

Abstract

Pleurotus ostreatus (Fr.) Kummer is a primary decomposer that can be grown on many readily available lignocellulosic materials. However, pH of the substrate is one of the key factors that affect its mycelial growth and subsequently the sporophore yields. This study was undertaken to determine the effect of varying pH on growth parameters of *P. ostreatus* cultivated on maize cobs (*Zea mays*), coconut fibre (*Cocos nucifera*), sugarcane bagasse (*Saccharum officinarum*) and sawdust (*Eucalyptus sp*). To do this, pH of 6.0, 6.5 and 7.0 were chosen as treatments. The results indicated that pH had significant effect ($P \leq 0.05$) on yield, average biological efficiency (ABE), number of pileus, days to pinning and flushing interval among all the four substrates tested. The average biological efficiency of maize cobs increased from 18.4% to 68.3% when the pH was adjusted to 6.5. However, the efficiency decreased to 31.8% when the pH was raised to 7.0. Coconut fiber recorded the shortest duration to pinning and a 5 times increase in ABE when pH was adjusted to 6.0. Among the substrates tested, sawdust recorded more than 10 times increase in ABE at pH 7.0. Sugarcane bagasse recorded the shortest duration to pinning and a 3 times increase in ABE at pH 6.5. The fresh mushroom yields increased by between 1.7 to 10.9 times in maize cobs and sawdust respectively. During the crop's cycle, no mushroom bags were lost through contamination at pH higher than 6.0.