

Suthatip Prapatsornpinyo 2014: Comparison of Genetic Parameters for Economic Traits of Swine in Commercial Farms. Master of Science (Animal Breeding and Production), Major Field: Animal Breeding and Production, Department of Animal Science. Thesis Advisor: Associate Professor Neramit Sookmanee, Ph.D. 69 pages.

The comparison of genetic parameters for Average Daily Gain (ADG) Backfat Thickness (BF) Body Length (BL) Number of Teat (NT) Number Born Alive (NBA) Number Wean (NW) and Wean to Service Interval (WSI) in two commercial farms. Herd 1, new genetics were not introduced and used phenotypic selection only. Herd 2 had genetic introducing to farm and Expected Breeding Value (EBV) was analyzed for selection. Production performance were collected from testing of the Duroc Landrace and Large White during 2008 – 2012. Reproductive performance were gathered during 2004 – 2011. The variance components were analyzed by Restricted Maximum Likelihood (REML) method. Heritabilities of ADG, BF, BL, NT, NBA, NW and WSI of herd 1 were 0.34, 0.29, 0.26, 0.27, 0.08, 0.09 and 0.15, respectively. Heritabilities of ADG, BF, BL, NT, NBA, NW and WSI of herd 2 were 0.28, 0.38, 0.39, 0.23, 0.07, 0.01 and 0.07, respectively. Genetic correlations of production traits ranged from +0.04 to +0.42 for herd 1 and -0.11 to +0.25 for herd 2. Genetic correlations of reproductive traits ranged from -0.10 to +0.86 for herd 1 and -0.88 to +0.15 for herd 2. Genetic trends of ADG, BF, BL and NT of herd 2 were better than herd 1. There were little changes in genetic trends of NBA, NW and WSI of both herd. Inbreeding coefficients were 0.25 percent for herd 1 and 0.02 percent for herd 2. The introducing new genetic into herd led the inbreeding coefficient lower. Genetic correlations were positive between ADG and BF, BL and NT for both herds. This study suggested that the introducing of new genetics into herd and using EBV for selection would be improve the production and reproduction traits of swine.

---

Student's signature

---

Thesis Advisor's signature