Effect of live weight at first breeding on reproductive and productive performances of gilts

Vouzela, C. F. M.; Ferreira, G.; Rosa, H.J.D.; Rego, O.A. and Borba, A.E.S.
(Sessão 40; vouzela@uac.pt)
University of the Azores
CITA-A
9701-851 Angra do Heroísmo
Azores (Portugal)

Introduction

The recent increase in costs of raw materials used in pig diets has dictated further research for high levels of reproductive efficiency. The main objective of this study was to determine the ideal live weight of gilts at first breeding in order to obtain the best reproductive and productive performances.

Material and Methods

Three groups of LW x L x P gilts weighing 127.5±2.6 kg (A), 137.9±2.6 kg (B) and 147.2±2.6 kg (C) submitted to the same feeding, environmental and sanitary conditions were inseminated using the "pressure method". Gilts were inseminated three times with 24 h intervals following heat detection by the boar. Semen from one Pietrain boar was used at a dilution of 3x109 EPZ ml^{-1}. Piglets were weighed immediately after born and weekly thereafter until weaning at 28 days of age.
Data on farrows weight, individual piglet weight, farrows weight at weaning and daily weight gain of farrows from birth to weaning were analysed by ANOVA followed by Fisher PLSD for multiple comparison of means. Differences in mortality, fertility, prolificacy and fecundity rates were tested by χ^2 after data had been arranged in contingency tables .

Results and Conclusions

No significant difference was detected among groups in rates of fertility (100%, 96.6% and 93.3%, respectively for A, B and C), prolificacy (10.4, 11.4 and 11.1, respectively for A, B and C) and fecundity (95.4%, 110.4% and 104.0% respectively for A, B and C). The success rate (ratio between number of births and number of gilts detected pregnant at 21 days following insemination) was 100% in all groups. Mortality rates calculated either from born to 5 days (9.4%, 11.7% and 7.6%, respectively for A, B and C) or from 5 days to 28 days (6.9%, 10.4% and 4.1%, respectively for A, B and C) did not differ among groups ($P>0.05$). Weight of gilts at insemination had no effect ($P>0.05$) either on farrows weight or on piglets weight at birth. At 28 days, farrows from group C (60.8±3.0 kg) had higher live weight than A (44.7±3.7 kg; $P<0.05$). Concerning live weight gain of farrows, differences were observed ($P<0.05$) between groups A (1.4±0.2 kg) and B (1.9±0.1 kg) and A and C (2.0±0.1 kg).

It was concluded that the live weight of sows at first breeding only influenced ($P<0.05$) piglets weaning weight and mean daily weight gains of farrows, performing best the females with higher live weight.

Acknowledgement: Porsicuni S.A.P., Lda. (Torres Vedras-Portugal)