

棉花矮化突变体的遗传分析

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摘要 陆地棉科遗2号×中棉完紫的种间杂交衍生后代群体中分离出一株矮秆小叶突变体, 经多年选择育成了矮早棉1号。在北京气候条件下, 矮早棉1号成熟时, 株高只有45cm, 不到正常陆地棉的1/2。遗传分析揭示矮早棉1号的矮化早熟特性系由两对隐性基因控制, 其基因符号定名为 d^1 和 d^2 。矮早棉1号为双隐性纯合子, 基因型为 $d1d1d2d2$ 。正常陆地棉TM-1、中棉所12及中棉所16均为显性纯合子, 基因型为 $D1D1D2D2$ 。控制棉花株高的两对基因 $D1/d1$ 和 $D2/d2$ 间表现重叠作用。矮早棉1号在棉花早熟育种中有重要价值。

关键词 [矮化突变体](#) [陆地棉](#) [遗传分析](#) [早熟育种](#)

分类号

Genetic Analysis of a Dwarf Mutant in Cotton

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Abstract

A cotton *Gossypium hirsutum* L, mutant of dwarf earliness was discovered in the derived generation from the interspecific hybrid of *G. hirsutum* X *G. arboreum*, A variety named Dwarf earliness cptton No.1 was bread after selectionm which was only 45cm tall at the stage of maturity in Beijing, while the normal *G. hirsutum* was 100cm tall. Genetic analysis revealed that the expression of the dwarf plant was controlled by duplicate recessive genes. The phenotype was called dwarf mutant and designated by gene symbol d_1 and d_2 . The genotype or Dwarf earliness cotton No.1 is $d_1d_1d_2d_2$ and the normal *G. hirsutum* is $D_1D_1D_2D_2$. Linkage analysis indicated no deltectable associations with the 9 genetic markers of multiple markers T586. The Dwarf earliness cotton No.1 has potential utilization value in breeding for earliness of cotton.

Key words [Dwarf mutant G.hirsutum](#) [Genetic anltsis](#) [Breeding for earliness](#)

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