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17- α ETHYL-19-NORTESTOSTERONE IN GROWING-FINISHING SWINE RATIONS¹

R. W. Seerley and L. D. Kamstra

Nilevar (17- α ethyl-19-nortestosterone) has been used to promote weight gains in underweight human subjects. Recent experiments at this station also showed that this synthetic male hormone-like compound significantly increased growth of female rats, but did not increase the growth of uncastrated male rats. The objective of this experiment was to determine if any economical benefits could be realized by including the hormone in a swine ration.

Experimental Procedure

Thirty-two weanling purebred and crossbred pigs were allotted into 8 pens. The allotments were on the basis of sex, litter, weight and general conformation of the pigs. The experimental treatments were:

Lot 1 and 1A	Basal ration
Lot 2 and 2A	Basal / Nilevar (0.4 mg./lb. of ration)
Lot 3 and 3A	Basal / Nilevar (1.6 mg./lb. of ration)
Lot 4 and 4A	Basal / Nilevar (6.4 mg./lb. of ration)

Castrated male pigs were in lots 1, 2, 3 and 4 and female pigs were in the "A" lots. The rations are shown in table 1. All rations were self-fed and water was fed ad libitum. When lots of pigs averaged 110 pounds body weight, they were fed the finisher ration to the end of the experiment.

Individual pigs were taken off test at approximately 205 pounds and slaughtered. Carcasses were evaluated in backfat, length, loin eye area and per cent lean cuts.

Results and Discussion

Tables 2 and 3 summarize the experimental data. Growth rate of barrows was decreased by feeding 1.6 mg. or 6.4 mg. of Nilevar per pound of ration. Gilts fed 0.4 mg. or 6.4 mg. per pound of ration gained 11.5% and 7.6%, respectively, faster than the control females.

Barrows fed the hormone required more feed per pound of gain, especially at the higher levels, than barrows fed the control ration. However, the gilts receiving the hormone required less feed per unit of gain than the control pigs. Feed efficiency of the control female pigs was unusually poor (3.80 pounds), therefore, the improvement was probably less than indicated.

No differences were found in carcass length, loin eye area or per cent lean cuts. Carcasses from the hormone treated lots had approximately one-tenth of an inch more backfat.

¹ Nilevar was supplied by G. D. Searle and Company, Chicago, Illinois. Certain ration ingredients were supplied by Merck and Company, Rahway, New Jersey, American Cyanamid Company, Princeton, New Jersey, Eli Lilly and Company, Greenfield, Indiana and Nopco Chemical Company, Newark, New Jersey.

An experiment is in progress to evaluate low levels of the hormone in swine rations.

TABLE 1. COMPOSITION OF RATION

Ingredient	Grower	Finisher
	to 110 lbs.	after 110 lbs.
	lb.	lb.
Yellow corn, gr.	804	884
Soybean meal	130	70
Tankage	50	30
Limestone	5	5
Dicalcium phosphate	4	4
T. M. Salt, hi zinc	5	5
B Vitamin mix, Merck 92	0.5	0.5
Vitamin B ₁₂ , Merck 20	0.25	0.25
Vitamin A and D, Quadrex 10	0.2	0.2
Aurofac 10	0.75	0.5
Hygromix 8	0.75	---

TABLE 2. SUMMARY, NILEVAR EXPERIMENT, SUMMER 1961

Lot No.	1	2	3	4
Nilevar, mg. per pound	0	0.4	1.6	6.4
No. pigs				
Barrows	4	4	4	4
Gilts	4	4	4	4
Av. initial wt., lb.				
Barrows	46.5	46.5	46.5	46.2
Gilts	44.5	44.8	44.5	44.8
Av.	45.5	45.6	45.5	45.5
Av. final wt, lb.				
Barrows	202.7	207.8	204.8	194.0
Gilts	199.2	204.0	198.0	200.8
Av.	201.0	205.9	201.4	197.4
Length of exp., days				
Barrows	88.8	92.0	95.0	98.2
Gilts	98.8	90.8	103.8	92.2
Av.	93.8	91.4	99.4	95.2
Av. daily gain, lb.				
Barrows	1.76	1.75	1.67	1.50
Gilts	1.57	1.75	1.48	1.69
Av.	1.66	1.75	1.57	1.59
Av. daily feed, lb.				
Barrows	5.68	5.72	5.87	5.08
Gilts	5.96	5.56	4.92	5.64
Av.	5.83	5.64	5.37	5.35
Av. feed per lb. gain, lb.				
Barrows	3.23	3.26	3.52	3.38
Gilts	3.80	3.17	3.32	3.33
Av.	3.51	3.22	3.42	3.36

TABLE 3. CARCASS DATA, NILEVAR EXPERIMENT, 1961

Lot No.	1	2	3	4
Nilevar, mg. per pound	0	0.4	1.6	6.4
Cold carcass wt., lb.				
Barrows	141.0	146.5	142.0	144.3
Gilts	142.5	142.0	134.8	138.5
Av.	141.8	144.2	138.4	141.4
Av. carcass length, in.				
Barrows	29.5	29.0	28.8	29.3
Gilts	29.5	29.5	29.2	29.0
Av.	29.5	29.3	29.0	29.2
Av. backfat, in.				
Barrows	1.45	1.61	1.52	1.59
Gilts	1.36	1.41	1.46	1.59
Av.	1.40	1.51	1.49	1.59
Av. loin eye area, sq. in.				
Barrows	3.87	4.14	3.98	4.05
Gilts	4.40	4.60	4.34	3.68
Av.	4.14	4.37	4.16	3.86
Av. lean cuts, %				
Barrows	52.59	52.44	52.41	52.05
Gilts	53.65	53.94	55.29	51.74
Av.	53.12	53.19	53.80	51.90