

INTERNATIONAL MUSHROOM CONGRESS AND NATIONAL FORUM ON THE FUTURE OF MUSHROOMS



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Theme: Global Synergies in Mushroom Science and Technologies for Sustainable Development

LEVELS OF HEAVY METALS PRESENT IN (*Volvariella volvacea*) STRAW MUSHROOM GROWN IN WATER HYACINTH SUBSTRATE

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ABSTRACT

This research study titled "Levels of Heavy Metals Present in *Volvariella volvacea* Straw Mushroom Grown in Water Hyacinth Substrate" evaluated the concentration of heavy metals in *Volvariella volvacea* mushrooms cultivated using water hyacinth as a substrate. Heavy metal contamination in food sources is a growing environmental concern due to its potential health risks. The use of water hyacinth, a highly invasive plant species, as a substrate for mushroom cultivation offers sustainable waste management potential. However, the presence of heavy metals in water hyacinth raises concerns about the possible transfer of these contaminants into the mushrooms. The samples of *Volvariella volvacea* mushrooms cultivated in water hyacinth substrate were brought to the laboratory for chemical analysis. Results of the study through laboratory analysis showed the presence and levels of heavy metals such as lead, cadmium, and arsenic beyond the standard limit. Meanwhile, different substrates must also be subjected to heavy metal analysis depending on their location and the chance of contamination. The researcher also recommends further study for safety and quality of mushrooms grown in other varieties of mushrooms to shed light on the potential risks associated with heavy metal accumulation capabilities.

Keywords: Heavy metal, mushrooms, water hyacinth

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Keywords: oyster mushroom, *Pleurotus ostreatus*, substrates, rice bran supplementation, spawn run, fruiting bodies, yield performance, contamination rate, mushroom cultivation.



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