

DEVELOPMENT OF MOECULAR MARKERS RELATED TO LIGHT GREMINATION OF KOREAN WEEDY RICE

Hyun Sook Lee, Dong Ho Shin, Sun Ha Kim, Won
young Song, Sang Nag Ahn, Nam Jin Chung and
Kwan Sam Choi

Department of Applied Biology, Chungnam National University, Daejeon 305-764. Department of Crop Science, Chungnam National University, Daejeon 305-764.

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In generally, the seed germination of rice (*Oryza sativa* L.) has been known to be unaffected by light or darkness, but a photoblastic rice seed which was recently discovered in weedy rice was favored for germination by light. The seed germination behavior of weedy rice was examined with two cultivars (Ilpum and Milyang 23) in different conditions. The weedy rice germinated below 30% in darkness but 100% in light and germination rate increased to 50% by 2mM GA treatment. Considering that weedy rice germinated 100% in darkness upon breaking dormancy, weedy rice germination and dormancy closely seem related. And weedy rice germination showed far-red light reversible reactions.

For identification of molecular markers related to light-promoting germination, bulked segregation analysis (BSA) was used with simple sequence repeat (SSR) marker. BSA approach performed in two RILs population derived from a cross between Ilpum X weedy rice and Milyang23 X weedy rice. We confirmed RM270 SSR marker in chromosome 12 which has a polymorphic banding pattern between bulks in F3 plants of Mliyang23 X weedy rice. Also, we performed BSA in F4 plants of Ilpum X weedy rice and could confirm same results with RM 270 SSR marker.