1980

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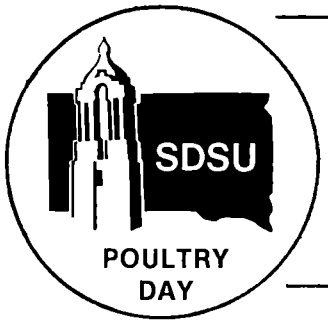

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DEPT. OF ANIMAL SCIENCE REPORT

POULTRY 80-1

Bacitracin-MD and zinc bacitracin at 0, 10, 20 and 40 g per ton levels were individually added to a 13.2% protein low density mash diet (Table 1). In addition, the control and diets containing 40 g of antibiotics per ton were pelleted to investigate the effects of antibiotics and/or pelleting on egg production parameters and feed consumption. Twelve 24-week old pullets were initially used for each treatment replicated eight times using randomized complete block designs. Feed and water were provided ad libitum.

The overall means for 14 periods showed no beneficial effect from addition of antibiotics on hen-day egg production (Table 2). Although addition of antibiotics at all three levels had a slight adverse effect on egg production during the first nine 28-day periods, significant improvements were observed for the last five periods of production (Table 3).

Pelleting the low density diet improved percent hen-day egg production significantly. The presence of antibiotics in the pellets did not result in improved production rate either for the total period or the last five periods. None of the differences between the two forms of bacitracin were significant.

Feed intake was significantly increased due to pelleting (Table 3). This was consistent for every period throughout the study, perhaps due to an increased rate of feed passage through the digestive tract. While additions of antibiotics increased feed consumption slightly for the mash diets, their presence in the pelleted feed was without an effect.

Feed efficiency, which could be the ultimate concern, was generally improved during the last five periods of production due to either pelleting or the presence of the antibiotic (Table 4).

As previous work has shown, antibiotics may allow for improvement in egg production under conditions of below-average performance. At other times, no improvement may be noted. Pelleting is one way to increase intake of a low density feed and allow for a sustained high rate of production.

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Table 1. Compositon of basal diet[1]

	Percent
Yellow corn	16.6
Ground oats	63.5
Soybean meal (48% protein)	1.40
Alfalfa meal (17% protein)	3.30
Meat and bone meal	5.70
Limestone	5.00
Dicalcium phosphate	2.50
Salt mix	0.50
Vitamin mix	0.50
DL-methionine	0.15
Calculated analysis:	
Protein (%)	13.20
ME (kcal/kg)	2424.00
Ca (%)	3.05
Available P (%)	0.86

[1] Pelleted feed contained 1.25% bentonite.

Table 2. Effect of pelleting and Bacitracin form on hen-day egg production

Feed form	Bacitracin form	Level of Bacitracin (g/ton) 0	10	20	40
		%			
	Means of Fourteen 28-day Periods				
Mash	Bacitracin-MD	72.5	74.2	72.9	71.2
	Zinc bacitracin		72.1	73.5	70.6
Pelleted	Bacitracin-MD	79.0*			76.9
	Zinc bacitracin				76.7
	Means of Five 28-day Periods--Periods 10-14				
Mash	Bacitracin-MD	61.3	69.4	64.4	69.0
	Zinc bacitracin		67.2	69.2	70.2
Pelleted	Bacitracin-MD	73.6*			73.2
	Zinc bacitracin				70.6

* Significantly different from the other value in the same column ($P<0.05$).

Table 3. Effect of pelleting and Bacitracin form on feed consumption

Feed form	Bacitracin form	Level of Bacitracin (g/ton) 0	10	20	40
		g/day			
	Means of Fourteen 28-day Periods				
Mash	Bacitracin-MD	120.6	124.0	128.6	122.0
	Zinc bacitracin		125.5	123.6	120.6
Pelleted	Bacitracin-MD	132.1**			132.2
	Zinc bacitracin				133.0
	Means of Last Five 28-day Periods--Periods 10-14				
Mash	Bacitracin-MD	117.9	126.2	126.1	126.4
	Zinc bacitracin		127.3	125.6	126.6
Pelleted	Bacitracin-MD	136.7**			135.7
	Zinc bacitracin				132.6

** Significantly different from the other value in the same column ($P<0.01$).

Table 4. Effect of pelleting and Bacitracin form on feed conversion

Feed form	Bacitracin form	Level of Bacitracin (g/ton) 0	10	20	40
		(g egg/100 g feed)			
	Means of Fourteen 28-day Periods				
Mash	Bacitracin-MD	38.1	38.8	37.1	37.9
	Zinc bacitracin		37.2	36.2	37.8
Pelleted	Bacitracin-MD	38.3			38.4
	Zinc bacitracin				37.5
	Means of Five 28-day Periods--Periods 10-14				
Mash	Bacitracin-MD	34.7	37.5	34.6	37.3
	Zinc bacitracin		35.6	37.4	37.6
Pelleted	Bacitracin-MD	37.0			37.3
	Zinc bacitracin				35.0