Straw Mushroom

Submitted By

Group 4

Piyawat Wiriyayothin	6710545717	President
Amornrit Sirikham	6710545989	Vice-President
Paranyu Kittinavakit	6710545784	Board
Chaiyapat Kumtho	6710545521	Treasurer
Pasin Tongtip	6710545741	Secretary
Pattadon Udompaipeuk	6710545750	Assistant Secretary

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Preface

This report on straw mushrooms (Volvariella volvacea) reflects our group's shared passion for exploring sustainable food sources. In addition to delving into their history, nutritional value, and cultivation methods, we also consider their potential as a sustainable food option. Straw mushrooms, known for their ability to grow on agricultural by products, offer an eco-friendly and resource-efficient solution for meeting global food demands.

We express gratitude to our instructor, researchers, and collaborators for their support. This report symbolizes our commitment to understanding sustainable agriculture and food security.

Contents

1 Introduction

Straw mushrooms (Volvariella volvacea), native to Asia, have been cultivated since the 18th century, initially grown on paddy straw by Buddhist communities. Over time, their cultivation spread across China, becoming a treasured food and even a royal gift. Today, straw mushrooms are widely consumed throughout Asia and are cultivated using various substrates, such as cotton waste and compost piles.

This report explores the historical background, nutritional composition, cultivation methods, applications, and the benefits and challenges of growing and consuming straw mushrooms, presenting a comprehensive analysis of their significance in food and agriculture.

2 History

3 Nutrition

4 How to grow

5 Product

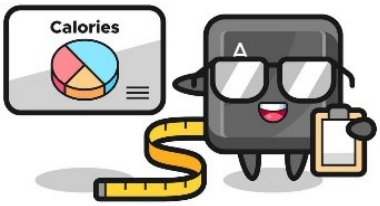
6 Pros

6.1 Rich in Nutrients

Straw mushrooms are a good source of protein, fiber, and essential vitamins like B-complex vitamins, as well as minerals such as potassium, phosphorus, and iron.

6.2 Low in Calories

They are low in fat and calories, making them a healthy choice for weight management or low-calorie diets.



6.3 Supports Heart Health

The potassium content in straw mushrooms can help regulate blood pressure, contributing to overall cardiovascular health.

6.4 Promotes Healthy Digestion

The dietary fiber in these mushrooms aids in digestion and helps maintain bowel health.

6.5 Supports Blood Sugar Control

The low glycemic index and fiber content can help stabilize blood sugar levels.

6.6 Boosts Immune System

Straw mushrooms contain antioxidants such as selenium and beta-glucans, which may help strengthen the immune system and fight free radicals.

7 Cons

Eating straw mushrooms has some very uncommon side effects. The species has a small chance of causing fungal infection in immunocompromised patients, which could lead to severe consequences such as brain abscesses.

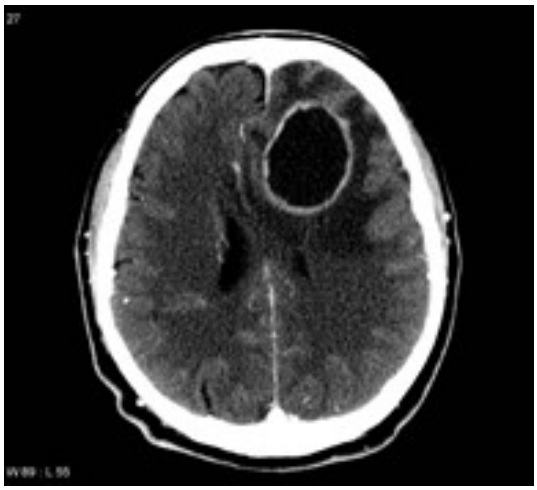


Figure 7.1: Brain abscesses

Some individuals may experience allergic reactions to straw mushrooms. Symptoms can range from mild, such as skin rashes and itching, to severe, including difficulty breathing and anaphylaxis. Those trying these mushrooms for the first time should proceed cautiously.

Figure 7.2: Allergic

Straw mushrooms are highly perishable. They have a short shelf life and require proper storage to avoid spoilage. Improper handling can lead to bacterial growth, which may cause food poi-

soning if consumed.

Canned or processed straw mushrooms often lose some of their nutritional value due to heat and chemical treatments. Additionally, preservatives added during processing may not be suitable for everyone, especially those with sensitivities or health concerns.

Figure 7.3: Canned straw mushroom

Fresh straw mushrooms can be expensive, particularly in regions where they are not cultivated locally. Import costs and their delicate nature contribute to their high price, making them less accessible to some consumers.

Figure 7.4: Fresh straw mushrooms

Commercial cultivation of straw mushrooms can have environmental implications. The use of pesticides, fertilizers, and water-intensive farming methods may contribute to soil degradation, water pollution, and resource depletion.

Common insect pests of straw mushrooms include phorids and

mites. Nematodes can also cause crop losses.



Figure 7.5: Phorids, Mites and Nematodes

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