

# 玉米单株穗数及其它数量性状的基因效应与遗传变异分析

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**摘要** 对于玉米单株穗数、籽粒产量及其他重要数量性状进行了世代平均值分析。试验包括多穗X非多穗自交系间的28个杂交组合的PI, P2, F1, F2, B1; 和B2: 群体两年的结果。单株穗数、开花前日数和穗位高在大多数组合内表现为显著的加性基因效应。籽粒产量、开花前日数、株高和穗位高几乎在所有组合内都表现显著的显性效应。所研究的10个性状平均加性效应引起的变异比例一般都超过显性效应变异比例。三种基因效应中, 上位效应对世代平均值遗传变异的贡献最小, 而且往往不显著。籽粒产量的遗传变异主要由基因的显性效应所引起。

**关键词**

**分类号**

## Genetic Variations and Gene Effects Controlling -Prolificacy and Other Traits in Corn (Zea mays L.)

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### Abstract

Generation means analyses of ears per plant and some closely related component traits, grain yield -and some other quantitative traits -of corn were conducted The experiment involved 28 sets of P1, P2, F1, F2, B1 and B2 tested over two years. Crosses all involved prolific X non-prolific inbred lines.

Significant additive gene effects were found. in most of the 28 cross sets for ears per plant and the two component characters closely related to it plus days to anthesis and ear height. For grain yield, days to anthesis, plant height and height significant additive, gene effects were detected in almost all of the crossel. Generally speaking, a larger proportion of total variation due to additive gene effects than dominance gene effects was found over the ten traits studied. Epistasis effects contributed the least of the. three kinds of gene effects to genetic variation among generation means and they were often non-significant. Inheritance of grain yield was controlled predominantly by dominance genetic effects The genetic effects controlling ears per plant and the two component characters closely related to it seems to be primarily additive with some dominance effects. Ear height was controlled approximately equally by additive and dominance effects. Larger contributions from dominance effects than from additive gene effects were noted for days to anthesis and plant height.

### Key words

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### 扩展功能

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