

Comparisons of Medicated vs. Non-Medicated Growing Rations for Pigs*

J. A. Whatley, Jr., D. F. Stephens and David Rule

Antibiotics have been used extensively to fortify swine rations because a generally beneficial response, particularly in growth rate, has been demonstrated. Recently a medicated premix, Aureo S-P250, has been made available on the market. As fed, this premix adds considerably higher amounts of aureomycin and penicillin to the ration than has commonly been used before. It also contains sulfamethazine which has not previously been used in feeds on a continuous basis.

The disease level in the Ft. Reno breeding project herd is probably fairly typical of that in many herds in the country. Rhinitis has been a chronic problem in the herd. Abscesses have been a problem in certain seasons. Periodically scours in baby pigs has also been a problem. These have been the more important disease problems in the herd. However, death losses have not been serious, and under the feeding and management conditions in the herd the performance of most pigs has been reasonably satisfactory. There have been a small percentage of runt pigs in each pig crop, and many of these runts and a few other pigs have shown outward symptoms of Rhinitis.

PROCEDURE

Eighty weanling crossbred pigs from the Ft. Reno herd were used to test the value of adding Aureo S-P250 to the growing ration fed from 56 days of age to a weight of 75 to 80 lbs. Forty of the heavier pigs averaging about 38 lbs. were used in Trials I and II. Each trial contained 2 lots of 10 pigs each. One lot of each trial was randomly assigned to receive the medicated Aureo S-P250 in the growing ration and the other lot was the control which received the non-medicated Ft. Reno growing pig ration (see table I). Forty of the smaller pigs averaging about 25 lbs. were used in Trials III and IV with one randomly assigned lot in each trial receiving Aureo S-P250 added to the ration and one lot receiving no Aureo S-P250. The 4 trials gave 4 replications of the test. When the pigs in each lot reached an average weight of 75-80 lbs. the feed was changed from the growing ration to the finishing ration (Table 1). All lots received the same finishing ration.

The pigs in each lot were weighed off individually as they reached weights over 200 lbs. On March 18 after the feeding test had continued for 154 days the few remaining pigs that had not reached 200 lbs. were weighed and removed from the test.

*This test was conducted at the Ft. Reno Experiment Station in a cooperative project between the Oklahoma Agricultural Experiment Station and the Regional Swine Breeding Laboratory, Agricultural Research Service, U. S. Department of Agriculture.

Table 1.—Medicated and non-medicated rations fed in this experiment.

Ingredient	Growing Rations		Finishing Ration
	Med.*	Non-med.	Non-med.
Ground Milo	35.91	36.00	40.00
Ground wheat	35.91	36.00	40.00
Molasses	4.99	5.00	5.00
Soybean meal (44%)	14.96	15.00	10.00
Dehy. alfalfa meal	4.99	5.00	2.50
Dicalcium phosphate	1.25	1.25	1.00
Calcium carbonate	1.00	1.00	0.75
Salt	0.50	0.50	0.50
Antibiotic, trace mineral, and vitamin premix.	0.25	0.25	0.25
Aurea SP250	0.25		
Total	100.01	100.0	100.0
Cost of feed per cwt. of ration**	\$3.03	\$2.60	\$2.46

*5 lbs. of aureo SP250 was added per ton of the medicated growing ration. This added 100 gms. of aureomycin, 100 gms. of sulfamethazine, and 50 gms. of procaine penicillin per ton of feed.

**In the feed prices listed elsewhere in this bulletin, feed wheat was arbitrarily priced at \$2.00 per ton above milo. Ten cents per hundred lbs. of grain were charged for grinding and 15 cents per hundred lbs. of ration were charged for mixing. The commercial antibiotic, trace mineral and vitamin premix included in all rations cost 37 cents per lb. and the Aureo SP250 in the medicated growing ration cost \$1.74 per lb.

RESULTS

The first weights were taken 29 days after the start of the experiment and the results are shown in Table 2. Pigs on the medicated ration averaged 0.39 lbs. per day faster gain the first 29 days than those on the control ration (1.45 vs 1.06 lbs. per day). This difference was highly significant statistically. In observing the different trials it was noted that the difference between the two rations was larger (0.43 lbs. per day) for the light weight pigs in Trials III and IV than for the heavier pigs (0.33 lbs. per day) in Trials I and II. However, the statistical analysis did not reveal a significant interaction of this kind.

In Trials I and II all lots were changed to the same non-medicated finishing ration after 29 days on test. The lots in Trials III and IV had not attained 75 lbs. average weight at the end of 29 days on test and the feed change in these lots was delayed until the 75 lbs. average weight per lot was reached.

