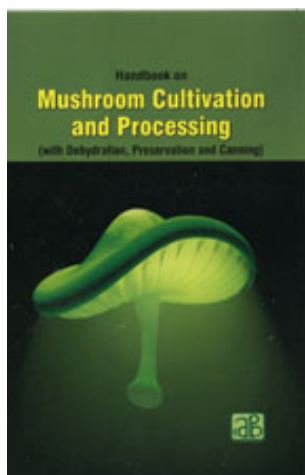


Handbook on Mushroom Cultivation and Processing (with Dehydration, Preservation and Canning)



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Mushrooms are the health food of the world. These are that fast growing basidiomycetous fungi which produce fleshy fruit bodies. They are rich in proteins, vitamins and minerals, so they are consumed as energy rich food. Mushroom has been attracting attention of mankind since ancient times and use of mushroom, as food is as old as human civilization. Mushrooms are superior to many vegetables and beans in their nutritive value. It is very rich in protein, vitamins and minerals. Fresh mushrooms contain about 85% water and 3.2% protein. But dried mushrooms water content is low and protein level is high as 34 to 44% and the fat content is less than 0.3%. There are about 100 species of edible mushrooms all over the world. But only three of them are cultivated in India which are *Agaricus bisporus*, *Volvariella volvacea* and *pleurotus sajor caju*. Unfortunately, it is realized that mushrooms did not receive universal acceptance over the years since a number of naturally growing mushrooms are poisonous. Now the situation has been changed because the cultivated edible mushrooms are totally safe for human consumption. Mushroom cultivation fits in very well with sustainable farming and has several advantages: it uses agricultural waste products, a high production per surface area can be obtained, after picking; the spent substrate is still a good soil conditioner. They have less carbohydrate so they are believed to be suitable for diabetic patients. Fresh mushrooms have very limited life and hence they need to be consumed within few hours. But processing and canning increases their shelf life to few months. Osmotic dehydration is one of the important methods of processing mushroom which involves drying technology of mushroom. Mushrooms are very popular in most of the developed countries and they are becoming popular in many developing countries like India. Applications and market for mushrooms is growing rapidly in India because of their nice aroma, nutritious values, subtle flavour and many special tastes. Mushroom cultivation has been declared as a major thrust area by Government of India. Mushroom dish is a common item in all the big hotels. Mushroom production has increased many folds during the recent past. Mushrooms have found a definite place in the food consumption habits of common masses and there is a constant demand for it throughout the year.

Some of the fundamentals of the book are nutritive value of edible mushrooms, medicinal value of mushrooms, advantages of mushrooms, symptoms of mushroom poisoning, morphology of common edible

mushrooms, classification of fungi a brief survey, chemical composition, anti nutritional factors and shelf life of oyster mushroom , osmotic dehydration characteristics of button mushrooms, mushroom cultivation, cultivation of white button mushroom (*agaricus bisporus*), factors determining the amount of spawn needed, fungicides for mushroom diseases insecticides for mushroom pests etc. The present book contains cultivation, processing, dehydration, preservation and canning of various species of mushrooms. It is resourceful book for agriculturists, researchers, agriculture universities, consultants etc.

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 Gomphidius Roseus
 (Fr.) P. Karst.
 Gomphidius Glutinosus
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 Chroogomphus Rutilus
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 Goat Moth Wax Cap
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 Pinewood Wax Cap
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 Hygrophorus marzuolus
 (Fr.) Bres.
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 (Pers. ex Fr.) Kumm.
 Hygrocybe nigrescens
 (Quel.) Kuhner
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 (Fr.) Kumm.
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 (Huds. ex Hook) Cooke
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 (Pers. ex Fr.) Kumm.
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 (Bull. ex St. Amans) Quel.
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 (F. Wett. ex Fr.) Kumm.
 Common Funnel Cap
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 (Fr.) Kumm.
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 (Pers. ex Fr.) Kumm.
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 (Batsch ex Fr.) Harmaja
 Wood Blewitt, Blulette, Blue Leg
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 Blewitt, Blulette, Blue Leg
Lepista saeva (Fr.) P. D. Orton
Tricholomopsis rutilans
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 (Viv.) Ricken
Tricholoma colossus
 (Fr.) Quel.
Tricholoma Fulvum
 (DC. ex Fr.) Sacc.
Tricholoma Vaccinum
 (Pers. ex Fr.) Kumm.
Tricholoma Portentosum
 (Fr.) Quel.
Tricholoma flavovirens
 (Pers. ex Fr.) Lund.
Tricholoma sejunctum
 (Sow. ex Fr.) Quel.
 Sulphurous *Tricholoma*
Tricholoma Sulphureum (Bull. ex Fr.) Kumm.
Tricholoma Columbeta
 (Fr.) Kumm.
Tricholoma Terreum
 (Schaeff. ex Fr.) Kumm.
 Honey Fungus, Honey Agaric, Shoestring Mushroom
Armillaria mellea (Vahl. ex Fr.) Kumm.
Lyophyllum connatum

(Schum. ex Fr.) Sing
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 (Pers. ex Fr.) Orton
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 (Bull. ex Fr.) Pat.
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 Greasy Tough Shank
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Oudemansiella radicata (Relhan ex Fr.) Sing.
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 (Wulf. ex Fr.) Sing.
 Little Wheel Toadstool
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Marasmius oreades (Bolt. ex Fr.) Fr.
 Lilac *Mycena*
Mycena pura (Pers. ex Fr.) Kumm.
Mycena rosea
 (Bull.) ex Sacc. et Dalla Costa
Mycena fagetorum
 (Fr.) Gill.
Xeromphalina campanella
 (Batsch ex Fr.) R. Maire
 Velvet Shank, Winter Fungus
Flammulina velutipes (Curt. ex Fr.) Sing.
 The Miller
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Nolanea verna
 (Lundell) Kotl. et Pouz.
 Livid *Entoloma*
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Entoloma nidorosum

(Fr.) Quel.
 Entoloma hirtipes
 (Schum. ex Fr.) Moser
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 (Fr.) Sing.
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 (Schaeff. ex Fr.) Kumm.
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 Amanita umbrinolutea Secr.
 Fly Agaric
 Amanita muscaria (L. ex Fr.) Hook
 Amanita regalis
 (Fr.) Michael
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 Amanita pantherina (DC. ex Fr.) Krombh.
 Amanita gemmata
 (Fr.) Gill.
 Death Cap
 Amanita phalloides (Fr.) Link
 Destroying Angel
 Amanita virosa (Fr.) Bertillon
 False Death Cap
 Amanita citrina (Schaeff) ex Roques
 Amanita porphyrea
 (Alb. et Schw. ex Fr.) Schummel
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 Blusher
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 Red-staining Agaric Wood Mushroom
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 Agaricus augustus Fr.
 Agaricus abruptibulbus Peck
 Horse Agaric, Horse Mushroom
 Agaricus arvensis Schaeff. ex Fr.
 Yellow Stainer
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 Lepiota cristata
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 Lepiota clypeolaria
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 (Fr. ex Fr.) R. Maire
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Bolbitius vitellinus (Pers. ex Fr.) Fr.
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Hypholoma capnoides
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 (Brond) Gill.
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About NIIR

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