PHENOTYPIC EVALUATION OF STRESS–SUSCEPTIBILITY OF PUREBRED LITHUANIAN WHITE AND CROSSBRED PIGS OF VARIOUS BREEDS

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Summary. Intensive selection of pigs for higher lean meat content has resulted in a higher number of stress–susceptible pigs. In many countries, selection for higher lean meat content is carried out alongside with selection for a lower stress–susceptibility of pigs. Stress–susceptibility of pigs can be determined by numerous methods, including halothane testing. Halothane testing is a speedy and simple test, yet stress–susceptibility of pigs is evaluated only phenotypically.

Stress–susceptible pigs have a higher meat percentage, lower backfat thickness and higher loin lean area if compared with stress resistant pigs. However, stress–susceptible pigs are more sensitive to changing conditions, less disease resistant, less fertile, their fattening traits and meat quality are lower, and backfat is of lower quality from the technological viewpoint. Thus, stress–susceptible pigs should be eliminated due to lower reproduction and fattening traits, and lower meat and backfat quality.

The purpose of the present study was to investigate the effect of boars of various imported breeds on stress–susceptibility of crossbred pigs. From 1997 to 2000, 6 experimental groups of pigs were formed. Group 1 was purebred Lithuanian White (control), group 2 – Lithuanian White and German Large White crossbreds, group 3 – Lithuanian White and Polish Landrace crossbreds, group 4 – Lithuanian White and Finnish Landrace crossbreds, group 5 – Lithuanian White and Pietrain crossbreds and group 6 – Lithuanian White and Hampshire crossbreds. Four to six–week–old piglets were halothane tested for stress–susceptibility (n=289).

The investigation data indicated that lithuanian white piglets had the lowest stress–susceptibility (16.3%), while Lithuanian White x Pietrain and Lithuanian White x Polish Landrace crossbreds were most stress–susceptible, respectively, 42.3% and 26.5%. Piglets of the other genotypes were intermediate (17.5–25.9%). Gilts were more stress–susceptible (17.4–37.5%) in groups 1, 4 and 6, whereas young boars (22.2%–48.3%) in groups 2, 3 and 5. The effect of narcothane gas on piglets was different depending on their stress–susceptibility. Stress–susceptible piglets slept from 31 to 97 seconds longer than stress–resistant ones. It can be concluded that boars of the imported breeds increased stress–susceptibility of crossbreds by 1.2% to 26% compared with purebred Lithuanian Whites.

Key words: pigs, halothane testing, stress–susceptibility