



Socializing piglets in lactation: effects on performance and on swIAV infection dynamic after weaning

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Background and objectives

Housing systems allowing piglets to familiarize with non-litter mates pre-weaning can reduce stress and aggression after weaning, leading to performance improvement (1-2). Pre-weaning mixing makes also possible precocious pathogens transmission and can change infection dynamic at herd level. In a closed herd that recently dealt with recurrent flu on weaners, socializing piglets in lactation was partially done to follow performance and swine influenza type A (swIAV) infection dynamic differences.

Material and methods

For experimental group S, the solid barriers between 14 farrowing pens were removed on day 7 after farrowing, while the sows remained confined in their crates. In the control group C, 14 sows and their litters were kept under conventional conditions during all lactation period. At weaning, piglets from the two groups were put in separated pens in the same room. During the first two days after weaning, a video recording was made on one pen of each group to follow and compare their aggressive behavior. The individually identified piglets (42 piglets per group) were weighted at 5, 21, 28 and 77 days. On half of them, blood and nasal swabs samplings were done at 21 and 28 days respectively. Influenza HI tests were performed on sera to check the presence of H1N1 pandemic antibodies. On nasal swabs (pooled by 5 in respect of each group), swIAV M gene real-time RT-PCR was performed.

Results and discussion

The average piglet weight at birth was significantly inferior for group S (2.23 kg) than for group C (2.43 kg) (Student test, $t < 0.05$). The average final weight (at day 77) was found numerically but not statistically superior for the group S (Student test, $t > 0.05$). This is explained by the post weaning Daily Weight Gain (DWG) which was significantly superior for group S compared to group C: 418.33 g/day versus 374.14 g/day respectively (Student test, $t < 0.05$) (Figure 1).

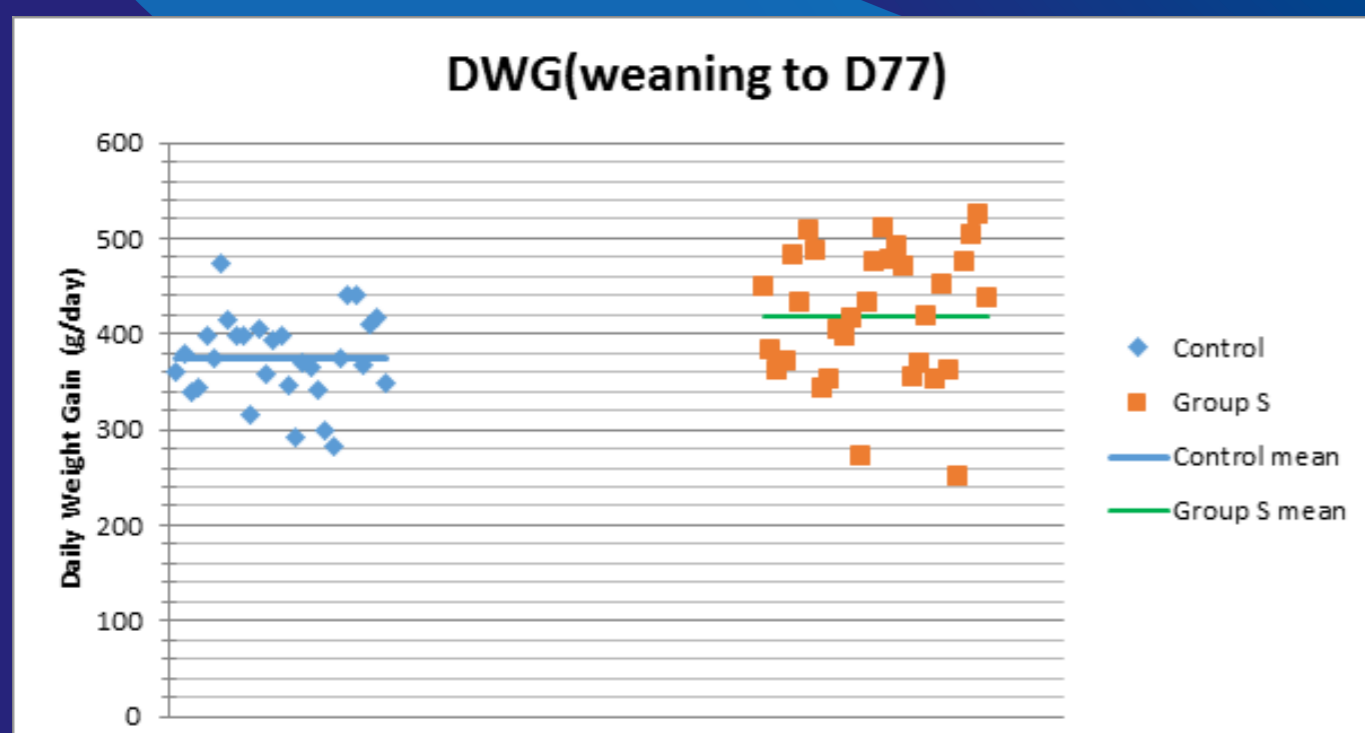


Figure 1. Daily Weight Gain between weaning and the last weighting

This is in line with a difference in aggressive behavior after weaning, as shown in Figure 2 and illustrated by Picture 1

