THE EFFECTS OF BMD IN LACTATION DIETS ON SOW AND LITTER PERFORMANCE[1]

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Summary

One hundred forty-five multiparous sows were used in a performance trial to evaluate the use of BMD® (bacitracin methylene disalicylate) on sow and litter performance during lactation in a herd with no previously documented history of *Clostridium perfringens* type C or D. Between day 96 and 100 of gestation, sows were allotted to one of two dietary treatments, either a diet containing 250 g/ton of BMD or the control diet with no antibiotic. Sows were fed the experimental diets until weaning (approx. 20 d). Litters were equalized to approximately 10 pigs per sow within 48 hrs postfarrowing. Piglets were transferred only within treatment. Piglets on sows fed the BMD treatment had a reduced incidence of diarrhea (P=.10); however, the antibiotic had no effect on sow or litter performance.

(Key Words: Bacitracin, Sow, Lactation, Performance.)

Introduction

The use of an effective antibiotic to control the costly diarrhea often seen in the farrowing house is of economic importance to many producers. The use of BMD in the lactation diet may reduce piglet diarrhea caused by clostridial enteritis. Therefore, BMD was evaluated for its potential role in reducing baby pig diarrhea and improving pig performance when fed during lactation.

Procedures

One hundred forty-five white composite sows from a high-producing Kansas farm with a minimal disease level and no documented history of *Clostridium perfringens* type C or D were utilized in this trial. On day 96 to 100 of gestation, sows were allotted to one of two dietary treatments, BMD (250 g/ton) or the control (no antibiotic). Treatments were fed for the remainder of gestation and through lactation. Sows that did not receive BMD for a minimum of 14 days prior to farrowing were removed from the data set. Litters were equalized to approximately 10 pigs per sow within 48 hrs postfarrowing. Piglets were cross-fostered within treatments only. Sows were weighed prefarrowing and at weaning (d 20). Litters were weighed at birth, after equalization, and at weaning. Litter performance also was calculated by using the Ohio State adjustment formula, adjusting litter weaning weights based on days of lactation.

Results and Discussion

Sow and litter performance was excellent for both the control group and BMD-treated sows. No differences occurred in sow and litter performance between treatments. Litter weaning weights were similar at 129.1 lb for the BMD-fed sows and 128.0 lb for the control sows. When litter weaning weights were adjusted by the Ohio State days of lactation factors, they were

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131.9 and 132.7 for the BMD and control sows, respectively. One of the areas in which an antibiotic response might be expected is piglet survival rate. Piglet survival was not affected by treatment and was high for both treatments, 92.9% for the control sows and 92.2% for the BMD fed sows. However, incidence of diarrhea was reduced by the BMD treatment (P=.10) when measured as the number of pigs treated per litter.

The effect of feeding 250 g/ton BMD in the sow's diet for this herd was minimal for improving performance. However, in herds with a higher disease level, BMD may have more beneficial effects.

Table 1. Gestation and Lactation Diet Composition

Item, %	Gestation Diet[a]	Lactation Diet[b]
Sorghum	80.09	68.06
Soybean meal, (46.5%)	15.49	24.70
Soybean oil	–	3.00
Monocalcium phosphate	2.27	2.14
Limestone	1.00	.95
Salt	.50	.50
KSU Vitamin premix	.25	.25
KSU Trace mineral premix	.15	.10
KSU Sow vitamin add pack	.25	.25
Vitamin E premix	–	.05
BMD[c]	.21	.21
Total	100.00	100.00

[a]Gestation diet formulated to .65% lysine, .9% Ca, .8% P.
[b]Lactation diets formulated to .90% lysine, .9% Ca, and .8% P.
[c]BMD 60 (bacitracin methylene disalicylate) included at 250 g/ton. BMD 60 replaced .21% of sorghum to create the BMD treated diets.

Table 2. Effect of Feeding BMD during Lactation on Sow and Litter Performance[a]

	Treatment		
Item	BMD	Control	CV
Number of sows per treatment	68	77	–
Standardized pigs born alive/litter[b]	9.90	9.90	11.44
Pigs weaned/litter	9.07	9.13	12.57
Piglet avg birth wt, lb	3.89	3.33	81.32
Piglet avg weaning wt, lb	14.20	14.00	12.11
Piglet ADG, lb	.505	.534	32.00
Percent survival, %[c]	92.16	92.89	11.87
Litter weaning wt, lb	129.1	128.0	18.75
Sow ADFI d 0 to 7, lb	13.90	14.14	12.46
Sow ADFI d 7 to 14, lb	16.55	16.22	12.66
Sow ADFI d 14 to weaning, lb	17.07	16.93	13.68
Sow ADFI d 0 to weaning, lb	15.84	15.76	10.25
Sow wt change during lactation, lb[d]	+19.22	+20.03	119.02
Incidence of diarrhea, pigs treated/litter[e]	.074	.169	281.30
Ohio State adjusted values[f]			
Piglet ADG, lb	.505	.530	30.76
Piglet avg weaning wt, lb	14.50	14.46	11.70
Litter weaning weight, lb	131.86	132.67	18.52

[a]Average length of lactation = 20.2 days.
[b]Standardized pigs born alive = pigs born alive + pigs transferred on - pigs transferred off.
[c]Percent survival = (pigs weaned/standardized pigs born alive) × 100.
[d]Sow weight change = sow prefarrowing weight - sow weaning weight.
[e](P=.10).
[f]Ohio State adjusted values based on days of lactation.