

Certificate in Mushroom Cultivation (CMC)

CURRICULUM Scheme and Syllabus

Duration: 03 Months

Eligibility: Any one youth and farmers who interested

Credits: 3 (2+1)

Contact Hrs.: 80

Objective: To increase the production and consumption of mushrooms. To help create new employment opportunities for rural youth through mushroom cultivation. To empower rural communities with entrepreneurial skills through the production and sale of mushrooms.

Course Offered:

Course Code	Course Title	Hrs.
CMC 001	Introduction and Health benefits of Mushrooms	16
CMC 002	Life Cycle, Compost & Composting	16
CMC 003	Cultivation Technology, Spawn Production and Spawning	16
CMC 004	Cultivation of other economically important and medicinal mushroom	16
CMC 005	Insect - Pests and Disease management in cultivated mushroom, Mushroom growing unit/ house and Value addition of mushroom	16
	Total	80

Examination Scheme:

Components	CT	HA	C	V	A	EE
Weightage (%)	10	5	5	5	5	70

(C - Case Discussion/ Presentation; HA - Home Assignment; V - Viva; CT- Class Test; A - Attendance; EE - End Examination)

Syllabus

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Course Content

CMC: Mushroom Cultivation

Theory

CMC 001: Introduction and Health benefits of Mushrooms

History and Scope of mushroom cultivation - Edible and Poisonous Mushrooms-Vegetative characters, Different parts of a typical mushroom & variations in mushroom morphology. Key to differentiate Edible from Poisonous mushrooms. Button, Straw & Oyster- General morphology, distinguishing characteristics, spore germination and life cycle. Common edible mushrooms - Button mushroom (*Agaricus bisporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajorcaju*) and paddy straw mushroom (*Volvariella volvacea*). Nutritional and medicinal values of mushrooms

CMC 002: Life Cycle, Compost & Composting

Life Cycle of Mushroom- Vegetative Phase, Reproductive Phase and Spore Production. Principles of composting, machinery required for compost making, materials for compost preparation. Methods of Composting- Long method of composting (LMC) & Short method of composting (SMC).

CMC 003: Cultivation Technology, Spawn Production and Spawning

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, harvesting. Cultivation of button, milky, oyster and paddy straw mushroom.

CMC 004: Cultivation of other economically important and medicinal mushroom

Prepare substrate and manage crop Pick, grade and pack the harvested economically important and medicinal mushroom. Kabul Dhingri (King Shiitake Mushroom oyster) Mushroom Reishi (*Ganoderma*) Mushroom Kira ghas (*Cordyceps*) Mushroom

CMC 005: Insect - Pests and Disease management in cultivated mushroom, Mushroom growing unit/ house and Value addition of mushroom

Major insect pests - Mushroom flies/ nematodes/mites. Dry Bubble and wet bubble – major diseases of cultivated mushroom Competitor/weed moulds encountered: Green, yellow and plaster moulds/ *Coprinus*. Design and develop mushroom production growing structure / unit. Prepare different value added products of mushroom

Practical: 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.