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综述

水稻粒形遗传及QTLs定位研究进展

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摘要：

粒形性状是水稻产量的重要构成因子,不仅影响水稻产量的高低,还影响着稻米品质的优劣,因此有关水稻粒形的遗传、粒形与稻米品质的相关性、粒形性状的QTLs定位等研究一直受到人们广泛的关注,至今已有许多研究报道,取得了可喜的研究进展。但至今所报道的研究中大多数采用籼稻与籼稻或籼稻与粳稻的杂交后代为材料,而利用粳稻与粳稻杂交后代为材料开展粳稻粒形性状遗传研究报道较少,且研究主要集中于粒长、粒宽、长宽比和粒重,而对粒厚的研究报道甚少。今后应加强对粳稻粒形 的遗传及分子机理、水稻粒厚的遗传、粒形性状与稻米功能性成分的相关性等研究。

关键词： 籼稻 粳稻 粒形性状 产量 稻米品质 数量性状基因座

Progress of Genetic Research and QTL Analysis for Grain Shape in Rice

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Abstract:

Graln shape is one of the important factors, which were associated with rice yield. It is not only directly correlated with grain yield, but also indirectly affects the rice quality. Therefore, research works concerning genetics of grain shape, the relativities between grain shape, rice grain qualities, and OTLs of grain shape characteristics have been paid wide attention by the people. Up to now, many research activities have obtained remarkable progress in these areas. But most of the results were obtained by using genetic materials derived from a crossing between Indica/ Indica or Indica/Japonica. There are few research activities carried out for studying the genetic characteristics of genetic materials crossed between Japonica and Japonica and all these studies were mainly focused on grain length, grain width, ratio of grain length to width and grain weight. Few studies were concentrated on grain thickness. Therefore, attention should be paid to strengthen studies related to genetic and molecular mechanism of grain shape in Japonica rice, the inheritance of grain thickness, and relationships between grain shape and rice function components in the future.

Keywords: Indica rice Japonica rice grain shape characteristics grain yield rice grain quality quantitative trait loci

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