

研究论文

# 玉米籽粒发育过程中胚乳核DNA含量的变化同籽粒性状的关系

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**摘要** 用双波长 (550,488nm) 显微分光光度法以测定籽粒发育时期不同Su2基因剂量 (0-3) 玉米杂交种 (Mo17×B73) 胚乳核的DNA含量。结果表明: 单个胚乳核的DNA含量在授粉后第8天是3.0-4.6C, 10天以后迅速上升, 20-22天达到高峰, 为48.9-63.9C, 然后下降。年份间DNA含量差异显著 (P≤0.05)。在籽粒发育过程中, 胚乳核DNA含量与籽粒重量和体积显著相关 (r=0.7738, 0.8369, P≤0.01)。胚乳细胞中Su2基因的数量水平对胚乳核DNA含量没有剂量效应。

**关键词** [玉米,胚乳核,DNA,籽粒性状](#)

分类号

## The Relationship of DNA Content in Corn Endosperm Nuclei to Kernel Traits during Kernel Development

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**Abstract** A two-wave length (550-488nm) microspectrophotometric method was employed to measure Feulgen Stained corn endosperm nuclei of four isogenetic genotypes (B73×Mo17). The mean DNA content per nucleus in centrally located endosperm averaged between 3.0 and 4.6C (C=haploid content) at 8 days after pollination (DAP), and then dramatically increased after 10 DAP reaching peak levels between 48.9 and 63.9 C at 20 to 22 DAP, followed by a decrease in old endosperm tissue. The DNA content per nucleus was significantly affected by the environmental differences. DNA content with kernel weight and kernel volume showed significantly positive correlation during kernel development. Dosage effect on DNA content per nucleus in sugary 2 endosperm was not apparent during kernel development.

**Key words** [Corn](#) [endosperm Nucleus](#) [DNA](#) [kernel traits](#)

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