

## **Antioxidant potential of several wild *Lentinus* species grown in liquid fermentation**

### **ABSTRACT**

**Background:** Studies were performed to evaluate antioxidant capacities of cultivated fruiting bodies of five *Lentinus* species namely *Lentinus fasciatus*, *L. polychrous*, *L. sajor-caju*, *L. squarrosulus* and *L. strigosus*.

**Methods:** Antioxidant capacities were evaluated using Folin-Ciocalteu assay, scavenging effects on 1, 1-diphenyl-2-picrylhydrazyl radicals,  $\beta$ -carotene-linoleate bleaching assay, cupric ion reducing antioxidant capacity (CUPRAC), reducing power assay and lipid peroxidation assay.

**Results:** Among the species studied, *L. squarrosulus* extract was highest in Folin-Ciocalteu assay (58.23 mg GAE/g) and lipid peroxidation assay with 70.06% inhibition at 10 mg/mL concentration. While *L. fasciatus* extract was found to exhibit the highest radical-scavenging activity with IC<sub>50</sub> of 14.17 mg/mL followed by *L. squarrosulus* extract (29.13 mg/mL). *Lentinus fasciatus* extract at concentration 1 mg/ml also exhibited the highest reducing capability on cupric (CUPRAC assay) and ferric ion (reducing power assay) with absorbance values of (A<sub>450</sub>, 1.22) and (A<sub>700</sub>, 0.65) respectively. This extract also showed the highest value of antioxidant activity based on  $\beta$ -carotene bleaching assay with EC<sub>50</sub> value of 0.02 mg/mL.

**Conclusion:** Therefore, this finding suggests the potentials of *L. squarrosulus* and *L. fasciatus* extract to be used as complementary and alternative antioxidant ingredients either in pharmaceutical, industrial or cosmetic products.