

CHAPTER V

CONCLUSION

1. Genetic variation analyzed by RAPD based on 5 oligonucleotide primers less genetic distance between Pokkali, Khao Dawk Mali 105 and Leuang Pratew 123 comparing to Khao Tah Haeng 17, Look Daeng Pattani and IR 28 respectively.
2. Genetic variation analyzed by RAPD based on a single primer X9 may classify 2 exotic cultivars Pokkali and IR 28 by genetic diversity from cluster of 10 local lowland rice cultivars: Gow Ruang 88, Look Daeng Pattani, Leuang Pratew 123, Khao Dawk Mali 105, Khao Tah Haeng 17, Nahng Pa-yah 132, Foi Tawng, Yah Yaw and Leb Nok Pattani.
3. The dendrogram constructed from similarity coefficient score analyzed by UPGMA program showed that the 10 Thai rice cultivars with closer geographic origins can be classified in the same cluster, namely Gow Ruang 88, Leuang Pratew 123 and Khao Dawk Mali 105 with exception for Look Daeng Pattani, Nahng Pa-yah 132 and Foi Tawng, Yah Yaw and Leb Nok Pattani, and Muey Nawng 62 M and Khao Tah Haeng 17.
4. Linkage between genetic index (values of similarity coefficient) and one of the phenological index percent leaf damage under salt stress can be observed at the similarity coefficient ≥ 0.75 , within the cluster of 5 local salt tolerant cultivars: Khao Tah Haeng 17, Leuang Pratew 123, Look Daeng Pattani, Gow Ruang 88 and Khao Dawk Mali 105, and within the cluster of 4 southern salt sensitive cultivars: Nahng Pa-yah 132, Foi Tawng, Yah Yaw and Leb Nok Pattani.
5. Among the eight phenological parameters of salt tolerance in the vegetative and reproductive phases: percentage of leaf damage is the most relevant criterion that clearly distinguished 6 salt tolerant cultivars significantly from the 6 salt sensitive cultivars.
6. Linkage between genetic variation analyzed by RAPD markers and percent leaf damage, a phenological index can be observed when the genetic similarity coefficient between a pair of rice cultivars are in the range of 0.75-0.93, the leaf

damage within the group of 5 local salt tolerant cultivars are not significant different (10-16%), and within the group of 4 salt sensitive cultivars(SC 0.70-0.80), of 39-48%. The 4-fold leaf damage about 40-50 % can be observed.

7. At the genetic diversity greater than 25 %, higher uncertainty exists and there is no linkage between percent leaf damage and the randomly amplified polymorphic DNA based on primer X9.