

UTJECAJ GENOTIPA ESTROGENOG RECEPTORA I SEZONE PRASENJA NA REPRODUKCIJSKA OBILJEŽJA U VISOKOPLODNIH PRVOPRASKINJA

INFLUENCE OF ESTROGEN RECEPTOR GENOTYPE AND FARROWING SEASON ON REPRODUCTIVE PERFORMANCE OF PRIMIPAROUS HIGH FERTILITY SOWS

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ABSTRACT

Estrogen receptor is well-known candidate gene associated with fertility traits, especially with litter size in pure- and crossbreed sows. The purpose of this study was to investigate reproductive performance of high fertility line of sows with special reference to the estrogen receptor gene as well as to farrowing season. One hundred and one primiparous sows of Topigs 20 line from a pig breeding farm were included in the study. Genotype was determinate using polymerase chain reaction-restriction fragment length polymorphism. An amplified fragment was digested by restriction enzyme PvuII. Data were analysed using General Linear Model. Twelve farrowing seasons (3-year period) were observed as year-season interaction in the linear model calculation. Analysing the results of genotypes the best performance, although not significantly higher was achieved by the primiparous sows AA genotypes with 1.89 ± 0.43 total number born and 2.11 ± 0.40 number of born alive piglets compared to BB genotypes. The total number of born piglets was significantly different ($P < 0.05$) between spring and winter season in the first year period, and between winter seasons in first and second year period. At the same level of significance there was the difference between four seasons of the first year of farrowing and the winter season in the third analysed year. Considering the number of piglets born alive significant difference ($P < 0.05$) was established between winter and all other seasons in the first year. The number of piglets born alive tended to be different ($P < 0.1$) between the spring and the winter season in the second and the third analysed year. It's may be concluded that genotype does not influence on the number of total and born alive piglets, while the year season interaction influenced on the total and number of born alive piglets.

Keywords:

estrogen receptor, genotype, farrowing season, primiparous sows