



REPRODUCTION

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TREATMENT OF SPERM WITH MAXIPIG® BEFORE ARTIFICIAL INSEMINATION IMPROVES REPRODUCTIVE PERFORMANCES

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Introduction

Optimal reproductive performance is crucial for economic success in commercial pig herds. Different management strategies, such as optimized feeding strategies, hyperprolific dam lines, batch farrowing systems and extended photoperiod during the post-weaning phase, are applied in order to meet the high performance expectations of modern sow farmers. However, inevitable variations in farm conditions, such as season, infection pressure or feed ingredients can negatively impact the results of high productive genetics. Recently, a new technology (maXipig®; IUL-NoHow) has been developed to improve fertilization capacity of spermatozooids through a patented LED-treatment. The objective of the present study was to investigate the effect of pre-treated sperm on reproductive performances under field conditions.

Materials & methods

A high productive 225-sow farm managed on a 5-week batch-management-system was enrolled in the study. Four subsequent groups were enrolled for a pairwise comparison between the standard insemination protocol (control, C-group) and the application of maXipig® (30 min) on the sperm doses prior to insemination (maXipig®, M-group). Several standard reproductive performance parameters were collected during the study: farrowing efficiency index (FEI, # farrowings per 100 inseminations), total born piglets (TBP), live born piglets (LBP) and live piglet index (LPI, # LBP born per 100 inseminations).

Results

Farrowing efficiency index significantly ($P=0.04$) improved from $94.15 \pm 1.15\%$ (C) to $99.04 \pm 0.96\%$ (M). Total born piglets were significantly higher in the M-group (16.43 ± 0.17 vs. 15.79 ± 0.20 ; $P=0.02$). Overall, LPI significantly ($P=0.02$) improved with 9.3% in the M-group (1470 ± 39) as compared to the C-group (1345 ± 36).

Discussion & Conclusions

Sperm pre-treatment with maXipig® had a significant impact on FEI, TBP and LPI. This implies that fertilization capacity improved through pre-insemination treatment with the maXipig® concept, based on LED-technology. In conclusion, reproductive performances are significantly improved following pre-treatment of the sperm doses to improve fertilization capacity.