The Population Genetic Structure Analysis of Pin-Pu Black Pig in Taiwan

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The pig industry produced the highest value (about NT 50-60 billion) of livestock animal products in Taiwan. Most commercial pork production are from LYD or LD crossbred pigs (about 85%), but the pork from Taiwan black pigs have better meat quality and flavor, Taiwan black pigs became the popular breeds in the pork production system. However, the Taiwan black pigs breeding systems are diverse and complex, the performance of uniformity, growth traits, and carcass traits are different by Taiwan black pig breeds. Pin-Pu black Pig is one of famous black pig breeds in Taiwan, with the systematic breeding program. It refused using kitchen waste as pig feed, but it has switched to commercial feed and by-products now. Therefore, it is necessary to characterize and identify Pin-Pu black Pig with other Taiwan black pig breeds with advanced molecular technology. In this study, we extracted gDNA from the following black breeds: Pin-Pu black Pig, Liu-Dui, New Zeng-Feng black pig form commercial pig farms; Taoyuan, Meishan, TLRI Black Pig No.1, KHAPS Black Pig from Livestock Research Institute. The 640 K SNPs array was used for genetic structure analysis. The results showed we can identify and reveal the genetic structure of Pin-Pu black Pig and other Taiwan black pig breeds and could provide information for breeding and management.

Key words: Population genetic structure, Pin-Pu black Pig, SNPs array.