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鹅肠道纤维素分解菌的分离鉴定及其产酶条件的优化

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Isolation, Identification and Optimization of Enzyme Production of Cellulolytic Bacteria from Goose Gut

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摘要
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摘要 本研究拟在鹅肠道筛选1株高效降解纤维素的菌株，并对该菌株的产酶条件进行研究。通过对鹅肠道菌群进行富集培养、分离纯化，利用刚果红法（初筛）和摇瓶法（复筛）得到1株产酶活较高的纤维素分解菌E2。经16S rDNA核苷酸序列比对分析表明，该菌株为芽孢杆菌属的短小芽孢杆菌。单因素试验得出菌株E2的产酶最适碳源为玉米粉，最适氮源为牛肉膏和蛋白胨混合物，最适初始pH为6.0，最适发酵温度为42 ℃，最适发酵时间为48 h。

关键词： **鹅;纤维素分解菌;分离;鉴定;产酶条件;优化**

Abstract： A strain of highly cellulolytic bacteria was obtained from goose gut, and the conditions in enzyme production have been studied in this study. The strain of highly cellulolytic bacterial E2 has been isolated by the Congo red (primary screening) and shaking flask method (secondary screening). The 16S rDNA sequence analysis indicated that strain E2 was Bacillus pumilus sp. On the basis of single factor experiment, the optimal carbon source, nitrogen source, initial pH, fermentation temperature and fermentation time of strain E2 for enzyme production were maizena, beef extract and peptone mixture, 6.0, 42 ℃, and 48 h, respectively. [Chinese Journal of Animal Nutrition , 2011 , 23 (3) : 466-472]

Keywords： **goose; cellulytic bacteria; isolation; identification; enzyme production; optimization**

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