园艺—研究报告

西北地区甜菜品系遗传多样性的SRAP分析

王茂芊[1],张立明[2,3],王维成[3,4],王华忠[5]

1. 黑龙江大学
2. 新疆农业科学院
3.
4. 新疆生产建设兵团石河子甜菜研究所
5. 中国农业科学院甜菜研究所/黑龙江大学

摘要：

为给甜菜杂交育种的亲本选择、分子标记辅助选择育种、种质资源引进等提供理论依据，采用SRAP分子标记方法对西北地区的81份甜菜材料和9份外国品种进行遗传多样性分析。利用33对有效引物组合共得到592条扩增带，其中多态性条带有324条，平均多态性条带的比率为54.7%,平均遗传距离为0.3723，平均遗传相似系数为0.6891。遗传相似系数平均值大小为单胚品系0.8364>国外品种 0.7528>多胚四倍体品系0.7059>多胚二倍体品系0.6970。利用MEGA3.1软件，在遗传距离0.20处，可将供试材料分为三大类群。结果显示，西北产区甜菜供试材料遗传多样性较丰富。利用POPGEN32软件分析遗传多样性各项参数，表明供试的西北品系与外国品种的遗传基础有明显差异。田间生物学性状调查结果表明，西北产区供试材料主要特性为根产量高，抗丛根病性中等。

关键词： 遗传基础

Genetic Diversity Analysis of Sugarbeet From the Northwest Region by SRAP

Abstract:

In the present study,SRAP molecule marker was used to investigate the genetic diversity of 81 sugarbeet varieties from Northwest of China and 9 varieties from foreign in order to provide theoretical basis for parent selection of sugarbeet breeding,molecular marker-assisted selective breeding, germplasm resources and so on. 33 of 88 were obtained on basis of availability. A total of 592unambiguous bands were obtained, 324of which were polymorphic. The average ratio of polymorphic bands was 54.7%. Compute over-all mean showed that genetic distance was 0.3732, genetic similarity among varieties was and 0.6891, the genetic similarities within different groups of genotypes were 0.8364 among monogerm genotypes, 0.7528 among foreign genotypes, 0.7059 among polygerm tetraploid genotypes, and 0.6970 among polygerm diploid genotypes. The 90 genotypes were divided into three cluster groups based on cluster analysis by MEGA3.1 (at intercept of 0.2). The genotypes from Northwest region showed high level of genetic diversity.There are a definite difference between foreign and native genetic background based on genetic diversity index analysis by POPGEN32. Northwest materials are mainly high yield and medium Rhizomania resistant type.

Keywords: Genetic basis

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