

论文

中国红花遗传多样性的AFLP分子标记

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摘要:

目的考察红花的种内变异, 为进一步进行红花种质资源选育和筛选品质相关基因奠定基础。方法采用扩增片段长度多态性(AFLP)技术, 研究中国红花28个不同栽培居群在DNA水平的多态性。采用UPGMA构建系统树图进行聚类分析和计算遗传距离。结果筛选得到的12对引物的扩增片段具有丰富的多态性。各居群间的遗传相似系数在0.48~0.96。聚类分析显示它们分为3大主要类群和一个中间类群。结论红花种内存在一定的遗传多样性。基于AFLP条带统计的聚类结果和表型特征并不完全一致, 可能是基因型和环境共同作用于表型的结果。

关键词: 扩增片段长度多态性 中国红花 系统树图 遗传多样性

Analysis of intraspecific variation of Chinese *Carthamus tinctorius* L. using AFLP markers

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Abstract:

AimTo investigate the intraspecific variation of *Carthamus tinctorius* L. (safflower) and establish foundation for further breeding of safflower germplasm resource and screening the quality correlation genes. MethodsAmplified fragment length polymorphism (AFLP) was carried out to analyze genetic variation of 28 safflower populations collected in China. Unweighed pair-group method of with arithmetical averages (UPGMA) cluster analysis was used to construct a dendrogram and to estimate the genetic distances among the populations. ResultsAll populations could be uniquely distinguished using 12 selected primer combinations. Similarity coefficients ranged from 0.48 to 0.96 among the populations. Dendrogram revealed distinct segregation of all the cultivars into three main groups and one midst group. ConclusionLimited genetic diversity exists within the tested 28 collections at intra specific level and AFLP-based phylogeny was not absolutely consistent with that based on morphological characters may be due to the interaction effect between genotype and environment.

Keywords: Chinese *Carthamus tinctorius* L. dendrogram genetic diversity AFLP

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