



Reproductive performance of sows of conventional and alternative genotypes in current production systems

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This study aimed to evaluate the reproductive performance of sows from different genotypes in comparison with sows of conventional commercial genotypes. The experiment was carried out at Embrapa Swine and Poultry, Concórdia-SC, Brazil, with 37 first, and 7 third parity sows (first farrowing lot) and 32 second and 7 fourth parity sows (second farrowing lot), from January 2007 to February 2009. For the evaluation were used 12 Moura (MO) sows inseminated with MO sires, 13 MO sows inseminated with Embrapa MS115 (MS) sires, 14 50% Large White and 50% Moura (LWMO) sows inseminated with MS sires, 15 50% Landrace, 25% Large White and 25% Moura (LDLWMO) sows inseminated with MS sires, 16 50% Landrace and 50% Large White (LDLW) sows inseminated with MS sires, and 13 commercial genotype (CG) sows inseminated with MS sires. LWMO sows were third and fourth parity, all others were first and second parity sows. The sows and piglets in both farrowing lots were raised in Brazilian commercial conventional swine production systems. There were evaluated number and weights of piglets at birth and at weaning (pigs were weaned on weekly groups at the average of 25 days age). The sows were fed according to Embrapa standard procedure for pig production. The experimental design was completely randomized with two factors and unequal subclass numbers. As the evaluations were made longitudinally in time in each matrix the data analysis was carried out according to mixed model for repeated measures with genotype, farrowing lot and the interaction effects on the model, and four variance-covariance matrix structures chosen based in the Akaike criteria. Restricted maximum likelihood estimation method was used, and the effects were compared through specific contrasts. There were significant effects of farrowing lot, genotype and of the interaction lot x genotype on the live body and reproductive traits of the studied female crosses. The number of weaned pigs per litter and weaned litter weight, respectively, by sow genotype mated to MS was 6.69 and 41.74 kg (MO); 10.69 and 70.64 kg (GC); 9.13 and 66.76 kg (LDLW); 9.33 and 70.18 kg (LDLWMO); 10.00 and 74.79 kg (LWMO). For MO sows bred to MO sires the values were 6.83 and 38.80 kg, respectively. There were significant lower litter weight at birth and at weaning for Moura sows, however the crossbreds with 25% and 50% of Moura presented higher numbers of pigs born and weaned than the Moura and not lower than the commercial genotypes, indicating heterosis effect. The weaning litter weight in these two crosses was equivalent to the commercial, however LWMO sows were more mature. The boar genotype did not influence the reproductive performance of the sow, however, MS genotype added about 3,0 kg to the weaned litter weight, when it was mated to MO sows. The LDLWMO sows may be useful as parents in conventional and also in alternative pig production systems without reducing system performance, and the LWMO sows may be useful in alternative pig production systems.

Keywords: crossbreeding, swine parents, rusticity, body traits, litter size