

研究论文

基于SSR标记的云南糯玉米、爆裂玉米地方种质遗传多样性研究

吴渝生, 郑用琏, 孙荣, 伍少云, 顾红波, 毕有华

华中农业大学作物遗传改良国家重点实验室, 湖北武汉 430070

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摘要 利用SSR标记分析了16份和14份代表云南不同生态地区糯玉米、爆裂玉米地方种的遗传多样性。从96对SSR引物中分别筛选出分布于玉米基因组10条染色体上的61对引物和43对引物, 每对引物可以分别稳定地检测到1~12个和1~13个多态性片段, 糯玉米共226个, 平均为3.70个, 片段大小介于70~700 bp之间; 爆裂玉米共232个, 平均检测的多态性片段为5.40个, 片段大小介于65~490 bp之间。糯玉米中检测出1个等位基因 (allele) 的引物有9对, 占所筛选引物的14.7%; 检测出11、12个等位基因的引物有2对, 占所筛选引物的3.3%; 其余50对引物检测出的等位基因一般在2~7个, 占所筛选引物的82.0%。爆裂玉米中能检测出1个等位基因 (allele) 的引物有3对, 占所筛选引物的7.0%; 能检测出12个和13个等位基因的引物有3对, 占所筛选引物的7.0%; 其余37对引物能检测出的等位基因一般为2~9个, 占所筛选引物的86.0%。上述结果表明云南糯玉米、爆裂玉米地方种质具有较高的遗传多样性。通过聚类分析将云南糯玉米分为3个类群和5个亚群, 云南爆裂玉米分为3个类群, 4个亚群。这两种类型的玉米聚类结果与云南不同海拔地势的变化走向基本相符。

关键词 [云南](#) [糯玉米](#) [爆裂玉米](#) [地方品种](#) [遗传多样性](#) [SSR标记](#)

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Genetic Diversity of Waxy Corn and Popcorn Landraces in Yunnan by SSR Markers

WU Yu-Sheng, ZHENG Yong-Lian, SUN Rong, WU Shao-Yun, GU Hong-Bo, BI You-Hua

National Key Laboratory of Crop Genetics and Improvement, Huazhong Agricultural University, Wuhan 430070, Hubei

Abstract 16 waxy corn landraces and 14 popcorn landraces in Yunnan were analyzed by SSR marker for genetic diversity. 61 primers and 43 primers were screened to be specific with chromosome 10 of waxy corn and popcorn respectively from 96 primers tested. Polymorphic fragments were amplified stably by each specific primer, 1—12 for waxy corn and 1—13 for popcorn. In total 226 specific DNA bands of 70—700 bp in size were detected in waxy corn with an average of 3.70 fragments for each primer. 9 primers accounting for 14.7% in the primers used could detect 1 allele, 2 primers accounting for 3.3% could detect 11 and 12 alleles respectively. Other 50 primers accounting for 82.0% could normally detect 2—7 alleles. For popcorn landraces, 232 alleles of 65—490 bp in size were detected in total, 5.40 alleles by each primer on average. 3 primers accounting for 7.0% could detect 1 allele, other 3 primers accounting for 7.0% could detect 12 and 13 alleles respectively. The rest of 37 primers accounting for 86.0% could usually detect 2—9 alleles. The results suggested that higher genetic polymorphism was maintained in local waxy corn and popcorn landraces of Yunnan. The result by cluster analysis showed that waxy corn could be divided into 3 groups and 5 sub-groups, and popcorn into 3 groups and 4 sub-groups. That was generally in accordance with the tendency of topography and altitude in Yunnan.

Key words [Yunnan](#); [Waxy corn](#); [Popcorn](#); [Landrace](#); [Genetic diversity](#); [SSR marker](#)

DOI:

通讯作者 郑用琏 yonglian.zheng@263.net

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