

Mushroom Farming in Bihar: A Growing Agri-Business Opportunity

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Abstract—Now days, Bihar has emerged as a potential hub for mushroom farming, presenting a sustainable and profitable agribusiness for small-scale farmers and entrepreneurs. Favorable climatic conditions, increasing awareness about mushroom’s nutritional value, and strong government support make this venture a promising economic opportunity. With the right techniques and market connectivity, mushroom farming has transformed into a viable source of income and agricultural diversification in Bihar.

I. INTRODUCTION

Now days, Bihar has emerged as a potential hub for mushroom farming, presenting a sustainable and profitable agribusiness for small-scale farmers and entrepreneurs. Favorable climatic conditions, increasing awareness about mushroom’s nutritional value, and strong government support make this venture a promising economic opportunity. With the right techniques and market connectivity, mushroom farming has transformed into a viable source of income and agricultural diversification in Bihar.

The demand for mushrooms is steadily increasing due to their nutritional benefits. Packed with protein, vitamins, and antioxidants, mushrooms are sought after by health-conscious consumers, restaurants, and pharmaceutical companies. Bihar’s proximity to major urban markets such as Patna, Kolkata, and Delhi offers farmers access to a growing customer base.

Mushroom farming requires minimal land and infrastructure, making it suitable for marginal farmers and budding entrepreneurs. For instance, a 100 sq. ft area can produce around 20-25 kg of mushrooms per crop cycle, ensuring high profitability with low initial costs.

II. TYPES OF MUSHROOMS CULTIVATED IN BIHAR

1. Button Mushrooms

Button mushrooms, is favorite in Indian cuisine, require controlled environmental conditions. Cultivating this variety is more suitable during winter when natural conditions favor their growth.



2. Oyster Mushrooms

Oyster Mushrooms known for their ease of cultivation and adaptability, oyster mushrooms thrive in Bihar’s humid environment and are an excellent choice for beginners due to their low-maintenance nature.

Visual: Oyster mushrooms growing in clusters on straw beds in a traditional farm setup



3. Milky Mushrooms

Milky Mushrooms are Popular in tropical climates; milky mushrooms are hardy and can be grown during summer. Their thick, fleshy texture and high market value make them a preferred option for commercial farming.



III. STEPS TO START MUSHROOM FARMING IN BIHAR

1. Selection of Mushroom Variety

Choose the mushroom type based on climate, market demand, and resource availability. Oyster mushrooms are ideal for beginners, while button mushrooms are suitable for those with controlled environments.

2. Substrate Preparation

Agricultural residues like paddy straw or wheat husks are commonly used. The substrate must be cleaned, sterilized, and chopped into manageable sizes to promote effective mushroom growth.

3. Spawn Inoculation

Purchase high quality spawns from reliable suppliers or agricultural research centers. Proper mixing of the spawn with the substrate is critical to ensuring healthy mycelium development.

4. Incubation

Maintain the substrate in a dark, humid environment during the incubation phase to allow mycelium to spread. Periodic monitoring of temperature and humidity levels is necessary.

5. Fruiting and Harvesting

Once the mushrooms begin to fruit, ensure adequate ventilation and light. Harvest the mushrooms at the right maturity to maintain quality.

6. Packaging and Selling

Clean the mushrooms thoroughly and package them in breathable bags or containers. Freshness and appearance are key factors for market acceptance.

Economic Viability and Profitability

Mushroom farming is not only sustainable but also highly profitable. Here is a basic cost analysis for small-scale oyster mushroom farming in Bihar:

IV. INVESTMENT & COST

Investment (INR).	Cost (Approx.)
Spawn.	₹2,000 (for 100 kg mushrooms)
Substrate (Paddy Straw)	₹1,500
Setup (Plastic Sheets, Racks)	₹3,000
Miscellaneous	₹1,500
Total Cost	₹8,000

Expected Revenue: With a market price of ₹100-₹150/kg, farmers can easily earn ₹15,000-₹25,000 per crop cycle, leading to a profit margin of nearly 80%.

V. CHALLENGES IN MUSHROOM FARMING

1. Lack of Awareness

Despite its potential, mushroom farming remains underexplored in Bihar due to limited awareness and training opportunities.

2. Infrastructure Issues

The absence of cold storage facilities in rural areas shortens the shelf life of mushrooms, leading to post-harvest losses.

3. Quality Spawn Availability

Accessing reliable and disease-free spawn is often a challenge for farmers, affecting overall yields.

4. Market Fluctuations

Although demand is rising, inconsistent pricing can affect profitability. Farmers need to explore value-added products like mushroom powder or pickles to stabilize incomes.

B. Government Initiatives and Support

The Bihar government, in collaboration with agricultural research institutions, has introduced several schemes to promote mushroom farming. The Bihar government has introduced the Mushroom Hut Scheme to promote mushroom farming by providing huts to farmers. Through this scheme, farmers can cultivate mushrooms in these huts and increase their income. The Mushroom Hut Production Scheme 2024-25 is a new initiative launched by the Bihar government aimed at encouraging farmers and budding entrepreneurs to venture into mushroom production. Under this scheme, applicants will receive

all necessary resources and training for mushroom production.

Eligibility Conditions to Avail the Scheme:

- To avail the benefits of the scheme, the following conditions must be met:
- Indian Citizenship: The applicant must hold Indian citizenship.
- Training from an Authorized Institution: The applicant must have received training from an authorized institution.
- Fully Completed Application Form: The application form must be fully completed, and all necessary documents must be attached.

Required Documents:

- Proof of Identity (such as Aadhaar Card, PAN Card, etc.)
- Residence Proof
- Copy of Bank Passbook
- Training Certificate

Selection Process under the Scheme:

The selection process is completely transparent and will be done on a first-come, first-served basis. All application forms will be reviewed, and eligible applicants will be granted the benefits of the scheme.

Application Process:

Applying for the scheme is very easy online. Simply follow these steps.

- Visit the official website: Go to the official website of the scheme (<https://horticulture.bihar.gov.in/>) and fill out the application form. Upload Documents: Upload scanned copies of the required documents.
- Submit the Form: After filling out all the information correctly, submit the form.

These include:

- Subsidies on Inputs: Financial aid for purchasing equipment, spawn, and substrates.
- Training Programs: Workshops organized by Krishi Vigyan Kendras (KVKs) to educate farmers on modern cultivation techniques.
- Loans and Credit: Easy access to loans under government schemes such as the Mudra Yojana.

VI. SUCCESS STORIES OF FARMER IN BIHAR

Many farmers in Bihar have turned their lives around through mushroom farming. For instance, Rakesh Kumar from Nalanda district started with oyster mushrooms on a small scale and now earns ₹1.5 lakh annually through his enterprise. Similarly, women's self-help groups in Purnea have empowered themselves by collectively growing and marketing mushrooms, becoming financially independent.

VII. FUTURE SCOPE AND VALUE-ADDED PRODUCTS

1. Processing and Export

Farmers can explore drying, powdering, or pickling mushrooms to extend their shelf life and enhance profitability. With adequate support, Bihar can tap into international markets as well.

2. Integration with Organic Farming

Integrating mushroom farming with organic vegetable cultivation helps farmers utilize spent substrate as high-quality compost, enriching soil fertility.

3. Urban Farming Opportunities

Cities in Bihar are witnessing growing interest in indoor mushroom farming, thanks to small-space cultivation models.

VIII. CONCLUSION

Mushroom farming in Bihar exemplifies how innovative agribusiness models can uplift rural economies. With increasing consumer demand, a favorable climate, and government support

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