應用玉米軸芯以靜置培養雲芝Trametes versicolor LH1生產木寡醣之探討

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摘 要

雲芝(Trametes versicolor) LH1屬於腐生菌之一，可以分泌木質素分解酵素和纖維分解酵素，又稱為白腐真菌，也為十分珍貴的藥用真菌，除了能產生多元化的生物活性成分，也能產生多種具潛力的酵素，如木聚醣?(Xylanase)、漆?(Laccase)、錳過氧化?(manganese peroxidase)等酵素。木寡醣(xylo-oligsaccharide)含2-7種分子的木糖，被廣泛應用在食品上。本實驗以雲芝Trametes versicolor LH1靜置培養下測試不同接菌量與初始pH值對雲芝利用玉米軸芯生產木寡醣，結果顯示10%接菌量能得到最佳的生物質量、胞外多醣和木聚醣?產量分別為10.57mg/mL、1.04mg/mL和58.25U/100mL；在不同初始pH值(pH3-7)，以初始pH5在生物質量、胞外多醣、木聚醣?和木寡醣產量能得到較佳的結果，其分別為13.94mg/mL、1.46mg/mL、82.81U/100mL和52.97 mg/mL；添加0.3%花生粉氮源在不同初始pH值(pH3-7)，中初始pH5為最佳條件，其生物質量、胞外多醣、木聚醣?和木寡醣產量分別為19.36mg/mL、1.64mg/mL、104.98U/100mL及109.01mg/mL。在不同初始pH值生產木寡醣的產量多寡以pH5>pH6>pH7>pH4>pH3；當添加0.3%花生粉萃取液作為氮源時，測量不同初始pH值對生產木寡醣的產量多寡為pH5>pH6>pH4>pH3>pH7。

關鍵詞 : 玉米軸芯、木聚醣?、木寡醣

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