

VE型小麦雄性不育系的研究1)

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摘要 植物雄性不育的发现, 为作物杂种优势利用开辟了新世界的更广阔的前景。在小麦方面, 目前国内外研究最广泛的提型雄性不育系, 其不育性受质核互作控制, 但恢复系少, 恢复力和配合力也往往不够理想, 在应用上还存在不少问题。所以, 一些科研工作者在寻找其他新型小麦不育系, 细胞核型的雄性不育是其中之一。通常核型雄性不育性受胞核隐性基因控制, 容易被大多数普通小麦品种所恢复, 这有利于选择优良恢复系组成强优组合。国外关于这方面的研究和报道有Pugsley和Oram[4], AthWal等[5], Gill和Anand等[6]。在国内, 作者[3]曾于1963年在青海高原首次发现了核型小麦雄性不育系。山东昌潍地区农科所[1]1963年也发现核型小麦雄性不育株, 定名潍型不育系。核型不育系的主要问题是需要解决保持雄性不育的方法。Driscoll[7]提出了一种用XYZ体系产生核型杂种小麦的方法。Gill等及昌潍地区农科所提出了用连续自交毓核型不育系。我们利用小偃麦八倍体新种与普通小麦杂交后代初步育成了新的VE型小麦雄性不育系, 并研究了它的保持方法、繁殖体系和杂种优势。新不育系是由普通小麦细胞质、核与长穗偃麦草的部分核物质组成, 故用此二物种名的第一个字母结合命名为VE型。

关键词

分类号

STUDIES ON THE VE-TYPE MALESTERILITY OF WHEAT

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Abstract

The new VE-type male-sterile line of wheat has been selected from the hybrid progenies of a cross between an octoploid of *Triticum vulgare*-*Agropyron elongatum* intergeneric cross and common wheat. This male-sterility is controlled by nuclear genes. Generally, in isolated field, there are about three-fourths of male-sterile plants and one-fourth of heterozygous fertile plants segregated from the progenies of the male-sterile line. Hence they possess both functions of the male-sterile line and its maintainers, so that the male-sterile plants can be produced in large amounts by natural crossing among the sister plants of the same line. Before producing hybrid wheat, the male-sterile plants must be selfed in and isolated field, by doing so, we can get a progeny with all of the plants being male-sterile, this progeny is used as the maternal parent for producing hybrid seeds. Almost all of the common wheat varieties possess good restoring ability for the VE-type male-sterile line. The yields of some hybrid wheat combinations are much better than the conventional variety used as check in yield test. The genetic analysis of this VE-type male-sterile line is underway.

Key words

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扩展功能

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