Phenotypic Variation, Genetic Diversity, and Segregation of Vietnamese Rice Mutants

This research has applied the chemical $N$-Methyl-$N$-Nitrosourea (MNU) to create mutation on different rice cultivars originated from Vietnam. The variation in phenotypes and genetic diversity were analyzed to search for elite characteristics induced by MNU mutation and bred new rice lines with elite agronomic characteristics. Especially, the Chapter 4 described a new finding of maternal inheritance (mother cultivar) to obtain important agronomic traits such as rice yield, quality, pest and disease resistance. This novel method has helped to shorten time for breeding new rice cultivars, especially in developing countries, thus contributed to the sustainable development of rice production. From results obtained by this research, the applicant has published 3 scientific papers in international journals, of which 2 journals are indexed in Web of Science (MDPI, Agriculture and Sustainability, IF 2.075). The applicant has revised and incorporated all suggestions and comments by members of the examined board, including revising the title of the research.

After evaluating the dissertation thesis and achievements of this study, the examined board concluded that the applicant passed the exam and recommended to obtain the degree of Doctor of Agriculture.