Kansas Agricultural Experiment Station Research Reports

Volume 0
Issue 10 *Swine Day (1968-2014)*

Article 146

1977

Restricting energy intake of gestating sows with 50% alfalfa meal ration

G L. Allee

B A. Koch

Robert H. Hines

Recommended Citation

Allee, G L.; Koch, B A.; and Hines, Robert H. (1977) "Restricting energy intake of gestating sows with 50% alfalfa meal ration," *Kansas Agricultural Experiment Station Research Reports*: Vol. 0: Iss. 10. https://doi.org/10.4148/2378-5977.5986

Restricting energy intake of gestating sows with 50% alfalfa meal ration

Abstract

Gestating Yorkshire sows and gilts were randomly assigned to two dietary treatments immediately after a 25-day breeding season until females were brought to the farrowing house between 105-110th day of gestation. Sows and gilts fed the 50% alfalfa meal ration performed similarly to those fed the basal ration in regard to number of pigs farrowed, pigs weaned, and weights at birth, 14 and 28 days. The reduced caloric intake by sows fed 50% alfalfa meal was not detrimental to farrowing or reproductive performance.; Swine Day, Manhattan, KS, November 10, 1977

Keywords

Swine day, 1977; Kansas Agricultural Experiment Station contribution; no. 78-101-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 312; Swine; Sows; Gestation; Alfalfa meal ration; Farrowing; Basal ration

KSU

Restricting Energy Intake of Gestating Sows with 50% Alfalfa Meal Ration

R. H. Hines, G. L. Allee, and B. A. Koch

Summary

Gestating Yorkshire sows and gilts were randomly assigned to two dietary treatments immediately after a 25-day breeding season until females were brought to the farrowing house between 105-110th day of gestation. Sows and gilts fed the 50% alfalfa meal ration performed similarly to those fed the basal ration in regard to number of pigs farrowed, pigs weaned, and weights at birth, 14 and 28 days. The reduced caloric intake by sows fed 50% alfalfa meal was not detrimental to farrowing or reproductive performance.

Procedure

Yorkshire sows with various numbers of previous gestations were utilized to study the effects of feeding cubes (3/4" diameter) containing 50% alfalfa meal to reduce daily caloric intake. Sows were allotted to treatment on the basis of their weight and number of previous gestations. The control sows were fed a sorghum grain-soybean meal diet as a cube. Both rations (table 9) were fed after a 25-day breeding season until the sows were brought into the farrowing unit approximately 5 days before parturition. Both groups were fed 4.5 lbs. of feed per day.

All sows were managed in dry lots with portable housing. They were fed in individual feeding stalls, which permitted equal feed intake.

Table 9 . Composition of rations used in gestation study

	Lbs./ton	
Ration	50% Alfalfa Meal	Basal
Sorghum grain	941	1517
Soybean meal (44%)	---	270
Alfalfa meal (17%)	1000	150
Monosodium phosphate	32	---
Dicalcium phosphate	---	25
Limestone	5	16
Trace mineral	2	2
Salt	10	10
Vit. premix	10	10
	2000.0	2000.0
Calc. Analyses		
Crude protein, %	12.9	13.7
Ca, %	.74	.73
P, %	.60	.56
Dig. energy, kcal/lb.	1063	1437

Sows were farrowed in a controlled-environment farrowing barn with farrowing crates and totally-

slatted floor. All sows were fed and watered in farrowing crates. After being brought to the farrowing house, the sows were fed 6 lbs. per day of the basal ration until parturition. After parturition, they were gradually (4 - 7 days) brought to full feed, then permitted to eat to appetite which was approximately 12 lbs. per day of basal ration.

Birth weights of pigs were taken within 24 hours of birth when litters received day-one care and husbandry. All pigs were offered creep rations from 14 days after birth to weaning.

Gilts were randomly assigned and managed as the sows were.

Results and Discussion

Performances of sows fed the basal (B) or 50% alfalfa meal ration (AM) are shown in table 10. Sows fed the basal diet gained .07 lb. more per day during the 90-day feeding period. Sow gestational gains averaged 33 lbs. vs. 25 lbs. respectively. Each group was fed 4.5 lbs. of ration per day per sow which reduced digestible energy intake by 1675 kcal per day for the sows fed AM.

Farrowing performances for each group were similar. Sows receiving the AM ration farrowed more pigs than those on the basal ration but they also had more pigs farrowed dead and ultimately weaned only 64.8% of the pigs farrowed compared with a 69.7% survival rate for the sows fed the basal ration. Birth weights did not differ significantly nor did pig weights at 14 or 28 days after farrowing, which indicates no detrimental effects on lactation from the AM ration.

Farrowing performance of first litter gilts was not affected by dietary treatment. Number of pigs farrowed, birth weight and 14- and 28-day weights were all similar for each treatment. Gilts fed the basal diet gained .27 lb. more per day during gestation (58 compared with 45 lbs.) than gilts fed the alfalfa ration.

No detrimental effects were noted due to gestational treatment in farrowing performance or subsequent conception rates. Sows were bred the second estrus after weaning.

Table 10. Performance of gestating swine fed indicated ration

Ration	50% Alfalfa Meal	Basal
Sows		
No. sows	38	39
Avg. int. wt., lbs.	444.0	459.8
Avg. final wt., lbs.	469.7	492.3
Avg. da. gain, lbs.	.30	.37
Avg. no. born/litter	12.2	11.9
Avg. no. born dead/litter	2.2	1.7
Avg. no. pigs wn./litter	7.9	8.3
Avg. birth wt./pig	2.8	2.7
Avg. 14 day wt./pig	7.6	7.8
Avg. 28 day wt./pig	13.8	14.0
Gilts		
No. gilts	12	11
Avg. int. wt., lbs.	321.7	327.0
Avg. final wt., lbs.	366.0	395.4
Avg. da. gain, lbs.	.49	.76
Avg. no. born/litter	11.3	11.4
Avg. no. born dead/litter	2.0	2.4
Avg. no. pigs wn./litter	7.8	8.4
Avg. birth wt./pig	2.5	2.6
Avg. 14 day wt./pig	6.6	7.0
Avg. 28 day wt./pig	11.8	11.9