

Watchareeporn Laumsai 2011: Effect of Productive Performance on Reproductive Performance of Purebred Sow. Master of Science (Animal Breeding), Major Field: Animal Breeding, Department of Animal Science. Thesis Advisor: Associate Professor Neramit Sookmanee, Ph.D. 65 pages.

Data from Thai commercial Duroc, Landrace and Large White sows were used to estimate genetic parameters and to determine the effect of productive on reproductive performance. One thousand five hundred and forty one litters of reproductive data were obtained from 2002 to 2009. Genetic parameters for average daily gain (ADG), backfat thickness (BF), lean percentage (LEAN), body length (BL), age at first mating (AFM), number born total (NBT), number born alive (NBA), average birth weight (ABW), number weaning (NW) and average weaning weight (AWW) were analyzed by Restricted Maximum Likelihood (REML) based on multiple traits animal model. Heritability estimates were range from 0.44 to 0.72 for ADG, range from 0.44 to 0.56 for BF, range from 0.39 to 0.48 for LEAN, range from 0.25 to 0.61 for BL, range from 0.45 to 0.56 for AFM, range from 0.01 to 0.28 for NBT, ranged from 0.07 to 0.17 for NBA, from 0.22 to 0.29 for ABW, from 0.06 to 0.39 for NW, and from 0.06 to 0.33 for AWW. Phenotypic correlations were 0.13 between ADG and NBA, 0.10 between BF and NBA and -0.09 between LEAN and NBA. Selection for high ADG and BF will probably increase NBA but selection for high LEAN will decrease NBA. The results indicated that boars and gilts selection indexes will include difference traits for appropriate purposes of selection.

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Thesis Advisor's signature