

## 7.2.1 Best Practices

### Title of Practice 1: Promotion of Mushroom Cultivation and Imparting Entrepreneurial skills

#### Objectives of the Practice:

- Cultivation of various types of mushrooms such as button mushroom, oyster mushroom and king oyster mushroom.
- Determining the favourable conditions of growth required by different types of mushrooms
- Utilization of agricultural waste as it is environmentally sustainable practice
- Development of an appropriate compost
- Learn optimum farming techniques
- Identify and devise resources for mushroom cultivation.
- Enhance entrepreneurial skills.
- Develop networks with other mushroom growers and institutions.

#### The Context:

The Mushroom Cultivation Program by Shaheed Rajguru College of Applied Sciences for Women is a certificate course and faculty development program organized by the Department of Microbiology in association with Enactus, Rajguru. The program aims to popularize mushroom cultivation and consumption among masses by imparting quality knowledge and training about the methods and benefits of mushroom growth. The program also enhances entrepreneurial skills and develops network with other institutions. The program is conducted in hybrid (online and offline) mode and sessions are held at periodic intervals.

#### The Practice:

The SRCASW Mushroom Cultivation Program is a thorough educational experience, including both theoretical and practical sessions. The theoretical part explores a wide range of subjects, such as the taxonomy, morphology, ecology, historical background, and general diversity of mushrooms. To enhance this understanding, hands-on training sessions provide examples and in-depth instruction on substrate preparation, spawning, incubation, harvesting, and preservation methods. Participants navigate the complexities of opportunities and challenges in mushroom cultivation in addition to gaining insights into the nutritional, medicinal, and environmental benefits of mushrooms. The program increases participants' exposure to a wider variety of mushrooms, including button, oyster, milky, shiitake, and reishi, thereby deepening their understanding of the field. In the end, the course is carefully crafted to provide learners with the abilities and information necessary to begin their own mushroom production units or enterprises.

An IoT enabled mushroom cultivation facility has been established in the college premises. The advanced technology helps us to optimize mushroom farming round the year, enhanced

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productivity and quality of different varieties of mushroom. Our IoT enabled facility being one of the few mushroom cultivation set-ups of its kind in Delhi.

IoT sensors monitor temperature, humidity, CO2 levels, and light, creating optimal conditions for the growth of different mushroom varieties. Smart monitoring systems of IoT help in monitoring stock levels and predicting demand, thus reducing waste. Automated controls adjust these parameters as needed, while data analytics helps predict growth cycles and harvesting schedules. IoT technology in cultivation not only improves efficiency, sustainability, and yield but also helps in maintaining the quality of the produce.

Some benefits of IoT-enabled mushroom cultivation include:


- Remote monitoring : Users can monitor the growth of their mushrooms remotely through a mobile app or website.
- Automatic control: Sensors can automatically adjust the environment to maintain optimal conditions for the mushrooms.
- Real-time data: IoT-based systems can provide real-time data on the conditions in the mushroom cultivation facility.
- Reduced human intervention: IoT-based systems can reduce the need for manual adjustments, which can save time and money.
- Improved mushroom quality: IoT-based systems can help improve the quality of the mushrooms by maintaining optimal conditions for growth.

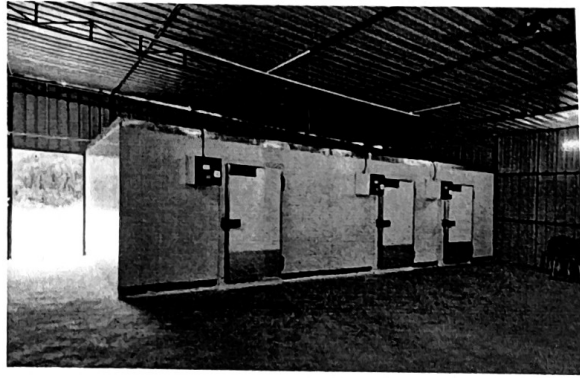
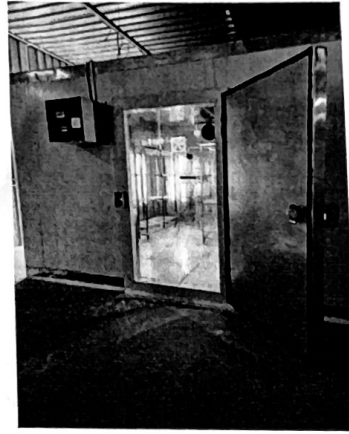
#### **Evidence of Success:**


State-of-art mushroom cultivation skill development centre has been established in the college premises. This enables cultivation of a variety of mushrooms all through the year. It is an ideal infrastructure model to train the participant of the course to set up their own venture. In addition, the college was invited to put up a stall showcasing mushroom cultivation at the Flower Show organized by the University of Delhi in March 2024. As a part of the Flower Show hosted by the Indraprastha Horticulture Society, a stall displaying the numerous varieties of mushrooms grown in the college campus, was set up by the Department of Microbiology.

