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Physico-chemical properties and organoleptic evaluation of oyster mushroom (*Pleurotus florida*) powder

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ABSTRACT

The study was conducted on oyster mushroom (*Pleurotus florida*) grown on wheat straw. The powder were prepared using different drying methods *i.e.* sun, solar and oven drying. Mean scores for colour, aroma, texture and overall acceptability of control and blanched mushroom powder varied from 4.40 to 5.40, 3.30 to 4.90, 4.50 to 5.60 and 4.25 to 5.06, respectively. Yield of control and blanched mushroom powder ranged from 5.49 to 7.79 %. Non enzymatic browning was found in the range of 0.01 to 0.13 . water retention of control and blanched mushroom powder ranged from 1.42 to 3.90 ml/g. Hygroscopic water absorption after 5, 10, 15, 20, 25 and 35 min. were found in the range of 0.030 to 0.072, 0.05 to 0.127, 0.068 to 0.201, 0.087 to 0.233, 0.108 to 0.244 and 0.128 to 0.278, respectively.

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Key words : Oyster mushroom (*Pleurotus florida*) colour, Texture, Aroma, Yield, Mushroom powder

INTRODUCTION

Mushroom is the most important source of vegetable protein. It is a low calorie food which contains high content, low fat and carbohydrates. Mushrooms, also known as “wonder vegetables” have a unique growth pattern and are as such a synonym for quick growth and multiplication. Oyster mushroom is the third largest cultivated mushroom in the world and contributes approximately 16 per cent to the total world mushroom production (Upadhyay and Verma, 2000). It grows in flushes and after every 3-5 days, these are harvested in abundance. Oyster mushroom (*Pleurotus florida*) is affected by a number of factors leading to post harvest spoilage and losses. These include infection with microorganisms, spoilage by enzymes and unfavourable conditions of humidity, temperature, atmosphere during picking/harvesting. In India, these are seasonally available as most of the cultivation is seasonal using low cost technology. Drying is one of the oldest techniques of food preservation known to man. It is essential that the moisture content is reduced to a level (<5%) as microorganisms cannot grow at this level. Mushroom can be easily dried and powdered without any change in its organoleptic acceptability. Keeping this in

view, the study was planned with the following objectives: to improve the process for preparation of dried oyster mushroom and to study the nutritional composition, organoleptic acceptability and shelf-life of the dried mushroom powder cultivated on different sources.

MATERIALS AND METHODS

The developed powders were evaluated for sensory characteristics by a panel of 10 semi-trained judges using 6-point Hedonic Scale for colour, aroma, texture and overall acceptability of powders as per scale given by Ranganna (1986)

The weight of dried powder was recorded and yield was calculated using the formula of McConnell *et al.* (1974). Non-enzymatic browning was measured by method of Sa and Sereno (1999). Water retention was measured by the method prepared by Mc Connell *et al.* (1974). Water absorption was calculated by method of Singh and Singh (1991).

RESULTS AND DISCUSSION

Mushroom cultivated on two different substrates *i.e.*