Chapter 8: Marketing

Current Production

Calculations based on recent production statistics show less than 22 percent of the mushrooms grown and sold in the United States are from logs. Most researchers and producers agree that artificial substrate production is quicker, more controlled, and more cost effective than log production. Artificial substrate production also utilizes waste products (sawdust, cottonseed hulls, corn cobs, etc.), is easier on the back (blocks weigh 6 pounds or less), and yields more mushrooms per square foot. However, the medicinal and marketing benefits of log-grown mushrooms should demand a higher price.

Medicinal Value

Lentinan, one of the medicinal components of shiitake mushrooms, has been researched for more than 40 years in Asia. Only during the past 5 to 10 years have U.S. scientists started to evaluate this mushroom with regard to its cancer fighting properties, ability to lower cholesterol and blood pressure, and numerous other properties. Consumers are just becoming aware of the medicinal properties of exotic mushrooms. Numerous value-added products have been developed, including facial creams, teas, encapsulated mushrooms and mushroom parts, soups, and dried mushroom products. Recent research has shown that lentinan is as much as 2.6 times greater in log-grown mushrooms than it is in substrate-grown mushrooms. Strain and tree species interactions also influence the content of lentinan in mushrooms. From a marketing perspective, this is a bonus for log-mushroom producers.

The quality differences between log- and substrate-grown mushrooms may be marketing points as consumers become more sophisticated about mushroom purchases. Log-grown mushrooms are often meatier and sometimes have a longer shelf life. The health benefits will become more apparent as more nutrition and health magazines tout the benefits of lowering cholesterol without the potential for liver damage and increased survival rates of cancer patients.

Marketing Options

The market for fresh shiitake mushrooms includes supermarkets, produce buyers, restaurant suppliers, produce wholesalers, whole food and health food stores, and farmers markets. Early and small-scale production can be marketed to friends and coworkers or to online business swap trader sites. Dried mushrooms, mushroom products, and unfruited logs can be sold on business and other commercial Web sites.

Before establishing any production system, markets should be investigated and evaluated. Talk with buyers to determine their needs and if there is a market within a reasonable distance of your production area. Another issue is the frequency and quantity requirements of buyers. Supermarkets may demand a minimum supply of 700 pounds per week and most buyers insist on fresh weekly supplies. Some buyers want daily delivery. Determine in advance what you can and cannot accommodate.

Shiitake mushrooms can also be dried and made into value-added products sold at health food stores. Value-added products such as supplements are expensive to create and require sterile rooms and specialized equipment.

A mushroom marketing study completed in Georgia in 2002 concluded the following:

- Economies of scale are important to profitability.
- Value-added products such as added mushrooms to fast-food products, meals ready-to-eat, pharmaceuticals, and alternative substrate production must be considered.
- E-commerce sites similar to Harry and David's Fruit of the Month Club offer sales opportunities. Storefronts such as Yahoo and e-Bay should be used for test marketing, use of sales, and tracking tools.
- For large-scale production to be successful in a region, a large-scale spawn production facility should be located nearby.
- Research on strains, their improvement, selection, breeding, and quality control; substrate development; and species selection should be nearby and funded at colleges and universities.
- Creation of a Mushroom Commodity Commission operated and controlled by growers will help certify mushrooms as organic, provide bulk pricing for supplies, and help with marketing.
- Training programs should be available for new growers, laborers and management, distributors, retailers, chefs, Extension agents, and consumers.

This study examined the economic issues surrounding the development of a specialty mushroom industry in Georgia. For this purpose, the conclusions are sound. Individual growers who wish to enter the market slowly and build the industry to the levels suggested in the study will have to carve their own markets and develop production strategies that work in their region of the United States.

Cost of Production

Shiitake production has many inputs. Producers often have many of the items already available or can build them cheaper than they can buy them. Table 1 describes the inputs needed to establish a 1,000-log operation by inoculating 500 logs the first year and 500 logs the second year. The 2-YEAR COSTS include everything needed (and that will be used up) to establish the 1,000-log operation over 2 years. These costs will be incurred each time logs are inoculated after the first 2 years. The ESTABLISHMENT COSTS are for tools and equipment for inoculation, log storage, irrigation, and soaking and cooling mushrooms. These costs will only be incurred at startup or if items need to be replaced at a later date.

To establish a 500-log per year operation, total costs for the first 2 years are $10,938. The returns would be $9,000, assuming a $4.50 sales price. If logs are established in year three and beyond, the additional cost of production would be $6,175 for the next 2 years. In other words, by the end of year 4, input costs would be $17,113 and returns would be $18,000. After year 6, returns/1,000 logs will total $3,712.

Total returns can be increased by cutting your own logs, using family labor, and making your own shade house. Cutting 500 logs will take two people about 3 8-hour days or 48 hours. If you have access to the appropriate wood species, this may be a cost savings. Pine stands make a good cover and can be used for shade instead of a shade house. However, to fruit on a weekly basis, you will need a fruiting house. This could be a garage, shed, basement, or other small building that will tolerate added moisture. About 2 square feet are required for each log fruited. For a 1,000-log operation, 62 logs will be fruited weekly (1,000 logs/16 weeks between fruiting). A 5 x 10 foot building with racks or shelves would accommodate this volume. The facility would need to be ventilated, heated, and cooled with some form of mist added. The elimination of a shade bay and frame (if you have other ways to shade the logs) would more than pay for a structure and heating and cooling equipment.

Table 1. Outdoor Shiitake Mushroom Log Production Budget for 500 Logs/ Year for Two Years[1]

Item	Quantity	Price/Unit	Total
2-YEAR COSTS			
Logs 2-7" dia., 3-4 feet long	1000	0.75	750.00
Spawn	50 bags	15.00	750.00
Wax (food grade cheese)	40 lbs	2.00/lb.	80.00
Drill bits (7/16" collar stop)	3	12.00	36.00
Propane refills	5	17.00	85.00
Burlap 60"x 100 yds.	4 rolls	100.00	400.00
Utilities (water, electricity)	1000	.14	140.00
Picking containers	10	5.00	50.00
Packaging (variable/boxes)	400	.25	100.00
Transportation	400	.50	200.00
Labor (establishment)			1,400.00
Labor (harvest & marketing)			
20 logs/week, 3 hours/week	312 hrs/2 yrs	7.00/hour	2184.00
Subtotal 2 year Costs			6,175.00
ESTABLISHMENT COSTS (Equipment 4+ years life)			
Inoculation tools	4	30.00	120.00
Wax basters	2	10.00	20.00
Angle grinder/adaptor	1	110.00	110.00
Gas stove	1	40.00	40.00
Propane tank with gas	1	45.00	45.00
Wax kettle (cast iron)	1	50.00	50.00
Shade bay frame 20'x10'x10'	5	500.00	2500.00
Shade cloth (85%)	1320 sq. ft.	.65/sq. ft.	858.00
Irrigation/ hoses	8	10.00	80.00
Soak tank	1	100.00	100.00
Irrigation timers	8	30.00	240.00
Refrigerators (used)	2	300.00	600.00
Subtotal Establishment costs			4,763.00
TOTAL startup costs			**$10,938.00**
Mushroom sales (2 yrs)	**2,000#**	**4.50**	**$9,000.00**

[1] This data is obtained from current prices and does not include the cost of a fruiting building. To obtain these yields, a fruiting room is necessary. Costs and prices will vary based on vendor, petroleum prices and market demand. Costs tend to increase over time and for most agricultural crops, prices for the crop rarely keep up with input costs.