



**ST. XAVIER'S COLLEGE, SIMDEGA**

**(Affiliated to Ranchi University, Ranchi)**

P.O. GOTRA, DT. SIMDEGA, JHARKHAND, INDIA PIN-835235, www.sxcsimdega.edu.in, Email. sxcsimdega2016@gmail.com, Mob. 9931699162

# **Mushroom Cultivation and Marketing Course**

**Session: 2021-2022**

## **Vision of the course**

- To empower students with practical knowledge and entrepreneurial skills in mushroom cultivation and marketing.
- To foster sustainable agricultural practices and economic development in rural areas like Simdega.

## **Mission of the course**

- The course aims to provide hands-on training in mushroom farming, integrating modern techniques with local resources, and equipping students to build sustainable livelihoods.
- By promoting self-reliance, innovation, and environmental stewardship, the program aspires to transform Simdega into a hub of mushroom production, creating employment opportunities, ensuring nutritional security, and contributing to the socio-economic upliftment of the region.

**Importance of the Course:** Simdega, with its fertile soil, abundant agricultural residues, and high unemployment rates, offers immense potential for mushroom cultivation as a low-cost, high-yield enterprise. This course will help students utilize local resources effectively, generate income, and address rural poverty while diversifying agricultural activities in the region. It also holds the promise of reducing migration by creating local employment opportunities, thereby contributing to the holistic development of the community.

**Instructor: Br. Blasius Tigga**

**Duration: 90 Days**

## **Syllabus:**

### **Day 1-15: Introduction to Mushroom Cultivation**

- Overview of Mushroom Farming
  - Types of mushrooms: Edible vs. Non-edible
  - History and evolution of mushroom cultivation
  - Importance of mushroom cultivation in rural economies, with a focus on Simdega
- Mushroom Biology
  - Fungi classification and characteristics
  - Life cycle of mushrooms
  - Essential factors for mushroom growth: Temperature, humidity, light, and substrate



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### Day 16-25: Preparation for Mushroom Cultivation

- Site Selection and Infrastructure
  - Selecting the right location for mushroom farming
  - Necessary infrastructure: Shade houses, indoor/outdoor cultivation areas
  - Tools and equipment required for mushroom cultivation
- Substrate Preparation
  - Types of substrates: Straw, sawdust, compost, etc.
  - Sterilization and pasteurization techniques
  - Preparing substrates for inoculation

### Day 26-35: Mushroom Species and Strain Selection

- Common Edible Mushrooms
  - Button mushrooms (*Agaricus bisporus*)
  - Oyster mushrooms (*Pleurotus ostreatus*)
  - Milky mushrooms (*Calocybe indica*)
  - Shiitake mushrooms (*Lentinula edodes*)
- Strain Selection
  - How to choose the right strain based on climatic conditions and market demand
  - Factors influencing strain quality and yield

### Day 36-45: Inoculation and Mycelium Growth

- Inoculation Techniques
  - How to inoculate substrates with mushroom spawn
  - Cleanliness and hygiene during inoculation
  - Types of inoculation methods: Spore inoculation vs. spawn inoculation
- Mycelium Growth
  - Monitoring and maintaining optimal conditions for mycelial growth
  - Common issues and troubleshooting during colonization phase

### Day 46-55: Fruiting Conditions and Harvesting

- Fruiting Conditions
  - Environmental requirements: Temperature, humidity, and light for fruiting
  - Transitioning from colonization to fruiting
- Harvesting Techniques
  - Signs of maturity for different mushroom varieties
  - Proper harvesting methods to maximize yield and quality
  - Post-harvest handling and packaging

### Day 56-65: Pest and Disease Management

- Common Pests and Diseases in Mushroom Farming
  - Identification and control of pests: Fungus gnats, mites, etc.
  - Preventing and treating fungal diseases: Trichoderma, bacterial blotch, etc.
  - Organic and chemical control methods
- Hygiene and Sanitation
  - Maintaining a clean and sterile environment to prevent contamination
  - Importance of proper waste management



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### **Day 66-75: Mushroom Marketing and Economics**

- Market Analysis and Demand
  - Identifying target markets for fresh and processed mushrooms
  - Pricing strategies and cost-benefit analysis for mushroom farming
- Value-added Products
  - Processing mushrooms: Dried, canned, and packaged products
  - Branding and marketing strategies for mushroom products

### **Day 76-85: Financial Planning and Business Development**

- Financial Aspects of Mushroom Farming
  - Estimation of initial investment costs: Infrastructure, equipment, spawn, etc.
  - Operational costs: Labor, utilities, and substrate
- Business Models and Entrepreneurship
  - Setting up a mushroom cultivation business
  - Government schemes and subsidies for rural entrepreneurs
  - Building a sustainable business model in rural areas

### **Day 86-90: Hands-on Training and Final Evaluation**

- Practical Session on Mushroom Cultivation
- Final Evaluation
  - Written and practical assessment of knowledge and skills