中国中药杂志
China Journal of Chinese Materia Medica

濒危药用植物茅苍术花粉形态、活力测定及贮存研究

投稿时间： 2011-12-14 责任编辑： 点此下载全文

引用本文：李琳,谷巍,巢建国,高杰,周娟娟,申修源.濒危药用植物茅苍术花粉形态、活力测定及贮存研究[J].中国中药杂志,2012,37(11):1546.

DOI：10.4268/cjcmm20121108

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基金项目:国家中医药管理局基金项目(06-07ZP19);江苏省高校优势学科建设工程项目(ysxk-2010);江苏省"青蓝工程"项目(2008)

中文摘要:目的: 研究濒危药用植物茅苍术花粉形态、活力测定及贮存。 方法: 采用扫描电镜观察茅苍术花粉形态,用液体培养及染色法筛选花粉萌发最适培养基及活力测定方法,并检测不同贮存条件下花粉的活力。 结果: 茅苍术花粉粒呈类球形,具3萌发沟,外壁表面具刺状雕纹;在ME_3+16%PEG_{4000}+10%蔗糖液体培养基上花粉萌发率最高,达62.1%,而其他3种染色法均不宜用于茅苍术花粉活力的检测;低温可明显延长茅苍术花粉的贮存时间,在-80 ℃ 低温下可贮存60 d。 结论: 液体培养法适于茅苍术花粉粒活力的测定,花粉萌发率与贮存温度及时间密切相关,本研究为茅苍术人工辅助授粉及野生抚育研究提供了科学的依据。

中文关键词:茅苍术 花粉形态 花粉活力 贮存

Pollen morphological characteristics, viability test and storage of endangered medicinal plant *Atractylodes lancea*

Abstract: Objective: To study the pollen morphological characteristics, viability test and storage character of the endangered plant *Atractylodes lancea*. Method: Pollen grains morphologies of *A. lancea* were observed by scanning electron microscope. The optimum culture medium and viability determination methods were screened out by liquid culture and dyeing methods, and then the pollen germination capacities in different storage conditions were detected. Result: The pollen grains are quasi-spherical, with tricolpate and spinous sculpture. The optimal culture medium was ME_3+16%PEG_{4000}+10% sucrose, in which the pollen germination capacity reached to 62.1%, while the other three dyeing methods were not able to be applied to detecting the pollen viability of *A. lancea*. The low storage temperature could significantly prolong the storage time of pollen of *A. lancea*. At -80 ℃, pollen viability could be maintained for 60 days. Conclusion: Liquid culture method is suitable for the determination of pollen germination of *A. lancea*, and the rate of pollen germination is closely related to the storage time and temperature. At last, this study provides a foundation for the artificial pollination and cultivating in wildness of *A. lancea*.

keywords:*Atractylodes lancea* pollen grains morphological characteristics pollen viability storage

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