Structure analysis and rheological properties of Huangshan Flower mushroom

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Abstract: Huangshan Flower mushroom is a precious edible mushroom widely distributed in mount Huangshan, Anhui, China. In this paper, a polysaccharide fraction HSPs was isolated from the fruiting body of Huangshan Flower mushroom. The chemical structures, rheological properties of HSPs were investigated. The results of structural analysis showed that HSPs had β-(1→3)-D-glucan backbone with β-(1→6)-glucan side chain attached the O-4 of backbone. Rheological analysis indicated that HSPs was a pseudoplastic fluid. It could form a gel with proper temperature and concentration. HSPs gel system had good resilience under different strain conditions. It had no time dependence in selected range of frequencies. Also, it exhibited a certain tolerance on temperature. These results suggested that HSPs cuold be used in food industry as a polysaccharide gel.

Keywords: Huangshan Flower mushroom; Polysaccharides; Chemical structure; Rheological propertie

乳熟期甜玉米芯纤维管微结构与成分的比较性研究

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摘　要　目的：玉米芯是一种可回收利用的生物资源，而膳食纤维补充剂也越来越受到人们的欢迎，本文探究玉米芯可作为膳食纤维补充剂来源的依据。**方法**：本研究以乳熟期甜玉米芯为原料，采用化学和组织形态学手段，尤其是扫描电镜法，观察其碱处理前后维管微结构和纤维成份变化。**结果**：2%NaOH 处理后，维管部分被消化并出现断裂，细胞壁结构模糊且透明，部分物质被降解；玉米芯消化后，总膳食纤维由 25.3%增加 31.1%，其中木质素比例显著增加，而半纤维素减少。**结论**：稀 NaOH 可有效降解玉米芯中的纤维素和半纤维素，但对木质素的消化作用微弱。因此，玉米芯是膳食纤维补充剂的理想原料。

关键词　膳食纤维；维管结构；NaOH；扫描电镜；甜玉米芯

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