

Abstract

Mushrooms consumed in recent times have increased both in the amounts as well as the number of species consumed. The main bioactive components in mushroom are phenolic compounds, ascorbic acid, β -carotene and lycopene. Mushrooms are also rich in crude protein, vitamins, amino acids, crude fibre and minerals. The objective of this study was to determine nutritive and antioxidant potential of sun dried *Pleurotus HK 37* grown on *Agavesisalana* waste, grass (*Panicum coloratum*) and in a combined substrate of the two at 50:50 (w/w). Standard procedures were used to determine the proximate chemical composition and antioxidant properties of the samples. Moisture content, crude protein and crude fibre ranged between 12.31-13.61, 17.08-31.14% and 6.12-6.82%, respectively. Macro elements Ca, Mg, Na, K, and P were also found in substantial amounts with K being present in exceedingly higher amount (537.31-631.91 mg/100g) than macro minerals. The samples from the three substrates contained antioxidant β -carotene (4.24-5.07 mg/100g), lycopene (4.44-5.05 mg/100g), Vitamin C (5.07-5.29 \pm 0.02 mg/100g), phenols (350.82-830.97 mg of GAEs/g) and flavanoids (32.21-61.11 mg RE/g). A combined substrate of sisal and grass was found to produce mushroom with high nutritional value although the phenolic content in mushrooms cultivate on sisal substrate was higher. The results further showed that, all the extracts exhibited scavenging ability and metal chelating activity. The findings show that *Pleurotus HK 37* can be explored further for pharmaceutical application due to the high antioxidant potential alongside its consumption as a nutritious food.