COMPARISON OF ANTIBIOTICS FOR WEANLING PIGS

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Story in Brief

Two trials involving 80 litters of weanling pigs were conducted to compare two antibiotics commonly used by Oklahoma swine producers. In trial 1, pigs fed Neo-Terramycin tended to gain faster than those fed ASP-250 or a control diet. The difference in rate of gain among the groups was not statistically significant. In trial 2, there was little difference in average daily gain between pigs fed Neo-Terramycin or ASP-250.

Introduction

Antibiotics have been extensively used for approximately 30 years in swine rations in the United States. They are used by most swine producers to increase growth rate, improve feed efficiency and reduce mortality and morbidity from clinical and sub-clinical infections.

Although there is a considerable volume of data demonstrating the efficacy of antibiotics by Agriculture Experiment Station research swine herds, little data is available comparing antibiotics under field conditions. Thus, two field trials were conducted on an Oklahoma swine producer's farm to compare two commonly used feed additives (Neo-Terramycin and ASP-250) for weanling pigs in Oklahoma.

Materials and Methods

This study was conducted on the S.D. Welty farm near Carney, Oklahoma in the fall of 1981 and the fall of 1982. In trial 1, 48 weanling litters of purebred Yorkshires and crossbred Hampshire X Yorkshire pigs were randomly allotted by litter within breed to three experimental treatments. Treatments were (1) a 17.8 percent crude protein corn-soybean meal type ration (Table 1), (2) Ration 1 plus 3 lb of Neo-Terramycin 50/50[4] (150 grams of neomycin + 150 grams oxytetracycline) per ton of feed and (3) Ration 1 plus 5 lb of ASP-250[5] (100 grams of chlortetracycline + 100 grams sufamethazine + 50 grams penicillin) per ton of feed. Average age on test and at the completion of the test were 37.5 and 65.0 days, respectively.

In trial 2, 32 weanling litters of purebred Yorkshires and crossbred Hampshire X Yorkshire pigs were randomly allotted by litters within breed to two experimental treatments. Treatments were (1) a 17.8 percent crude protein corn-soybean meal type ration plus 3 lb of Neo-Terramycin 50/50 per ton of feed (Table 1) and (2) the same ration as Treatment 1, but with 5 lb of ASP-250 replacing the 3 lb of Neo-Terramycin per ton of feed. Average age on test and at the completion of the test were 49.6 and 79.3 days, respectively.

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Table 1. Basal ration.

Ingredients	Percent
Yellow corn	70.00
Soybean meal, 44%	26.50
Calcium carbonate	1.00
Monocalcium phosphate	1.50
Salt	.50
Vitamin-TM mix[a]	.50
Total	100.00
Calculated analysis, %	
Crude protein	17.84
Lysine	.94
Calcium	.72
Phosphorus	.66

[a] Supplied 300,000 IU Vitamin A, 30,000 IU Vitamin D, 600 IU Vitamin E, 1.5 mg Vitamin B 12, 400 mg riboflavin, 3,000 IU niacin, 2,000 IU pantothenic acid, 100,000 IU choline, .44% manganese, 1.98% zinc, 1.98% iron, .22% copper and.004% iodine per pound of premix.

All pigs were housed by litters in completely enclosed slotted floor nursery pens equipped with self feeders and waterers.

Results and Discussion

The results of feeding Neo-Terramycin or ASP-250 as compared to a control ration to weanling pigs in Trial 1 is shown in Table 2. The pigs fed the Neo-Terramycin tended to gain faster (.94 lb/day) vs .83

Table 2. Neo-Terramycin vs ASP-250 for weanling pigs. Trial 1.

	Treatment		
	1 Control	2[a] Neo-Terramycin	3[b] ASP-250
No. of litters	16	16	16
Avg. pig starting wt., lb	17.37	17.49	17.61
Avg. pig final wt., lb	38.05	42.61	40.75
Avg. age on test, days	38.18	37.75	36.62
Avg. age off test, days	65.68	65.25	64.12
Avg. daily gain, lb	.79	.94	.83

[a] Control ration plus 3 lb of Neo-Terramycin 50/50 (150 grams of neomycin + 150 grams oxytetracycline) per ton of feed.
[b] Control ration plus 5 lb of ASP-250 (100 grams of chlortetracycline + 100 grams sulfamethazine + 50 grams penicillin) per ton of feed.

and .79 lb/day for the pigs fed the ASP-250 or the control diet, respectively. However, the differences in average daily gain were not statistically significant.

In Trial 2, the effect of feeding Neo-Terramycin vs ASP-250 on average daily gain was studied. The average daily gains were .66 and .65 lb for pigs fed Neo-Terramycin and ASP-250, respectively. Neither group of pigs gained as well as would be expected for animals of this age.

Table 3. Neo-Terramycin vs ASP-250 for weanling pigs. Trial 2.

	Treatments	
	1[a] Neo-Terramycin	2[b] ASP-250
No. of litters	16	16
Avg. pig starting wt., lb	18.13	17.89
Avg. pig final wt., lb	37.26	37.13
Avg. age on test, days	49.00	50.19
Avg. age off test, days	78.69	79.88
Avg. daily gain, lb	.66	.65

[a]Three lb of Neo-Terramycin 50/50 (150 grams of neomycin + 150 grams oxytetracycline) was added per ton of feed.

[b]Five lb of ASP-250 (100 grams of chlortetracycline + 100 grams sulfamethazine + 50 grams penicillin) per ton of feed.