

cost of those gains to such an extent that the use of such high percentages of mustard meal is not advisable in rations for fattening pigs on alfalfa pasture.

Project 110: Swine Feeding Investigations

Experiment II—Summer 1948

THE LIMITED FEEDING OF TANKAGE IN THE RATION OF FATTENING PIGS WHEN SELF-FED CORN ON ALFALFA PASTURE

C. E. Aubel

To produce swine profitably, it is necessary to make use of forage crops. This practice not only saves grain, but contributes to the general health of the hogs. Since swine feeders are seeking new and cheaper methods of producing hogs on pasture, the limited feeding of tankage for fattening pigs on alfalfa pasture was studied in this feeding trial.

How The Hogs Were Fed

Spring pigs were fed from an average weight of about 55 pounds in four lots for a period of 106 days on alfalfa pasture, starting on June 10, 1948. Ten pigs were fed in each lot. All pigs were provided with plenty of good alfalfa pasture during the entire feeding period and had shelled corn, self-fed, free choice.

The difference in treatment was the feeding of a 60 per cent protein tankage supplement during different periods of growth and fattening in the four lots. The tankage was self-fed, free choice with the corn.

The Tankage Supplement Allowance

- Lot 1. No supplement during the feeding period.
- Lot 2. Sixty percent tankage, until the pigs had an average weight of 100 pounds (first 32 days on feed)—none thereafter.
- Lot 3. Sixty percent tankage until the pigs had an average weight of 150 pounds (first 61 days on feed)—none thereafter.
- Lot 4. Sixty percent tankage during the entire feeding period of 106 days.

A summary of the results follows:

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(June 10, 1948 to September 4, 1948—106 Days)

Rations	Tankage (Self-fed) First 32 Days, Weight 100 lbs.	Tankage (Self-fed) First 61 Days, Weight 150 lbs.	Tankage (Self-fed) Throughout Entire Period.	Tankage (Self-fed) Throughout Entire Period.
Lot Number	1	2	3	4
Number of pigs per lot	10	10	10	10
Average Initial Weight per pig	Pounds 55.90	Pounds 57.15	Pounds 56.40	Pounds 54.40
Average Final Weight per pig	158.95	201.55	224.90	250.20
Average Total Gain per pig	103.05	144.40	168.50	195.80

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Average Daily Gain per pig	.97	1.36	1.58	1.84
Average Daily Ration per pig:				
Corn	3.57	4.11	5.85	6.41
Tankage		.25*	.32†	.42x
Feed Required for 100 pounds gain				
Corn	367.78	301.93	368.24	347.03
Tankage		5.74x	11.86x	22.98
Feed cost per 100 pounds gain	\$15.74	\$13.24	\$16.41	\$16.11

*—Figured on 32 day basis

†—Figured on 61 day basis

x—Figured on 106 day basis

FEED PRICES CHARGED: Shelled corn, \$2.40 per bushel;
Tankage, \$110.00 per ton.

METHODS OF FEEDING: All lots were self-fed shelled corn, on alfalfa pasture. The tankage was self-fed the number of days showing in the table, then the pigs received only shelled corn.

Observations

- (1) The maximum use of alfalfa pasture without other protein supplement produced low cost gains.
- (2) Full feeding the protein supplement free choice with the fattening ration of corn and alfalfa pasture increased the rate of gain of the hogs. As the protein feeding period was lengthened, the rate of gain for the entire feeding period was increased.
- (3) The protein supplement was used most effectively in the shorter feeding period where it was omitted from the ration after the hogs had reached the weight of 100 pounds. With this plan of feeding the rate of gain was fairly high and the feed cost low. Feeding the protein for longer periods increased the total feed requirement and cost of gain, although the rate of gain was increased.

Conclusions

The results of these experiments show that hogs will gain efficiently on a full-feed of corn and good alfalfa pasture, without receiving a protein supplement after they have reached a weight of 100 pounds.

The results show further that the feed cost of gains can be kept at a comparatively low figure by omitting the protein supplement from the ration in the beginning. The rate of gain, however, is reduced with this plan of feeding.

If maximum gains are desired despite the higher cost, the protein supplement should be full-fed throughout the fattening period. This speed up in gaining should insure an earlier market with corresponding higher selling price.

Project 217—Meat Investigations,—I, Chemical and Physical Properties of Meat and Their Relationship to Palatability Factors.

Project 260—Factors Influencing the Keeping Qualities and Nutritional Value of Frozen Meat.

MEAT INVESTIGATIONS

David L. Mackintosh and D. B. Watt

The enormous increase in the use of frozen foods and in the num-