Genetic Analysis of Rice Grain Quality Traits Using Functional Markers

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Abstract


Rice (Oryza sativa) is one of the most important crops in Taiwan and quality rice varieties are preferable by producers and consumers. Hence, improvement of rice quality is a major objective in current breeding program, especially in appearance, cooking and eating quality. In this study, seven functional markers related to loci of starch synthesis, fragrance and grain length were surveyed to reveal the genetic basis of grain quality traits in rice cultivars grown in Taiwan. Results showed diversities of starch synthesis gene between japonica and indica subspecies of rice. Moreover, a new allele at GS3 locus was found. These findings are useful in rice breeding for quality improvement via marker-assisted selection.

Key words: Rice, Oryza sativa, Grain quality, Functional markers.

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