

STUDY ON HYDROLYZING THE SUGARCANE BAGASSE AND USING HYDROLYSED SUGARCANE BAGASSE FOR *Pleurotus ostreatus* CULTIVATION

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Summary

Purposed to hydrolyze sugarcane bagasse and using hydrolysed sugarcane bagasse as a substrate for *Pleurotus ostreatus* cultivation, the study focused on hydrolysis of sugarcane bagasse with dilute sulfuric acid at different acid concentrations and time, the evaluation of growth, yield and biomass performance of *Pleurotus ostreatus* cultivated on hydrolysed sugarcane bagasse and the growing conditions of *Pleurotus ostreatus* on hydrolysed sugarcane bagasse. The results showed that the amount of reducing sugars was the highest, reaching 9.3 mg of reducing sugar/ml of hydrolyzate, when sugarcane bagasse was hydrolyzed at 1% H₂SO₄ for 30 minutes at 121⁰C. *Pleurotus ostreatus* cultivated on substrate containing 50% hydrolysed sugarcane bagasse and 5% rice bran has a mycelium growth rate of 5.77 cm/day. The time of fully mycelium growth was 26 days and 12 days after opening the bages can starts for harvest. Fesh yields of mushrooms reached 160 g/bag and bio-efficiency was 40%. The addition of 1.5 g urea/bag (400 g sugarcane bagasse) equivalent to 0.38% urea concentration increased the growth rate of mycelium, shortening the time of mushroom growth and the duration of mushroom cultivation. The efficiency of *Pleurotus ostreatus* cultivation on hydrolysed sugarcane bagasse supplemented with 0.38% urea, equivalent to that cultivation on traditional composted sugarcane bagasse.

Keywords: *Sugar cane bagasse, with diluting sulfuric acid hydrolyze, Pleurotus ostreatus cultivation.*