21ELCT374 MUSHROOM PRODUCTION TECHNOLOGY

Hours Per Week :

L	T	P	C
2	-	2	3

Total Hours :

L	T	P
30	-	60

Source:
https://www.exportersindia.com/product-detail/fresh-oyster-mushroom-3255372.htm

COURSE DESCRIPTION AND OBJECTIVES:

The purpose of this course is to enable the students to identify edible and poisonous mushrooms and provide hands on training for the preparation of bed for mushroom cultivation and spawn production

COURSE OUTCOMES:

Upon completion of the course, the student will be able to achieve the following outcomes:

COs	Course Outcomes
1	Identification of edible types of mushroom
2	Gain the knowledge of cultivation of different types of edible mushrooms and spawn production
3	Manage the diseases and pests of mushrooms
4	Learn a means of self-employment and income generation

SKILLS:

- ✓ *Identify of different edible mushrooms*
- ✓ *Spawn production techniques*
- ✓ *Sterilization techniques*
- ✓ *Design for mushroom production unit*

ACTIVITIES:

- *Sterilization techniques*
- *Spawn production*
- *Visit to mushroom production unit*
- *Calculate cost economics of mushroom production unit*

UNIT - 1

Historical development of mushroom cultivation and present status; classification; food and medicinal value; edible and poisonous mushrooms. Present scenario and prospects for Mushroom Cultivation

UNIT - 2

Life cycle of cultivated mushrooms; reproduction and strain improvement; maintenance of pure culture; preparation of spawn

UNIT - 3

Preparation of substrate for mushroom cultivation; long, short and indoor composting methods; Role of composting in Mushroom cultivation. Designing and construction of Mushroom farm, formulae for different composts and their computation; qualities and testing of compost; uses of spent mushroom compost / substrate.

UNIT - 4

Facilities for setting up mushroom farm for seasonal and environmentally control cultivation; requirement and maintenance of temperature, relative humidity, CO_2 , ventilation in cropping rooms; cultivation technology of *Agaricus bisporus, Pleurotus* sp., *Calocybe indica*, *and Volvariella volvacea*

UNIT - 5

Insect pests, diseases and abnormalities of cultivated mushroom and their management; post harvest processing and value addition; economics of mushroom cultivation

LABORATORY EXPERIMENTS

LIST OF EXPERIMENTS

1. Understanding prospects of Mushroom cultivation – under seasonal and environmentally controlled conditions.
2. Visit to mushroom growing unit to understand the spawn production
3. Selection of commercially important types of Mushroom
4. Preparation of spawn
5. Selection of Appropriate materials to prepare different types of compost
6. Preparation of different types of compost
7. Pasteurization of compost
8. Determination of quality of compost and spawning by selecting correct spawn and casing
9. Visit to another mushroom growing unit & Interaction with Mushroom cultivators
10. Inspection of Mushroom bags or beds for early detection of pests and diseases
11. Harvesting, packaging & grading
12. Storage and Post harvest handling of edible mushrooms
13. Preparation of value added products out of Mushroom
14. Work out the economics of the project and devise suitable marketing strategies
15. Field Visit & Interaction with Mushroom cultivators and other Support Agencies and Preparation of project proposal on mushroom cultivation and submission as an assignment

REFERENCES:

1. Chang, S.T. and Miles, P.G. 1989. Edible Mushrooms and their cultivation. CRC Press
2. Boca Raton, 345 pp. Kaul, T.N. 1997. Introduction to Mushroom Science (Systematic). Oxford & IBM Publishing Co. Ltd. Calcutta
3. Kaul, T.N. 2002. Biology and Conservation of Mushrooms. Oxford & IBM Publishing Co. Ltd
4. Kaul, T.N. and Dhar, B.L. 2007. Biology cultivation and Edible Mushrooms. Westville Publishing House, New Delhi