

Chachawan Rattanatham 2009: Physical Characteristics Blood Biochemistry and Reproductive Performances of some Landrace Lines in Thailand. Master of Science (Animal Production), Major Field: Animal Production, Department of Animal Science. Thesis Advisor: Associate Professor Neramit Sookmancee, Ph.D. 74 pages.

The objectives of this study were to determine and compare physical characteristics, blood biochemistry and reproductive performances of Landrace pigs in two different lines, Danish Landrace (DLR) and Norwegian Landrace (NLR). The study was conducted in three trials. In the first experiment, physical characteristics were evaluated by using digital image analysis with computer program to compare of DLR and NLR. The body length, height and depth of NLR and DLR (35 weeks of age) were 107.33, 55.69, 36.55 and 87.35, 50.70, 30.86 centimeters, respectively. The Norwegian Landrace showed significantly greater of such parameters than Danish Landrace ( $P < 0.01$ ). In the second experiment, blood samples of DLR and NLR (35 weeks of age) were collected and analyzed for some blood biochemistry parameters. The results showed that the values of total protein, albumin and phosphorus of NLR and DLR were 7.21, 4.37, 7.56 and 6.80, 3.95, 6.55 mg./100 ml., respectively. The Norwegian Landrace pigs revealed higher values. The values of serum calcium of NLR and DLR were 11.86 and 11.83 mg./100 ml., respectively. Total protein and albumin of pigs from the experiment were slightly greater than those from the regular report (6.30 and 2.0-3.0 mg./100 ml.), however; serum calcium and phosphorus of pigs from the experiment were predominantly higher than those from the regular report (8.0-10.0 and 3.0-5.0 mg./100 ml.), respectively. In the third experiment, reproductive performances of DLR and NLR were studied from data recorded. The results demonstrated that percentages of mortality of NLR were significantly higher than those of DLR ( $P < 0.01$ ), the numbers of weaning pigs of DLR were significantly greater than those of NLR ( $P < 0.05$ ), but the age at first mating of DLR was significantly less than that of NLR ( $P < 0.05$ ). No significant differences between two lines were found in the parameters of the numbers born alive, percentage of mummified, birth weight alive, weaning weights, days from weaning to mating and the parity of sow culled ( $P > 0.05$ ). Parity of sow significantly affected reproductive performances ( $P < 0.05$ ) but season did not significantly affect reproductive performances ( $P > 0.05$ ).

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Student's signature

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Thesis Advisor's signature