

普通小麦与东方旱麦草属间杂种的形态和细胞遗传学研究

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 本文对普通小麦(*Triticum aestivum* L. cv. Fukuho, 2n=6x=42, AABBDD)与东方旱麦草(*Eremopyrum orientale* (L.) Jaub. et Spach, 2n=4x=28, B' B' C' C')属间杂种F1进行了形态和细胞遗传学方面的探讨。首先,在形态方面的研究表明:(1)杂种F1植物生长旺盛,分蘖力强;(2)绝大部分性状如株高、穗长、芒长等介于双亲之间而呈中间型,少数性状如颖脊、颖壳茸毛可作为鉴别杂种的形态标记;(3)花粉粒空秕、无可染性,花粉高度不育,自交完全不结实。其次,从杂种F1的细胞遗传学研究表明:(1)染色体平均构型为: 26.09 I +4.36 II +0.09 III, 二价体数目从0-7个均有分布,但大多数为棒状二价体;(2)每细胞平均交叉数为4.78;(3)染色体臂平均配对频率(C值)为0.17。由上可知,在普通小麦ABD基因组与东方旱麦草B' C' 基因组之间存在微弱的部分同源关系,或在东方旱麦草基因组中可能存在一种抑制普通小麦Ph基因作用的抑制因子(s uppressor)。

关键词 [小麦](#) [旱麦草](#) [属间杂种](#) [形态学](#) [细胞遗传学](#)

分类号

Monhological and Cytogenetical Studies on Intergeneric Hybrid Between *Triticum aestivum* and *Erem opyrum orientale*

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Abstract

Morphological and cytogenetical studies for intergeneric F₁ hybrid between *Triticum aestivum* L. (2n=6x =42, AABBDD) and *Eremopyrum orientale* (L.) Jaub.et Spach (2n=4x=28. B'B'C'C')were performed. The results of morphological studies are shown as followsL(1) Vigorous growth and strong tillering of F₁ hybrid: (2) Most characters of F₁ hybrid such as plant height, length of spike and awn etc,were morphologically intermediate between their parents, a few of the characters such as hairs of glume coat and glume carina can be used as morphological markers for identification of the hybrid: (3) High pollen sterility dut to unstainable hollow pollen. The PMCs meiotic chromosome configuration of F₁ hybrid are shown as follows: (1) The average chromosome configuration per cell at MI of PMCs was 26.09 I +4.36II +0.09III. The range of bivalent number was from 0-7,but most of them was rod bivalent; (2) The average chiasma frequence per cell was 4.78 (3) Mean pairing frequence (c value) was 0.17 Juging from the chromosome pairing data, it could be concluded that there was weak homology between *Triticum aestivum* ABD genomes and *Eremopyrum orientale* B'C'genomes,or othwise in the *Eremopyrum orientale* genome there was a suppressor system ,which counteracted with the Ph locus of wheat

Key words [Triticum](#) [Eremopyrum](#) [Intergeneric hybrid](#) [Morphology](#) [Cytogenetics](#)

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