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# Growing Shiitake Mushrooms (*Lentinus edodes*) in Florida<sup>1</sup>

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Shiitake (she-tah-key) is the major edible mushroom grown throughout Asia. In the United States, shiitake mushrooms are becoming a familiar sight in oriental food stores and restaurants, and in the exotic food sections of many supermarkets. More and more restaurants are now serving shiitake and other exotic mushroom dishes. The United States was, in 1978, the third largest importer of dried shiitake mushrooms from Japan with wholesale purchases totaling \$6 million. With the majority of mushrooms sold in oriental food stores and restaurants, a virtually untapped domestic market exists for producers in the United States.

The purpose of this bulletin is to explain procedures used for growing shiitake mushrooms, resources and equipment needed, suppliers of spawn and supplies, potential problems, and marketing information to potential Florida growers.

## NATURAL HISTORY OF THE SHIITAKE MUSHROOM

The mushroom, *Lentinus edodes* (Berk.) Singer, is a wood-rotting fungus that grows on a wide variety of hardwood tree species. *Lentinus* is one of a large number of genera belonging to the mushroom family Tricholomataceae and according to Singer (1986), there are fourteen species of *Lentinus* recognized worldwide. Several species of *Lentinus* have considerable economic value. Shiitake is a billion dollar industry in Asia, and in addition to its culinary uses, *L. edodes* is of medical interest as it contains the antibiotic "cortinellin" and

other antiviral compounds and is also believed to lower plasma cholesterol in animals due to eritodenine (Singer, 1986). Other species in the genus *Lentinus* are of negative economic importance: these are wood-rotting fungi that commonly digest railroad ties, bridges, and wooden houses.

Shiitake gets its common name from its most abundant hardwood host, species of the genus *Pasania*, the "shii" tree. *Pasania* is a genus of the oak family with more than 100 species found in eastern Asia. Thus, shiitake comes from "shii" for the host tree and "take", which means mushroom in Japanese.

## Cultivation and export from Japan

According to Leatham (1982), shiitake cultivation began in Japan centuries ago when farmers would search the forest for shii logs bearing *L. edodes* mushrooms. They learned to manage log inoculation by stacking mushroom-bearing logs with freshly-cut logs. Shiitake mushrooms became widely prized because of their flavor and were used extensively in folk medicine.

Successful large-scale cultivation of shiitake began in the 1940s in Japan with the development of new techniques for inoculation, and by 1978 the industry had surpassed \$1.1 billion. Currently, 92% of the world supply of shiitake is produced in Japan and it is the most valuable agricultural export commodity of that country.

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