

Effect of Rolled Leaf Gene RI(t) on Grain Quality in Hybrid Rice [PDF]

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摘要: Effects of rolled leaf gene RI(t) on grain quality characters of hybrid rice were analyzed by using three pairs of rolled leaf near-isogenic lines under two fertilizer treatments. Under normal fertilizer level (e.g. 450 kg urea per ha), head rice rates and milled rice recovery of rolled leaf hybrids were significantly higher than those of corresponding non-rolled crosses, while the chalky rice rate and chalkiness were all lower. Of the RVA profiles, the peak viscosity, the hot paste viscosity and the breakdown viscosity of the rolled were all higher than those of the corresponding non-rolled ones to various degrees. Increasing fertilizer application for promoting panicle development increased the brown, milled and head rice rates except for Shanyou 63, furthermore, significant difference of head rice rates existed between the rolled leaf Shanyou 559 and Shanyou 559; while the peak viscosity, the hot paste viscosity and the breakdown viscosity all decreased to different levels; changes of values of other characters had no apparent regularity. It suggested that RI(t) could improve rice quality under certain conditions.

关键词: hybrid rice; rice quality; rolled leaf; gene effect; starch viscosity; rapid visco analyzer

Rice Science. 2005, 12(3): 168-172

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