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论文

响应面法优化白腐菌*Pleurotus eryngii*$_{-Co007}$产木质素降解酶条件

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摘要:

为提高*Pleurotus eryngii*$_{-Co007}$产木质素降解酶能力,考察了初始pH、秸秆浓度、Cu^{2+}浓度、吐温-80含量对其产木质素降解酶的影响。采用单因素试验和响应面分析法的Central Composite进行试验设计,得到*Pleurotus eryngii*$_{-Co007}$产木质素降解酶的最佳条件:培养基初始pH 5.63、秸杆加量1.12%、Cu^{2+}浓度4.00mmol/L、吐温-80含量0.83g/L。在此条件下,第8天摇瓶发酵液中木质素降解酶活性达到241.40U/ml,与回归模型的预测值相对误差仅2.18%。

关键词: 刺芹侧耳 木质素降解酶 产酶条件 响应面

OPTIMIZATION OF CONDITIONS FOR LIGNINOLYTIC ENZYMES PRODUCTION FROM WHITE ROT FUNGI *Pleurotus eryngii*$_{-CO007}$ *BY RESPONSE SURFACE METHODOLOGY*

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Abstract:

In order to enhance the ligninolytic enzymes activity of *Pleurotus eryngii*$_{-Co007}$, the influence of initial pH, straw, Cu^{2+}concentration, Tween-80 content on ligninolytic enzymes production were studied. Designed with single factor experiment and the Central Composite in the response surface methodology, the optimization conditions of producing ligninolytic enzymes were initial pH at 5.63, 1.12% of straw, Cu^{2+} at 4.00mmol/L, Tween-80 0.83g/L. Under these conditions, the ligninolytic enzymes activity in fermentation broth of shake flask on the eighth day was 241.40U/ml,which was similar to that predicted from the regression model with a relative error of 2.18%.

Keywords: *Pleurotus eryngii* ligninolytic enzymes fermentation conditions response surface

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