

研究论文

水稻广亲和品种对不同细胞质不育系恢复力的鉴定研究

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摘要 选用BT型、HL型和WA型3种细胞质的不育系及相应保持系对16个广亲和品种的恢复力进行测交鉴定, 结果表明:(1)在同一细胞核背景下, BT型细胞质的可恢复性好于HL型细胞质, HL型细胞质又好于WA型细胞质。在同一不育细胞质背景下, 秈稻不育系较粳稻不育系易恢复。(2)不同广亲和品种的恢复能力有较大差异:培矮64、培C311、轮回422、CPSLO-17等4个品种对以上3种不育细胞质能正常恢复, Paddy, E1 “能恢复BT型、HL型不育细胞质;Aus373对WA型、HL型细胞质能够恢复或部分恢复;Ketan Nangka对以上3种不育细胞质具有保持能力, 鉴12, Pecos, Pelde, Calotoc, 02428, Lemont, Dular、真系秋光等8个品种对不同不育细胞质或保持或部分保持。(3)不同年份间广亲和品种恢复力的表达存在差异。比较而言, 轮回422, Lemont, Dular和Ketan Nangka对BT型, WA型南梗11A的恢复力或保持力比较稳定。

关键词 [水稻](#) [广亲和品种](#) [质核互作雄性不育系](#) [恢复力](#)

分类号

Studies on the Restoring Abilities of Different Wide Compatibility Varieties to the Male Sterile Lines with Different Cytoplasm in Rice

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Abstract For investigation of the restoring abilities of different wide compatibility varieties (WCV) to different cytoplasm male sterile lines, 16 WCVs were crossed to 6 Ina-a or Japonica male sterile lines (A line) with 3 different kinds of cytoplasm and their maintainers (B line) as well. These male sterile cytoplasm originated from India chinsurah Boro B (BT type), Hainai red awned wild rice (HL type) and Hainan male sterile wild rice (WA type) respectively. The restoring abilities of 16 WCVs were evaluated according to the spikelet fertility or pollen fertility of their F1 hybrids. The results were shown as follows:①In the same nuclear background, BT type cytoplasm was restored more easily than HL type, HL type cytoplasm more easily than WA type. While in the same male sterile cytoplasmic background, Inota A lines were restored more easily than Japonica A lines. ②There were much differences in restoring abilities among the 16 WCVs. Among these WCVs, Peiai 64, Pei C311, Lunhui 422 and CPSLO-17 had restoring abilities to the above 3 kinds of cytoplasm, Paddy and E164 had restoring abilities to BT type and HL type cytoplasm, Aus373 had restoring or partial restoring abilities to WA type and HL type cytoplasm, but Ketan Nangka had maintenance ability to the above 3 kinds of cytoplasm, Jian 12, Pecos, Pelde, Calotoc, 02428, Lemont, Dular and Zhenxi Akihikari had different maintenance ability to different cytoplasm.③The expression of restoring ability of the WCVs was different among different years. Comparatively speaking, the restoring abilities or maintenance abilities of Lunhui 422, Lemont, Dular and Ketan Nangka were much stable to BT type Nanjing 11A and WA type Nanjing 11A among different years.

Key words [Rice](#) [Wide compatibility variety](#) [Cytoplasmic-genetic male sterile line](#) [Restoring ability](#)

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