

Mushroom Cultivation

Course Code: MCC

Syllabus:

Unit 1: Introduction to Mushroom

2 lectures

History and Scope of Mushroom Cultivation; Taxonomical rank of Mushroom; Vegetative characters of edible and poisonous mushrooms.

Unit 2: Common edible Mushrooms

2 lectures

Button Mushroom (*Agaricus bisporous*), Oyster mushroom (*Pleurotus sajorcaju*), paddy straw mushroom (*Volvariella volvacea*), Milky Mushroom (*Calocybe indica*); Other economically important and medicinal mushroom- Shiitake Mushroom (*Lentinula edodes*), Kabul Dhingri (King Oyster) Mushroom.

Unit 3: Principle of Mushroom Cultivation

8 lectures

Structure and construction of mushroom house. Sterilization of substrates. Spawn production- culture media preparation, Preparation of mother spawn, production of planting spawn, storage/transportation of spawn, Criteria for selection of good quality spawn. Cultivation of Button mushroom and paddy straw mushroom; Introduction to microbiology laboratory- Laminar Air flow, Autoclave.

Unit 4: Nutritional and health benefits of Mushroom

2 lectures

Nutritional and health benefits of mushrooms. Therapeutic aspects- antitumour effects.

Unit 5: Disease and Pest Management in cultivated mushrooms

3 lectures

Dry Bubble and wet bubble- Major diseases of cultivated mushroom; Major insect pests- Mushroom flies / nematodes / mites.

Unit 6: Value addition of Mushroom

2 lectures

Value added products / recipes, Quality assurance, Packing and packaging, Market opportunities.

Unit 7: Training / Workshop

12 lectures

Sterilisation and sanitation of mushroom house, instruments and substrate; Preparation of mother culture, media preparation, inoculation, incubation and spawn production; Cultivation of *Volvariella volvacea* (paddy straw mushroom) and *Pleurotus sajorcaju* (oyster mushroom) using paddy straw/agricultural waste.

References:

1. Pandey, R.K. and Ghosh, S.K. (1996). A handbook of Mushroom Cultivation. Emkey Publication.
2. Pathak, V.N. and Yadav, N. (1998). Mushroom Production and Processing Technology. Agrobios, Jodhpur.
3. Nita, B. (2000). Handbook of Mushrooms. Vol 1 & 2. Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

4. Tewari, P. and Kapoor S.C. (1998). Mushroom Cultivation, Mittal Publication, New Delhi.