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百棉系列棉花自交系品种（系）SSR指纹图谱构建

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SSR Fingerprinting Establishment of Baimian Series Cotton Inbred Varieties(Lines)

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摘要

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摘要 利用20对SSR核心引物构建了百棉系列棉花自交系品种（系）的DNA指纹图谱。20对引物分属棉花15条染色体，共检测到116个等位基因，平均5.8个；PIC值和MI值分别平均为0.718和4.384。引物组合NAU1028/NAU5104、NAU4903/NAU3110/NAU1043、NAU0905/NAU1255、NAU3839/NAU4024、NAU5104/NAU4024、NAU2121/NAU5104和NAU1043/NAU3254/NAU4024可分别将百棉1号、百棉2号、百棉13号、百棉5号、百棉011、百棉19号和百棉985与其他所有材料区分开。构建了百棉系列棉花自交系品种（系）的SSR数字指纹代码。对棉花指纹图谱构建的供试材料和核心引物进行了分析和讨论。

关键词： 棉花 SSR 指纹图谱 供试材料 核心引物

Abstract: SSR markers were used to analyze the DNA fingerprinting of Baimian series cotton inbred varieties(lines) with 32 cotton background materials mainly rooted in Deltapine, Stoneville, Foster, and Uganda. 20 SSR primers selected from 2503 SSR primers, with high polymorphisms and good repeatability, were regarded as core primers in the study. These primers belonged to 15 chromosomes of cotton and 116 alleles were detected by them. The average alleles, polymorphic information content and marker index coefficient of 20 SSR primers were respectively 5.8, 0.718 and 4.384, indicating that they had preferable polymorphism. Primer combinations NAU1028/NAU5104, NAU4903/NAU3110/NAU1043, NAU0905/NAU1255, NAU3839/NAU4024, NAU5104/NAU4024, NAU2121/NAU5104 and NAU1043/NAU3254/NAU4024 could be used to distinguish Baimian 1, Baimian 2, Baimian 13, Baimian 5, Baimian 011, Baimian 19, and Baimian 985 from other materials, respectively. SSR digital fingerprinting code of Baimian series cotton inbred varieties(lines) was also established. The experimental materials and the core primers during the fingerprinting establishment of cotton were analyzed and discussed.

Keywords: cotton SSR fingerprinting experimental material core primers

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