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EC59-202 More Profit through Proper...Nutrition of Growing-Finishing Pigs

Donald F. Engel

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More Profit

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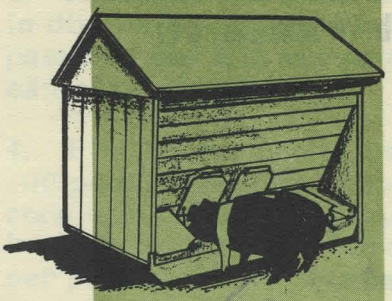

NUTRITION of Growing-Finishing Pigs

(50 lbs. TO MARKET WT.)

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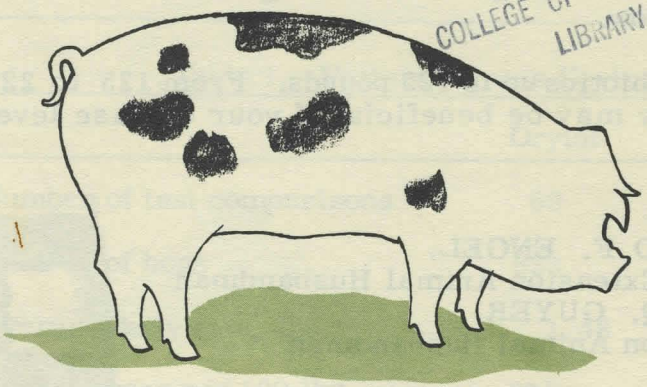

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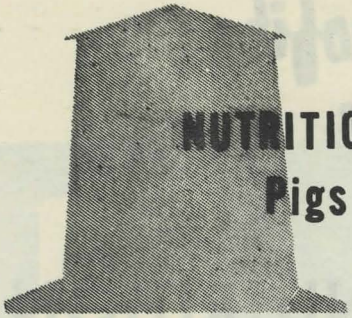


NUTRITION of Growing-Finishing Pigs (50 lb to market wt)

General Recommendations.....

1. Self feed to 200 to 220 pounds.

2. From weaning to 75 pounds, feed a completely mixed balanced ration.

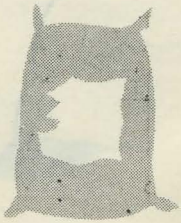
3. The ration should be low in fiber. Not more than 20 per cent of the ration should be heavy oats. Barley, for hogs, is worth about 85 per cent as much as corn.

4. Grains should be ground up to 75 pounds. After that, corn does not need to be ground. Generally, grain sorghum should be ground for maximum utilization.

5. Grind or pellet not more than a 2 weeks supply of feed at any one time. Otherwise the feed gets stale and consumption is low.

6. Feed antibiotics up to 125 pounds. From 125 to 220 pounds, they may be beneficial if your disease level is high.

BY DONALD F. ENGEL,
Ass't. Extension Animal Husbandman
PAUL Q. GUYER,
Extension Animal Husbandman



Concrete vs. Pasture vs. Drylot

1. Formulation of present day growing-finishing rations make pasture unnecessary.

2. Good pasture is best utilized by the breeding herd.

3. Parasites and some diseases build up on pastures and in dirt lots when used by hogs year after year. Unless pastures and lots are properly rotated, maximum gains cannot be realized.

4. Pigs gain slower but require less feed to produce 100 pounds gain on properly rotated pastures than on concrete. An acre of pasture, based on results shown in the following table, saved $13.00 (feed cost - 2 3/4 cents per pound, and stocking rate - 35 head).

