

Growing of Mushrooms in Terracotta Pot Methods

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Mushroom cultivation is an eco-friendly and profitable agricultural practice that can be carried out even in small spaces. Among the different cultivation methods, growing mushrooms in terracotta pots is a simple and low-cost technique suitable for households, students, and beginners. Terracotta pots help maintain moisture and provide a favorable environment for mushroom growth. This method mainly uses agricultural wastes such as paddy straw as a growing substrate and is ideal for oyster mushroom cultivation. The present article explains the materials required, preparation methods, cultivation procedure, advantages, limitations, and harvesting techniques involved in mushroom production using terracotta pots. Mushroom cultivation also contributes to sustainable agriculture by converting organic waste into valuable food products. Terracotta pots are especially useful because they are biodegradable, reusable, and naturally porous. This method supports urban gardening and can be adopted easily in balconies, rooftops, and home gardens. The cultivation process is simple enough for beginners and students to practice successfully with minimum investment.



Introduction

Mushrooms are edible fungi valued for their nutritional and medicinal properties. They are rich in proteins, vitamins, minerals, and dietary fiber. Mushroom cultivation has become popular because it requires less land, low investment, and can convert agricultural wastes into nutritious food. Traditionally, mushrooms are cultivated in polybags or trays, but terracotta pots provide an alternative method that is attractive, reusable, and environmentally friendly. Terracotta pots are made of clay and naturally porous, helping maintain humidity and air

circulation necessary for mushroom growth. This method is especially suitable for small-scale cultivation in homes, terraces, balconies, and kitchen gardens. In recent years, urban agriculture and home gardening have increased in popularity. Growing mushrooms in terracotta pots fits perfectly into this movement because it uses very little space and provides fresh organic produce. Mushroom cultivation can also become an educational activity for schools and colleges, helping students learn about fungi, recycling, and sustainable food production.

Materials Required

The following materials are needed for growing mushrooms in terracotta pots:

- Terracotta (clay) pot
- Mushroom spawn (preferably oyster mushroom spawn)
- Paddy straw or wheat straw
- Clean water
- Large vessel for boiling water
- Lime or mild disinfectant
- Plastic sheet or jute sack
- Spray bottle for watering
- Clean knife or scissors

Additional materials such as gloves, trays, and measuring containers may also be used for better hygiene and handling. The quality of mushroom spawn is very important because healthy spawn ensures faster growth and better yield.

Suitable Mushroom Species

The terracotta pot method is most suitable for mushrooms that grow on straw-based substrates. Commonly cultivated species include:

1. Oyster mushroom (*Pleurotus* spp.)
2. Milky mushroom (*Calocybe indica*)
3. Paddy straw mushroom (*Volvariella volvacea*) under warm conditions

Among these, oyster mushroom is considered the best for beginners because of its easy cultivation and high adaptability. Oyster mushrooms grow rapidly, require less maintenance, and can tolerate a wide range of environmental conditions. Milky mushrooms are also suitable in tropical climates and are popular in India because of their attractive appearance and shelf life.

Step-by-Step Procedure

1. **Preparation of the Terracotta Pot:** The clay pot should be washed thoroughly with clean water to remove dirt and contaminants. The pot may be soaked in water for a few hours to improve moisture retention. Drain excess water before use.
2. **Preparation of the Substrate:** Paddy straw or wheat straw is chopped into small pieces of about 3–5 cm length. The straw is soaked in water and pasteurized by boiling or hot water treatment for about 30–45 minutes to kill harmful microorganisms. After treatment, the straw is removed and allowed to cool. Excess water should be drained, leaving the substrate moist but not too wet.
3. **Filling the Pot and Spawning:** A thin layer of moist straw is placed at the bottom of the terracotta pot. Mushroom spawn is sprinkled evenly over the layer. Another layer of straw is added, followed by another layer of spawn. This layering process continues until the pot is nearly full. The top layer should be straw. The pot is then covered with a clean cloth, jute sack, or perforated plastic sheet.
4. **Incubation Period:** The filled pot is kept in a dark or shaded place with moderate temperature and humidity. During this period, the mushroom mycelium spreads throughout the substrate. The incubation period usually lasts for 15–20 days. Water should be sprayed lightly to maintain moisture. Direct sunlight should be avoided.

5. **Fruiting Stage:** Once the white mycelial growth fully covers the substrate, small mushroom buds begin to appear. At this stage, the pot should be moved to a place with indirect light and good ventilation. Humidity should be maintained by regular water spraying. Fresh air is essential for proper mushroom development.
6. **Maintenance and Care:** Proper hygiene should be maintained throughout cultivation. Excess watering should be avoided because it can lead to fungal contamination. Good ventilation and cleanliness help improve yield and mushroom quality.

Harvesting and Yield

Mushrooms are ready for harvest when the caps are fully developed but still tender. They should be harvested carefully by twisting gently at the base or cutting with a clean knife. Fresh mushrooms can be consumed immediately or stored in cool conditions for a short period. Depending on the quality of substrate and environmental conditions, multiple flushes of mushrooms can be harvested from a single terracotta pot. The yield may vary according to the type of mushroom cultivated, quality of spawn, and maintenance practices. Oyster mushrooms generally provide good yield under simple household conditions.

Advantages and Limitations

Advantages of Terracotta Pot Mushroom Cultivation:

- Low-cost cultivation method
- Eco-friendly and sustainable
- Suitable for small spaces and urban homes
- Reusable containers
- Easy for students and beginners
- Helps recycle agricultural wastes
- Produces fresh and nutritious food

Limitations

- Suitable mainly for small-scale production
- Requires regular moisture maintenance
- Risk of contamination if hygiene is poor
- Limited yield compared to commercial methods

Despite these limitations, the terracotta pot method remains an excellent option for educational demonstrations, hobby gardening, and household mushroom production.

Conclusion

Growing mushrooms in terracotta pots is a simple, affordable, and environmentally friendly cultivation method. It is ideal for households, schools, and beginners interested in mushroom farming. By using locally available clay pots and agricultural wastes, fresh edible mushrooms can be produced in a sustainable manner. Proper hygiene, moisture management, and suitable environmental conditions are important for successful cultivation. This method not only provides healthy food but also encourages waste recycling and urban gardening practices. With increasing interest in sustainable living and organic food production, terracotta pot mushroom cultivation can become an important small-scale farming activity in both rural and urban areas.

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