

# 中棉×戴维逊氏棉胚胎发育的研究

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摘要 以棉花栽培种中棉作母本, 野生种戴维逊氏棉作父本进行杂交试验, 并用中棉自交作对照, 比较研究了杂交情况下花粉粒的萌发、花粉管的生长、受精作用及胚和胚乳的发育过程, 得到以下结果: (1) 中棉×戴维逊氏棉花粉粒的萌发及花粉管在异己花柱中的生长基本正常, 有花粉管胚珠的频率约20%, 为中棉自交的1/4左右; (2) 在杂交情况下, 有花粉管进入的胚珠基本上能实现受精; (3) 杂种胚乳在授粉后7天发育异常, 11天开始解体, 16天才有一部分胚珠的胚乳开始形成细胞壁; (4) 杂种胚不分化或畸分化, 在授粉后11-22天坏死。

关键词 [中棉,戴维逊氏棉,种间杂交,胚,胚乳,不亲和性](#)

分类号

## Embryological Studies on Interspecific Cross between *Gossypium arboreum* L. and *G. davidsonii* Kellog

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### Abstract

This paper studies germination of pollen grains, growth of pollen tubes, fertilization, development of hybrid embryos and endosperm in interspecific cross between *Gossypium arboreum* (2n=26) as female parent with *G. davidsonii* (2n=26). Self-pollinated *G. arboreum* served as control. Germination of pollen grains on the stigma and growth of pollen tubes in the style in crossed group are basically normal as compared with control. Percentage of ovules with pollen tubes are 20% in crossed group and as high as 80% in control. Fertilization procedure are normal in cross-pollinated ovules with pollen tubes. Development of hybrid endosperm is accompanied by numerous abnormalities on the 7th day after pollination. After 11 days, the endosperm starts degenerating and On the 16th day, only a small amount of ovules, form cell wall. Hybrid embryos undifferentiate or differentiate abnormally, and become abortive 11 to 22 days after pollination.

Key words [G.arboreum](#) [G.davidsonii](#) [Interspecific cross](#) [Embryo](#) [Endosperm](#) [incompatibility](#)

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