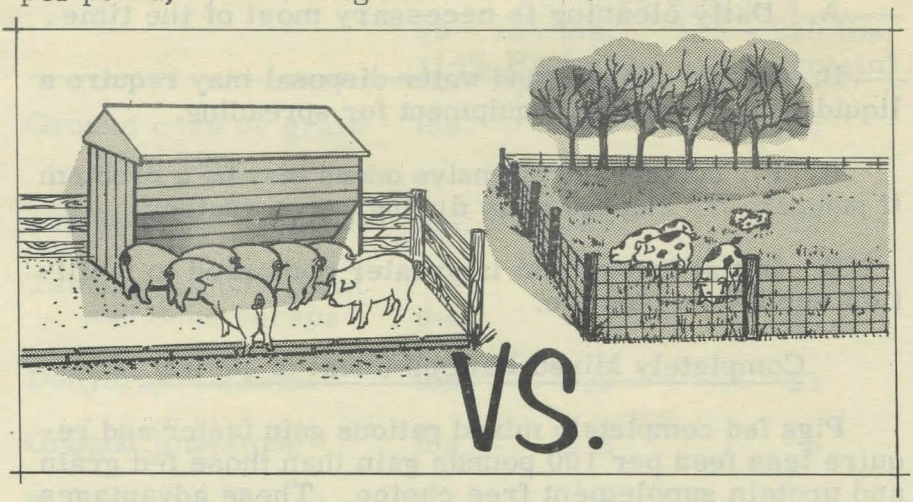


Table 1. Pasture Versus Drylot

	Drylot	Pasture
Number of test comparisons	69	69
Number of hogs	633	640
Average daily gain, lbs.	1.48	1.40
Concentrates per 100 lbs. gain	324	315

5. Reasons for the trend to confinement feeding on concrete are:

A. High priced, productive land returns more income from grain crops than pasture, when consumed by growing and finishing hogs.

B. More efficient use can be made of buildings and equipment.

C. Labor requirement is less per hog produced and this system lends itself to automation.

D. Sanitation and temperature control is simpler.

6. Disadvantages of feeding on concrete are:

A. Daily cleaning is necessary most of the time.

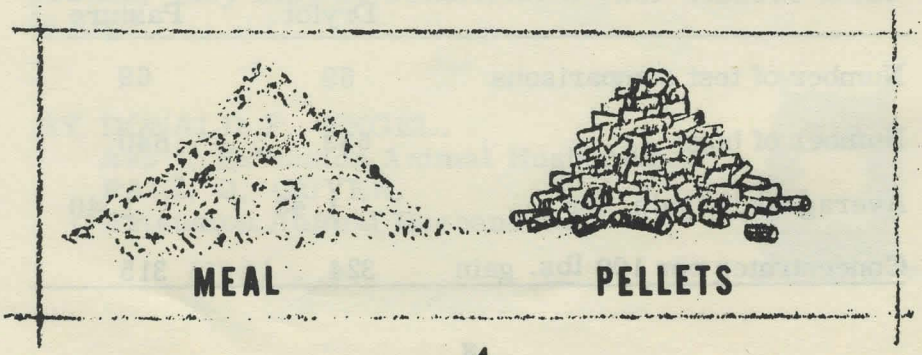
B. Proper manure and water disposal may require a liquid manure tank and equipment for spreading.

C. Fly control and offensive odors may be a problem if pens are not cleaned daily during warm weather.

D. Initial investment is greater compared to facilities needed on pasture.

Completely Mixed Rations (meal or pellet)

Pigs fed completely mixed rations gain faster and require less feed per 100 pounds gain than those fed grain and protein supplement free choice. These advantages are usually more than offset by processing costs (grinding, mixing and/or pelleting).



Pelleted rations compared with meals result in:

1. Slightly faster daily gains.

2. More efficient feed utilization.

3. Higher cost gains because of the additional cost of pelleting.

4. Greater density which permits the use of larger amounts of high fiber feeds (over 1/4 oats, bran, dehydrated alfalfa or any combination of these).

Table 2. Complete Rations for Growing and Finishing Pigs (mechanically mixed)

		For pigs weighing	
		50 - 125 lbs. (14% Protein)	125 - 220 lbs. (12% Protein)
Ground corn or grain sorghum	lbs.	812	865
44% soybean oil meal	lbs.	125	72
Tankage or 50% meat and bone scraps	lbs.	25	25
Dehydrated alfalfa	lbs.	25	25
Ground limestone	lbs.	6	6
Steamed bone meal	lbs.	2	2
Salt (iodized)	lbs.	5	5
Antibiotics a/	grams	5 - 10	0 - 5
Vitamin premix b/		yes	yes
Trace mineral premix c/		yes	yes

a/ Under poor sanitation use the higher amount.

b/ Provide the following per 1000 pounds of ration: Riboflavin - 1 gram; Calcium Pantothenate - 2 grams; vitamin B_{12} - 5 milligrams; vitamin D_2 (only in winter or when in enclosed housing) - 90,000 I. U. (Other vitamins may be included in the premix but the amounts are not necessary because they are usually supplied by the natural ingredients of the ration.)

c/ Provide .05 pound zinc per 1000 pounds of ration. (Other trace minerals will be included.)

