Food Technology Fact Sheet No. 1 April 2000

Drying of Mushroom

BARC
Food Technology Unit
Brunei Agricultural
Research Centre

One of the major problem in the production of mushroom culture is the short life of the fresh mushroom. This is due to the high moisture content of the mushroom about 85 - 90% and also prone to spoilage if the storage conditions are hot and humid. Low quality mushrooms are slimy in appearance, change in colour, shrinked and become fibrous.

One way to preserve the mushroom so that they can be consumed longer is by using drying method. This was done by removing water in the mushroom to a low level about 8 - 9% moisture content. In this way growth of spoilage microorganism can be avoided and it can keep the mushroom cell structure to their original when they are to be used again.

Drying equipment

Cabinet dryer is usually used because mushroom should be arranged on the trays to make the drying process done easily. The capacity of the dryer will depend on the size of dryer space and the type of the dryer used.

A clean hot air produced by the heat can be obtained from the heating of diesel, gas, steam and/or electric coil. Fan is also one of the major component in the dryer. The speed of air velocity used can determine a proper flow of the hot air. Trays used in the arrangement of the mushrooms are usually made from material resistance to heat.

Drying method

Prior to drying process, fresh mushrooms should be graded either to small, medium or large size. Each of the group should be dried separately to ensure the mushrooms are dried equally. Drying with mixed sizes will cause unbalance product output.

In the arrangement of mushrooms on the tray, the stalks should face downwards while the end of its cap can be pressed with other mushroom caps. In this way, the stalk can receive more hot air compared to the cap since it takes longer time to dry.

The temperature of the hot air used during the drying process is the major factor that will determine the length and level of drying. The usual temperature used in mushrooms drying is 50°C and the time required is about 5 - 6 hours to reduce the moisture level to 7 - 10%.

Quality and storage of dried mushrooms

The quality of dried mushrooms will depends on their colour. High temperature used during the drying process can cause change in the colour of the mushroom.

Colour change, moistness and brittleness are the major problems during the storage of dried mushrooms. The change in colour in the mushroom is due to the absorption of water and light. Humid condition during the storage can also caused the product to be contaminated by the yeasts and other food spoiler. The cap of the mushrooms are easily brittled and broken if the handling and packaging are done imporperly.

Storage of dried mushrooms by using proper type of packaging materials can reduce excess light and this can prolong the shelf life of the mushrooms.

Brunei Agricultural Research Centre, Department of Agriculture, Ministry of Industry and Primary Resources, Kilanas, Jalan Tutong BB3510, Brunei Darussalam.
Tel: +673 2 661894 Fax: +673 2 661354 E-Mail: barc001@brunet.bn
JP/RP/13/2000
Printed by Borneo Printers & Trading Sdn Bhd