

生物技术·遗传育种

## 极端冷害下粳稻穗期近等基因系耐冷性状的相关分析<sup>\*</sup>

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**摘要** 用耐冷性极强的地方稻种与十和田研制的近等基因系 (NILs) 及亲本共29份, 2004年在云南省农业科学院 (低田温冷泉水) 和嵩明阿子营两种极端冷害条件下进行孕穗期耐冷性鉴定, 考查了17个农艺性状, 用SPSS软件进行分析, 结果表明: (1) 极端冷害下23份NILs的结实率超过轮回亲本十和田 (0.47%), 超过十和田10%的NILs共有14份, 如昆明小白谷与十和田配制的TKB<sub>6</sub>F<sub>6</sub> (44.2%), 结实率不但高于十和田而且接近昆明小白谷; (2) 昆明点结实率与穗颈长 (0.878<sup>\*\*</sup>)、实粒数 (0.977<sup>\*\*</sup>)、秕粒数 (-0.879<sup>\*\*</sup>)、花药体积 (0.851<sup>\*\*</sup>) 呈极显著相关; (3) 阿子营点结实率与株高 (0.612<sup>\*\*</sup>)、穗颈长 (0.511<sup>\*\*</sup>)、第一节长 (0.544<sup>\*\*</sup>)、实粒数 (0.958<sup>\*\*</sup>) 呈极显著相关。

**关键词** [孕穗期耐冷性](#); [近等基因系](#); [相关分析](#)

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## Correlation Analysis on Traits Related Cold Tolerance in NILs in *Japonica* Rice at Booting Stage under Extremely Cold Damage

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### Abstract

Twenty-nine rice genotypes, including near-isogenic lines (NILs) and their parents, were grown in field experiments in Kunming and Aziying, Yunnan, China and analyses were made of their agronomic traits with SPSS software. It was showed that: (1) Under extremely cold damage, the seed setting rate of twenty-three NILs was higher than donor parent Shihetian (0.47%). And 14 of them were higher 10% than Shihetian, For example, TKB<sub>6</sub>F<sub>6</sub> (44.2%) was not only higher Shihetian but also close Kunming Xiaobaigu; (2) in Kunming, seed setting rate was related significantly with spike neck length (0.878<sup>\*\*</sup>), full grains (0.977<sup>\*\*</sup>), blighted grains (-0.879<sup>\*\*</sup>), anther volume (0.851<sup>\*\*</sup>). (3) in Aziying, seed setting rate was related significantly with plant height (0.612<sup>\*\*</sup>), spike neck length (0.511<sup>\*\*</sup>), first node length (0.544<sup>\*\*</sup>), full grains (0.958<sup>\*\*</sup>).

**Key words** [cold tolerance at the booting stage](#) [near-isogenic lines \(NILs\)](#) [correlation analysis](#)

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