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Research Article

CULTIVATION AND ANTIOXIDANT PROPERTIES OF WILD SCHIZOPHYLLUM COMMUNE PRODUCED ON DIFFERENT AGRO-INDUSTRIAL WASTES

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ABSTRACT

This study explores the cultivation and antioxidant properties of *Schizophyllum commune*, commonly known as the split-gill mushroom, as a sustainable natural food source. The growth performance of *S. commune* was evaluated on two lignocellulosic substrates, which are rubber wood and cocopeat. Key antioxidant activities include 2,2-diphenyl-1- (2,4,6-trinitrophenyl) hydrazyl stable free radical (DPPH), 2,2'-azino-bis (3-ethylbenzothiazoline-6-sulfonic acid (ABTS), ferric reducing antioxidant (FRAP) assays were analyzed to assess the bioactive potential of the mushrooms. The highest inhibition in rubber wood samples was recorded in 100% sawdust (55%), with the lowest inhibition concentration (IC_{50}) value being 0.957 µg/ml in ABTS, while 75% inhibition in DPPH. Rubberwood substrates yielded superior growth and higher levels of antioxidant activity, suggesting that the substrate can optimize both biomass and bioactive compound production. This research highlights *S. commune* as a viable alternative food source with significant antioxidant potential, promoting sustainability and contributing to the search for natural supplements and antioxidant sources for food.