

Effects of drying methods on the quality of Lentinus edodes

ABSTRACT: Lentinus edodes was first cultivated in China and has a history of more than 800 years. It is the main edible fungus in Asia. China is the world's largest mushroom producer, Japan ranks second, and Korea ranks third. Lentinus edodes contains high moisture, polysaccharides, vitamins and other nutrients, but it is difficult to transport, storage and processing, so drying is one of the necessary processes before.

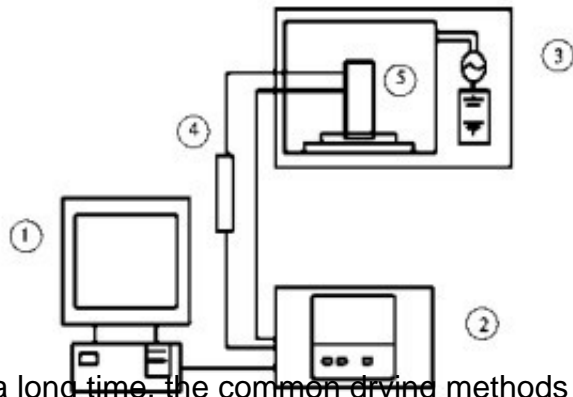
Lentinus edodes is the largest export mushroom in China. The drying effect is related to the export benefit of our country. Several drying methods of Lentinus edodes were reviewed, and their advantages and disadvantages were listed. The results showed that [microwave drying equipment](#) was the most promising drying method for Lentinus edodes and other fruits and vegetables.

Key words: [Lentinus edodes microwave drying](#); drying method; quality analysis



Lentinus edodes, also known as Lentinus edodes, Lentinus edodes, mushrooms, mushrooms, shiitake mushrooms, belongs to fungi, basidiomycetes, Umbrella, Pleurotus, Lentinus. Lentinus edodes is rich in nutrition, delicious taste, rich in amino acids, polysaccharides and vitamins and other nutrients. It is a low-fat, high-protein nutritional health product, known as the "queen of mushrooms".

Edible fungi contain high moisture, polysaccharides, vitamins and other nutrients, but it is not easy to transport, storage and processing, drying is one of the necessary processes before. Lentinus edodes is the largest export mushroom in China. The drying effect is related to the export benefit of our country.



For a long time, the common drying methods of *Lentinus edodes* in our country include natural drying, hot air drying, far infrared drying, microwave drying, vacuum drying and vacuum freeze drying, and several drying methods combined. However, these methods are mostly limited to adjusting the temperature and flow rate of drying media, and can not control the humidity of drying media. The heat pump drying studied in recent years can accurately and effectively control the temperature, wind speed and humidity of the drying medium and other parameters, so as to maximize the retention of the nutritional components of the product and its color, fragrance and taste.

Microwave drying is to place wet materials in high frequency electric field, which constantly changes the direction, so that the polar water molecules in the material vibrate and friction with each other at high frequency, and the material will quickly heat up, so as to achieve the purpose of drying food.

Microwave drying is fast, and both inside and outside fruits and vegetables are dried at the same time. However, the most common problem in microwave drying is that the material is not uniformly heated and the surface of the material is easy to burn. Moreover, microwave technology still has some problems, such as complicated equipment, difficult operation, expensive price and high energy consumption per unit, which greatly limits the promotion of microwave technology in fruit and vegetable drying industry.