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**Comparative phytochemical screening of *Agaricus bisporus* and *Pleurotus ostreatus* mushrooms and nutritional comparison of *Agaricus bisporus* on exposure to different cooking methods****Mashitha Pise**  
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Mushrooms have been widely used as a food and food supplement for millennia. Mushroom cultivation has been started widely in India. They are documented as being good source of nutrients and bioactive compounds that are beneficial to human body. Commercial markets are dominated by button mushrooms (*Agaricus bisporus*) and oyster mushrooms (*Pleurotus ostreatus*). Hence, this research is aimed at screening and determination of phytochemicals and some nutrients in these two edible mushrooms cultivated in Vidarbha region of Maharashtra. Phytochemical screening showed the presence of saponins, flavinoids, polyphenols, alkaloids, terpenoids, aromatic amino acids and reducing sugars. The  $\beta$ -carotene, lycopene, total lipid content was found to be much less quantity whereas flavonoid, ascorbic acid, retinol content was present in significant amount in both mushrooms. Both the mushrooms are rich in total protein content. The C:N ratio of *Pleurotus ostreatus* was reported higher than *Agaricus bisporus* with high calorific value for both the varieties. The moisture content of both mushrooms is above 90%. Fiber and volatile matter is also significant. More than 1% of unit weight, mineral elements such as calcium, magnesium and iron is present in both mushrooms and trace amount of manganese in *Pleurotus ostreatus* were determined. Upon exposure of different cooking methods to *Agaricus bisporus* the protein content decreases as boiled>frozen>dried>microwaved>steamed, whereas lipid content reported greater in microwaved sample followed by steamed, dried, boiled and lesser in frozen sample. The volatile matter, fixed carbon and ash content values were not significantly changed but moisture content falls upon treatment. The mineral element content found to be unaffected. The present study indicates the richness of study mushrooms due to presence of beneficial phytochemicals, micronutrients as well as macronutrients and also suggests best cooking practice for widely used button mushroom.

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