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Research Abstracts

Pectinase Activity of *Pleurotus ostreatus* Grown in Solid-State Fermentation

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Abstract: Pectinases are of great importance in the food industry, mainly in obtaining and clarification of juices, wines and beer. In this work, the pectinase activity produced by *Pleurotus ostreatus*, grown in solid-state fermentation (SSF) on polyurethane foam (PUF) was studied. SSF was performed in 125 ml Erlenmeyer flasks with 0.5 g cubes of PUF (0.5 cm per side), impregnated with 15 ml of culture medium at pH 6.5. The flasks were inoculated with three mycelium plugs of *Pleurotus ostreatus* of 4 mm diameter. All flasks were incubated at 25°C and 120 rpm for 24 days. Samples were taken every 24 h. Pectinase activity was evaluated by the method of DNS using polygalacturonic acid as substrate. Zymograms were performed using polyacrylamide gels at 10% and 1% pectin, the gel was incubated in acetate buffer pH 4.5 at room temperature, and stained with a ruthenium red solution (0.03%). The maximum pectinase activity was observed at 168 h (exponential growth phase). Three pectinase isoforms were observed through zymogram. *Pleurotus ostreatus* could be considered as an excellent candidate for the production of these enzymes for industrial use. These results contribute to physiological and biochemical knowledge of *Pleurotus ostreatus* and management of pectinase production conditions.

Keywords: *Pleurotus*, pectinases, zymograms, isoforms.

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