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Fortified Milo for Gestating Sows

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Summary

Forty sows (Yorkshire, Hampshire, and Duroc) were used to study effects of feeding a milo diet fortified with vitamins and minerals (FM) to bred sows from approximately 25 days after breeding to 10 days before farrowing. The sows were fed in this manner for three gestation periods. Control sows received a balanced milo-soybean meal diet (MSB) throughout gestation.

Sows fed the FM diet gained 0.1 to 0.2 pound average less per day during gestation than the control group. Sows fed the FM diets farrowed an average of 9.45 pigs, 0.54 pig stillborn, 3.21 lbs. birth weight/pig. Control sows fed MSB performed similarly: 9.76 pigs farrowed, 0.91 pig stillborn and 3.31 lbs. birth weight/pig. Both groups of sows were fed the control ration during the breeding season and lactation. None of the slight differences observed was statistically significant, which suggests that sows may be fed a fortified milo diet during the mid-gestation period with no detrimental effects on her litter or subsequent performance.

Procedures

One group of 40 sows (Yorkshire, Hampshire, and Duroc), scheduled to farrow in July and in January were allotted to these treatments, from approximately 25 days after breeding until approximately 10 days before entering the farrowing house.

- A. 4.5 or 5 lbs. per day of a balanced milo-soybean meal diet (16% crude protein).
- B. 4.5 or 5 lbs. per day of a fortified milo diet (10.4% crude protein).

All sows were fed a balanced 16% milo-soybean meal diet during the breeding season, and all sows were fed a complete 16% ration beginning 10 days before entering the farrowing house through lactation and subsequent rebreeding. The feeding procedure was repeated for three gestation periods with each sow remaining in her initially assigned treatment group throughout the experiment. Experimental rations are shown in table 16.

After each farrowing a few sows were culled and replacement gilts were added, however 75% of the group A sows used in the first gestation and 78% of group B remained three gestation periods.

All sows were managed in dry lots with portable housing. Each group was fed in individual feeding stalls, which permitted equal feed intake. All sows were hand mated, with attempts to service each sow at least twice.

Birthweights of pigs were taken within 12 hours of birth when needle teeth were chipped, navel cords dipped in iodine, and ears notched. All pigs were offered a creep ration from 14 days after birth to weaning.

Sows were farrowed in a controlled-environment farrowing barn with farrowing crates and totally slatted floors. All sows were fed and watered in the farrowing crates. Sows were brought to the farrowing house 7-10 days before farrowing, and each sow was fed approximately 6 lbs. per day. After farrowing, they were gradually (4-7 days) brought to full feed, then permitted to eat all they wanted.

Results and Discussion

Performances of sows fed a balanced milo-soybean meal (MSB) or a tortified milo (FM) diet are shown for three gestation periods in tables 17, 18, 19.

Sows fed the MSB diet gained 0.1 to 0.2 pound more per day during the 75-80 day mid-gestation period than sows fed the FM diet.

Farrowing performances for each group of sows were similar. During the first gestation FM fed sows, farrowed more pigs per sow with fewer stillbirths; but, they they weaned slightly fewer pigs at 4 weeks. Pig weights at 14 and 28 days favored the FM fed sows, but not significantly. During the 4-week lactation period the FM fed sows ate less feed (5%) than the MSB fed sows. Also, creep intake during

the two week period by the FM sows' litters was 12% less than by litters of MSB sows, yet these pigs were slightly heavier at 28 days indicating no impairment of FM sows' ability to lactate.

During the second gestation (January farrowing) the sows were fed 5 lbs. per day, consequently both groups gained slightly more; however the MSB group gained more per day on equal feed. Sows receiving MSB performed better the second gestation by farrowing more pigs per sow, with fewer stillbirths and by weaning more pigs than FM sows. In addition, pig birthweights, and 28-day weights favored MSB fed sows. However, none of the differences was statistically significant. Feed intake by lactating sows in each group varied no more than 5 total pounds. Pigs of MSB sows consumed about 20% more creep than pigs from the FM fed sows.

During the third gestation, sows on the MSB diet again gained slightly more per day on the 5 lbs. of feed fed per day per sow. Sows on MSB diets again farrowed more pigs per sow, but more of their pigs were stillborn. Pigs weaned per sow by each group were equal (7.06 vs. 7.00), as were average birthweights (3.17 vs. 3.17 lbs.). Fourteen-day and 28-day weights also were similar. Sows fed the FM diet consumed less feed during lactation as during the previous gestation. Creep intakes by pigs in the third farrowing were equal.

Although small differences occurred during each gestation none of the differences in pig birthweight, number of pigs farrowed, number of stillbirths, number of pigs weaned, or 14- 28-day pig weights differed significantly. Therefore, the data indicates that a sow can be fed a fortified milo ration (vitamins + minerals) during mid-gestation (25 days after breeding to 10 days before farrowing) without impairing her performance.

Table 16. Diet Composition for Gestating Sows.

Ration	Milo	Milo + SBM
<u>Ingredients: lbs./ton</u>		
Gr. milo	1772	1452
Soybean meal	----	320
Alfalfa meal	150	150
Dicalcium phosphate	30	30
Gr. limestone	18	18
Salt	10	10
VTM premix ^a	20	20

^a

VTM premix supplies: Vit. A--5,000,000 IU.; Vit. D₃--600,000 IU.; Vit. B₁₂--20.5 mg.; Vit. E--9,680 IU.; Niacin--26.4 gm.; Riboflavin--8.8 gm.; D. pantothenic acid--17.6 gm.; choline chloride--88 gm.; trace mineral (z-10)--908 gm.

Table 17. Performance by Sows During First Gestation

Ration:	Milo	Milo + SBM
No. sows	17	16
Av. wt. on test, lbs.	366	376
Av. wt. at farrowing, lbs.	433	455
Average Data:		
Da. gain, gestation, lbs.	0.80	0.98
Wt. at weaning, lbs.	345	378
No. pigs farrowed/sow	10.00	9.50
No. stillbirths/sow	0.41	0.67
No. pigs weaned/sow	8.30	8.50
Birth weight/pig, lbs.	3.31	3.50
14 da. wt./pig, lbs.	8.35	7.78
28 da. wt./pig, lbs.	13.82	13.26

Table 18. Performance by Sows During Second Gestation

Ration:	Milo	Milo + SBM
No. sows	19	19
No. sows farrowing	15	16
Av. wt. on test, lbs.	384	391
Average data:		
Wt. at farrowing, lbs.	465	468
Da. gain, gestation, lbs.	1.04	1.10
Wt. at weaning, lbs.	420	406
No. pigs farrowed/sow	8.90	9.20
No. stillbirths/sow	0.78	0.56
No. pigs weaned/sow	6.92	7.19
Birth weight/pig, lbs.	3.15	3.26
14 da. wt./pig, lbs.	8.82	8.73
28 da. wt./pig, lbs.	15.35	16.01

Table 19. Performance by Sows During Third Gestation

Ration:	Milo	Milo + SBM
No. sows	20	19
No. sows farrowing	18	18
Av. wt. on test, lbs.	443	423
Average Data:		
Wt. at farrowing, lbs.	509	499
Da. gain, gestation, lbs.	1.05	1.16
Wt. at weaning, lbs.	441	429
No. pigs farrowed/sow	9.44	10.60
No. stillbirths/sow	0.44	1.50
No. pigs weaned/sow	7.00	7.06
Birth weight/pig, lbs.	3.17	3.17
14 da. wt./pig, lbs.	7.83	7.88
28 da. wt./pig, lbs.	14.26	13.94