

Therdpong Khongsanun 2012: Identification and Developing the DNA Probe of the Causal Agent of Marble Fruit Disease in Pineapple. Master of Science (Bioproducts Science), Major Field: Bioproducts Science, Division of Science. Thesis Advisor: Associate Professor Siripatr Prammanee, Ph.D. 86 pages.

Pineapple is an important commercial crop in Thailand. The export value is the big volume in the world. Marbling disease causes damage economic to pineapple both in Thailand and around the world. This research developed the DNA probe for diagnosis the causal bacteria of marbling disease. This technique is important, fast and need small amount of DNA samples. DNA extraction is the first step to developing DNA probe. The polymerase chain reaction technique was particular to *Pantoea stewartii*, bacterial disease of pineapple. Target DNA clones derived from the polymerase chain reaction product and DNA sequencing was analysed. DNA probe was created by labeling with digoxigenin. The samples were detected by dot blot hybridization method. DNA diagnosis was fast and particular to *Pantoea stewartii*. The DNA probe was able to detect bacteria causal agent of marbling disease both in pineapple fruit and soil samples. Random DNA testing of soil samples before planting pineapple decreased risks of marbling disease and prevent spreading of marbling disease in pineapple.

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Student's signature

Thesis Advisor's signature