

Oyster Mushroom Cultivation

PREFACE

Mushroom cultivation has been evaluated as an effective means for poverty alleviation in developing countries due to its possibility of low cost production, high profit and quick return. As a non-profit organization, MushWorld has devoted itself to distributing valuable and abundant information on mushroom science and cultivation via its website, www.MushWorld.com, for free since established in 1998. Though the access to MushWorld is free and unlimited, Internet is not readily available for people in developing countries who sincerely need information sources for mushroom growing.

Mushroom Growers' Handbook is published to provide more accessible information on mushroom cultivation for people in developing countries. It will be distributed to growers, scientists, extension workers and governmental officials in developing countries free of charge. Following Oyster Mushroom Cultivation, the topic of this first book, cultivation of other mushrooms will be explored one by one in the following books to be published each year. Through this **Mushroom Growers' Handbook**, MushWorld hopes to reach more mushroom growers in developing countries and offer practical guides to mushroom cultivation for poverty alleviation.

Mushroom Growers' Handbook 1: Oyster Mushroom Cultivation is consisted of four parts and twelve chapters.

Part I provides overall information on mushroom and its cultivation.

Chapter 1 is an introduction to mushroom cultivation. Brief explanation on mushroom and principles of mushroom cultivation are provided. Why mushroom growing is a good way for poverty alleviation is discussed with specific examples.

Chapter 2 illustrates mushroom growing and project for a living in Nepal, Zimbabwe, India, Thailand and Swaziland.

Part II focuses on various aspects of oyster mushroom cultivation.

Chapter 3 is an introduction to oyster mushroom cultivation. It presents principles of oyster mushroom growing and illustrated guides to oyster mushroom bag and shelf cultivation.

Chapter 4 is about spawn, one of the key elements for high yields. The chapter begins with descriptions of commercially important *Pleurotus* species, followed by grain spawn making in a simply-made clean bench.

Chapter 5 is about another crucial factor- substrate. The chapter lists possible substrate materials for oyster mushroom based on worldwide survey and presents nine examples of substrate materials: cereal straw, coco lumber sawdust, sunflower seed hulls, grass, cottonseed hulls, sugarcane bagasse, rubber tree sawdust, groundnut shells, and non-pasteurized wheat straw.

Chapter 6 reviews the major three factors that should be considered when a farmer builds a mushroom growing house: site selection, construction materials and functions. Various examples of growing house from many countries are provided ranging from simple shade to structural insulated panel house with automatic control.

Chapter 7 introduces different growing methods: log, bag, shelf and bottle cultivation with images of each step. Readers are expected to select appropriate cultivation method for themselves and adopt tips and know-hows from each method.

Chapter 8 is on pest and disease management. Pathogens, symptoms and control measures of each disease are well summarized. Pests and abnormalities are also well described with informative supporting images.

Chapter 9, the last chapter of this part, covers post-harvest management. Various ways of recycling of spent oyster mushroom substrate is illustrated. Effective ways to extend shelf life of mushroom are introduced with detailed images.

Part III offers case studies on mushroom growing worldwide.

Chapter 10 provides in-depth researches on mushroom industry of three African countries: Kenya, Zimbabwe and Uganda.

Chapter 11 introduces other mushrooms that can be grown in the Tropics. Detailed information on low-cost cultivation methods are illustrated about *Ganoderma* mushroom, shiitake, paddy straw mushroom, and *Pleurotus tuberregium*.

Part IV lists useful information sources.

Chapter 12 lists recommended books and websites on mushroom for further reading.

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