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Swine producers have used alfalfa as a feed constituent in swine gestation diets for years. Theoretically, if sows would eat enough, alfalfa could be a nearly complete feed with only vitamins, trace minerals and phosphorus supplemented. Bulky ground alfalfa is a relatively unpalatable feed for swine and dehydrated alfalfa initially is rejected as the sole feed source. However, several research stations have shown that sows will, with time, adjust to desirable levels of consumption of dehydrated alfalfa when fed as the only feed supplied or when fed with small quantities of grain initially. The study reported herein was designed to evaluate pelleted dehydrated alfalfa as the major feed source for sows and gilts when fed free-choice with a mineral-vitamin supplement during the last two-thirds of gestation.

Experimental Procedure

All sows and gilts were allotted at time of breeding on the basis of parity, weight and ancestry. All sows and gilts received 4.4 lb. of the control diet (table 1) for the first 28 days of gestation. Sows and gilts assigned to the treatment group were individually removed from the control diet and placed on self-feeders which contained pelleted dehydrated alfalfa meal after 28 days. They also had access to a free-choice, mineral-vitamin supplement (table 2). The control group continued to receive the control diet through the 109th day of gestation. On the 109th day of gestation, sows from both groups were brought into the farrowing barn and received 4.4 lb. of the control gestation diets until farrowing. At that time both groups were allowed ad libitum consumption of a standard lactation feed for 28 days.

The sows and gilts were housed in colony sow gestation houses with concrete outside pens. The alfalfa diets were supplied in round 80-bushel steel feeders and the control group was fed in individual feeding stalls in which the sows were locked during feeding. The sows farrowed in farrowing crates or farrowing pens. Information was recorded for sows and litters through 28 days of lactation.

Results

A summary of sow weight changes is shown in table 3. The means are shown for the 19 gilts and 17 sows that weaned litters. During the first 28 days of gestation, when all sows and gilts received 4.4 lb. of feed, gains were approximately the same. During the test period, from 28 days to 109 days of gestation, gains were low (3 and 7 lb.) for gilts and sows consuming dehydrated alfalfa pellets ad libitum. Gilts and sows receiving 4.4 lb. daily of the control ration gained at a more normal rate, 80 and 66 lb., respectively. Feed consumption during this period was 4.4 lb. of the control diet for the control sows and

4.1 lb. and 6.4 lb. for gilts and sows, respectively, receiving the dehydrated alfalfa. Net gains from breeding until after 28 days lactation were 89 lb. for both gilts and sows on the control diet and 47 lb. and 21 lb. for gilts and sows, respectively, receiving the alfalfa diets.

The farrowing results are shown in table 4. Numbers are small and thus may not reflect the true picture in evaluating dehydrated alfalfa in the diet. Different results were recorded between sows and gilts. With gilts, more live pigs, stillbirths and pigs at 28 days were obtained from those receiving the control diet. However, the opposite was found with sows. Between gilts, litter weights at birth and weaning favored the control gilts and average pig weight favored the alfalfa group at 28 days. Between sows, litter weight favored the alfalfa group and average pig weight favored the control group at both birth and at 28 days.

Summary

Nineteen gilts and 17 sows were utilized in a trial to evaluate dehydrated alfalfa as the major feed source from 28 days to 109 days of gestation. Weight gains were low for sows and gilts consuming 6.4 and 4.1 lb. of dehydrated alfalfa daily, respectively. Farrowing results varied between sows and gilts, favoring the control diet for gilts and the alfalfa diet for sows. However, the number of sows and gilts was small and may not reflect the true evaluation of this feed ingredient.

Table 1. Composition of the Control Diet

Ingredient	Percent of diet
Ground yellow corn	80.5
Soybean meal, 44%	16.0
Ground limestone	.85
Dicalcium phosphate	2.0
Iodized salt	.5
Trace mineral mix	.075
Vitamin mix	.075

Table 2. Composition of Free-Choice Mineral Supplement

Ingredient	Percent of supplement
Monosodium phosphate	92.6
Vitamin mix	3.7
Trace mineral mix	3.7

Table 3. Sow Weights and Weight Gains

	Gilts		Sows	
	Alfalfa	Control	Alfalfa	Control
Number of sows weaning a litter	10	9	11	6
Breeding weight, lb.	280	296	456	473
28-day weight, lb.	307	316	481	490
28-day pretest gain, lb.	27	20	25	17
109-day weight, lb.	310	396	488	556
81-day test gain, lb.	3	80	7	66
109-day gain, lb.	30	100	32	83
28-day lactation weight, lb.	327	385	477	560
Net gain, lb.	47	89	21	89
Daily feed consumption, 28 days through 109 days, lb.	4.1	4.4	6.4	4.4

Table 4. Farrowing Results

	Gilts		Sows	
	Alfalfa	Control	Alfalfa	Control
Number of pigs born alive	9.4	10.1	11.4	9.2
Number stillbirths	.3	1.0	1.5	.5
Avg. litter birth weight, lb.	24.7	28.3	31.1	29.6
Avg. pig birth weight, lb.	2.6	2.8	2.7	3.2
Number of pigs, 28 days	6.8	8.3	6.6	5.2
Avg. litter weight, 28 days, lb.	90.9	103.8	90.1	83.0
Avg. pig weight, 28 days, lb.	13.4	12.5	13.6	16.1