



WELFARE & NUTRITION

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EVALUATION OF AIR HYGIENIC PARAMETERS IN FARROWING PENS WITH AND WITHOUT FIXATION OF THE SOW

E. Lühken, J. Schulz, N. Kemper.

University of Veterinary Medicine Hannover, Foundation, Institute for Animal Hygiene, Animal Welfare and Farm Animal Behaviour, Germany.

Introduction

The hygienic status, characterized by different parameters, of the husbandry system is of essential importance for porcine health. Parameters such as noxious gases or microbial load can vary within and between batches, regular monitoring offers useful information. As alternative farrowing systems gain importance, the aim of this study was to compare hygienic parameters, with the main emphasis on air quality, in pens without any fixation of the sow during lactation -single loose housing pens (LH) and a group-housing system for six lactating sows (GH) - with a conventional farrowing crate (FC) system.

Materials & Methods

The study was performed in nine batches with averagely six sows in the respective compartments with LH, GH and FC systems. Sampling took place at the beginning (day 6), mid (day 19) and end (day 31) of the farrowing/suckling period. At each sampling date, the air quality was assessed by the parameters ammonia and microbial load (total bacteria count per m³). Moreover, temperature was recorded, and the fecal contamination of the pens was evaluated via a contamination score from 1 to 4. All data was analysed statistically (SAS Enterprise Guide 7.1).

Results

Regarding the total bacteria count, it increased over the farrowing/suckling period, but no significant differences between the systems were observed. Variations in ammonia concentrations showed a seasonal effect and correlated with outside temperatures, but significant differences between the systems were assessed neither. The contamination score was highest in GH systems.

Discussion & Conclusion

On base of the hitherto analyzed data, no significant differences in the hygienic status of the different farrowing systems were documented. The only exception is the grade of fecal contamination, which was increased in the GH pens. The contamination was higher due to different housing equipment elements and “dead” corners; and therefore, practical improvements can be realized.