REPORT OF VIRTUAL TOUR ON OYSTER MUSHROOM CULTIVATION

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AIMS AND OBJECTIVES

The learning objectives included

1)To understand the protocol of every step with principle of use.

2)To correlate the above steps with the process we were experimenting with our pilot scale home trials for our internship project.

3)To help us judiciously record our results and draw logical inferences.

4)To discuss our results in comparison with other mushroom growers and scientists according to our compiled literature references.

5)To develop a scientific temper for progression

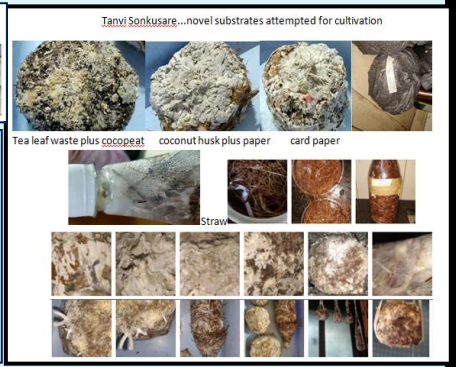
INTRODUCTION This tour was conducted under the aegis of IWSA-Jaihind College Student Internship Program on 21/7/2021 at 11 am for **Project 6** Interns working on **''Substrates for Mushroom Cultivation at home''.** It was aimed to provide us with an audio visual experience of an in-depth view and interior structure of a mushroom cultivation set up on an industrial level. As we were conducting mushroom cultivation at home on an individual basis this session was highly informative and helpful to each one of us.

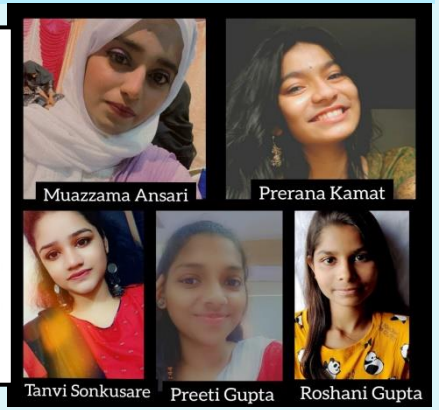
OUR SALIENT LEARNINGS

We had set out to experiment with novel substrates, both conventional and recyclable, for the cultivation of Oyster Mushrooms at our home labs. In the beginning of our virtual tour, we were aquainted with some conventional substrates which are used by professional mushroom cultivators like rice straw and wheat straw. As per our literature search and brain storm contact sessions with our project mentors, we had also selected a few novel substrates procured from home waste such as courier paper, cardboard, tea leaves waste and corn cobs which were included in our projects. In the tour we could observe the step by step procedure of acquiring the necessary conditions of our substrates. The advantage of using steam over chemical sterilization was highlighted as it is an organic method. While inoculating, it was shown that we must add layers of 3-inch substrate and spawn one after another. Holes must be made in the bags to make sure the passage of air is continuous which is also useful for further stages. Further , the inoculated substrate containers/bags must be kept in a clean area to prevent substrate contamination. Incubate the containers/bags in an area with high humidity and no dust. Through the tour we also noticed that we must allow the mycelium growth to take place among the substrate for at least a week. A patient wait and keen observation till the entire bag turns into one block with a intricate network of mycelium was suggested. At this point cut out the bags and expose the spawn culture in air. Once the mycelium expansion has occurred, misting of water should be done with a spray so that humidity and moisture is maintained for more growth to take place. Soon, small pinheads would be visible coming out of the holes of the containers/bags. Then the next step was for the fruiting bodies to arise and mature to their full size. Next step shown in tour was the process to harvest the full grown mushrooms from the substrate containers/bags using a sharp blade or gentle hand twist. We were also enlightened with methods to reuse our substrates post harvest which include selling the substrates to vendors, farmers and cultivators for further use, the myceliated substrate could also be reused as an excellent fertilizer. Lastly we were also demonstrated an easy way to make grain Spawn for growing mushrooms at home with the help of a step by step guide.

ACKNOWLEDGEMENTS We sincerely thank our IWSA mentors including Dr. Paramjit Anthappan, Vijaya Chakravarty, Dr. Santhini Nair and our college faculty coordinator Dr. Shuchita Deepak , Jai Hind college for this opportunity providing us with a vision to move ahead in our internship program through this insightful virtual tour

Oyster mushroom spawn procured from MAHAGRO India





SOME GLIMPSES OF OUR HOME LAB EXPERIMENTAL OUTCOME WITH OYSTER MUSHROOM CULTIVATION