

SWINE FEEDING EXPERIMENTS

Experiment I -- 1946-47

The Comparative Values of Foxtail Millet Seed and Shelled  
Corn for Fattening Spring Pigs on Alfalfa Pasture

C. E. Aubel

In order to fatten pigs economically it is necessary to feed a large amount of concentrates in the form of grain and protein supplements. Corn is the grain usually employed. When the price of corn becomes very high in relation to other feeds, hog feeders look about for a substitute. In recent times corn has been high in price, and occasionally impossible to purchase. This was the situation a year ago when a purchase of Foxtail Millet seed was made to replace corn. With this seed on hand it was thought advisable to carry on a feeding trial to compare it with corn in efficiency, as the State might be in a position sometime to grow considerable millet. The information thus obtained would then be available and valuable to the swine feeder.

Experimental Procedure:

Foxtail Millet seed has a hard waxy outside covering and is quite small. To be usable for swine it must be run through a grinder; otherwise when it is fed much will pass through the digestive tract undigested. Consequently, this experiment was set up to determine two things; first, its efficiency as compared with corn, and second, the degree of fineness necessary to grind to get the best returns.

Two degrees of fineness of grinding were used in the trial. The grinding was done in a hammer mill using two different screens, one a 3/32-inch screen and the other a 1/16-inch screen. One lot of pigs was fed on each of these degrees of fineness and another lot was fed on one-half millet ground through a 1/16-inch screen and one-half ground corn.

The pigs were all self-fed on good alfalfa pasture. Tankage was self-fed in a separate compartment in all the lots.

The figures show the chemical feed analysis of the Foxtail Millet seed and the corn used in this experiment.

COMPOSITION OF FEEDS

Feed	Moisture	Protein	Fat	Fiber	Nitrogen Free Extract	Ash
Yellow Corn	12.8	9.6	3.9	2.3	70.0	1.4
Foxtail Millet Seed	8.44	11.50	4.37	9.25	62.55	3.89
Mustard Seed Meal	6.03	27.06	6.37	12.08	41.85	6.61
Digester Tankage 60%	7.8	61.3	8.8	1.4	1.5	19.2

The following table is a summary of the feeding records of the experiment.

EXPERIMENT I - Summer - 1946.

The Comparative Value of Foxtail Millet Seed and Shelled Corn  
for Fattening Spring Pigs on Alfalfa Pasture

C. E. Aubel

(June 26, 1946 to September 21, 1946 - 87 Days)

Ration	Alfalfa Pasture				
	Shelled corn  Tankage (self- fed)	Course ground millet 3/32"  Tankage (self- fed)	Fine ground millet 1/16"  Tankage (self- fed)	$\frac{1}{16}$ Corn Gr. $\frac{1}{32}$ Fine Gr. millet 1/16"  Tankage (self- fed)	Fine Gr. Millet 1/16"  Mustard Seed meal Minerals (self fed)
Lot No.	1	2	3	4	5
Number of pigs per lot	10	10	10	10	10
Average initial weight per pig	Pounds 78.23	Pounds 78.70	Pounds 77.60	Pounds 78.16	Pounds 80.80
Average final weight per pig	237.96	237.16	247.06	248.56	240.56
Average total gain per pig	159.73	158.46	169.36	170.40	159.76
Average daily gain per pig	1.83	1.82	1.94	1.95	1.83
Average daily ration per pig:					
Shelled corn	6.26	----	----	----	
Millet ground	----	6.43	6.23	3.04	7.26
Ground corn	----	----	----	3.04	
Mustard seed meal	----	----	----	----	.08
Tankage	.36	.36	.27	.32	
Minerals	----	----	----	----	.036
Feed consumed per 100 pounds gain:					
Shelled corn	341.26	----	----	----	----
Millet ground	----	353.40	315.00	155.36	395.46
Corn ground	----	----	----	155.36	----
Mustard seed meal	----	----	----	----	4.38
Tankage	20.65	20.19	14.17	16.43	----
Minerals	----	----	----	----	2.00
Feed cost per 100 pounds gain:	\$12.38	\$12.46	\$10.96	\$11.04	\$13.15

FEED PRICES CHARGED: Shelled corn, \$1.90 per bushel;  
Millet, \$1.85 per bushel of 56 pounds;  
Tankage, \$80.00 per ton;  
Mustard Seed Meal, \$50.00 per ton.

### DISCUSSION OF RESULTS

1. Foxtail millet seed proved excellent for fattening pigs as compared with corn.
2. Foxtail millet ground through a 3/32-inch screen produced only slightly less efficient gains, about 3 percent, in feed consumed per 100 pounds gain, and only slightly less rapid gains than the pigs fed shelled corn.
3. Foxtail millet seed ground through a 1/16-inch screen made more efficient gains, about 7 percent, in feed consumed per 100 pounds gain; it made about 6 percent faster daily gains than shelled corn.
4. It is apparent that millet seed must be finely ground to give the most efficiency. In this test, 1/16-inch gave the best results.
5. Mixing finely ground millet seed with ground shelled corn in equal parts made the most efficient ration of the test; this was in feed consumed per 100 pounds gain. It produced also the most rapid daily gains in the trial.
6. The carcasses of the millet fed pigs were equal in quality to the carcasses of the corn fed pigs, and none was inferior in any way.