

# 阿拉拉特小麦(*Triticum araraticum*)抗白粉病基因向普通小麦转移

## 1.阿拉拉特小麦与普通小麦杂种代后的细胞遗传研究及抗性鉴定

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摘要 配制了普通小麦与阿拉拉特小麦的正、反交组合20个, 杂交结实率为4.9%~33.6%。不同组合杂种F1每个PMC平均的单价体为15.20~18.55, 二价体为7.03~9.02, 三价体和四价体分别为0.36~1.15和0.01~0.02。通过对杂种后代连续2年成株期混合菌种抗性鉴定和苗期分小种分菌系鉴定表明, 从普通小麦中国春与阿拉拉特小麦的杂种F3和F4代已选择到对白粉病高抗~免疫的单株, 它们具有42条染色体, 在PMC's MI形成0.00~0.46个单价体, 20.77~21.00个二价体, 0.00~0.06个四价体, 在细胞学上已稳定。与已知白粉病抗性基因比较的抗谱分析表明, 阿拉拉特小麦携有主效抗病基因Pm2, 在上述的杂交选择过程中, 已通过遗传重组将Pm2基因导入到中国春中。

关键词 [阿拉拉特小麦](#) [普通小麦](#) [杂种后代](#) [细胞遗传分析](#) [抗性鉴定](#) [Pm2基因](#)

分类号

## Transfer of a Gene to Powdery Mildew Resistance from *Triticum araraticum* Jakubz to *Triticum aestivum* L. I. Studies on Cytogenetics and Identification of Powery Mildew Resistance in Hybrid Progenies of *T. aestivum* and *T. araraticum*

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### Abstract

*Triticum araraticum* Jakubz (2n= 28, AAGG) was successfully hybridized with *Triticum aestivum* L. (2n=42, AABBDD). The percentage of seed setting ranged from 4.0~33.6 in hybrids. Meiotic analysis of PMCs at MI revealed 15.20~18.55 I, 7.03~9.02II, 0.36 ~ 1.15 III and 0.01 ~ 0.02IV per PMC respectively in hybrid F<SUB>1</SUB>. The plants with high resistance to powdery mildew were obtained from F<SUB>3</SUB> and F<SUB>4</SUB> in *T. aestivum* L. cv. Chinese Spring and *T. araraticum* through disease test from 1993 ~ 1995. There were 42 chromosomes in somatic cell of those plants. The average numbers of meiotic configuration per cell were 0.00 ~ 0.46, I, 20.77 ~ 21.00II, 0.00 ~ 0.06IV, respectively, with stability in cytology. The comparative analysis of the lines with known resistant gene indicated that there was main gene Pm2 in *T. araraticum*, which was transferred into *T. aestivum* L. cv. Chinese Spring by hybridization. It is presumed that *T. araraticum* may be a donor of Pm2.

**Key words** [Triticum araraticum](#) [Common wheat](#) [Hybrids](#) [Cytogenetic analysis](#) [Resistance identification](#) [Gene Pm2](#)

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