不同培養條件對舞菇多醣生產之探討

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摘 要

中文摘要　　本研究主要探討不同培養條件對舞菇(Grifola frondosa)多醣生產之影響，包括：（一）以多次在斜面繼代培養之菌絲體進行固態發酵，經57天培養出完整子實體，其子實體胞內多醣0.018±0.002 g/g。（二）不同氣體交換速率以不同瓶塞控制，以棉花塞菌體濃度最高2.8 g/L。（三）在5-L發酵槽培養時，以通入21 % 氧氣下培養，比在使用40 % 氧氣培養有較佳的菌體生長。上述培養基質中添加1 % 橄欖油分別使用21 % 氧氣與40 % 氧氣培養下，菌體濃度分別從9.29 g/L 增高至10.05 g/L和6.34 g/L增高至14.89 g/L，在多醣生產方面也分別從0.92 g/L增至2.39 g/L和0.8 g/L增至3.00 g/L。（四）饋料批次發酵中，葡萄糖濃度控制在5~10 g/L之間，基質同時添加1 % 橄欖油進行饋料批次培養，比先前的研究，胞外多醣產量提高一倍從2.04 g/L增至4.31 g/L，天數從第13天提早至第9天而菌體濃度則無明顯差異。使用GPC進行胞內多醣分子量測定，其分子量大小介於17,272 KDa ~948 KDa。 關鍵字：舞菇、胞外多醣、饋料批次發酵、分子量

關鍵詞 : 舞菇 ; 胞外多醣 ; 饋料批次發酵 ; 分子量

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