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Effect of SNPs in candidate genes on carcass and meat quality traits in pigs*N. Moravčíková, A. Navrátilová and A. Trakovická**Slovak University of Agriculture in Nitra, Department of Animal Genetics and Breeding Biology, Tr. A. Hlinku 2, 94976, Slovak Republic; nina.moravcikova@uniag.sk*

The aim of this study was to investigate the association between SNPs in genes encoding leptin (LEPR) and melanocortin 5 (MC5R) receptors and back fat thickness (mm), proportion of valuable meat parts (%), area of musculus longissimus thoracis (cm²) and proportion of thigh (%). In total 180 genomic DNA samples of crossbreeds (Large White × Landrace) have been used to genotyping of selected markers by means of PCR-RFLP method. The allele frequencies were as follows: LEPR (HpaII) A 0.61 and B 0.39 (±0.03) and MC5R (BsaHI) A 0.63 and G 0.37 (±0.03). A prevalence of AA genotype (41.67%) compared to AB (38.89%) and BB genotypes (19.44%) were detected for the LEPR gene. Similarly the highest frequency for MC5R gene was observed for AA genotype (43.33%). Analysed loci had in average the medium level of polymorphic information content (0.36). Positive value of within population fixation index (0.25) was due to lower proportion of heterozygotes ($H_e=0.36$). One-way ANOVA was used for association analysis of SNP effects on selected production traits. The average values of analyzed traits for different LEPR and MC4R genotypes indicated positive effect of A allele or homozygote AA genotype in both loci. The statistical analysis showed significant association ($P<0.001$) with selected traits only for LEPR gene. However, further study about these SNPs with involving of other breeds and candidate genes could clarify its exact role in regulation of carcass and meat quality traits in pigs.

Perspectives of use of total meat percentage as a selection criterion in pig industry of Ukraine*O. Kravchenko¹ and A. Getya²**¹Poltava state agrarian academy, str. 1/3 Skovorody, 36003 Poltava, Ukraine, ²National University of Life and Environmental Sciences of Ukraine, str. Heroyiv Oborony 15, 03041 Kyiv, Ukraine; oksanakravchenko@ukr.net*

The demand for lean pork is being increased in Ukraine for recent years. This tendency is taken into consideration by the pig industry which improves housing- and feeding technology. At the same time specialized genotypes, including imported animals from different countries, became more and more popular. Over the last 10 years the average daily gain in Ukrainian pig farms increased by 1.96 times. But due to an outdated payment system for the animals delivered to slaughterhouses one of the main criteria for the carcass quality assessment, namely 'total meat percentage' (TMP), is not evaluated. To analyse the carcass quality based on TMP and to prove the need of involvement of this trait into Ukrainian breeding programs 7,246 pigs from 12 farms in central Ukraine were slaughtered. The measurements of TMP were done using CGM-device. The average weight of carcasses of gilts and castrates was 88.38 kg and 89.03 kg respectively. The TMP of carcasses of gilts was 59.30% and of castrates 57.60%. Despite the fact that according to Ukrainian classification system all carcasses were related to the 2nd class, a considerable variation of total meat percentage was established. So, the average value of this trait in the worst 30% carcasses of gilts and castrates was 50.00±1.22% and 48.50±1.19% respectively while in best 30% – 64.50±0.76% and 64.00±0.91%. The difference between 30% best and 30% worst carcasses of gilts and castrates was 14.5% and 15.5% respectively ($P\leq0.001$). Understanding the importance of trait TMP for efficiency of pig industry the implementation of European payment system is needed as well as integration of this trait into breeding programs of Ukrainian genetic companies.