

Part I Shiitake

Chapter 7

Shiitake Post Harvest**CONSIDERATIONS RELATED TO FARM
MANAGEMENT AND MARKETING**

Seungwoo Kang (Richard)

MushWorld, 150-5 Pyungchang, Jongro, Seoul, Korea (swkang@mushworld.com)

Cultivation skills are one half of a mushroom enterprise, and management & marketing skills are the other half. These financial management skills have a direct effect on the profitability of a farm and every serious mushroom farmer should use market analysis, careful financial planning, and customer feedback as tools to help make decisions about farm management.

Farm Diary

Growers need to keep records of cash and product flow, farm activities, and changes to the farm. These accounts are essential for preparing the monthly and yearly accounts. Most successful farmers make frequent entries in a farm diary. The table below shows some example of keeping records from virtual shiitake farmer, Mr. Lentinula's operation.

Table 1. Cash and product flow example of virtual shiitake grower, Mr. Lentinula

Date (Jan. '05)	Content	Amount	Cost	Revenue	Self consumption
01	Labor	1 person	10		
02	Tax		2		
03	Selling fresh shiitake	100kg		200	
04	Sawdust	20kg	10		
05	Fresh shiitake	5kg			10
...
23	Plastic sheet for repairing growing house	2 rolls	4		
...
	Monthly total				
	Yearly total				

There is no fixed form for a farm diary that will fit every shiitake grower, but some form of diary is essential. Growers should record not only growing activities and environmental parameters. A diary should also include detailed thoughts, new information acquired, and ideas for future management activities. Photos and illustrations are also useful.

BEP (Break-Even Point) analysis

A BEP analysis will show the farmer how much production and sales will be required to break even with the total cost spent on one batch production. Though, this tool is limited to creating a financial status estimate, so it may not cover all decision parameters. Its assumption is constant operation.

Fixed costs are constant costs separate from the specific crop production costs. Fixed costs may include depreciation and marketing. Variable costs are those costs that increase with the production quantity. $BEP = \text{fixed cost} / \{(\text{revenue} - \text{variable})\}$

cost)/revenue}

The example shown below is for a theoretical farmer, Mr. Lentinula, who produces 100kg of shiitake. In this case, $BEP = 200 / \{(200-100)/200\} = 400$

Table 2. BEP analysis of Mr. Lentinula

		Item	Cost & revenue (USD/batch)	Note
Cost	Fixed cost	mixer	20	Depreciation for one batch
		growing room with racks	30	"
		incubation room with racks	30	"
		spawning room	30	"
		heater, cooler, fan	20	"
		sterilizer	20	"
		labor	30	Mr. Lentinula
		marketing	20	flyers, samples
		total fixed cost	200	
	Variable cost	substrate mixture material	25	USD0.25/kg
		spawn	25	"
		bags and caps	25	"
		Misc. (power, water, tax, etc)	25	"
		total variable cost	100	
total cost		300		
Revenue	fresh shiitake	200	USD2 ×100kg	

This situation can be represented in the chart shown right. Fixed costs are shown as the pink line, variable costs are represented by the area between the blue line and the pink line, total cost is shown as the blue line, and revenue is shown as the green line.

It can be seen that Mr. Lentinula has his BEP at 200kg with USD400 total cost for one plot, which is the point on the chart where the green line and blue line meet. Unfortunately, at this time, he produces only 100kg shiitake with a total production cost of USD300 and a revenue of only USD200, so he is working at a loss. Assuming that one batch takes one month, he loses USD100 monthly.

To make his farm profitable, Mr. Lentinula needs to lower costs, boost production to over 200kg, or find a buyer who will pay more per kg for his products.

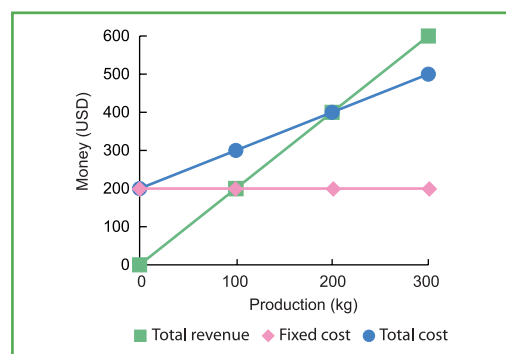


Figure 1. BEP chart from Table 2.

SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis

SWOT analysis is a methodology by which growers can analyze their operations and possibly understand appropriate changes for the future. Farmers wishing to use this system can make a blank version of the following example table, and fill in their own answers.

