

Mushroom Production Technology Training for Farmers: A Seven-day Training Programme in Etawah, Uttar Pradesh

^{*1}MK Yadav, ²RK Tripathi, ³S Kumar and ⁴SK Vishwakarma

^{*1} Department of Plant Pathology, Janta College, Bakewar, Etawah, Chhatrapati Shahu Ji Maharaj University, Kanpur, Uttar Pradesh, India.

² Principal, Janta College, Bakewar, Etawah, Chhatrapati Shahu Ji Maharaj University, Kanpur, Uttar Pradesh, India.

^{3,4} Department of Horticulture, Janta College, Bakewar, Etawah, Chhatrapati Shahu Ji Maharaj University, Kanpur, Uttar Pradesh, India.

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Abstract

Mushroom cultivation is increasingly recognized as a viable enterprise for income generation among small and marginal farmers. A seven-day training programme on “Mushroom Production Technology Training for Farmers” was organized at Janta College, Bakewar, Etawah (Uttar Pradesh) with the financial support of the Management Committee. A total of 40 farmers participated. The study aimed to assess pre- and post-training knowledge levels, identify constraints, and determine future training needs. Data were collected using a structured interview schedule before and after the training. Results revealed substantial knowledge gain across key domains such as spawn production (35% to 82%), substrate preparation (40% to 85%), disease management (30% to 78%), and marketing (25% to 70%). Major constraints included inadequate infrastructure, limited access to quality spawn, and weak market linkages. Farmers expressed high training needs in marketing strategies, value addition, and storage. The findings underscore the importance of need-based, hands-on training for enhancing adoption and profitability of mushroom cultivation.

*Corresponding Author

MK Yadav

Department of Plant Pathology, Janta College, Bakewar, Etawah, Chhatrapati Shahu Ji Maharaj University, Kanpur, Uttar Pradesh, India.

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1. Introduction

Mushroom cultivation has emerged as an important component of diversified agriculture due to its high productivity, short cropping cycle, and efficient utilization of agricultural wastes. In recent years, it has gained significant attention as a viable enterprise for income generation, nutritional security, and employment generation among small and marginal farmers. Mushrooms are rich in proteins, vitamins (B-complex, D), minerals, and possess medicinal properties. The increasing awareness regarding health benefits and changing food habits have resulted in a steady rise in demand for mushrooms in both urban and rural markets. India, with its diverse agro-climatic conditions, has immense potential for mushroom production throughout the year. Despite its potential, the adoption of mushroom cultivation among farmers remains limited due to lack of awareness, inadequate technical knowledge, non-availability of quality inputs, and poor market linkages. Training plays a crucial role

in bridging the knowledge gap and enhancing the skill level of farmers. Well-structured training programmes help farmers understand scientific cultivation practices, disease management, and post-harvest handling techniques.

Previous studies have emphasized that training need assessment is essential for designing effective capacity-building programmes. Farmers often require practical exposure along with theoretical knowledge to successfully adopt mushroom cultivation. Constraints such as infrastructure limitations, financial barriers, and lack of marketing support further hinder adoption. Keeping these aspects in view, the present study was undertaken to evaluate the effectiveness of a seven-day training programme on mushroom production technology conducted at Janta College, Bakewar, Etawah (Uttar Pradesh). The study also focuses on assessing knowledge gain, identifying constraints, and understanding future training needs of farmers to promote sustainable mushroom cultivation.

2. Objectives

- i) To assess the socio-economic profile of trained farmers.
- ii) To evaluate knowledge gain after training.
- iii) To identify constraints faced by farmers in mushroom cultivation.
- iv) To analyze training needs of farmers for future programmes.

3. Materials and Methods

3.1 Study Area: The study was conducted at Janta College, Bakewar, located in Etawah district of Uttar Pradesh. The area represents typical Indo-Gangetic plains with mixed farming systems and increasing interest in allied enterprises such as mushroom cultivation.

3.2 Research Design: An ex-post facto and before–after (pre-test/post-test) design was adopted to evaluate the effectiveness of the training programme.

3.3 Training Programme Details: A seven-day intensive training programme titled “Mushroom Production Technology Training for Farmers” was organized.

- **Duration:** 7 consecutive days (12–18 March 2026)
- **Venue:** Janta College, Bakewar, Etawah (U.P.)
- **Participants:** 40 farmers
- **Funding:** Management Committee, Janta College, Bakewar
- **Pedagogy:** Lectures, practical demonstrations, hands-on training, and interactive sessions

3.4 Sampling Procedure: A purposive sampling method was used to select 40 farmers who were willing to adopt mushroom cultivation and participated in the training.

3.5 Data Collection: Primary data were collected using a structured interview schedule. Information on socio-economic characteristics, knowledge level, constraints, and training needs was obtained. Pre-training (baseline) and post-training data were recorded.

3.6 Measurement of Knowledge Gain: Knowledge gain was assessed using a set of objective questions covering key aspects of mushroom production. Scores were converted into percentages and compared before and after training.

3.7 Statistical Analysis: Data were analyzed using frequency, percentage, mean, and paired comparison to measure improvement in knowledge levels.

