

Hydroponics Mushroom Fastest and Soilless Method

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ABSTRACT

Soil-based agriculture is presently facing considerable issues as a result of urbanization, industrialization, environmental degradation, and other causes. Hydroponics Mushroom has become popular all over the world as a viable answer to these problems because of its efficient resource management. Hydroponic Mushroom farms provide a practical way to produce food that is more ecologically friendly while avoiding dangerous chemicals because of their controlled environments and strict certification criteria. Sustainable agriculture now includes hydroponic Mushroom farming, making it far from a fantasy.

INTRODUCTION

Mushrooms can be cultivated hydroponically as fungi. A Mushroom growing hydroponically means that you are using growing mediums or water instead of soil to cultivate your crop. Hydroponic Mushrooms grow fast and are quite tasty. Hydroponically grown Mushrooms have a unique appearance and are of greater quality.

Mushroom Industry Overview

When starting an agribusiness with little capital and space, mushroom growing is the ideal alternative. Growing mushrooms has

become popular and has proven to be a lucrative industry for many.

Some of the mushroom farms which have successfully established their roots in mushroom farming are mentioned below:

Sl. No.	Name of Farm	Place	Source of Information
1.	Philips Mushroom Farm	Kennet Square, Pennsylvania, U.S.A.	DCED, Pa
2.	Greenwood Farm	Millville, Pennsylvania, U.S.A.	Forbes

3.	Ellijay Mushrooms	Georgia, U.S.A.	Ellijay Mushrooms
4.	R&R Cultivation	Minnesota, U.S.A.	R&R Cultivation
5.	Cascadia Mushrooms	Bellingham, Washington, U.S.A.	Starter Story

Importance of mushroom farming

Due to its minimal investment and space requirements, mushroom farming is increasingly becoming more popular as a secondary source of income for many individuals. Mushroom cultivation accomplishes the following goals in addition to providing an additional source of income:

- Recycling of farm residues
- Creates self-employment opportunities
- Innovative food products
- Medicinal use and more

The popularity of mushrooms has grown as a result of their great nutritional value due to their abundance in minerals, vitamins, and vital amino acids including leucine, valine, tryptophan, lysine, theonine, and methionine.

Importance of hydroponic

In hydroponic farming, there is no soil at all; instead, plants are grown in nutrient solutions. The absence of soil renders plants immune to soil-borne illnesses, allowing them to grow healthier and more nutrient-rich crops. Crops grown hydroponically are more productive and simple to handle. For underdeveloped nations where food safety is a top priority, this agricultural method makes sense.

Some of the merits of hydroponics over conventional farming are:

- Excellent yield
- Herbicide and pesticide free
- Less water consumption
- Lower contamination

- Adaptable to adverse conditions

Steps to Hydroponic Mushrooms Farming

1. Hydroponic Mushroom Growing Set-Up

A hydroponic mushroom growing setup should contain a tank filled with growing media and nutrients along with this there must be an air pump for proper aeration. The setup should be installed in a dark place.

2. Selection of Mushroom Suitable for Hydroponic Farming

Some of the mushrooms suitable for growing in a hydroponic system are button, cinnamon cap, oyster, shiitake, nameko and enoki.

3. Nutrient Solution for Hydroponic Mushroom

A mixture of unbleached flour along with perlite and vermiculite is best nutrient for mushrooms grown in hydroponic system. The ratio of vermiculite to perlite in mixture is roughly 1:1.



4. Climatic Requirements for Hydroponic Mushroom Farming

Temperature should be 24-27OC for germination and 27-29OC for growth. The humidity should be maintained at 90% for best results. Mushrooms grow well in cold water and one can harvest a plenty amount of crop in very less time.

5. Harvesting

The caps should be held carefully with the forefingers and gently twisted off to harvest

the mushrooms. It is necessary to remove the mycelia threads and nutritional remnants from the stalk's base.

Methods of Growing Mushrooms Hydroponically

There are two methods of growing mushrooms hydroponically

- Populating a growing medium with spores
- Using a mushroom growing kit

Populating a Growing Medium with Spores

First of all the mycelium has to be grown carefully, from which the fungi will grow. To grow the mycelium one can use a purchased mushroom culture or cereal seeds coated with mushroom spores. These cultures or seeds are kept in a petri dish in a dark place.

Mycelium that resembles a thread will develop from this. Since mycelium is susceptible to bacteria in its early stages, the environment needs to be properly sterilized. After the mycelium is transferred to the growing medium, fungus begins to develop and your mushrooms are ready to be harvested after a few weeks.

Using a mushroom growing kit

A nearby gardening supply store makes it simple to obtain a mushroom growing kit. The cakes or blocks of mushrooms should be stored in a container with cold water. Water should completely cover the top of the block and it should be submerged in it.

Let the block soak in water for 4-6 hours to make it completely saturated. The container should be kept in a cool and dark place. The mushrooms are ready to be harvested in 3-5 days.

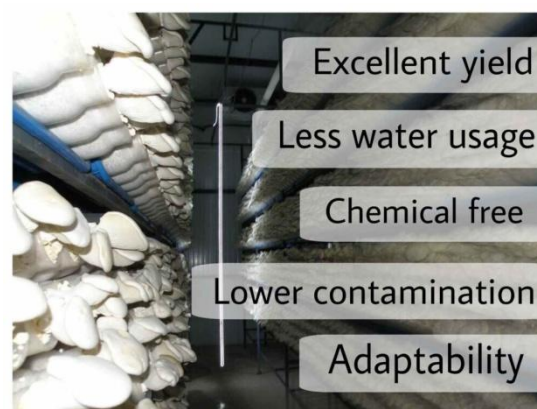
A single block can be utilized several times before it stops producing mushrooms. After each week, a block may be used once more. When the block runs out of nutrients entirely, it will stop producing mushrooms and can then be composted for use in gardens.



Merits of Hydroponic Mushrooms farming over the conventional mushroom cultivation

There are multiple reasons as to why hydroponic mushroom farming is better than the conventional cultivation. Some of them are mentioned below:

- Efficient and less use of water
- Hydroponic mushrooms are of high quality
- Preparation and sterilization of soil is eliminated
- Higher and faster yield in smaller place and low investments
- Cost of pesticides are eliminated as the environment is controlled
- Improved taste and quality
- Chemical free product



Merits of Hydroponic Mushrooms over Conventional Mushrooms (Photo: Startupbiz)

CONCLUSION

Hearing about growing mushrooms hydroponically might surprise many because everyone is quite familiar with the cultivation of plants using hydroponic systems.

Hydroponic mushroom cultivation might seem a bit difficult to carryout but once you get familiar with it, it can earn you double profit in half the time, with higher quality mushrooms.

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