



25TH INTERNATIONAL PIG VETERINARY SOCIETY CONGRESS 2018 International PRRS Symposium

June 11–14, 2018
Chongqing, China

Healthy Pig Safe Pork

Organizer:

International Pig Veterinary Society (IPVS)



Local Organizers:

Chinese Association of Animal Science and
Veterinary Medicine (CAAV) 

China Agricultural University (CAU)



Co-organizer:

Beijing Boyar Communication Co., LTD



PROCEEDINGS VOLUME **I**
KEYNOTE LECTURES & ORAL PRESENTATIONS

IV-047

High aerial ammonia as cause for increased rate of return to oestrus in sows; a case report

Wikke Kuller^{2,3}, Heidy van Hell¹, Maud Klein Koerkamp¹, Marielle Besemer¹, Jan van Schip¹, Bas Kolpa^{1,3}, Tijs Tobias^{1#}

¹ Department of Farm Animal Health, Faculty of Veterinary Medicine, Utrecht University, Utrecht, The Netherlands

² ULP (University Livestock Practice), Harmelen, The Netherlands

³ Gelre Dierenartsen, Lichtenvoorde, The Netherlands

*Corresponding Author: wikuller@gmail.com

Introduction

Non-infectious causes of reproductive failure are most often detected when farms report an increased rate of return to oestrus (RTO) with a regular interval between inseminations. However, non-infectious causes can result in RTO with an irregular interval between inseminations due to early embryonic death (EED) because of chronic physical stress.

Methods

This case report considers the data analysis, farm inspection and evaluation of feed, feeding, behaviour, climate and housing with regard to a farm of 500 sows experiencing an increased rate of return to oestrus.

Results

Data analysis an increased rate of RTO (average 11%) in sows of all parity. In addition an increased rate of too small litters was found. Finally, in 2nd cycle sows, a classical second litter syndrome was observed. The data, nor the anamnesis revealed any increased rates of abortions, mummies, decreased gestation length or diseased sows thereby excluding infectious causes of RTO and thereby suggesting EED. An evaluation of stressors for gestating sows was needed to detect the cause of EED. A thorough evaluation of feed and feeding (in electronic sow feeding stations), as well as human-sow interaction did not reveal any abnormalities. However, video behaviour analysis revealed that -75% of gestating sows rest in a sternal position, when instead lying in flank position is considered to be normal. Analysis of the climate analysis revealed a slightly increased ambient temperature (25°C) as well as an elevated aerial ammonia concentration (75 - 112 ppm) due to the fact that incoming air fell into the manure pit. Analysis of the manure pit construction and housing revealed an improper design to fit housing of gestating sows.

Conclusion

As no other cause of EED was found it was concluded that the high aerial ammonia is the likely cause of EED on this farm. Advice is currently being implemented to reduce ambient temperature and pit ventilation. However, improper housing design restricts this farmer to implement a scientific based and sustainable solution. This case shows that combining extensive data analysis and a thorough evaluation of stressors enables the identification of causes of EED on farms.

Keywords: return to oestrus, chronic stress, ammonia, reproduction