

Improved Yield of Ligno-Cellulolytic Enzymes on Oyster Shell Powder Added Typha Weed Substrate by *Pleurotus florida*

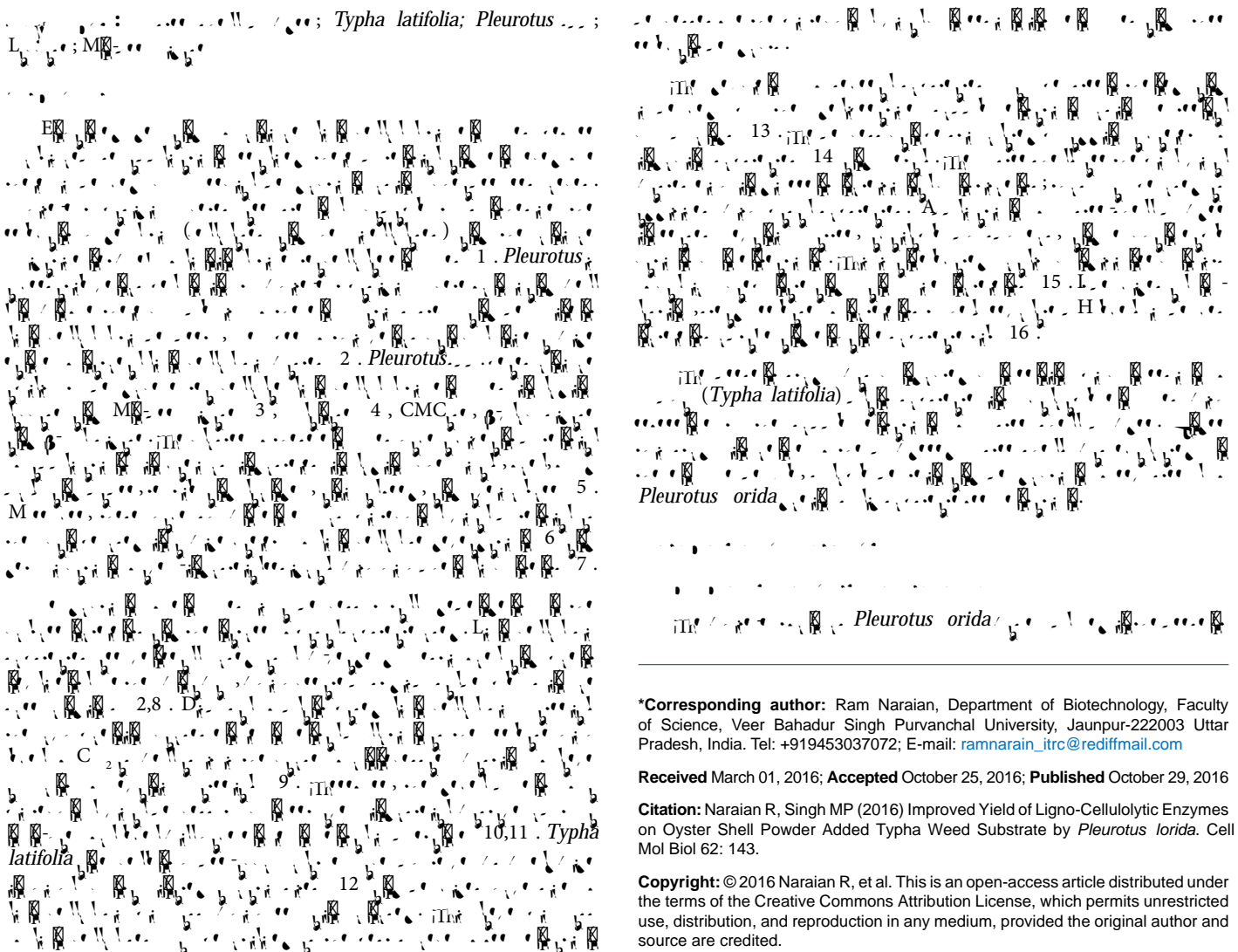
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Abstract

Solid state fermentation (SSF) of different combinations of Typha weed (*Typha latifolia*) substrate (TPS) and oyster shell powder (OSP) including TPS+OSP (100+0), TPS+OSP (99+1), TPS+OSP (97+3), TPS+OSP (95+5), TPS+OSP (92+8) and TPS+OSP (90+10) was conducted employing white-rot fungus *Pleurotus florida*. The influence of variable combinations was analyzed on different parameters viz., production of fungal ergosterol, enzymes (CMCase, xylanase, glucosidase, xylosidase, Mn-peroxidase and laccase) and specific protein. The highest ergosterol (371µg/g) was recorded in the TPS+OSP (95+5) combination. The highest CMCase activity (307 IU/g) and peroxidase activity (79 IU/g) were recorded in TPS+OSP (95+5) combination, whereas the highest xylanase (258 IU/g), -glucosidase activity (116IU/g) and -xylosidase (42 IU/g) activities were achieved in the sets of TPS+OSP (97+3). Moreover, highest laccase (801 IU/g) was recorded in TPS+OSP (92+8) set. The protein content analyzed showed highest protein (147 IU/g) in TPS+OSP (95+5) set. The lower concentration of OSP remarkably supported the production of all enzymes including ergosterol and concentration of protein, while lower levels were not supportive. In consequence, the use of OSP at their lower concentrations is recommended for the improvement of solid state fermentation and enzyme production.



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