

Students begin market research, growing of shitake mushrooms

A unique forest product has caught the interest of students at Madras High School and you can eat it. This new industry is the growing and harvesting of Japanese shitake (shi-ta'-ke) mushrooms.

The growing of shitake mushrooms takes advantage of woodland resources not usually used commercially such as the under-utilized species of white oak with small diameters from three to six inches. In addition, the mushrooms can be grown in one area and return on the initial investment occurs much sooner than conventional forest products.

The gourmet mushroom originated centuries ago in Japan and is highly favored for its flavor. Worldwide demand for the mushroom increased in the 1940's with a market second only to the white mushroom found in grocery stores.

In 1985, Japan exported mushrooms totalling 2 billion dollars in retail sales, much of this going to the United States. In the last 10 years many U.S. woodlot owners have turned to shitake mushrooms as a reliable income with over 2.1 million pounds produced in 1986.

Madras High School Forestry students began their small-scale business operation with the introduction to shitake mushrooms by Warm Springs soil scientist Chris Gannon. Gannon researched the industry and provides direction to the students along with Madras High School Forestry instructor Bill Wysham. Warm Springs Tribal Council provides support for the project with approved funding for the project because of the educational benefits for students and to determine feasibility of such an enterprise for the Warm Springs community.

The business of shitake mushroom growing begins with the cutting of white oak logs into 4-foot lengths. With care to prevent damage to the bark, the logs are inoculated with a strain of mushroom spore that is most suitable for the area. Inoculation of the logs takes place by drilling three-eighths inch holes throughout the log, filling the holes with a sawdust/spore mixture and then sealing the hole with wax.

The logs are kept moist and stored at a temperature of approximately 77°F for four to six months while the mycelium spores of the shitake spreads throughout the logs in what is called the "spawn run." The log does not produce mushrooms until it is completely colonized by spores, which is the benefit to using small logs.

Prior to fruiting, the logs are well soaked and set on end. Logs will produce shortly after soaking and can be forced to produce a crop of mushrooms every six to eight weeks during spring and fall. Logs can last up to six years.

After the flush of mushrooms appear, they are picked and put in cardboard boxes and refrigerated. They should be shipped to market within five days. Lower quality mushrooms can be dried and packaged.

MHS Forestry students will study the market for mushroom sales and distribution in preparation for harvest next spring. They are also keeping careful records to determine which of the two strains of mushrooms they are using is more successful and noting any differences in production due to variations during preparation of logs.

It's a slightly unusual approach to forest products, but if the shitake mushroom industry proves as successful for Forestry students as it has for many small woodlot owners, it may also be the beginning of a new enterprise for Warm Springs.



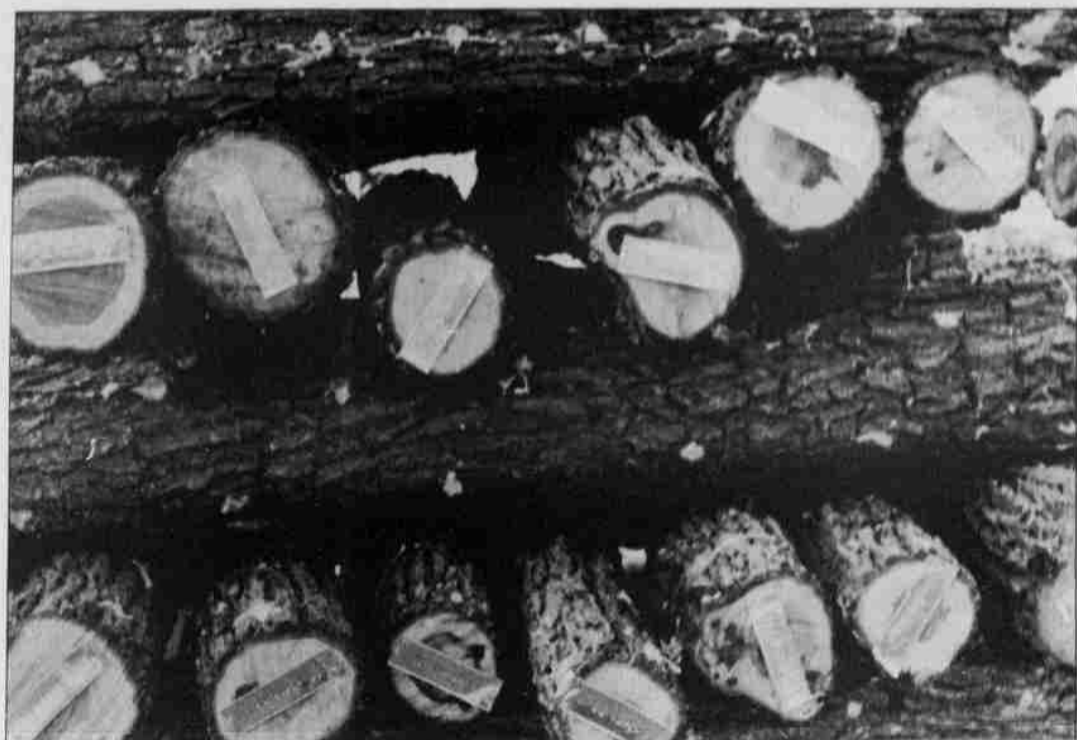
Fruiting stage of Shitake mushrooms takes place six to eight months after inoculation.



Charles Hudson injects Shitake mushroom culture into logs.



Jay Scott records data which includes mushroom strain, team, and date of inoculation.



Innoculated logs are stacked in cribs for the "spawn" run.



Warm Springs soil scientist Chris Gannon soaks logs, necessary to increase moisture before fruiting.



White oak logs are cut into short lengths following harvest.