

MINIMAL PROCESSING AND DETERMINING STORAGE
QUALITY OF BUTTON MUSHROOM

(Agaricus bisporus)

67



BY

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ABSTRACT

Mushroom is a fungus, that producing a fleshy fruiting body, consisting of a stalk and a cap. Cap like structure is known as "Pileus" and attached with the stalk known as "Stipe". They belong to the fungi kingdom and their family name is "Agaricus".

It's used as an important human nutrition with high protein, minerals, vitamins, low fat content and low energy level. They provide the alternative source of protein to people who cannot consume animal foods. Mushrooms are perishable and it has very short shelf life. Therefore, it cannot store for a long time period and its need more attention in the post-harvest chain. To prevent the deterioration and enhance the shelf life used various method. The one of is minimal processing. It can improve the shelf life of and it is also convenient to the consumer. Therefore, this study was conducted to increase the shelf life of mushrooms using minimal processing.

Fresh button mushroom was selected as the mushroom variety and sodium metabisulphite, citric acid, calcium chloride and the ascorbic acid were used as the chemicals for minimal processing. These treatments were applied to the mushroom sample. T1:- Button mushrooms packing in macro perforated polythene bags after soaking in water (Control). T2:- Button Mushrooms packing in macro perforated Polythene bags after soaking in Citric acid solution. T3:- Button Mushrooms packing in macro perforated Polythene bags after soaking in Ascorbic acid and Calcium chloride solution. T4:- Button Mushrooms packing in macro perforated Polythene bags after soaking in Sodium metabisulfite solution. Physio chemical analysis was conducted to determine the pH and moisture content of freshly prepared minimally processed button mushroom. In addition to that, a sensory evaluation done for check quality of the mushroom curry sample of the minimally processed button mushroom. The aroma, color, flavor, texture were evaluated using a seven point hedonic scale.

Physio chemical parameters were analyzed using turkey test. Significance different at 5% level were observed for pH and the moisture content. The sensory evaluation showed, sodium metabisulphite treated button mushroom (T4) had highest preference

for the color, texture, flavor, and aroma whereas mushroom treated with citric acid (T2) showed the lowest preference for the same.

All the above sample of minimally processed button mushroom were subjected to the store in refrigerator at 4 °C for 2 weeks period. During the storage time pH and moisture content were measured value at 3 days interval. Results showed that the pH was decreased and the moisture content was increased gradually during the storage.

Sensory evaluation, after the 2 weeks of storage period, showed that the sodium metabisulphite treated button mushroom (T4) had highest preference for the color, texture, flavor, and aroma whereas the mushroom treated with citric acid (T2) showed the lowest preference for the same. The results were similar to that of the mushroom before they storage. Mushroom treated with ascorbic acid and calcium chloride (T3) and mushroom soaked with water (T1) samples had highest preference than the mushroom treated with citric acid (T2) sample.

Minimal processed button mushroom is the new product for improving storage capacity of mushroom. It enhanced the shelf life of mushroom and helps to reduce the post-harvest losses, of mushroom. Minimal processed mushroom is convenience to the consumer and one of the best methods for reducing food wastage.

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