RESEARCH ABSTRACT

ANIMAL WELFARE

Title: Floor Space Requirements for Grow/Finish Pigs in Large Groups – **NPB #04-086**

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ABSTRACT

The effects of group size and floor space allowance on productivity, health and welfare were tested on 1728 grow-finish pigs (barrows) of PIC genetics. Group sizes were 18 (small) and 108 (large) pigs per pen, and space allowances were 0.52 m^2/pig (crowded) and 0.78 m^2/pig (uncrowded), creating four experimental treatments: small crowded, small uncrowded, large crowded, and large uncrowded.

Overall, average daily gain (ADG) was 1.032 kg/d versus 1.077 kg/d for crowded and uncrowded pigs, respectively, and differences were most evident during the final week of the trial. Final body weights differed by 2.1 % (92.62 and 94.65 kg for crowded and uncrowded, respectively). Overall feed efficiency (FE; gain:feed ratio) was also reduced in the crowded treatment pigs. Pigs in the crowded groups spent less time eating over the eight week trial, but overall feed intake, feeding patterns, postural behavior, carcass measurements, injuries, morbidity and mortality were unaffected by space allowance.

Overall, the ADG of large group pigs was 1.035 kg/d while small group pigs gained 1.073 kg/d. ADG differences were most evident during the first two weeks of the trial. Final body weights differed by 3.0 % (92.20 and 95.08 kg for large and small, respectively). FE over the entire eight-week trial also differed, with large groups being less efficient than small groups. Although large group pigs experienced more lameness and leg sores throughout the eight-week period, the number of animals requiring treatment with antibiotics or requiring removal from the trial did not differ between the group sizes. Minimal changes in postural behavior and feeding patterns were noted in large groups. Stress levels and carcass measurements did not differ.

Although some behavioral variables, such as lying postures, would suggest that pigs in large groups were able to use space more efficiently, overall production performance and health variables would indicate that pigs in large and small groups were similarly affected by the crowding imposed in this study. In fact, the broken line analysis of ADG suggests that large groups were affected by space restriction earlier in the study than were small groups. Little support was found for reducing space allowances for pigs in large groups.