

Title Genetics Relationships in pineapples: cultivar Phulae, Nanglae and Phuket using Random Amplified Polymorphic DNA (RAPD) analysis

ABSTRACT

Random Amplified Polymorphic DNA (RAPD) analysis had been utilized to understand pineapple genetic relationships. In this study, 40 arbitrary 10-mer primers from Operon Technology, USA were used for screening on Phuket, Phulae, Nanglae, Intrachitdang, Intrachitkow, Pattavia Tradsithong, Sawee, and Petburi No.1 cultivars. A total of 206 DNA fragments were observed ranging from 510 to 4700 bp with 17 primers. These data were used to determine the genetic relationships of 9 pineapples using NTSYSpc-2.01e program. The results showed that pineapples could be clearly assigned into 3 groups. The first group is the Queen group composed of Phuket, Phulae, Tradsithong, Sawee, Petburi No.1. The second group is the Spanish group composed of Intrachitdang and Intrachitkow. The last group is the Cayenne group composed of Nanglae and Pattavia. From the phylogenetic tree, the “Phulae” cultivar was more closely related to “Phuket” and the similarity index was 0.95. While Sripaoraya and his team (2001) classified Intrachitdang was more closely related to Cayenne group, our results showed that the cultivar was in to the Queen group. This result agreed with the morphology of Intrachitdang. Moreover, it was found that Intrachitdang was more closely related to Intrachitkow, and the similarity index was 0.96. Both cultivars were in the Queen group.

Keyword : *Ananas comosus* – genetic relationships – RAPD