Growing Edible Mushrooms

Mushrooms reproduce through spores. In fact, the mushroom itself is the spore producing body. In nature, fungal spores drift on air currents and are virtually everywhere in the environment. Upon germination, a spore produces long thin filaments called hyphae. The hyphae decompose wood and other organic debris absorbing a portion as food. A single hypha is too small to be seen without the aid of a microscope; however, in soil or beneath bark, groups of hyphae are sometimes visible as a mass of threadlike growth known as mycelium. When mycelium has developed sufficiently, fruiting bodies such as mushrooms can be produced.

In commercial mushroom production, fungal species and cultivars are selected, isolated and cultured in the lab to produce "spawn". This spawn can be purchased commercially or, with some capital investment and knowledge, grown on-site. Once the spawn is cultured, the method of growing mushrooms varies by species chosen. Mushroom growing kits are commercially available at reasonable costs. Beginners may want to start with an indoor mushroom growing kit to build their confidence. The kits are composed of pure mushroom mycelium growing on a sterilized medium or “substrate”. The substrate varies by species and could be wheat straw, wood chips, sawdust, or a mixture of materials. The kits come with complete instructions.

Another option is to grow mushrooms outdoors in prepared ground or in logs and/or tree stumps. In Arizona, outdoor patches require some irrigation and often take two or three years to produce. Some companies sell wooden dowels that have been inoculated with spawn. These are driven into drilled holes and sealed with wax to protect from weather and prevent insect feeding. Yes, that’s right – insects and mammals will readily feed on edible mushrooms where they have access and you will need to protect your crop from them.

Growing mushrooms at home will be an adventure. Following are several species that are available in kits or spawn.

Shiitake mushrooms (*Lentinus edodes*) are grown on hardwood logs or sawdust/bran blocks. Shiitake mushrooms are very pungent and their production accounts for 10% of the world's cultivated mushroom production. They are also prized for their medicinal properties.

Oyster mushrooms (*Pleurotus* spp.) produce well on pasteurized straw. These are milder tasting mushrooms and should be harvested when small to retain a soft texture.

Pioppino mushrooms (*Agrocybe aegerita*) have a mellow and attractive flavor with a firm texture, making them a wonderful addition to sauces, soups, and stews. These mushrooms are popular in Italy.

Nameko mushrooms (*Pholiota nameko*) are Japan's second most popular cultivated mushroom (Shiitake is the most popular). This mushroom has a strong flavor, faintly reminiscent of cashews.

The Lion's Mane (*Hericium erinaceus*) produces cascading, icicle-like clusters that can grow to the size of baseballs or larger. Edible and choice, this mushroom imparts a lobster-like flavor when cooked with butter and onions.

Aside from tasting good, certain mushrooms are known to stimulate the immune system and lower cholesterol level while recycling wood and agricultural byproducts. Best of all, they can be grown by anyone given the right environmental conditions. Many other species and varieties of mushroom spawn are available from suppliers. One of the most prominent mushroom culture suppliers is Fungi Perfecti in Olympia, WA. Their web site is www.fungi.com.

Warning: Do not eat wild mushrooms or other fungal fruiting bodies unless you are well acquainted with the different species. Many species are poisonous and ONLY an expert can distinguish between edible and poisonous species. There are no simple tests that can be used to identify poisonous mushrooms.

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