

1984

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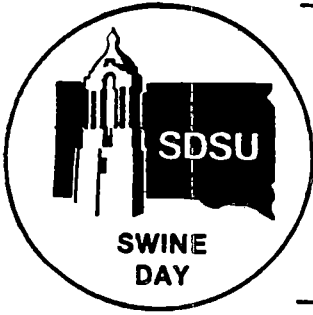
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Recommended Citation

Libal, G. W.; Wahlstrom, R. C.; and Hanson, R., "Performance of Finishing Pigs as Affected by Prior Performance and Addition of an Antibiotic to the Diets" (1984). *South Dakota Swine Field Day Proceedings and Research Reports, 1984*. Paper 13.
http://openprairie.sdstate.edu/sd_swine_1984/13

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PERFORMANCE OF FINISHING PIGS AS AFFECTED BY
PRIOR PERFORMANCE AND ADDITION OF
AN ANTIBIOTIC TO THE DIETS

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SWINE 84-12

Although pigs may be fairly uniform in weight when they are placed in growing-finishing facilities, uneven performance and thus a wide range in weight at market time is a common occurrence. Poor performing pigs during the growing period seem to continue to grow slower than their faster growing counterparts if they are left in the same pen during the finishing period. The study reported herein is designed to determine if sorting pigs by performance during the growing period will lead to better performance during the finishing period. The effect of addition of antibiotic to the finishing diet was also evaluated.

Experimental Procedure

Growth performance of 153 pigs was evaluated from approximately 50 lb to 115 lbs. From that group the slowest growing pigs (6%) and the fastest growing pigs (4.5%) were eliminated from the experiment. The remaining pigs were allotted to three outcome groups based upon slow, medium and fast growth. Within each performance outcome group the heaviest 14 pigs were allotted to two pens in replication 1, the second 14 pigs by weight were allotted to two pens in replication 2 and the lightest 14 pigs were allotted to two pens in replication 3. One of the two pens of pigs in each replication was then fed 50 gm/ton of aureomycin. All pigs were fed the same 15% protein corn-soybean meal diet. The only difference was the presence or absence of antibiotic. Gain, feed consumption and feed efficiency were then monitored from approximately 113 lb to 210 lb. The pigs were housed in the environment-modified confinement building at the Southeast South Dakota Experiment Farm at Beresford, South Dakota. The pens, which were 50% slats over a scraper system, provided adequate pen space for the seven pigs/pen. The study was conducted during the months of January through March.

Results

The results of the finishing trial are shown in Table 1. Average daily gain varied among treatment groups from 1.78 for the slow growing pigs receiving no antibiotics to 2.02 for pigs from the medium growth group receiving antibiotics. A significant interaction was observed for both average daily gain and average daily feed. Within the antibiotic fed groups, the

medium and fast growing groups of pigs consumed significantly more feed and gained significantly faster than pigs from the slow growing group. Differences in feed efficiency also approached significance, however, these differences were not observed among groups of pigs which did not receive antibiotics.

Table 1. Summary of Performance of Pigs with Different Previous Growth Rates and the Effect of Addition of Antibiotics to the Finishing Diet

Previous growth rate Antibiotic ^a	Slow		Medium		Fast	
	-	+	-	+	-	+
No. of pigs	21	21	21	21	21	21
Initial wt, lb	104	104	113	113	121	121
Final wt, lb	208	208	211	211	211	210
Avg daily gain, lb ^b	1.78	1.79	1.88	2.02	1.94	1.91
Avg daily feed, lb ^b	6.45	6.07	6.47	6.63	6.45	6.39
Feed/gain	3.62	3.39	3.44	3.31	3.32	3.35

Aureomycin, 50 gm/ton.

Within the antibiotic fed groups, the medium and fast growing groups consumed more feed ($P < .05$) and gained faster ($P < .05$) than the slow growing group.

Table 2 summarizes performance of pigs based upon previous growth rate and averaged across antibiotic treatments. The previously slow growing group of pigs gained significantly slower (1.78 lb/day) than the previously medium (1.95 lb/day) or fast growing pigs (1.93 lb/day). Feed consumption figures followed the same pattern but the differences only approached significance.

Table 2. Summary of Performance of Pigs With Different Previous Growth Rates

Previous growth rate	Slow	Medium	Fast
No. of pigs	42	42	42
Initial wt, lb	104	113	121
Final wt, lb	208	211	211
Avg daily gain, lb ^a	1.78	1.95	1.93
Avg daily feed, lb	6.26	6.55	6.42
Feed/gain	3.51	3.37	3.33

^a

Previously slow growing pigs continued to grow slower than the medium or fast growing pig group ($P < .05$).

Performance of pigs based upon antibiotic supplementation is shown in Table 3. Average daily gain, feed consumption and feed/gain were similar between pigs fed diets during the finishing period with or without aureomycin included at 50 gm/ton.

Table 3. Summary of Performance (113-210 lb) of Pigs With or Without Antibiotic Included in the Finishing Diet

	<u>Finishing Diet</u>	
	Without antibiotic	With antibiotic
No. of pigs	63	63
Initial wt, lb	113	113
Final wt, lb	210	210
Avg daily gain, lb	1.87	1.91
Avg daily feed, lb	6.46	6.36
Feed/gain	3.46	3.35

The results of this experiment indicate that pigs which were gaining slowly during the growing period (up to 115 lb) will not gain as well as previously fast growing pigs, even when sorted into uniform groups. It should be pointed out that rate of gain even of the slow growing pigs was close to that normally expected of pigs during the finishing period. Failure to receive a response to antibiotic is not surprising given the level of performance of all pigs. In the previous article (AS Series 84-11) the response was due to a therapeutic level of antibiotic and 50 gm/ton of aureomycin is a growth promoting level.

Summary

One hundred twenty six pigs were allotted to three outcome groups based upon growth rate during the growing period (slow, medium and fast growth). During the finishing period, they received a 15% protein diet with or without 50 gm/ton aureomycin. Pigs which had previously grown slowly continued to grow at a slower rate than those which had gained at a medium or fast rate. No differences in performance were seen due to presence of an antibiotic except that within the antibiotic fed groups, medium and fast growing pig groups consumed more feed and gained faster than pigs from the slow gaining group. These differences were not observed among groups of pigs not receiving a antibiotic.