

33. Mushroom Cultivation Technology (SEC0106503)

Total Duration: 55hrs

Credits: 3 (Theory: 1, Practical: 2)

Learning Objectives:

To make student aware about

- The diversity and identification of **Mushrooms** growing in this N.E. region.
- **Mushroom** growing Techniques.
- **Medicinal** and **Nutritional** value of **mushrooms**
- **Low cost** input in **mushroom** cultivation but **benefit outcome** is high.

Learning Outcomes:

- After **completion** of the course, student will be able to identify and practice the technique for cultivation of various types edible **mushrooms**.
- It will help to encourage **self-employment** by setting up **small scale** unit for **mushroom** cultivation.

THEORY (1 CREDITS)

UNIT 1 (2 lectures)

Introduction of **mushroom** fungi, characteristics and classification types, different types of **mushrooms** available in India and N.E. regions, Edible **mushrooms** (*Pleurotus*, *Volvariella Agaricus*), Poisonous **mushrooms** (*Amanita*, *Cortinarius*, *Psilocybe*), nutritional and medicinal importances of **mushrooms**.

UNIT 2

(4 lectures)

Methods and preparation of culture of **mushrooms**, methods of culture preparation, spawn and spawning: forms of spawns (Liquid and substrate/grain spawn), preparation of spawn, mother spawn, spawn formulations and commercial spawn, problems in spawn production, diagnostics and solution, method of spawning.

UNIT 3

(5 lectures)

Compost and composting: Methods of composting, quality of good compost; Casing and casing material used in used in **mushroom** cultivation.

Economic of spawn and mushroom production, post-harvest technology, Processing and value addition, mushroom cultivation and agri-preneurship, Government policies related to the promotion of mushroom cultivation.

PRACTICAL (2 CREDITS)

1. To study the principle and functioning of instruments used in the various techniques.
2. Preparation of various type of compost and media
3. Method of culture preservation
4. Quality testing of compost
5. To study various types of casing and casing material
6. Preparation of spawn & spawning
7. Technique for cultivation of edible mushrooms
8. To study the nutritional, market value, post-harvest technologies like packaging and preservation
9. To study the various requirement for setting up a mushroom cultivation unit (Kuccha or cemented house)
10. Visit to institute and cultivation center.

Suggested Readings:

1. Aggarwal, A., Sharma, Y.P., Angra, E. (2021). A textbook on mushroom cultivation, Theory and Practices. Newrays Publishing House, 2021.
2. Tiwari, S.C. Kapoor, P. (2018). Mushroom Cultivation. Mittal Publications. ISBN - 9788183249232.
3. Bahl, N. (2015). Hand Book on Mushroom. Page no. 1-166. Oxford & IBH Publishing Company. ISBN- 13:978-8120413993.
4. Russell, S. (2014). The Essential Guide to Cultivating Mushroom. Storey Publishing. North Adams, MA 01247-page no. 1-233. ISBN 978-1-61212-146-8.
5. Chang, S.T. Miles, P.G. (2004). Mushrooms Cultivation, Nutritional Value, Medicinal effect and Environmental Impact. Page no. 1-477, CRC Press.
6. Rai, R.D., Arumuganathan, Y. (2008). Post-harvest technology of mushrooms. Pages 172. National Research Center for Mushroom (Indian Council of Agricultural Research) Chambaghat, Solan-173 213 (HP)
7. Ahlawat, O.P., Tewari, R.P. (2007). Cultivation Technology Of Paddy Straw Mushroom (*Volvariellavolvacea*). Pages 1-44 National Research Center for Mushroom (Indian Council of Agricultural Research) Chambaghat, Solan (HP).
