Genetic Fertility Markers in Norwegian Landrace Pigs in the Czech Republic

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INTRODUCTION

The aim of this study is to give information about variability of candidate genes associated with fertility in the population of the mother breed Norwegian Landrace in the Czech Republic.

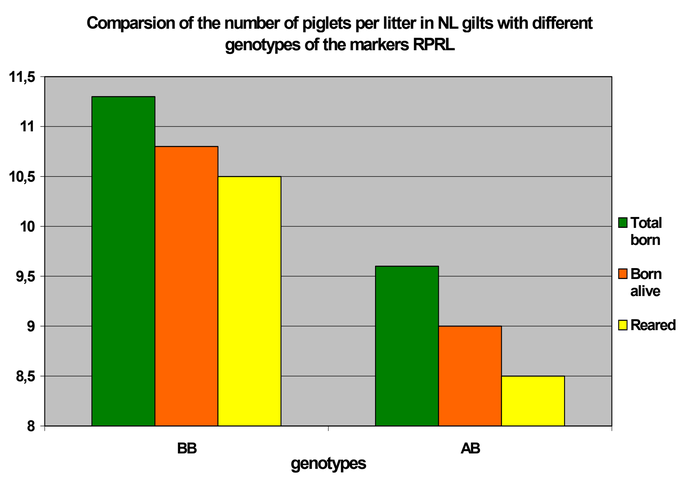
MATERIAL AND METHODS

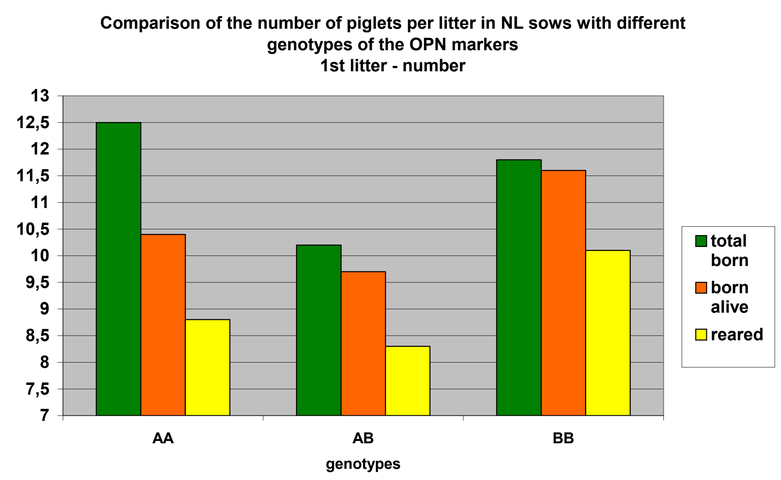
In cultivation rears of the Landrace of the Norwegian provenience (NL) tests for the occurrence frequency of genotypes of markers *RYR, ESR, PRLR, OPN, and MYF4* in the laboratory of the molecular genetics of the MZLU in Brno. In continued observation numbers of all born alive and reared piglets in gilt according to the genotype of the marker *PRLR* and in gilts and sows on the second up to the sixth litter according to the genotype of the marker *OPN* have been compared in NL.

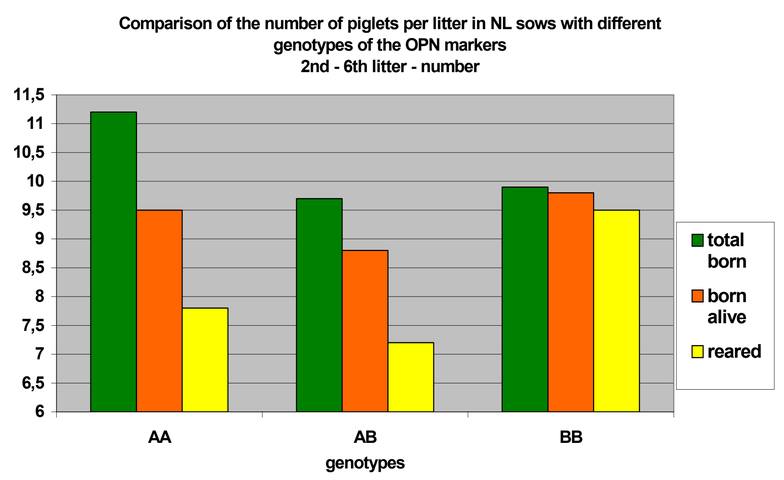
Determination Methods:
***ESR*: PCR – RFLP, restriction enzyme Pvu II (Short et al., 1997), allele C - fragment 120 bp, allele D - fragments 55 and 65 bp**
***PRLR:* PCR – RFLP, restriction enzyme Alu I, allele A - fragment 110 bp, allele B - fragments 90 and 20 bp**
***OPN*: PCR reaction, (Knoll et al., 1999), allele A - fragment 1.3 kb, allele B - fragment 1 kb**
***MYF4:* PCR – RFLP, restriction enzyme Msp I (Te Pas et al., 1996), allele A - fragments 134 and 219 bp, allele B - fragment 353 bp**

RESULTS

A high frequency of N allele in mother breed NL(NN 95.6%) proves a systematic selection for a stress predisposition in the Czech Republic. The genotypes *MYF4 were AA in 97.8*.OPN genotypes in population NL following frequencies: AA =39.1 %; AB =50.0 %; BB =10.9 %.In the population Norwegian Landrace all the sows were homozygote with the genotypes ESR CC. The *PRLP AluI AA* genotype has not been identified. Genotypes *AB* and *BB* occurred in the frequencies 44.4 % and 55.6 %.







CONCLUSION

We present the results of association studies of orientation in NL only in two candidate genes *PRLP* and *OPN* in which the population kept in the Czech Republic is polymorphic. In the homozygote genotype *PRLP BB* there was a higher number of all piglets than in the heterozygote genotype *AB (11.3 vers. 9.6)* . In the marker OPN a higher number of born piglets was in the genotypes AA.

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