The results for the entire feeding test are shown for each trial in Table 3. A summary for all trials is shown at the bottom of Table 3. Over the entire feeding period pigs that received the medicated growing ration the first month after weaning gained 0.20 lbs. per day faster than the controls (1.60 vs 1.40 lbs. per day). The difference was highly significant statistically. Pigs receiving the medicated growing ration also required 18 lbs. (351 vs 369 lbs.) less feed per hundred lbs. gain. There

Table 2.—Average daily gains of medicated and control pigs the first 29 days on test.

Trial	Lot	Ration	No. Pigs	Av. In. wt., lbs.	Av. wt. after 29 days, lbs.	Av. daily gain 1st 29 days, lbs.
I	1	Medicated	10	38.2	84.7	1.60
	2	Control	10	39.1	76.2	1.28
		Difference		-0.9	8.5	0.32
II	3	Medicated	10	39.7	85.5	1.58
	4	Control	10	36.1	72.6	1.24
		Difference		3.6	12.9	0.34
III	5	Medicated	10	26.6	63.5	1.27
	6	Control	10	25.8	52.4	0.92
		Difference		0.8	11.1	0.35
IV	7	Medicated	10	24.5	63.0	1.33
	8	Control	10	24.7	48.4	0.82
		Difference		-0.2	14.6	0.51
All		Medicated	40	32.2	74.2	1.45
		Control	40	31.4	62.4	1.06
		Difference		0.8	11.8	0.39

was little difference in the cost of gain, and only a slight saving in feed cost per hundred lbs. gain (9 cents) for pigs receiving the more expensive medicated growing ration.

It should be emphasized that Aureo S-P250 was not fed to any pigs until after they were 8 weeks old and placed on this experiment. Earlier feeding of this medicated premix in the creep ration might have given a greater growth stimulus over the growing-finishing period, but this was not tested in this experiment.

SUMMARY

A significant growth stimulus was obtained when Aureo S-P250 premix was added to a growing ration for the first 4 to 6 weeks after weaning. The growth response was most evident when the Aureo S-P250 was being fed in the growing ration, but there was a carryover effect through the finishing period. A small improvement in efficiency of gain was noted which resulted in slightly cheaper gains even though the medicated growing ration cost 43 cents per hundred lbs. more than the control ration.

Table 3.—Average daily gains, feed conversions, and feed costs for medicated and control pigs over the entire feeding period.

Trial Lot	Ration	No. pigs	Av. In. Wt., lbs.	Av. Fin. Wt. lbs.	Av. daily gain, lbs.	Lbs. feed per 100 lbs. gain	Feed cost per 100 lbs. gain, \$
I	1 Medicated	10	38.2	207.6	1.73	338	9.31
	2 Control	10	39.1	205.3	1.58	408	10.78
	Difference		-0.9	2.3	0.15	-70	-1.47
II	3 Medicated	9*	39.7	202.4	1.69	349	9.59
	4 Control	10	36.1	201.9	1.42	350	9.25
	Difference		3.6	0.5	0.27	-1	0.34
III	5 Medicated	10**	26.6	195.1	1.41	385	10.69
	6 Control	10	25.8	198.7	1.29	369	9.76
	Difference		0.8	-3.6	0.12	16	0.93
IV	7 Medicated	10	24.5	207.7	1.59	333	9.13
	8 Control	9***	24.7	198.0	1.30	350	9.29
	Difference		-0.2	9.7	0.29	-17	-0.16
All	Medicated	39	32.2	203.2	1.60	351	9.68
	Control	39	31.4	201.0	1.40	369	9.77
	Difference		0.8	2.2	0.20	-18	-0.09

*One pig died.

**Two pigs were removed because of broken legs before they completed the test, but they were still counted in the test.

***One gilt in this lot was removed February 15 and not counted in the test. She had an extremely bad case of Rhinitis and weighed only 65 lbs. at the time of removal—120 days after the beginning of the test. One other gilt in this lot gained only 0.99 lbs. per day. She lost weight the last 2 weeks she was on test, but she was included in the results.

Improving the Utilization of Milo for Fattening Calves: Value of Fine Grinding and Supplemental Vitamin A¹

Robert Totusek, Dwight Stephens and Lowell Walters

Milo (sorghum grain) is the most abundant feed grain available for fattening cattle in Oklahoma and in the southwest in general. Previous experiments at this station (see Feeders' Day Reports for former years), as well as results reported from other experiments stations, have shown that milo has a lower feeding value than corn. Milo is primarily inferior to corn in terms of feed efficiency, with as much as 10% more feed commonly required per unit of gain. Efforts are being continued to improve the utilization of milo in cattle fattening rations through research at this station.

¹ The vitamin A used in this study was generously provided by Dr. H. A. Bechtel, Dawes Laboratories Inc., 4800 South Richmond, Chicago 32, Illinois.