

## EXPERIMENT II - Winter - 1948

The Comparative Value of Mustard Seed Oil Meal  
And Dehydrated Brome Grass Meal in Protein Feed Mixtures  
As a Supplement to Shelled Corn for Fattening Fall Pigs  
In The Dry Lot

C. E. Aubel

Swine experiment I, page 43 reported the results of feeding mustard seed oil meal to fattening pigs on alfalfa pasture, when mixed with tankage and other protein supplements. Pigs were fed with protein supplement mixtures in which the mustard seed oil meal composed as much as 50 percent of the supplement. The results of feeding it in such large proportions were so satisfactory that it was desired to ascertain whether it were possible to increase further the amount of mustard seed meal in the mixture with tankage and still get good results. Consequently two lots of pigs were fed with an increased percentage of mustard seed oil meal.

In addition last year in connection with some other studies there was produced at the Kansas Experiment Station some dehydrated brome grass meal. This meal had a protein content of about 20.9 percent. As there was no information at hand concerning the use and palatability of brome grass meal in swine feeding, it was thought advisable to compare it with dehydrated alfalfa meal.

## EXPERIMENTAL PROCEDURE

In the experiment reported herewith, two lots of pigs were used to test the dehydrated brome grass meal and two lots were used with which to test the increased amounts of mustard seed oil meal in protein supplements. The four lots were self-fed shelled corn in the dry lot. Lot 1 received a protein supplement of 90 percent tankage and 10 percent dehydrated alfalfa meal, Lot 2 received tankage 90 percent and dehydrated brome grass meal 10 percent. These supplements were self-fed free choice. Lot 3 received a protein supplement of tankage 25 percent and mustard seed meal 75 percent. Lot 4 received tankage 15 percent and mustard seed oil meal 85 percent. Lots 3 and 4 also were self-fed alfalfa hay.

The following table gives a summary of the feeding record of this experiment:

## EXPERIMENT 11 - Winter - 1948

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C. E. Aubel

(January 13, 1948 to April 16, 1948 - 94 Days)

Ration	Shelled Corn (self-fed)			
	Tankage 90% Alfalfa meal 10% dehyd. (self-fed)	Tankage 90% Brome Grass Meal dehyd. 10% (self-fed)	Tankage 25% Mustard seed meal 75% Alfalfa hay (self-fed)	Tankage 15% Mustard seed meal 85% Alfalfa hay (self-fed)
Lot number	1	2	3	4
Number pigs in lot	10	10	10	10
Av. initial weight per pig	Pounds 62.70	Pounds 62.40	Pounds 61.76	Pounds 61.10
Av. final weight per pig	223.56	226.16	208.73	221.83
Av. total gain per pig	160.86	163.76	136.97	160.73
Av. daily gain per pig	1.71	1.74	1.45	1.71
Av. daily ration per pig:				
Shelled corn	5.39	5.48	4.82	5.30
Tankage	.73	.58	.60	.63
Mustard seed meal	—	—	.20	.11
Brome Grass meal	—	.06	—	—
Alfalfa meal	.08	—	—	—
Alfalfa hay	—	—	.17	.16
Feed consumed per 100 pounds gain:				
Shelled corn	315.18	314.78	331.09	310.14
Tankage	43.30	33.90	13.75	6.23
Mustard seed meal	—	—	41.23	36.96
Brome grass meal	—	3.76	—	—
Alfalfa meal	4.81	—	—	—
Alfalfa hay	—	—	12.11	9.89
Feed cost per 100 pounds gain:	\$16.66	\$15.96	\$17.34	\$15.68

FEED PRICES CHARGED: Shelled corn, \$2.40 per bushel; Tankage, \$140.00 per ton; Alfalfa meal, \$60.00 per ton; Mustard seed meal, \$100.00 per ton; Brome grass meal, \$60.00 per ton; Alfalfa hay, \$25.00 per ton.

METHODS OF FEEDING: All lots were self-fed shelled corn; alfalfa hay was self-fed in lots 3 and 4. The protein supplements were mixed in the proportions indicated and self-fed in a separate compartment.

## OBSERVATIONS AND CONCLUSIONS

1. Mustard seed oil meal when mixed with tankage at the rate of 85 percent mustard seed meal and 15 percent tankage and fed as a protein supplement proved to be an excellent protein feed for fattening pigs in the dry lot. The pigs made rapid and economical gains, and consumed the mixture in such an amount that it could not be construed that the large amount of mustard seed meal in the mixture was in any way objectionable.
2. In this experiment the pigs receiving mustard seed oil meal in the proportion of 75 percent to 25 percent tankage in the protein supplement, did not do so well in the rapidity or the economy of gains, as the lot that received the mustard seed meal in the larger proportion of 85 percent. There is no explanation to offer for this as the protein mixture was consumed in large amounts and seemed palatable.
3. In this test the dehydrated brome grass meal fed pigs slightly excelled the dehydrated alfalfa meal fed pigs in the rapidity and economy of gains.
4. For a hundred pounds of gain there was a little less consumption of the protein supplement made up of brome grass meal and tankage than of the alfalfa meal and tankage. This might indicate that the brome grass meal was somewhat more efficient, probably because of its high protein content, (20.9 percent).