

Bioconversion of Orange Wastes for Pectinase Production Using *Aspergillus niger* under Solid State Fermentation

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Abstract : The influence of cultivation factors such as content of ammonium sulfate, glucose and water in the culture medium and particle size of dry orange waste, on their bioconversion for pectinase production was studied using complete factorial design. a polygalacturonase (PG) was isolated using ion exchange chromatography under gradient elution 0-0,5 m/l NaCl (column equilibrate with acetate buffer pH 4,5), subsequently by sephadex G75 column chromatography was applied and the molecular weight was obtained about 51,28 KDa . Purified PG enzyme exhibits a pH and temperature optima of activity at 5 and 35°C respectively. Treatment of apple juice by purified enzyme extract yielded a clear juice, which was competitive with juice yielded by pure Sigma Aldrich *Aspergillus niger* enzyme.

Keywords : bioconversion, orange wastes, optimization, pectinase

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