

Summary

Groups of 6, 12, or 24 pigs averaging 37 pounds each were assigned to pens where each pig had 3.85 square feet of floor space for a 4-week feeding period. Pigs in groups of 12 gained significantly slower and showed a much higher incidence of tail-biting than groups of 6 or 24. Feed efficiency was similar for all groups. In groups of 12 three pigs per feeder space gave the same results as six pigs per feeder space.

Introduction

Most authorities agree that nursery age pigs in confinement and on slatted floors should be allocated approximately 4 square feet of floor space per head. This study was initiated to determine if number of pigs per pen affects floor space required per pig.

Procedure

The study was carried on in our controlled-environment, slatted floor pig nursery 3 years. Each pig was allocated 3.85 square feet of floor space. Groups of 6, 12, and 24 pigs were compared by measuring average daily gain, average daily feed intake, and average feed/gain ratio during 28 day periods. The average initial weight of pigs was 37 pounds (11.2 pounds standard deviation) and average final weight was 75 pounds (16.6 pounds standard deviation). One feeder space was

available for each three pigs, and one water cup for each 12 pigs in 12 pig and 24 pig groups (one water cup for 6 pigs in 6 pig group). All pigs had access to a grower ration containing approximately 16% crude protein.

In a separate study we compared one feeder space per 3 pigs with one feeder space per 6 pigs using groups of 12 pigs each.

Results and Discussion

Overall performance of the pigs is summarized in table 30. Average daily gains were significantly ($P < .05$) lower in the 12-pig groups. In six of the 8 pens with twelve pigs, tail-biting also was a serious problem. There was no incidence of tail-biting in the 6 pig groups, and only 3 individual cases of tail-biting in the 24-pig groups.

Feed efficiency was essentially the same for all groups. Average daily feed intake reflects differences in average daily gain. Pigs in the 12-pig groups ate less per day and gained significantly less but maintained approximately the same feed efficiency as 6-pig and 24-pig groups.

Pig pressure on available feeder spaces in 12-pig groups made no difference in performance or feed efficiency. Six pigs per feeder space showed the same results as 3 pigs per feeder space.

We have no explanation for the depressed average daily gain and increased incidence of tail biting in the 12-pig groups. The 6-pig groups appeared to be quite crowded, 12-pig groups less crowded, and 24-pig groups not crowded at all, even though each individual pig had the same amount of floor space regardless of number of pigs per pen. It is possible that 6-pig groups were too crowded for fighting, 12-pig groups could fight but could not get away from each other, while 24-pig groups could fight but vanquished pigs could escape to an open space.

Table 30. No. of pigs per pen (3.85 sq. ft. of floor per pig).

Pigs Per Pen	6	12	24
No. Replicates	6	8	4
Avg. daily gain, lbs.	$1.38 \pm .04^1$	$1.28 \pm .03^1$	$1.34 \pm .03^1$
Feed/gain ratio	2.11	2.07	2.16
Avg. daily intake, lbs.	2.88	2.58	2.93