VARIABILITY OF OVULATION IN GILTS: ASSOCIATED FACTORS AND CONSEQUENCES ON REPRODUCTIVE PERFORMANCES IN 4 PIG FARMS

Introduction
Adequate timing of insemination close to ovulation is a key determinant of reproduction performances. The objective of this work was to investigate factors associated with variability of ovulation in different herds and possible impacts on reproduction of young gilts.

Material and methods
The study was performed in 4 conventional farms on 68 gilts. Measurements included daily recordings of estrus and ovarian status using transcutaneous ultrasound technique (3.5-5Mhz probe, Exago®, ECM). We collected information about number and timing of inseminations (AI), backfat (BF) at AI, last altrenogest-to-estrus intervals, health status, treatments, and subsequent performances.

Results
67 gilts exhibited estrus and ovulated within 8 days after weaning and 1 ovulated silently. Onset and duration of estrus and timing of ovulation exhibited large variations according to gilts with significant farms differences. Last altrenogest-to-estrus intervals ranged between 100 to 162 h (132.8 ± 15 h). Estrus duration (51.6 ± 13.7h) varied between 36 to 96 h according to gilts. Ovulation occurred at 68.6 ± 32.8 % of estrus duration, 33.9 ± 13.9 h after the onset of estrus, with large gilt variations (-3 h to +58 h). Last altrenogest-to-estrus interval was the best predictor of ovulation and estrus duration (p<0.01) in 3 of 4 farms. BF (10 to 20.5mm) was related to last altrenogest-to-ovulation interval (p<0.05). Gilt were inseminated 2 to 4 times and fertility was high (86 to 100% according to farms). Low BF (≤13mm) and late ovulations (>35h after estrus) were associated with lower fertility (p<0.01).

Conclusions
Results confirmed variability of ovulation and the importance of good estrus detection procedures to adapt AI protocols. Impact of BF and management of young gilts should deserve further attention, specially in farms with lower fertility.