

論文審査の要旨
Summary of Dissertation Review

博士の専攻分野の名称 Degree	博 士 (農学)	氏名 Author	CAN THU HUONG
学位授与の要件	学位規則第4条第①・2項該当		
論文題目 Title of Dissertation Improvement of Salinity Tolerance in Rice (<i>Oryza sativa</i> L.) by N-methyl-N-nitrosourea (MNU) Treatment and Exogenous Application			
論文審査担当者 Dissertation Committee Member			
主 査 Committee Chair	Tran Dang Xuan, Associate Professor	印 Seal	
審査委員 Committee	Tetsuro Hosaka, Associate Professor		
審査委員 Committee	Masaoki Tsudzuki, Professor		
審査委員 Committee	Lee Han Soo, Associate Professor		
審査委員 Committee	Masanori Morimoto, Professor, Kindai University		
〔論文審査の要旨〕 Summary of Dissertation Review			
<p>The research was conducted to examine the effectiveness of the MNU mutation on improvement of salinity tolerance in rice by analyzing phenotypes and genotypes of different rice mutants. The treatment of magnesium to enhance the salinity tolerance in several rice lines and cultivars was also examined.</p> <p>The thesis includes 5 Chapters. Chapter 1: General introduction; Chapter 2: Identification of salinity tolerance in rice mutants by phenotypic and simple sequence repeat analyses; Chapter 3: Maternal inheritance of salinity tolerance and beneficial phytochemicals in rice; Chapter 4: Improvement of salinity tolerance in rice by exogenous magnesium application; and Chapter 5: General discussion.</p> <p>This study is the first to reveal a maternal inheritance in the salinity tolerance of rice. On the other hand, breeding program for salt-tolerant rice requires 8-10 years due to the complicated segregation in progenies. F₁ normally is crossed with father (backcross) and repeats in many generations to finish that segregation. The maternal inheritance induced by MNU treatment in this study helps to finish the segregation in M₂ and M₃ generations, which can shorten breeding time from 8-10 cycles to 2-3 generations. However, the mutated rice should be sequenced and compared to parental genotypes to detect their genetical changes. The mechanism of the novel maternal inheritance should be clearly identified. In addition, the application of MgSO₄ is found effective to improve the salinity tolerance of rice. The salinity tolerance might be correlated to the increased quantity of phenolic acids and momilactones in rice after treatment.</p> <p>From the achievements noted above, the applicant Can Thu Huong has published two papers in international journals (Agronomy, IF: 3.417, Q1; and Agriculture, IF: 2.925, Q1). After carefully examined the results from presentation, draft dissertation, achievements, and the responses to the questions from the examiners, the committee agreed that the applicant passes the exam.</p>			