

## **Effect of physicochemical properties of oil-palm-waste-based substrates on mycelia growth rate of *Pleurotus ostreatus***

### **ABSTRACT**

Malaysia produces a large quantity of empty fruit bunch (EFB) and oil palm frond (OPF) every year, these wastes are not efficiently utilized, and causing disposal problems and pollute the environment. On the other hand, it has been reported that oyster mushrooms grown on oil palm by-products produced good yield. Thus, this study was carried out to investigate the effect of physical and chemical properties of the substrate on the mycelia growth rate of *Pleurotus ostreatus* on three treatments: namely, 100% EFB, 100% OPF, and the mixture of 50% EFB and 50% OPF. All treatments had five replicates and arranged in a completely randomized design (CRD). Chemical and physical properties; concentration of C, N, K, P, Cu, Ca, Mg, Fe, Zn, moisture content, ash content, volatile solids content, pH, electrical conductivity, wet bulk density, particle density, and porosity were measured. The number of days taken for mycelia to entirely colonized the substrate bag was recorded. It was found that pH, EC, and the concentration of C, N, P, Cu, Ca, Mg, and Zn were significantly affected by substrate formulations. It took 23-25 days for mycelia to entirely colonized the substrate in all treatments. However, the mycelia growth rate of *P. ostreatus* was not significantly affected by the physicochemical properties of substrate formulations.