

Effects of Large Group Size on Productivity of Grower-Finisher Pigs

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Introduction

Traditionally, pigs in North America are penned in groups of 10-40 animals. Over the past few years the concept of “large groups” has become more common with group sizes of 50-100 pigs/pen or even more, as a management strategy to reduce housing cost, improve space use and increase overall profitability. However, there are concerns that social instability in large groups may result in poor growth, higher mortality and morbidity and higher variation in body weights at the end of production.

The present study was aimed at comparing the production performance of grower-finisher

Large group size has little effect on pig performance.

pigs formed into a larger group (108 pigs/pen) to a conventional small group size (18 pigs/pen) and to see if this trend in the pig industry is beneficial to producers.

Experimental Procedures

Eight 11-week trials of four groups of 18 (small group) and two groups of 108 grower-finisher pigs (large group) per pen were evaluated. Equal numbers of barrows and gilts (1:1) were used in each group. Initial body weight and body weight variation (CV) were 31.9 kg and 14.8% and 31.6 kg and 15.7% for small and large groups respectively. One wet/dry ad-libitum feeder space was provided for every nine pigs. Floor space per pig in the fully slatted rooms was identical between the two group sizes.



Average daily feed intakes (ADFI) were recorded for four trials during two experimental periods (week 2 to 5 and week 7 to 11). Body weight variation within the group (CV) at the end of each trial, average daily gain (ADG) and pig mortality and morbidity were determined for all eight trials.

Results

Pigs in smaller groups had a higher growth rate (10%, $P < 0.05$) during first 2-week period. ADG for the entire grower-finisher period was slightly higher (2%, $P < 0.05$) for the pigs in the smaller groups compared to larger groups (Figure 1).

ADFI during week 2-5 and week 7-11 was similar between the two group sizes (Figure 2) and no difference was observed on feed efficiency for the above two periods.

At the end of the experimental period, variation in pig body weight within a group

(CV) was similar between the two groups (9.6% vs. 10.3% for small and large groups respectively).

No significant differences were observed between the two group sizes on percentage pigs removed (Figure 3).

Implications

Although pigs in larger group size tend to have a slight reduction in overall ADG, in general, the performance of the pigs in larger group size was not inferior to the smaller group size evaluated in this study during the grower-finisher period.

Acknowledgements

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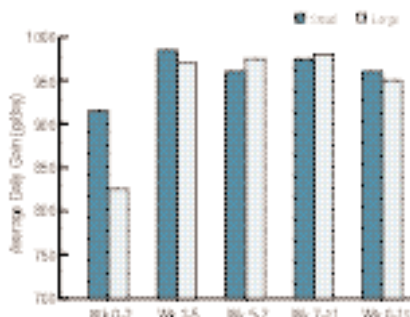


Figure 1: Effect of group size on ADG

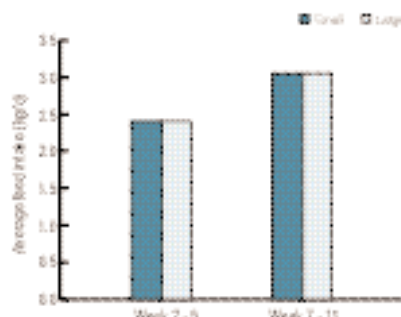


Figure 2: Effect of group size on ADFI

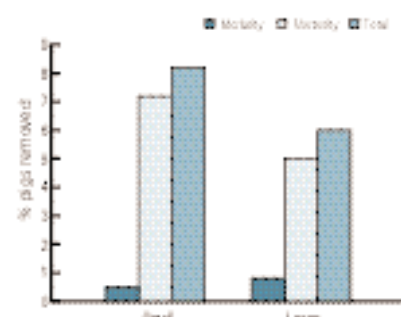


Figure 3: Effect of group size on percentage of pigs removed.