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The Effect of Tylosin and a Combination of Diethylstilbestrol
and Methyltestosterone on Performance and Carcass
Characteristics of Finishing Pigs

Richard C. Wahlstrom and George W. Libal

In a previous experiment at the South Dakota Agricultural Experiment Station which was reported at the 1969 Swine Day (A.S. Series 69-39) it was shown that a combination of 2 grams of diethylstilbestrol (DES) and 2 grams of methyltestosterone (MT) per ton improved feed efficiency and decreased carcass backfat when fed to finishing pigs.

This experiment was conducted to obtain further information on the effect of feeding these hormones at a higher level during the first half of the finishing period (100 to 150 lb.) and reducing the level fed for the last half of the period.

Procedure

Ninety pigs, averaging about 100 lb., were divided into nine lots of ten pigs each (6 barrows and 4 gilts) on the basis of weight, sex and litter. They were then randomly assigned to the three experimental treatments (3 lots per treatment) as follows:

1. Basal ration, 14% protein to 150 lb., 12% protein from 150 to 210 lb.
2. Basal ration + 3.5 grams DES + 3.5 grams MT per ton to 150 lb., basal + 2.25 grams DES + 2.25 grams MT per ton from 150 to 210 lb.
3. Basal ration + DES and MT as in treatment 2 + 17.5 grams tylosin per ton from 150 to 210 lb.

A basal 38% protein supplement was used and the composition is shown in table 1. DES and MT were added to the supplements fed to the treated groups at levels of 20 grams DES and 20 grams MT per ton. Tylosin was added to the supplement used in treatment 3 at a level of 100 grams per ton. The supplements were mixed with ground corn at a ratio of 17.5:82.5 which resulted in a diet of approximately 14% protein which was fed from 100 to 150 lb. when the ratio was changed to 11.25:88.75 and resulted in a 12% protein diet. These ratios also resulted in the levels of hormone listed above for treatments 2 and 3.

Feed and water were provided ad libitum. Pigs were weighed biweekly and feed consumption recorded at 150 and 210 lb. average weights. The pigs were removed from the experiment at approximately 210 lb. and fed the control ration for 72 hours before being marketed.

Carcass data obtained after carcasses had been cooled approximately 24 hours were carcass weight, length, backfat, loin eye area and percent ham and loin.

Results

Growth performance and carcass data are summarized in table 2. There were no significant differences in the performance of the pigs receiving hormones compared to those receiving the control diet, although the pigs on the control diet did gain slightly faster. The gains and feed efficiency of the pigs in this experiment were not nearly as good as in the previous experiment. Although there were no significant differences in carcass data between treatments, the same trend was noted here as reported in the previous trial in that pigs receiving DES + MT had less carcass backfat and slightly more percent ham and loin. Barrows gained significantly faster than gilts and had carcasses with significantly more backfat.

Summary

Ninety finishing pigs were used in an experiment designed to study the effect of feeding a combination of the hormones diethylstilbestrol and methyl-testosterone with and without the antibiotic tylosin. There were no significant effects on either growth performance or carcass characteristics when these additives were fed in this experiment.

Table 1. Composition of Basal Protein Supplement

Ingredient	Percent
Soybean meal, 44%	52.35
Dehydrated alfalfa meal, 17%	5.00
Meat meal, 50%	20.00
Wheat middlings	10.00
Fish solubles	5.00
Calcium carbonate	3.00
Dicalcium phosphate	1.50
Salt	2.50
Trace mineral mix	0.40
Vitamin premix	<u>0.25</u>
Total	100.00

Table 2. Growth Performance and Carcass Data of Pigs Fed Hormones

	Control	DES + MT	DES + MT + tylosin
No. of pigs ^a	30	29	30
Avg. initial wt., lb.	101.5	102.5	101.2
Avg. final wt., lb.	207.1	203.7	204.7
Avg. daily gain, lb.	1.58	1.40	1.44
Avg. daily feed, lb.	5.93	5.27	5.38
Feed/gain, lb.	3.78	3.86	3.81
Carcass data			
Avg. carcass wt., lb.	152.9	150.3	150.8
Avg. length, in.	30.4	30.6	30.6
Avg. backfat, in.	1.25	1.15	1.18
Avg. loin eye area, sq. in.	4.41	4.46	4.53
Avg. ham-loin, %	40.3	40.8	40.9

^a Three replicated lots of 10 pigs each per treatment. One pig removed and data not included.