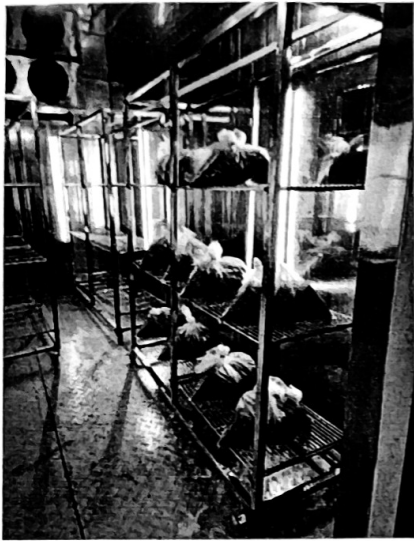
#### **Problems Encountered and Resources Required:**

Upscaling of mushroom cultivation, maintenance of skill development centre requires more financial assistance and manpower. Research for standardizing cultivation conditions for other medicinally important mushrooms would require expansion of facilities in the centre.

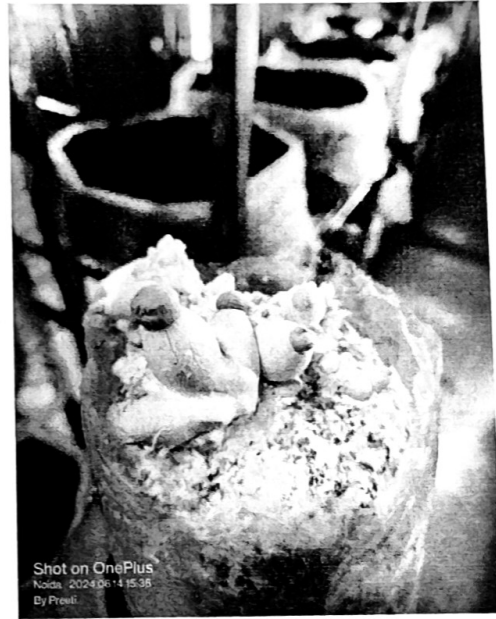
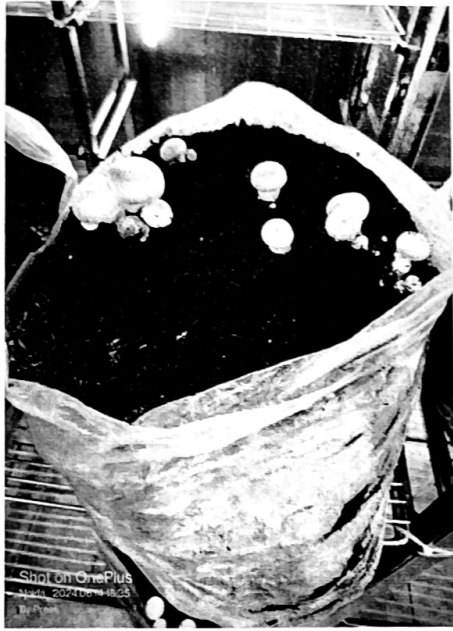
  
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## Title of the practice 2 – Tree plantation drives

### Objectives of the practice -

- Contribute to create a “Green Campus”- Students and faculty members contributed to create a greener campus and thus increase the green cover.
- Fostering Personal Responsibility - A sense of responsibility in individuals to care for the environment by connecting it with the deep emotional bond shared with Mother Earth.
- Raising Awareness About Environmental Issues - Using the theme to create awareness about the interconnectedness of life highlighting how caring for the environment is as vital as caring for family.

### The context -


The plantation drive serves as a tribute to Mother Earth symbolising its nurturing, caring and life-sustaining qualities. Just as a mother provides food, shelter and protection the trees do the same for the environment, making them a fitting symbol of motherhood. The plantation drive serves as a platform for increasing awareness about the need for environmental conservation, climate change mitigation and the importance of trees in maintaining ecological balance.

### The practice –

1. **World Environment Day Plantation Drive:** A special plantation drive was organized on June 5, 2023, involving students, faculty, and staff to celebrate World Environment Day. Participants planted saplings in and around the college campus and surrounding neighborhoods.
2. **Home Plantation Initiative (31/7/23):** Students were encouraged to plant trees at their homes and care for them, fostering individual responsibility toward environmental conservation.

### Evidence of Success:

The college was recognized as **District Eco-SDG Champion 2023** with Outstanding Performance Grade ‘S’ for East Delhi District, Delhi. The students and faculty members also participated and contributed to the plantation drive by planting their trees in the Herbal Garden. The plantation drive also implemented the activities of Mission LIFE for adding inputs to change useful for the institution, neighborhood and home.

  
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**Problems Encountered and Resources Required:**

Due to the heavy academic workload in science courses and time constraints, faculty and students face difficulty in integrating environmental activities within their regular academic schedules. Untimely and heavy rains also impacted the plantation period and time.



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