory of Agricultural Chemistry of Eastern University, Sri Lanka. During this study mushroom was raised in saw dust, paddy straw, dry leaves, paper and combinations of them as substrates in which saw dust was included as control. In this research chemical analysis, sensory and shelf life evaluation were performed.

All chemical analyses were carried out using the recommended AOAC (1998) methods. Protein determination by macro kjeldahl method, crude fat by continuous extraction method using Soxhlet apparatus and ascorbic acid was determined by using titrating method. Sodium and potassium content were determined by using flame photometer. SAS software statistical package was used to analyzed these data and significant difference at 5% level were observed in chemical composition viz crude protein, crude fiber, crude fat, nitrogen free extracts, moisture content, dry matter, ash content, ascorbic acid, sodium content and potassium content among mushroom raised on different substrates. Based on the chemical analyses paddy straw was found to be the suitable substrate for the production of high quality mushroom in terms of chemical composition.

Organoleptic assessment was conducted with fried mushroom to determine the flavour, taste, colour, texture, absence of off-flavour, and overall acceptability using nine-point hedonic scale ranking method. The results revealed that, there were no significant differences in organoleptic characteristics among mushroom of different substrates at 5% level. Paddy straw appeared to be a suitable medium to produce the high quality mushroom with high score for acceptability among the different substrates tested in this study.

As far as shelf life of freshly harvested mushroom is concerned, it can be kept for 2 days under ambient condition and 5 days under refrigeration (about 5 – 10°C) in sealed polythene bag of gauge 200.

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