

CERTIFICATE COURSE

ON

MUSHROOM CULTIVATION

Course code: ASCEP17 Duration: 30 Hours

Course Outcomes:

- Enable the students to identify edible and poisonous mushrooms
- Provide hands on training for preparing beds for mushroom cultivation and spawn production
- Give the students exposure to the experiences of experts and functioning mushroom farms
- Help the students learn a means of self-employment and income generation.

Course outcome:

By successfully completing the course, students will be able to:

- Identify edible types of mushrooms.
- Gain the knowledge of cultivation of different types of edible mushrooms and spawn production
- Manage the diseases and pests of mushrooms
- Learn a means of self-employment and income generation

Syllabus

Module 1: Introduction to mushrooms (2 hours)

Mushrooms -Taxonomical rank -History and Scope of mushroom cultivation - Edible and Poisonous Mushrooms-Vegetative characters

Module 2: Common edible mushrooms (2 Hours)

Button mushroom (*Agaricus bisporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajorcaju*), and paddy straw mushroom (*Volvariella volvcea*).

Module 3: Principles of mushroom cultivation (8 Hours)

Structure and construction of mushroom house, Sterilization of substrates, Spawn production culture media preparation- production of pure culture, mother spawn, and multiplication of spawn. Composting technology, mushroom bed preparation. Spawning, spawn running, and harvesting. Cultivation of oyster and paddy straw mushrooms. Problems in cultivation - diseases, pests, nematodes, weed moulds and their management strategies

Module 4: Health benefits of mushrooms (2 Hours)

Nutritional and medicinal values of mushrooms. Therapeutic aspects- antitumor effect

Module 5: Post harvest technology: (4 Hours)

Preservation of mushrooms - freezing, dry freezing, drying, canning, quality assurance, and entrepreneurship. Value added products of mushrooms.

Module 6: Training/ Workshop/ Field visit (12 Hours)

Sterilization and sanitation of mushroom house, instruments and substrates, Preparation of mother culture, media preparation, inoculation, incubation and spawn production Cultivation of oyster mushroom using paddy straw/agricultural wastes

References

1. Marimuthu, T. et al. (1991). Oster Mushroom. Department of Plant Pathology. Tamil Nadu Agricultural University, Coimbatore.
2. Nita Bhal. (2000). Handbook on Mushrooms. 2nd ed. Vol. I and II. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi
3. Pandey R.K, S. K Ghosh, 1996. A Hand Book on Mushroom Cultivation. Emkey Publications.
4. Pathak, V. N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
5. Tewari Pankaj Kapoor, S. C. (1988). Mushroom Cultivation. Mittal Publication, New Delhi.
6. Tripathi, D.P. (2005) Mushroom Cultivation, Oxford & IBH Publishing Co. PVT.LTD, New Delhi.
7. V.N. Pathak, Nagendra Yadav and Maneesha Gaur, Mushroom Production and Processing Technology/ Vedams Ebooks Pvt Ltd., New Delhi (2000)

Course Details

Course Intake: 70

Course Duration: 30 hours (20 hours Theory and 10 hours Practical)

The mode of course conduct shall be through offline and online classes and the LMS

Google Classroom.

Course Evaluation:

The evaluation scheme for the course shall contain two parts:

1. Internal Assessment
2. External Evaluation

25% of the total mark is for internal assessment, and 75% is for external evaluation.

Table showing components with marks of evaluation

		Component	Mark
Theory (Total mark 80)	Internal (Total mark 20)	Attendance	10 mark
		Assignment	4 mark
		Exam I (Objective type)	3 mark
		Exam II (Objective type)	3 mark
	External (Total mark 60)	Essay	1*10 mark =10 mark
		Short answer	4*5 mark = 20 mark
		Very Short Answer	10*3 mark = 30 mark
Practical (Total mark 20)	Internal (Total mark 5)	Involvement in practical sessions	5 mark
	External (Total mark 15)	Demonstration/Viva	5 mark
		Record	5 mark
		Field trip/Workshop report	5 mark

Criteria for issuing certificates:

A student is required to acquire a minimum of 40% in aggregate for theory and practical and 35% separate theory and practical external evaluation.

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