

Effect of Group Sizes of 10, 20, 40 and 80 Pigs on Productivity during the Grower-Finisher Period

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Research on management and productivity of grower-finisher pigs has generally been conducted on small group sizes, while the swine industry has shifted towards larger group sizes. Groups of 10, 20, 40 and 80 pigs per pen were studied to quantify the effects of group size on productivity. Four 12-week studies were conducted. In each study two pens of 10 pigs, and one pen each of 20, 40 and 80 pigs were evaluated. An equal number of males and females were used in each pen, with pigs born within a 2-week period. Initial bodyweight of pigs was $23.2 \pm .2$ kg. One wet/dry ad-libitum feeder was provided for every 10 pigs. Space per pig was constant among group sizes. Weight gain (ADG), feed intake (ADFI), and feed efficiency were determined along with 48 hr post-regrouping injury scores. ADG throughout each of the trials was greater for males than for females (890 vs. 830 g/d). The overall ADG was not affected by group size (862, 873, 853, and 846 g/d, for pens of 10, 20, 40 and 80, respectively). During the initial two weeks post-regrouping, ADG was depressed for groups of 40 (554 g/d) compared to groups of 10 (631 g/d) and 80 (605 g/d) pigs per pen. During wk 4 to 6, the groups of 40 (903 g/d) and 80 (891 g/d) had a reduction in ADG compared to the groups of 10 (975 g/d). No difference in ADFI was detected among the group sizes (2.34, 2.42, 2.23 and 2.27 kg/d, pens of 10, 20, 40 and 80 respectively). The overall feed efficiency was similar among the group sizes of 10, 20, 40 and 80 pigs per pen (.364, .357, .377, .368). In general, the injury scores were not different between group sizes, but the severity of flank injuries was greater for females than for males. The morbidity of pigs was not found to differ among group sizes (7.5, 6.2, 5.0 and 5.6% for pens of 10, 20, 40 and 80 respectively).

Implications:

The shift in the swine industry towards larger group sizes does not appear detrimental or beneficial to the productivity of grower-finisher pigs. Further research is needed to examine the effect of group sizes larger than 80 pigs per pen on productivity and the behavioural consequences of increasing group size.