For Hand Mixing On The Farm

The following rations are suitable for home mixing by hand. Gains may be somewhat slower on these rations but the cost of gains may be as cheap or cheaper depending on the prices of the ingredients used.

Table 3. Complete Rations for Growing and Finishing Pigs (hand mixed)

		For pigs weighing	
		50 - 125 lbs. (14% Protein)	125 - 220 lbs. (12% Protein)
Ground corn or grain sorghum	lbs.	795	855
44% soybean oil meal	lbs.	80	55
50% meat and bone scraps	lbs.	60	40
Alfalfa meal a/	lbs.	60	40
Ground limestone b/	lbs.	--	5
Salt (iodized) b/	lbs.	5	5

a/ Excellent quality, suncured alfalfa (3rd or 4th cutting) in winter. Dehydrated alfalfa may be used in summer but is less palatable.

b/ Mix salt and/or ground limestone with about 100 pounds of corn before mixing with the entire ration.

You may find that preparing complete rations is simpler and more economical when corn or sorghum is mixed with a prepared or purchased protein-vitamin-mineral supplement. The protein supplements shown in Table 5 are suitable for this mixture. Amounts of corn or sorghum and protein supplement needed to balance the ration are shown in Table 4.

Table 4. Ratio of Corn or Sorghum to Protein Supplements

Weight of pigs		Percent Protein in Supplements			
		30	35	40	45
50 - 125	Grain	74.0	79.0	83.0	85.0
	Supp.	26.0	21.0	17.0	15.0
125 - 200	Grain	84.0	87.0	89.0	90.0
	Supp.	16.0	13.0	11.0	10.0

Free Choice - Grain and Supplement

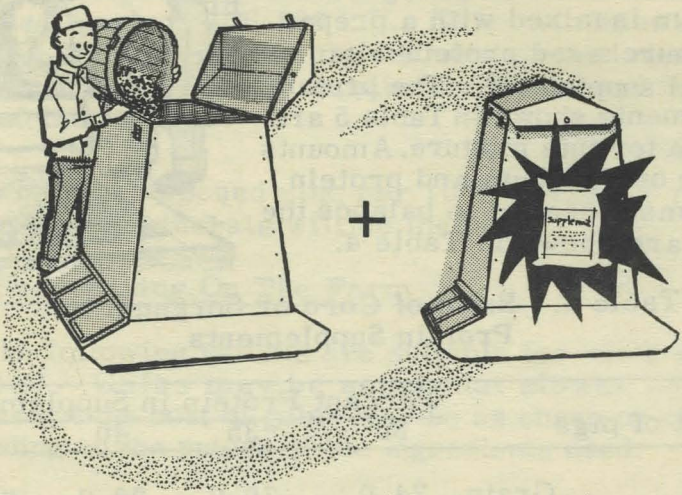
Free choice feeding of grain and protein supplement produces the most economical gains provided the proper amount of protein is consumed. When too much or too little protein is eaten, cost of gain is increased. Hogs in confinement should consume about 1 pound of a 35 - 40% protein supplement per day. On pasture, they should eat about .9 pound per head daily.

Consumption of protein can be regulated by:

1. Feeding grain and protein in separate feeders.

2. Moving protein feeder closer to the water source if too little is eaten or farther away when too much is consumed.

The following supplements are suitable for feeding, in free choice rations.



Supplements (1000 pounds)

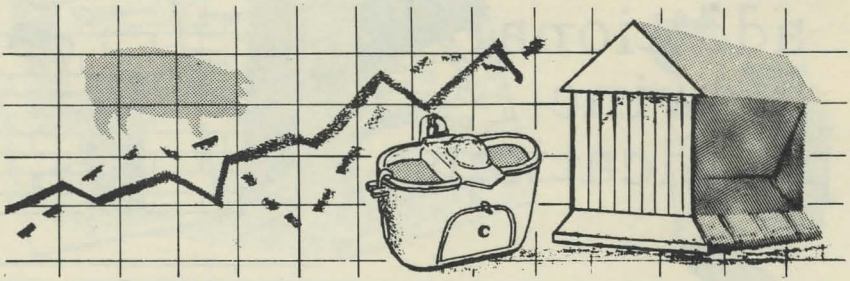
		Supplement A For Hand Mixing	Supplement B For Mechanical Mixing
44% soybean oil meal	lbs.	460	640
Tankage or meat scraps	lbs.	300	120
Alfalfa meal a/	lbs.	200	120
Steamed bone meal	lbs.	20	100
Iodized salt	lbs.	20	20
Antibiotics b/	grams	20 - 40	20 - 40
Vitamin premix c/		---	yes
Trace mineral premix d/		---	yes
% protein		40	35

a/ Excellent quality, suncured (3rd or 4th cutting) in winter - dehydrated in summer.