4. Seven-Day Training Schedule and Modules Covered

Day1: Introduction to mushroom cultivation, scope and importance

Day2: Types of edible mushrooms (Button, Oyster, Milky) and their characteristics

Day3: Spawn production techniques and quality spawn identification

Day4: Substrate preparation, sterilization and bed preparation

Day5: Crop management, environmental requirements, pest and disease management

Day6: Harvesting, grading, packaging and post-harvest handling

Day7: Marketing strategies, value addition and exposure visit/interaction session

5. Results and Discussion

5.1 Socio-economic Outline of Respondents: The socio-economic characteristics of the respondents revealed that

a majority (60%) of the farmers belonged to the middle age group (35–50 years), indicating active involvement in farming activities. About 55% of the respondents were educated up to secondary level, which suggests a moderate level of literacy suitable for adopting improved agricultural technologies. Most of the farmers (65%) were small and marginal landholders, and 70% had medium level of farming experience. These findings indicate that mushroom cultivation can be effectively promoted among such categories of farmers as a supplementary income source.

5.2 Knowledge Gain among Farmers: The effectiveness of the training programme was assessed by comparing the knowledge level of farmers before and after training. The data clearly indicate a substantial increase in knowledge across all components of mushroom production.

Table 1: The knowledge level of farmers before and after training

S. No.	Component	Before Training (%)	After Training (%)	Gain (%)
1	Spawn production	35	82	47
2	Substrate preparation	40	85	45
3	Crop management	38	80	42
4	Disease management	30	78	48
5	Harvesting & post-harvest	32	76	44
6	Marketing	25	70	45

The highest knowledge gain (48%) was observed in disease management, followed by spawn production (47%). This may be attributed to practical demonstrations and hands-on training provided during the programme. Marketing knowledge also improved significantly (45%), although it remained comparatively lower than production aspects, indicating the need for further training in this area.

Overall, the results confirm that structured training programmes significantly enhance farmers’ knowledge and skills, thereby improving their capacity to adopt mushroom cultivation.

5.3 Constraints Faced by Farmers

Table 2: The constraints faced by farmers in adopting mushroom cultivation were analyzed and presented

S. No.	Constraint	Percentage (%)
1	Lack of infrastructure	75
2	Non-availability of quality spawn	70
3	High initial investment	65
4	Lack of technical guidance	60
5	Poor market linkage	68

Lack of infrastructure (75%) emerged as the most critical constraint, followed by non-availability of quality spawn (70%). These findings highlight the need for institutional support and establishment of local spawn production units. Poor market linkage (68%) and high initial investment (65%) were also significant barriers, indicating the necessity of financial assistance and better marketing networks.

5.4 Training Needs Expressed by Farmers: Farmers expressed their training needs for future programmes, which are presented below.

Table 3: Farmers expressed their training needs for future programmes

S. No.	Training Area	Percentage (%)
1	Marketing strategies	80
2	Value addition	75
3	Storage techniques	70
4	Disease management	68
5	Government schemes	72

The majority of farmers (80%) expressed a strong need for training in marketing strategies, followed by value addition (75%) and awareness of government schemes (72%). This indicates that while production-related knowledge improved, farmers still require support in post-production and economic aspects.

Discussion

The findings of the study clearly demonstrate that training programmes play a vital role in enhancing farmers' knowledge and skills in mushroom cultivation. The significant increase in knowledge levels across all components suggests that a combination of theoretical and practical training methods is highly effective. The results are in line with earlier studies which reported that training improves adoption behaviour and productivity among farmers. However, the presence of multiple constraints such as lack of infrastructure, quality inputs, and market access indicates that training alone is not sufficient. There is a need for an integrated approach involving institutional support, financial assistance, and market development. The high demand for training in marketing and value addition further emphasizes the importance of strengthening the value chain of mushroom production.

Conclusion

The present study concludes that the seven-day training programme on mushroom production technology was highly effective in improving the knowledge and skills of farmers. The significant increase in knowledge levels across various components highlights the importance of structured and need-based training programmes.

Despite the positive impact of training, several constraints such as lack of infrastructure, non-availability of quality spawn, and poor market linkage were identified as major barriers to adoption. Farmers also expressed the need for further training in marketing, value addition, and storage techniques.

Therefore, it is recommended that future training programmes should focus not only on production technologies but also on post-harvest management and marketing aspects. Additionally, support from government and institutions in terms of infrastructure development, input supply, and market linkage is essential for promoting sustainable mushroom cultivation.

Overall, mushroom cultivation has great potential as a profitable enterprise, and with proper training and support, it can significantly contribute to the livelihood improvement of farmers.

The study concluded that the seven-day training programme significantly improved the knowledge and skills of farmers regarding mushroom production technology. Proper training, infrastructure support, and market linkage are essential for successful adoption of mushroom cultivation. The training programme proved to be highly beneficial for income enhancement and livelihood improvement.

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Implications

- Training programmes should be need-based
- Infrastructure development is necessary
- Market linkage must be strengthened
- Policy support is essential for scaling mushroom cultivation

Future Scope

Further studies may be conducted with larger sample sizes and in different regions to validate findings and develop region-specific training modules.

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