**Abstract**

Coir pith is a recalcitrant waste product of coir industry. Application of biotechnology for conversion of coir pith into useful biomass (mushroom) would not only solve the waste disposal problem, but also enhance the dietary status of the common man. The present experiment was designed to find out the biological efficiency of the mushroom to utilize coir pith as its substrate for growth. Two different types of mushrooms namely, Pleurotus florida (Fr.) Kumm and Hypsizygus ulmarius (Bull. Fr.) Redh were used for the study. The influence of the mushrooms on the physico-chemical characteristics of the coir pith, yield of the mushroom and its biological efficiency, along with the biochemical content of mushrooms were assessed. Coir pith (CP) composted by Pleurotus florida showed a reduction in pH, EC, bulk density, particle density, lignin, cellulose, hemi-cellulose and phenol content when compared to the CP composted by Hypsizygus ulmarius except for pore space and moisture content. There was drastic change in the C:N ratio, which narrowed down from 113.1:1 to 33.8:1. Likewise macro and micronutrients levels, which were analyzed did not show any significant difference among the CP composted by both the mushrooms except for iron. The maximum number of fruiting body was produced by Pleurotus florida (29/ bed) and Hypsizygus ulmarius (16/bed). Higher content of carbohydrate and protein was recorded in Pleurotus florida. The biological efficiency was comparatively higher in Pleurotus florida (16.52%) than Hypsizygus ulmarius (10.00%).