



# Current Report

Oklahoma Cooperative Extension Service • Division of Agricultural Sciences and Natural Resources  
Oklahoma State University

## Nutritional Needs Of High Producing Sows

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High producing sows weaning 9 to 11 pigs per litter and averaging 2.2 litters per year or more have a much higher nutritional requirement than the average sow weaning 7 to 8 pigs per litter and averaging 2 or less litters per year. Most of the recommended sow diets in the Pork Industry Handbook or OSU Fact Sheets are designed for the average sow requirement. Besides, many sows in Oklahoma and the U.S. are the average type.

However, there are herds today that have high producing "super" sows. These sows have a much higher nutritional requirement. During lactation, they need to consume 12 to 14 lbs. of a high energy diet, each day (Table 1). Suggested diets for sows nursing 9 to 10 pigs and sows nursing more than 10 pigs are shown in Table 1. They need a higher protein and amino acid level in their diet than required in average sow lactation diets. The additional amino acids for lactating sows are needed because 60% to 80% of a sow's daily intake of amino acids is utilized for milk production.

### Suggested Diets

Two groups of diets are suggested for high producing sows (Table 1). The first group of diets is for sows nursing 9 to 10 pigs. The second group of diets is suggested for sows nursing more than 10 pigs. The diets designed for sows nursing 9 to 10 pigs have a lysine content of .75% and a crude protein content of 15.3% to 16.6% depending on ingredients used. The diets designed for sows nursing more than 10 pigs have a lysine content of .85% and a protein content of 16.6% to 17.9% depending on ingredients used. Some of these diets contain dehydrated alfalfa meal. Most producers like to

include alfalfa meal or ground alfalfa hay in sow diets because of its laxative effect and nutritive benefits. However, alfalfa products reduce the energy density of the diet and limit the sow's intake.

All of these recommended diets assume that the lactating sows are being full-fed and eat at least 12 lb. of feed per day. Many swine producers experience difficulty in getting lactating sows to consume 12 or more pounds of feed per day, especially during the hot weather.

There are management practices that a producer can adopt to ensure that lactating sows consume a high level of feed intake. The management practices include:

- Keep the farrowing house temperature at 70° F. or lower.
- Use drip coolers during the summer if possible.
- Provide an adequate supply of fresh drinking water. Lactating sows can consume as much as 7 gallons of water per day.
- Keep feed fresh by feeding more than once a day.
- Use feeders that allow the sow easy access to the feeder and have plenty of head-room.

### Summary

Swine producers need to monitor daily feed consumption of lactating sows. Often when a producer actually weighs the feed that the lactating sows are eating, he may find that they are not consuming as much feed as they should. In this case he will need to improve his management techniques in sow feeding. Inadequate feed intake results in decreased milk production which results in decreased litter weaning weights and excessive weight loss during lactation.

**Table 1. Suggested Diets for High Producing Sows Nursing Large Litters<sup>a,b</sup>.**

Ingredient	Sows Nursing 9 to 10 Pigs						Sows Nursing More Than 10 Pigs					
	1	2	3	4	5	6	1	2	3	4	5	6
Corn, yellow	1534	1380	1468	—	—	—	1460	1306	1394	—	—	—
Sorghum grain (milo)	—	—	—	1520	1371	1459	—	—	—	1450	1302	1385
Fat (stabilized)	—	—	60	—	—	60	—	—	60	—	—	60
Soybean meal, 44%	390	350	395	405	360	405	465	425	470	475	430	480
Dehydrated alfalfa meal, 17%	—	200	—	—	200	—	—	200	—	—	200	—
Calcium carbonate	19	12	19	20	12	19	19	12	19	21	13	19
Dicalcium phosphate	42	43	43	40	42	42	41	42	42	39	40	41
Salt	10	10	10	10	10	10	10	10	10	10	10	10
Vitamin-trace mineral mix <sup>c</sup>	5	5	5	5	5	5	5	5	5	5	5	5
Total, lbs.	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Calculated analysis												
Protein, %	15.30	15.50	14.93	15.70	16.60	15.40	16.60	16.80	16.26	16.90	17.00	16.72
Lysine, %	.75	.75	.75	.75	.75	.75	.85	.85	.85	.85	.85	.85
Tryptophan, %	.19	.21	.19	.20	.21	.19	.21	.23	.21	.21	.23	.21
Threonine, %	.58	.59	.57	.55	.56	.54	.63	.64	.62	.60	.61	.59
Methionine + cystine, %	.54	.54	.53	.46	.47	.45	.57	.57	.56	.49	.50	.48
Calcium, %	.90	.91	.91	.90	.90	.90	.90	.91	.91	.91	.90	.90
Phosphorus, %	.70	.70	.70	.70	.70	.71	.70	.70	.70	.70	.70	.71
M.E., kcal/lb.	1473	1402	1513	1420	1354	1482	1470	1399	1531	1419	1354	1482

<sup>a</sup> Antibiotics or other feed additives (chemotherapeutics) may be added to these diets.

<sup>b</sup> Based on 12 to 14 lbs. consumption per sow per day.

<sup>c</sup> See Table 2.

**Table 2. Suggested Vitamin-Trace Mineral Mix<sup>a,b</sup>**

Ingredient	Amount per pound premix
Vitamin A	900,000 IU
Vitamin D	100,000 IU
Vitamin E	5,000 IU
Vitamin K (Menadione)	660 mg
Riboflavin	1,200 mg
Pantothenic acid	4,500 mg
Niacin	7,000 mg
Vitamin B12	5 mg
Choline chloride	20,000 mg
Folic acid	300 mg
Biotin	40 mg
Copper	.4 %
Iodine	.008 %
Iron	4.0 %
Manganese	.8 %
Zinc	4.0 %
Selenium	.012 %

<sup>a</sup> Vitamin and trace mineral mixes may be purchased separately. This is advisable if a combination vitamin trace mineral premix is to be stored longer than three to four months. Vitamins may lose their potency in the presence of trace minerals if stored for a prolonged period of time.

<sup>b</sup> To be added at the rate of five pounds per ton of complete feed.

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