

Abstract

Mushrooms can be considered as an important ingredient to develop a functional food. The *Pleurotus spp.* is rich in medicinal values and possess high anti-oxidative property. In the two oyster mushroom varieties, *Pleurotus sajor-caju* and *Pleurotus florida*, moisture, fat, protein, ash, fiber and carbohydrate was found in the range of 10-10.6 %, 0.50-4%, 20-31%, 7.5-8 g/100g, 27-28 g/100g, 29-38g/100g dried sample respectively. The mushroom species exhibited good DPPH (2,2-diphenyl-1-picrylhydrazyl) radical scavenging activity in the range of 50-81% and total phenolic content in the range of 19-20 mgGAE/g extract. No toxicity effect was found in the proliferation assay (MTT test) of the samples. *P.sajor-caju* and *P.florida* showed antibacterial activity against *Bacillus subtilis*, *Listeria monocytogenes*, *Micrococcus luteus*, *Salmonella flexineri* and *Salmonella Typhimurium* with zones of inhibition ranging from 7-18 mm approx and antifungal activity against *Candida albicans* with zones 12 and 18 mm respectively for *P.sajor-caju* and *P.florida*. Six different breads containing different proportions of the two varieties mushroom powder and Bora saul (*Oryza glutinosa*) along with a control wheat bread was formulated. In the proximate chemical and texture profile analysis, breads with 10% mushroom powder were found to be the best combination. In morphological study of the breads by SEM, the structures of the formulated breads were found to be less porous. In the sensory analysis of the breads, the breads were moderately acceptable. During the shelf life study on the 0th, 1st and 2nd day after baking, the formulated breads showed good low microbial count as compared to the control wheat bread. This study has demonstrated that the breads formulated by substituting with 10% *P.sajor-caju* and *P. florida* affected the quality attributes since they possessed health benefits as compared to the control wheat bread because of its low fat, high protein and high antioxidant activity.