Table 3. SWOT analysis of Mr. Lentinula

Internal	Strengths	Weaknesses
	<ul style="list-style-type: none"> - High cultivation skill - No debt - Low pests and diseases - Strong will of marketing - Continuous research and development 	<ul style="list-style-type: none"> - No automation (high portion of labor) - Far from market - No dryer and cold storage - No more capital for investment - Outdoor incubation takes long time
External	Strategies	
	<ul style="list-style-type: none"> - Steadily increasing demand - Preference of fresh shiitake - Increased demand for organic, fresh, high quality food - Shiitake promotion policy of government - Supply fluctuation by season 	<ul style="list-style-type: none"> - Regulation of production amount : increase production at feeding and rainy season - Aggressive marketing of benefit of shiitake - Establishing website for online consumers
	SO strategy	WO strategy
	<ul style="list-style-type: none"> - Increase average production and decrease labor cost by automation - Adoption of strains exclusively for fresh shiitake - Fund application for cold storage 	<ul style="list-style-type: none"> - Increase average production and decrease labor cost by automation - Adoption of strains exclusively for fresh shiitake - Fund application for cold storage
	Threats	ST strategy
	<ul style="list-style-type: none"> - Increasing competition with other mushrooms and farms - Low recognition of consumers for shiitake - Extreme consuming pattern: high quality and cheap - Unstable supply of substrate material and spawn - Globalization by like WTO, DDA, FTA - Environmental issues 	<ul style="list-style-type: none"> - Quality division by strict pruning - Develop other mushroom species by R&D - Marketing for consumer behavior and recognition
		WT strategy
		<ul style="list-style-type: none"> - United shipping and marketing by cooperation - Brand making for differentiation from other shiitake farms - Establishing website for foreign market (low tariff) - Direct marketing of staffs - Concentrate on high quality - Using surplus labor, recycle spent substrate in vermiculture

Market Situation

New mushroom markets are often characterized by low recognition and consumption of mushrooms. In these cases, a variety of different marketing efforts is needed to raise the public consciousness concerning the desirability of consuming mushrooms. With over supplied, it is important for growers to have precise sales information in order not to over-produce. In growing markets where there is a greater demand than there is supply, production increasing methods are appropriate. When the market is old, characterized as calm and balanced, growers may wish to grow additional types of crops.



Figure 2. Small packed shiitake can be marketed directly to consumers.

Shiitake mushrooms from various sources are assembled at the wholesale markets and sold at prices that are lower than the retail prices. Though the wholesale market experiences relatively low prices, producers can sell their mushrooms relatively easily at these markets.

In all markets, prices fluctuate according to supply and demand. In the hot summer season when shiitake availability decreases, the prices rise. During the rainy season, supply goes down and prices go up. School consumption also has an impact on shiitake prices. During school vacation when school consumption stops, both demand and prices decrease.

Retailers obtain their shiitake from the wholesale markets or they buy from suppliers who supply shiitake. In order for shiitake producers to enter the retail market themselves, they should be able to provide constant quality and a year round supply. Growers wishing to sell at retail should ensure

their product quantity and quality by cultivating indoors and considering cooperation with other growers. Strict grading is also an important step in ensuring product quality.

Cooperatives, co-production, co-processing, and co-shipping allow small growers to become more aggressive in market-

ing their products, but it is important that factors such as quality control, labor division, and profit sharing be determined ahead of time.

Consumer communications must be maintained through continuous exchange with buyers using methods such as email, letters, and phone calls. Organic certification also helps create a positive image. Highland Birchwoods, a UK mushroom marketing agency advises growers who attend their demonstration program to:

1. Give lots of trial samples to lots of chefs.
2. Telephone customers, weekly, at a time when they are not busy.
3. Grade the shiitake, selecting only the top quality mushrooms, and packing them in standardized mushroom containers.
4. Deliver the shiitake regularly.
5. Be flexible regarding payment. Fit in with the customer's accounting system, as each one is different.

REFERENCES

- Beets, A.E., and M. Kustudia. 2004. Mushroom cultivation and marketing. *Horticulture Production Guide*. ATTRA Publication #P087. available at <http://www.attra.org/attra-pub/mushroom.html>
- Haugen, J., G.B. Holcomb, W. Howard, and Bud Kerr, Jr. 1993. A small scale agricultural alternative- shiitake mushrooms. available at <http://www.mushroomcompany.com/shiitake.html>
- Highland Birchwoods, U.K. Native woodland demonstration programme - Information sheet 4: Growing shiitake mushrooms (*Lentinula edodes*) in the highlands. available at <http://highlandbirchwoods.co.uk>
- Jenkins, D. H., S.K. Jonathan, A.L. Hammett. *Shiitake Mushrooms Production and Marketing (SPF-2)*.
- Lee, S.D., S.J. Park, J.Y. Kim, and H.J. Lee. 2000. *Marketing from the Perspective of Corporate Level*. Hakhyun Press.
- Mycosource Inc. *Natural Log Shiitake Mushroom Production, Processing and Marketing*.
- Thomas, M.G., and D.R. Schumann. 1993. Income opportunities in special forest products: self-help suggestions for rural entrepreneurs. *Agriculture Information Bulletin AIB-666*, U.S. Department of Agriculture, Washington, DC.