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综述

新质源(CMS-FA)杂交稻育种技术探索与研究

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摘要：

依据“植物细胞质-细胞核多育性基因基础上的核质互作雄性不育”遗传学原理,通过系统探索研究,从野生稻中发掘一种与野败(CMS-WA)型、红莲(CMS-HL)型恢保关系不同的新型雄性不育细胞质,称为新质源(CMS-FA)。选育鉴定了系列新质源优质米不育系。育成首个新质源杂交稻金农2优3号参加福建省水稻新品种区域试验,2007-2008两年平均比对照增产9.07%,稻米品质符合三等食用籼稻品种品质规定要求。新质源杂交稻丰富了杂交稻细胞质遗传多样性,提高杂交稻稻米品质和产量潜力,实现杂交稻高产和优质统一,为继续推进杂交稻创新和发展提供了新的动力。

关键词： 杂交稻;新质源(CMS-FA)雄性不育系;高产兼优质

Expiorations and Studies on CMS-FA Hybrid Rice Breeding Technology

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Abstract:

Based on the genectic theory of “multiple fertility genes cytoplasmic-nuclear interaction male sterility”, through systemic explorations and studies, a new male sterile cytoplasm called new cytoplasmic resource (CMS-FA) was discoverd and identified from a common wild rice, which is different from the types of CMS-WA and CMS-HL in the relationship of restoration and maintenance. A series of fine quality male sterile lines for CMS-FA hybrid rice have been developed and identified. Jinnong Ⅱ you3, the first developed CMS-FA hybrid rice combination took part in Fujian province rice new cultivar regional trial for two years in 2007 and 2008. The average yield was 9.025% higher than that of the control and its rice quality reached third class indica rice quality standards. CMS-FA hybrid rice contributes to the genetic diversity of hybrid rice cytoplasms, the improvement of hybrid rice quality and yielding potential, and the unification of hybrid rice high yield and superior quality. It will add new strength to the innovation and development of hybrid rice.

Keywords: hybrid rice CMS-FA male sterile line high yield with fine quality

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