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陆地棉主要纤维品质性状的基因效应估测

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摘要 本文采用世代平均数遗传分析方法，沿用了加性-显性、加性-显性-上位性和环境（二种）×基因型三种模型，对陆地棉主要纤维品质性状中的长度、细度、强度和断裂长度的基因效应、年份效应以及年份×基因型互作进行了估测。经过三年的实验，选用三个杂交组合，每一组合含有P1、P2、F1、F2、B1和B2六个群体的资料。结果表明，四个纤维品质性状的遗传受加性、显性、上位性作用的共同控制，但在不同年份或不同的组合里，显性作用和上位性作用的变化较大；年份效应对品质性状的遗传也有较大影响，其影响方式主要以年份×基因型互作的形式表现。

关键词 陆地棉,纤维品质性状,世代平均数,基因效应

分类号

Estimation of Genetic Effects on Main Fiber Quality Characters in Upland Cottn

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Abstract

This study was carried out in the experimental farm of Anhui Agricultural College for 3 years 1983-1985. The characters studied in volved fiber length, fineness, strength and breaking length. The materials used were 3varietal crosses of Upland cotton. Each cross included P1, P2, F1, F2, B1, AND B2 generations. Genetic effect, year effect and interaction of year×genotype, including [d], [h], [i], [j], [l], and e,gd,gh,gi,gj,gl(according to Hayman's and Mather's nomenclature), were fitted by 3-, 6-, 12-parameter models and the estimation was carried out with PPB computer.The results show that the genetic model of characters studied is fundamentally fitted for the modified additive-dominance-epistatic modle. Among all genetic effects, additive effect is of importance in controlling the inheritance of characters studied, and dominance effect varies to some extent from year to year, those epistatic effect with higher than second order interaction may be neglected. Year effect also shows considerable influence which manifests mainly in the interactions of year×genotype.

Key words Upland Cotton Finber quality characters Generation means Genic effect

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