

1980

# Effect of Prefarrowing and Lactation Feeding Management on Sow and Pig Performance

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## Recommended Citation

Libal, George W. and Wahlstrom, Richard C., "Effect of Prefarrowing and Lactation Feeding Management on Sow and Pig Performance" (1980). *South Dakota Swine Field Day Proceedings and Research Reports, 1980*. Paper 11.  
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## ***Effects of Housing and Pen Space on Performance of Growing-Finishing Pigs***

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**SWINE 80-11**

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In several previous experiments conducted by the authors, we have found that pigs housed in open-front buildings with access to an outside concrete feeding floor gained faster than pigs in an enclosed confinement building. The reasons for this difference are associated with increased feed consumption, but the causes of increased feed intake are not clear.

The experiment reported herein was conducted to obtain information on the effect of increasing pen space during the finishing period and also the effect of movement of pigs from inside to outside type housing with additional pen space during the finishing period.

### Experimental Procedure

Sixty-four crossbred pigs averaging about 60 pounds were allotted to four treatment groups with four pens per treatment and four pigs per pen (three gilts and one barrow). The four treatments were:

- Treatment 1 - Enclosed building with 7.1 square feet of pen space per pig from 60 to 140 pounds and 14.2 square feet from 140 to 220 pounds
- Treatment 2 - As treatment 1 to 140 pounds; moved at 140 pounds to open-front building having 12 square feet of sleeping area and 16 square feet of outside area per pig
- Treatment 3 - Enclosed building with 7.1 square feet of pen space per pig from 60 to 220 pounds
- Treatment 4 - Open-front building with 12 square feet of sleeping area and 16 square feet of outside area per pig from 60 to 220 pounds.

The enclosed building was an insulated, ventilated building with totally slatted floors. The open-front buildings were uninsulated wooden houses (8 x 12) that were divided in the center to make two inside pens 8 x 6 feet. Each pen had an outside concrete area (6 x 12 feet) where feeders and waterers were located. All pigs were fed a 14% protein corn-soybean meal fortified diet for the entire experiment. The experiment was conducted from late April to late August.

### Results

The average daily gain, daily feed consumption and feed/gain data for the different treatments are shown in table 1. There were no significant differences in any period among treatments. During the finishing phase from 140 to 220 pounds, pigs in the enclosed building that were given double pen

TABLE 1. RESULTS OF HOUSING MANAGEMENT SYSTEMS<sup>a</sup>

Housing and space/pig (sq ft)	60-140 lb	Enclosed	Enclosed	Enclosed	Open-front
Housing and space/pig (sq ft)	220 lb	Enclosed	Enclosed	Open-front	Open-front
		7.1	7.1	7.1	12-16 <sup>b</sup>
		7.1	14.2	12-16 <sup>b</sup>	12-16 <sup>b</sup>
Avg initial wt, lb		60.4	61.5	60.6	60.3
Avg wt at change, lb		142.5	136.0	141.6	136.6
Avg final wt, lb		226.3	224.3	225.1	229.0
Avg daily gain, lb					
60-140 lb <sup>c</sup>		1.42	1.32	1.39	1.31
140-220 lb <sup>c</sup>		1.66	1.88	1.63	1.75
60-220 lb <sup>d</sup>		1.53	1.58	1.53	1.52
Avg daily feed, lb					
60-140 lb		4.25	4.13	4.05	4.37
140-220 lb		5.49	5.53	6.14	6.17
60-220 lb		4.83	4.81	5.03	5.21
Feed/gain, lb					
60-140 lb		3.00	3.12	2.92	3.34
140-220 lb		3.33	2.93	3.63	3.53
60-220 lb		3.17	3.01	3.31	3.43

<sup>a</sup> Four replicates of four pigs each per treatment.

<sup>b</sup> Twelve square feet sleeping space and 16 square feet outside area per pig.

<sup>c</sup> Significant sex difference (P<.05).

<sup>d</sup> Significant sex difference (P<.01).

space gained 1.88 pounds per day compared to 1.66 pounds for those pigs in the more restricted space of 7.1 square feet per pig. Average daily feed consumption was greater for those pigs housed in the open-front buildings. However, since the rate of gain of these pigs was not improved, it resulted in more feed/gain being required when pigs were housed in the open-front buildings. Previous experiments had noted an increased feed consumption, but it was accompanied by an increased gain. Barrows gained significantly faster than gilts in all growth periods.

#### Summary

Sixty-four crossbred pigs were used in an experiment to study the effects of open-front and enclosed housing and additional pen space during the 140- to 220-pound period. There were no significant differences between housing types. Pigs housed in the enclosed building and given access to double pen space, 14.2 square feet per pig during the 140- to 220-pound period, gained 13% faster than pigs in the same building with 7.1 square feet of pen space. However, these differences were not statistically significant.