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植物生产层

簇毛麦——用于小麦改良的一种野生植物

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摘要：

将小麦野生近缘属的有益性状基因导入普通小麦（Triticum aestivum）已成为目前小麦品种改良的重要而有效的途径之一。簇毛麦（Dasypyrum villosa）常被用作改良小麦的一种有效的基因资源，其具有耐寒、分蘖力强、生长繁茂、多小花、籽粒蛋白质含量高、耐盐抗旱和抗多种小麦主要病害等特性。本研究对簇毛麦染色体及其组型和带型、簇毛麦与小麦属的亲缘关系、簇毛麦与小麦属的杂交以及簇毛麦在普通小麦改良中的应用等方面的研究进展进行回顾总结，以期为更好地对簇毛麦的开发利用提供依据。

关键词： 标记 贮藏蛋白 基因资源 抗病虫

Advance in Dasypyrum villosum ——a valuable wild species used in wheat improvement

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Abstract:

It is one of the most important and effective ways for wheat improvement to transfer the useful gene of the relative genus of Triticum into wheat. Dasypyrum villosum is a valuable wild species commonly used in wheat improvement. The article is an attempt to summarize available information about karyotype and chromosome banding pattern in D.villosum, the relationships between D.villosum and T.aestivum, hybridization of D.villosum and T.aestivum, and potentially useful traits of D.villosum used in wheat improvement. D.villosum possesses many important agronomic traits, such as resistance to many main wheat diseases, winter hardiness, vigorous tilling ability, multi spikelets, high grain protein content and salt and drought tolerance. Therefore, it is a valuable wild gene resource for wheat improvement. Until now, a great achievement has been made in transferring beneficial genes of D.villosum into wheat through developing addition line, substitution line and translocation line of D.villosum to wheat. The investigations using molecular RAPD, AFLP, SSR, RFLP, STS markers and GISH (genome in situ hybridization) on D.villosum itself and hybridization with Triticum are summarized. Chromosomal localization of the potentially useful traits and chromosomal position of some morphological and isozyme markers of D.villosum are shown. This information will be benefit for farther exploitation and utilization of D.villosum in wheat improvement

Keywords: markers storage protein gene resource resistance to disease and pest

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