

遗传育种

基于ISSR标记的烤烟种质遗传多样性研究

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摘要 利用ISSR标记分析了24份代表性烤烟种质的遗传多样性。从100个ISSR引物中筛选出10个引物, 通过聚丙烯酰胺凝胶电泳可以检测到208条稳定的条带, 片段大小介于200~2400 bp之间, 条带数在7~37条之间; 扩增片段中多态性带141条, 平均多态性比率(PPB)为67.79%。通过UPGMA聚类分析, 24个烤烟品种分为5类, 最大一类有12个材料, 主要衍生于Coker319。品种间遗传相似指数(GS)范围为67~85%, 表明其遗传多样性较低, 需要拓宽烤烟种质的遗传基础。同时, 利用2个多态性好的ISSR引物就可以将这24份烤烟材料区分开, 每个品种都有各自独特的指纹图谱, 表明ISSR标记适于烟草品种鉴定和遗传多样性研究。

关键词 [烤烟](#); [ISSR标记](#); [遗传多样性](#)

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Genetic Diversity of Flue-cured Tobacco Varieties Based on ISSR Markers

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Abstract

Genetic diversity was assessed among 24 flue-cured tobacco varieties by ISSR (inter simple sequence repeats). A total of 100 ISSR primers were used to amplify the DNA from these varieties, of which 10 primers produced reproducible amplified products. Using polyacrylamide gel electrophoresis 208 bands were identified, of which 141 bands were polymorphic among the flue-cured tobacco varieties analyzed. Each primer produced 7~37 bands, the length of which ranged 200~2400 bp. The ratio of polymorphic bands (PPB) was 67.79%. By cluster analysis based on ISSR markers using UPGMA, 24 varieties were separated into 5 major groups, in which the most group consisted of 12 varieties derived from Coker319. The genetic similarity index was 67~85% among 24 flue-cured tobacco varieties. Low genetic diversity among flue-cured tobacco varieties suggested that it is necessary to expand the genetic base of the flue-cured tobacco. 24 varieties could be distinguished by using 2 ISSR markers. The result also indicated that ISSR analysis was suitable for identifying varieties by fingerprinting map and the study on genetic diversity of tobacco germplasm.

Key words [Flue-cured tobacco](#) [ISSR](#) [Genetic diversity](#)

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