

Crowding Effects on Performance on Fully and Partially Slatted Floors

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Summary

Crowding affects the productivity of grow/finish pigs and it is generally believed that floor types differ in required space. This study was designed to determine if there is a significant interaction between the two factors. Crowding resulted in a reduction in ADG, but the type of flooring did not make a difference.

Introduction

Floor space allowance remains one of the more contentious issues in the debate on modern farm practices and animal welfare. It is generally believed that space requirements for maximum growth will vary with housing conditions. The Code of Practice recommends that pigs on partially slatted floors be provided with more total floor area than those on fully slatted floors. However, some research has suggested that there are no differences in the effect of crowding on these two floor types. This study was conducted to gain a better understanding of space required for pigs housed on either fully or partially slatted floors.

Experimental Procedures

Four blocks of 216 grower pigs (average initial weight = 37 kg) were assigned to two floor types (full or partial slats) and three levels of floor space allowance (0.38, 0.54, and 0.78 m²/pig). The lowest space allowance was discontinued after the grower phase. The space allowance coefficients, where $k = \text{area (m}^2\text{)} / \text{BW (kg)}^{0.667}$, were approximately 0.025, 0.036, and 0.052 for the grower phase (to 58 kg), and 0.026 and 0.037 for the remaining treatments in the finisher phase (to 95 kg). Pigs were fed ad-libitum a series of mash diets from

wet / dry feeders. Within each block, pigs were assigned to two pens (18 pigs/pen) within each floor type x space allowance combination. Pens were balanced for sex within pens. Pigs were weighed and feed disappearance summarized on a weekly basis.

Results and Discussion

ADFI was not affected by floor type or floor space allowance in either the grower or finisher phases. ADG tended to be less on partially than on fully slatted floors during the grower phase (1.036 vs. 1.072 ± 0.010 kg/d, $P = 0.08$), but did not differ in the finisher phase. Pigs on the lowest floor space allowance grew slower than pigs on the other two space allowance treatments (1.013 vs. 1.067 and 1.083 ± 0.010 kg/d, for 0.38, 0.54, and 0.78 m²/pig, respectively; $P = 0.001$) during the grower phase (Figure 1). ADG tended to be reduced by crowding during the finisher phase (0.953 vs. 1.001 ± 0.013 kg/d, for 0.54, and 0.78 m²/pig, respectively; $P = 0.06$) (Figure 2). There were no significant interactions between floor type and space allowance.

Conclusion

Although crowding to a space allowance coefficient of 0.026 resulted in a reduction in ADG, there was no evidence that this effect differed depending on whether the floor was fully or partially slatted.

Acknowledgements

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“Pigs on the lowest floor space allowance grew slower than pigs on the other two space allowance treatments.”

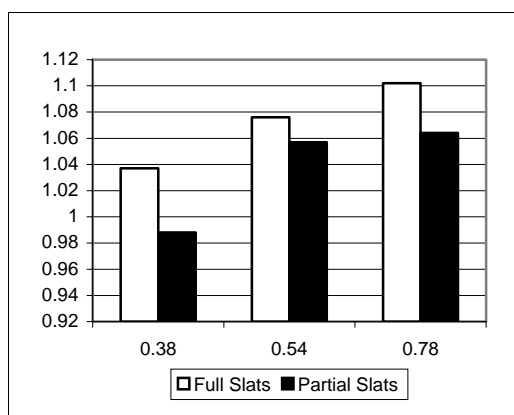


Figure 1. Effect of floor space allowance and floor type on average daily gain (ADG) of pigs during the grower phase.

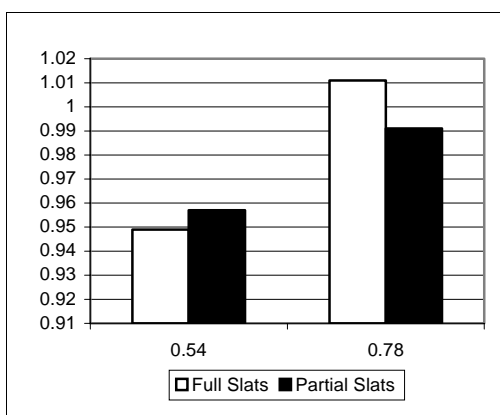


Figure 2. Effect of floor space allowance and floor type on average daily gain (ADG) of pigs during the finisher phase.