

玉米杂种优势与种子萌发时的胚重和RNA、DNA含量的相关性

金蕙芬 王维海¹⁾

(甘肃农业大学植物生理教研组, 兰州)

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摘要 对10个具优势的玉米单交种及其亲本进行试验。取种子开始萌发的胚(包括胚芽、胚轴和胚根)进行RNA、DNA和全氮的定量测定。做了胚胎细胞数的计测和328单交种及其亲本胚胎石蜡切片的观察。试验结果表明,优势杂种胚中RNA、DNA和全氮肥含量均比其亲本胚中的含量高。计测胚胎细胞数也表明,杂种比其亲本胚胎的细胞数有明显的增多。从328单交种及其亲本的石蜡切片观察看出,杂种胚胎组织分化提前,器官分化清晰,发育得好。

关键词

分类号

Correlation Between the Hybrid Vigor and the Weight of Embryos, Content of RNA, DNA During the Germination of Seeds in Maize

Jin Huifen Wang Weihai

(Teaching and Reserching Group of Plant Physiology. Gansu Agricultural University, Lanzhou)

Abstract

The present paper reports the experiments on 10 single hybrids of heterosis maize and their parents. During germination of seeds (including embryo bud, embryo axis, embryo root) using embryo as material, we determined content of DNA, RNA and total N, and we calculated the cell number, observing relative sections of embryo. Results obtained showed that content of RNA, DNA and total N in embryo of heterosis hybrid increases more sharply compared with that of its parent, the result being identical.

From the observation of tissue sections of single hybrid 328 and its parent V 8322, Hung Xiao 162 it may be seen that the tissue of hybrid embryo differentiates faster, and organs differentiate clearly and develop well.

All this demonstrates that hybridization has deep influence on the development of embryo and content of RNA, DNA in embryo, and there exists positive relationship between hybridization and the development of embryo and content of RNA, DNA in embryo.

Key words

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