

Long-term Sperm Cryopreservation and bioutilization of Taoyuan breed in Taiwan native pigs

S20003

Sheng-Yang Wu¹, Yong-Yu Lai² Ming-Che Wu², and Chia-Chien Chang¹

¹Taitung Animal Propagation Station, Taiwan Livestock Research Institute, Taitung, Taiwan

²Tainan Livestock Research Institute, Tainan, Taiwan

In recent years, the international epidemic situation has been severe. To avoid the invasion of the epidemic and the disappearance of Taiwan's domestic pig breeds, *ex situ* and *in situ* conservation of the Taoyuan pig germplasm is being accelerated. Semen cryopreservation is also carried out simultaneously. The objective of this study was to find out the fertility of sperm after years of freezing. In 2005, Taoyuan pigs whose sperm were frozen and stored in liquid nitrogen tanks at -196°C . Frozen semen was thawed and analyzed in 2020. Post-thawed sperm motility and progressive motility were $81.4 \pm 3.6\%$ and $65.7 \pm 5.5\%$, respectively. Then, Two Taoyuan sows were selected for artificial insemination. The pregnancy and kidding rate was 100% and successfully gave birth to 6 and 7 piglets, the number of does kidding as the previous natural breeding. It is successfully confirmed that the preservation and application of Taoyuan pig frozen semen. The Taoyuan pig is a medium-sized pig with a black or dark grey coat, short head, large nostrils, large front drooping ears, concave back, and plump body, with annular wrinkles on the face and body, with the characteristics of the king's face. In 1941, Livestock research institute purchased the Taoyuan breed of black pigs to research local pigs and distributed the Taoyuan pig to the Taitung animal propagation station in the 1996. Currently, The Taoyuan pig is one of the few species of black pigs that have been preserved, and it is difficult to find pure Taoyuan pigs in the community.

Key words: Taoyuan pig, Indigenous, Frozen Semen.