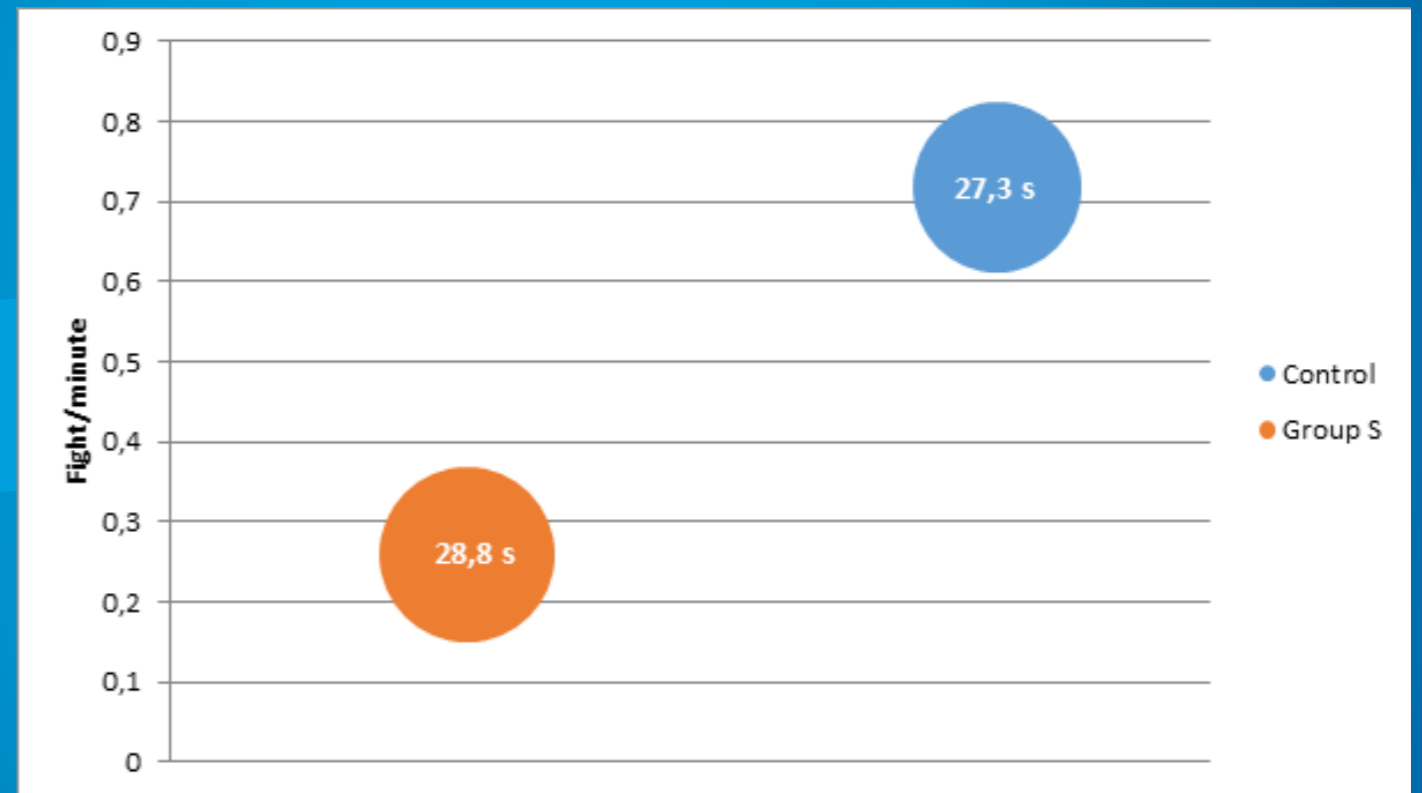
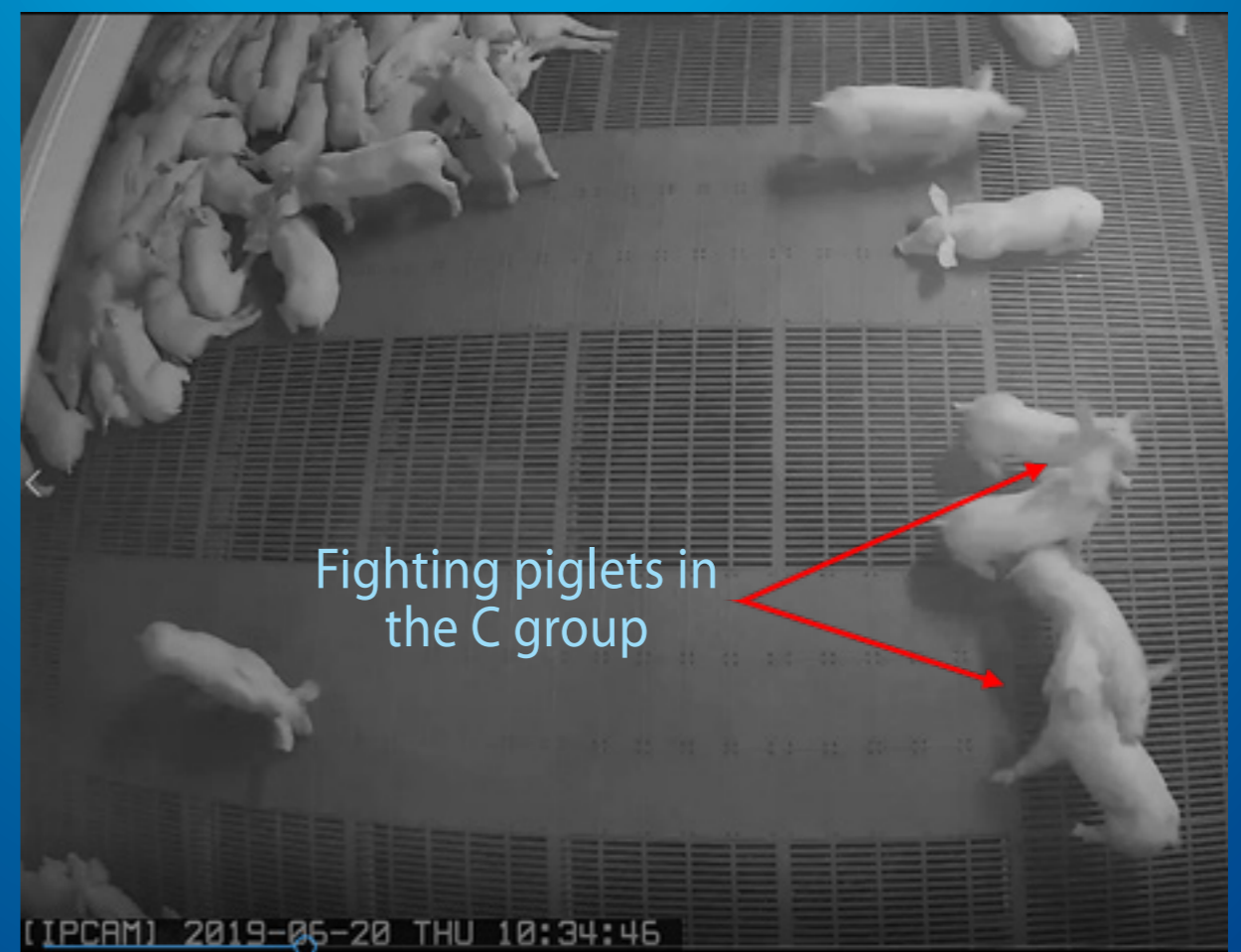


Figure 2. Occurrence and duration of fights between couple of piglets during 48h after weaning



Picture 1. Video recording snapshot made 24 hours after the weaning in Control group pen.

Concerning the laboratory analysis (made in Laboceva – France), all the sampled weaners had maternally derived antibodies (MDA) against H1N1pdm swIAV at weaning. 8 days after weaning, no swIAV was isolated on nasal swabs in contrary to previous results (not shown there). No flu-like syndrome occurred until day 77 (end of the study).

Conclusion

A better DWG of the socialized piglets after weaning is observed in this farm and this result is consistent with other experiments made by same authors in several farms. This seems to be in linked with the reduction of aggressive behavior after weaning of the group S compare to the group C. Regarding influenza, the H1N1pdm infection was fade-out on 28-days-old piglets whatever the group. The Respiorc FLUpan® H1N1 sow vaccination certainly contributed to this improvement, through the reduction of vertical transmission and the provide of MDA protection to their offspring.

References

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