

Evaluation of Rations for Pigs Weaned at 3 to 4 Weeks
(Project 110)

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Wheat and corn-rolled oats in various physical forms compared with pigs weaned at 3 weeks of age.

Rations of corn and rolled oats were compared with rations containing wheat. All rations were supplemented with protein, minerals, vitamins and antibiotics. The rations were fed in meal, pelleted and crumble form. The basal rations are shown in Table 47.

Pigs were weaned at approximately three weeks and fed in 5 x 8-foot farrowing stalls. Two pens of six pigs each were on each treatment. Feed and water were available at all times. The study was conducted 28 days. The results are shown in Table 48.

Pigs fed the wheat rations performed about as well as those fed the corn-rolled oats rations except for the poor performance by those fed the wheat ration in pelleted form. Pigs fed the pelleted wheat ration had the slowest rate of gain and smallest feed intake. That agrees with observations made with older pigs, who ate less pelleted wheat rations than meal or crumbles.

Pigs fed the wheat ration in meal form and those fed the corn-rolled oat ration in crumble form gained most rapidly (.45 pound per head per day). However, those on the wheat ration were the most efficient. Pigs fed the pelleted corn-rolled oats ration were least efficient, probably due to excessive waste.

Various antibiotics compared with pigs weaned at 3 to 4 weeks.

The value of various antibiotics and combinations of antibiotics in starter rations for pigs weaned at 3 to 4 weeks were tested in the summer of 1965. The design of the test was as follows:

1. Tylosin and Neomycin at 20 mg. each per pound.
2. Chlortetracycline and sulfamethazine at 16 mg. each per pound and penicillin at 8 mg. per pound.
3. Tylosin and streptomycin at 20 mg. each per pound.
4. Tylosin at 40 mg. per pound.
5. Neomycin at 40 mg. per pound.
6. Control - no antibiotic.

Two groups of 6 pigs each were fed each ration. One group of 6 pens were on flattened expanded metal floor; the other, a wood slat floor. The pens were 3 x 6 feet located inside a completely enclosed building. All rations were pelleted; feed and water were available at all times.

The control ration used was the same as ration S43M (Table 47) minus the antibiotic. Antibiotic mixtures were added at the expense of the corn in the ration. Average test was 33 days. The results are shown in Table 49. Adding any antibiotic tested improved performance of pigs above that of controls. However, in some cases the increase was rather small. Pigs fed the combination of chlortetracycline, sulfamethazine and penicillin gained fastest and most efficiently.

Rations compared with pigs weaned at 4 weeks.

The pigs were managed nearly as in section B. Pigs in this study were weaned as near 4 weeks of age as possible.

The rations used are shown in Table 50. Pigs were started on rations S82A, B and C. After two weeks in the second trial and after 3 weeks in the first trial, half were switched to ration S82. The first trial was conducted with pigs farrowed in August, 1965; the second with pigs farrowed in November. Each treatment of 6 pigs was replicated in each trial.

The results are shown in Table 51. There was very little difference among pigs fed the different rations. Pigs appeared to gain as well as simpler ration S82A as on the more complex ration S82C. Also very little advantage to leaving pigs on higher protein rations after 2 or 3 weeks was indicated over changing them to a lower protein ration (S82). Ration S82 contained approximately 18% crude protein while other rations contained 20% protein

Table 47
Basal Starter Rations for Baby Pigs

Ration no.	S43M	S43Y
Wheat	----	54.25
Corn	38.25	----
Rolled oats	13.00	----
Soybean oil meal	19.0	16.0
Dried skim milk	10.0	10.0
Fish meal	5.0	5.0
Sugar	10.0	10.0
Animal fat	2.0	2.0
Dicalcium phosphate	1.0	1.0
Livestone	1.0	1.0
Salt	0.5	0.5
Trace mineral mix	0.5	0.5
Vitamin-antibiotic ^a	0.2	0.2

a. Contributes 2.6 riboflavin, 5.2 mg. calcium pantothenate, 7.2 mg. niacin, 24 mg. choline chloride, 6 mcg. B₁₂, 200 I.U. vitamin D, 1500 I.U. vitamin A and 40 mg. antibiotic (Tylosin) per pound of ration.

Table 48
Wheat and Physical Form of Starter Rations Evaluated with Pigs Weaned at 3 Weeks. (June 7 to July 5, 1965)

Ration Grain form*	Corn	Corn	Corn	Wheat	Wheat	Wheat
	M	P	C	M	P	C
Initial weight, lb.	12.5	12.7	12.8	12.9	12.7	13.5
Final weight, lb.	23.1	23.3	25.7	25.5	19.7	23.7
Daily gain, lb.	.38	.37	.45	.45	.25	.35
Daily feed, lb.	.68	.86	.83	.68	.50	.62
Feed/lb. gain	1.76	2.29	1.80	1.53	2.00	1.73

* M=Meal, P=Pellet, C=Crumble.

Table 49
Value of Various Antibiotics in Starter Ration of Pigs Weaned
at 3 to 4 Weeks.

Antibiotic*	Ty. .20 Neo. 20	Tet. .16 Sul. 16 Pen. 8	Ty. 20 St. 20	Ty. 40	Neo. 40	Control
No. of pigs	12	12	12	12	12	12
Initial weight, lb.	13.3	13.1	13.3	13.3	13.3	13.4
Final weight, lb.	34.2	36.4	35.8	33.2	34.4	32.3
Daily gain, lb.	0.60	0.69	0.66	0.58	0.62	0.55
Daily feed, lb.	1.00	1.05	1.05	0.93	0.96	1.00
Feed/lb. gain, lb.	1.65	1.51	1.59	1.66	1.58	1.84

* All antibiotics were fed to supply a total of 40 mg. of antibiotic per pound of ration. Ty.=Tylosin, Neo.=Neomycin, Tet.=Chlortetracycline, Sul.=Sulfamethazine, Pen.=Penicillin, St.=Streptomycin.

Table 50
Rations for Pigs Weaned at 4 Weeks.

Ration no.	S82C	S82B	S82A	S82
Corn	38.45	45.15	55.15	66.25
SBOM	19.00	17.00	20.00	23.00
Rollled oats	13.00	13.00	-----	-----
Dried skimmilk	10.00	20.00	20.00	5.00
Sugar	10.00	-----	-----	-----
Fish meal	5.00	-----	-----	-----
Animal fat	2.00	2.00	2.00	2.50
Dicalcium phosphate	1.00	1.00	1.00	1.00
Limestone	-----	0.30	0.30	0.70
Salt	0.50	0.50	0.50	0.50
Trace mineral mix	0.05	0.05	0.05	0.05
Vitamin & antibiotics*	1.00	1.00	1.00	1.00

* Supplied 1500 I.U. vitamin A, 300 I.U. vitamin D, 3.5 mg. riboflavin, 7.0 mg. calcium pantothenate, 10.5 mg. niacin, 35 mg. choline, 10 mcg. vitamin B₁₂, 50 mg. chlortetracycline, 50 mg. sulfamethazine, and 25 mg. penicillin per pound of ration.