

The characteristics of reproductive traits in sows of PL and PLW breed in respect of *RYR1* and *ESR* genotypes

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Summary

The aim of the research was to determine the polymorphism in *RYR1* and *ESR* loci, as well as their relationship with reproduction traits in sows. The genetic research was conducted using the PCR-RFLP method. The research material was constituted by 160 PL sows and 173 PLW sows managed within the nucleus herds of the Kujawsko-pomorskie province. In the examined breed groups of sows, we found two *RYR1*^{CC} and *RYR1*^{CT} genotypes, as well as three genotypes in the *ESR* locus, namely *ESR*^{AA}, *ESR*^{AB} and *ESR*^{BB}. Sows with the *RYR1*^{CC}/*ESR*^{AB} genotype had shorter reproduction cycles as compared to the other genotype groups within a given breed group; while a higher number of piglets born in four subsequent litters was obtained from the PL sows with the *ESR*^{BB} genotype, regardless of the genotype in the *RYR1* locus. Among the PLW sows, more numerous litters were observed in the sows with the *RYR1*^{CC}/*ESR*^{AA} genotype. Genetic determinants of reproduction traits in pigs, in light of the research, suggest simultaneous consideration of a higher number of genes which determine them.

KEY WORDS: polymorphism / *RYR1* and *ESR* genes / PL and PLW pigs / reproduction traits