b/ Under poor sanitation, use the higher amount; when mixing by hand, premix with about 100 pounds of one of the ingredients.

c/ Provide the following amounts per 1000 pounds of supplement: Riboflavin - 4 grams; Calcium Pantothenate - 8 grams; vitamin B_{12} - 20 milligrams; vitamin D_2 (only in winter or when in enclosed housing) - 360,000 I. U. Other vitamins will probably be included in the premix but the amounts are not necessary because they are usually supplied by the natural ingredients of the ration.

d/ Provide .20 pound zinc for 1000 pounds of supplement. Other trace minerals will be included. Premix should be low in calcium (below 10 per cent).



Approximate Daily Feed and Water Consumption, lbs.

Weight	Feed	Water
50	3.0	6.0
100	5.0	10.0
150	6.5	13.0
200	8.0	16.0
250	8.3	16.6

Rate of Gain Feed Required per cwt. gain and Time Required to Grow and Finish Pigs

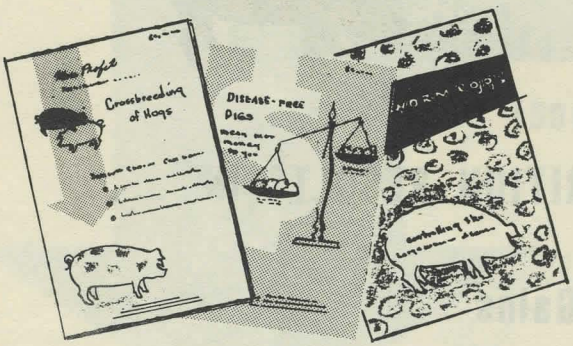
Weight, lbs	25-50	51-75	76-100	101-125	126-200
Daily gain, lbs. a/	1.0	1.3	1.5	1.65	1.8
Feed required per cwt. gain	225	245	270	295	347
Days needed	25	19	17	15	42

a/ These gains are near average and may be exceeded under conditions of good feeding and management.

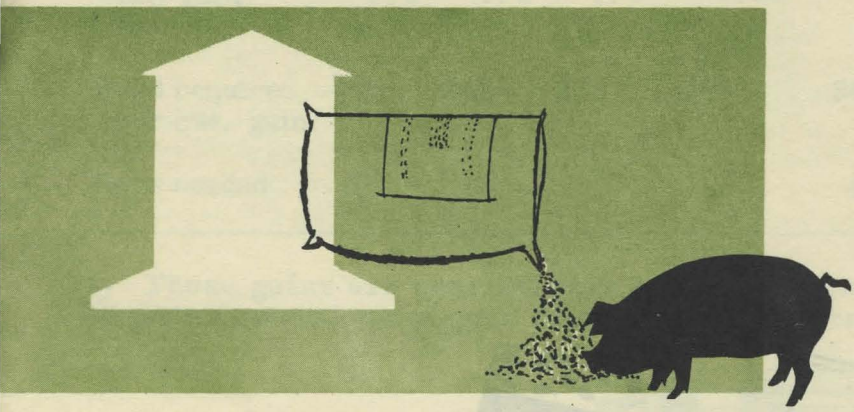
additional swine publications

Other swine publications available at your County Extension Office:

E. C. 253	Nutrients, Feeds and Example Rations for Swine
E. C. 58-201	Crossbreeding Of Hogs
E. C. 1902	Worm Eggs Cost You Money
E. C. 58-1585	Control of Hog Lice and Mange



E. C. 1903	Disease Free Pigs
E. C. 2-01-2	4-H Swine Club Manual
S. B. 439	Grain Sorghums As Feeds For Beef Cattle And Hogs
F. B. 1787	Internal Parasites of Swine



PROPER NUTRITION RESULTS IN....

- Rapid Gains
- Marketing at 5 months of Age or Less
- Efficient Utilization of Feed, Labor and Equipment