

An investigation on edible mushroom dehydration with hot air

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Edible mushroom is popular because of its high protein and low caloric food. It is very perishable, so, it needs to do something to increase its shelf life.

Dehydration is one of the preservation methods of edible mushroom that increases its shelf life from few days to several months or one year.

In recent research, hot air dehydration method is investigated on commercially grown mushrooms (*Agaricus bisporus*) also, the effects of sodium metabisulfite and citric acid in three concentrations and the effects of steam blanching on quality of dehydrated products have been evaluated.

Four combinations of temperatures are used and mushrooms were dehydrated up to 3-7% moisture.

Finally, organoleptic tests were done. Informations were also obtained on the effects of different processing variables on the nutritional Value of final products such as protein, ash, moisture contents, rehydration percentage, mould/yeast and bacterial population.

Best results obtained when mushroom slices treated with 300 or 400 ppm SO₂ without blanching to inhibit browning and dried in two stages, using lower temperature (45°C) in the first stage and a high temperature (80°C) in the shorter finishing stage.

Blanching reduced the attractiveness of dried mushroom while, mild sulfiting improved it. In addition sulfiting of unblanched mushrooms maintain their whiteness. Citric acid caused a slightly yellow color.

Unblanched mushrooms had higher rehydrated value than blanched ones.

Determination of yeast/mold and total counts of dried mushroom showed that different processing variables were effective in decreasing the microbial load of mushrooms.