



棉花学报 » 2011, Vol. 23 » Issue (4) :291-299 文章编号: 1002-7807(2011)04-0291-09

研究与进展

最新目录 | 下期目录 | 过刊浏览 | 高级检索

<< | Next Articles >>

国内外陆地棉品种资源的亲缘关系和遗传多态性研究

吴大鹏, 房嫌嫌, 崔闰根, 陈进红, 祝水金*

浙江大学农业与生物技术学院农学系, 杭州 310029

Genetic Relationship and Diversity of the Upland Cotton Germplasms from Different Cotton Producing Countries Using SSR Markers

WU Da-peng, FANG Xian-xian, CUI Run-gen, CHEN Jin-hong, ZHU Shui-jin*

Agronomy Department, Zhejiang University, Hangzhou 310029, China

摘要

参考文献

相关文章

全文: PDF (909KB) [HTML](#) 1KB 导出: BibTeX or EndNote (RIS) 其它资料

摘要 应用SSR分子标记对国内外74份棉花种质资源的遗传多样性进行分析,从2278条SSR引物中筛选出82条引物,这82条引物共扩增出435条带,其中多态性带313个,多态率达83.70%,平均每对引物扩增出3.81个条带。UPGMA聚类分析结果表明,74份材料的相似性系数(GS)变化范围在0.371~0.958。其中国内品种遗传相似系数变化范围在0.684~0.916,平均遗传相似系数大小顺序为:长江流域棉区品种>特早熟棉区品种>短季棉品种>黄河流域棉区品种>新疆品种。国外品种遗传相似系数变化范围为0.661~0.958,平均遗传相似系数大小顺序为:乌兹别克斯坦品种>法国品种>墨西哥和前苏联品种>美国和巴基斯坦品种>乌干达品种>印度品种>澳大利亚品种。聚类图0.760阈值处可以把国内外品种聚为两类,26个国内品种和1个国外品种被聚为国内品种类,包括3个亚类。绝大多数国外品种为一类,包括4个亚类。本研究结果表明,SSR具有丰富遗传多样性和稳定性,是一种较好的遗传分子标记,适宜于棉花品种遗传多样性分析。

关键词: 陆地棉 种质资源 SSR 遗传多样性

Abstract: The genetic diversity among 74 upland cotton(*G. hirsutum* L.) germplasms, including 26 domestic ones from different producing regions in China, and 46 introduced ones from 9 different countries, was investigated using SSR markers. Among the 82 pairs of polymorphic SSR primers, 313 polymorphic bands were produced, with average of 3.81 bands per primer. The genetic similarity coefficient among the domestic germplasms was 0.684~0.916, and that of the introduced germplasms was 0.661~0.958. The average genetic similarity of the germplasms decreased in the originality order as: the Yangtse River > Extra Early Maturity > Short Season > the Yellow River > Xinjiang, and that of introduced ones decreased in the order as: Uzbekistan > France > Mexico and Former Soviet Union > American and Pakistan > Uganda > India > Australia. The UPGMA cluster analysis showed that 2 groups, domestic group and introduced group, could be clearly clustered when genetic similarity coefficient was given as 0.760. The first group included 26 domestic cultivars and 1 introduced cultivars, which also includes 3 domestic subgroup. The second group included most of introduced germplasms, which could be divided into 4 introduced subgroups. The present results also showed that the SSR markers could be used in revealing the genetic diversity and genetic relationship among the upland cotton germplasms.

Keywords: upland cotton germplasm resources SSR genetic diversity

收稿日期:2009-11-09;

基金资助:

国家973计划项目(2004CB117305), 国家公益性农业科研专项(3-19)和国家自然科学基金(30471108, 30671325)

通讯作者: shjzhu@zju.edu.cn

作者介绍: 吴大鹏(1986-), 男, 硕士研究生

Service

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ Email Alert
- ▶ RSS

作者相关文章

- ▶ 吴大鹏
- ▶ 房嫌嫌
- ▶ 崔闰根
- ▶ 陈进红
- ▶ 祝水金