

Munin Prempre 2014: Evaluation of Genetic Variation of Pineapple Smooth Cayenne Variety (Pattavia) Using DNA Marker. Master of Science (Bioproducts Science), Major Field: Bioproducts Science, Division of Science. Thesis Advisor: Assistant Professor Siripatr Prammanee, Ph.D. 151 pages.

Thailand is the number one top export of canned pineapple in the world, especially using Smooth Cayenne variety or it was called Pattavia. Pattavia variety is an importance for this industrial but little attention has been paid to improve this cultivar for good yield and good quality. The aim of this study is to evaluate genetic variation of Pattavia pineapple from Prachuap khiri khan province using the RAPD marker technique. The samples were collected from 4 districts such as Hua Hin, Sam Roi Yod, Bangsaphan and Nikhom. There are different shapes of fruits in each area which are cylindrical shape, jadi shape, small fruit, crown off and multiple crowns. The samples were collected for 3 replications, the total is 51 samples. DNA samples was increased by using RAPD technique and ten primers were used. It was found that six primers: universal primer 3, OPA-02, OPA-04, OPA-08, OPA-10 and OPA-18, showed polymorphic. Analysis of genetic similarity using NTSYS-pc, 2.01d and a phylogenetic tree showed that Pattavia varieties were cultivated in each area were different shapes. Use of RAPD markers to analyze four locations showed different genetic results. In each location, categorization of the pineapple shapes was different with similarity coefficients of 0.59-0.89 and similarity value of 0.4912-1.0000. Analysis of shapes showed that the five shapes of pineapple had genetic traits specific to each location and can be categorized clearly with similarity coefficients of 0.51-0.91 and similarity value of 0.4032-1.0000. The diversity of genetics might be derived from different agricultural cultivates or inappropriate environment. In addition to cultivate of pineapples were used the plants in that location, it could be seen that the genetic changing occur in the field. To improve productivity of industrial, cayenne pineapples varieties should be cylindrical shape and should be selected carefully and propagated for future use.

Student's signature

Thesis Advisor's signature