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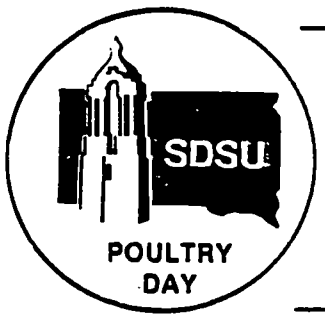

EFFECTS OF PELLETING, AUREOMYCIN AND GROWER DIET ON EGG PRODUCTION

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Antibiotics have recently shown rather consistant trends in improving egg production rates of hens at older ages or after an adaptation period. The purpose of the study reported herein was to determine the effect of Aureomycin in mash or pelleted low density layer diets.

A total of 1712, 27-week old pullets were fed the diet shown in Table 1 as mash or pellets. One half of the birds received Aureomycin at 100gm/ton in both forms of feed for one week of each 28-day period. The pullets had been previously fed a grower diet made up of either mostly oats, corn-soy-whole sunflower seeds or corn-sunflower seeds with and without .09% lysine (see Poultry 83-6 for details of grower treatments). Therefore, the experiment was a 2 x 2 x 4 factorial with 3 replications of 32 to 36 birds per experimental unit.

As shown in Table 2, the overall egg production rate for thirteen 28-day periods was not significantly affected by the previous grower diets. Pelleting improved performance and increased feed consumption ($P<.01$). However, the response to Aureomycin varied significantly ($P<.1$) depending on the form of feed. The antibiotic addition considerably improved production of hens on mash, but depressed the egg production of those offered pelleted feed. For an undetermined reason, the egg production of birds on the control mash diet dropped markedly during periods 6, 7 and 8. However, hens on pelleted diets with or without Aureomycin maintained production at a more steady rate and the rates dropped more gradually. Most of the differences in overall egg production appeared to be related to those periods where conditions apparently were not favorable.

Although pelleting resulted in improved laying performance, a crude cost analysis reveals that it would be economical to pellet feed under the conditions of this study only if processing costs were less than $12/ton with feed cost at about $190/ton. At $120/ton of feed, pelleting costs would have to be lower than $7.92/ton to make it worthwhile. Depending on today's pelleting cost, it may not appear economically feasible to pellet feed for egg production purposes. However, other

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factors including the ease of handling of bulky types of feed like the one used in this study should be taken into consideration.

Table 1. Composition of Basal Diet

Ingredient	%
Ground oats	63.50
Yellow corn	16.60
Meat and bonemeal	5.70
Alfalfa meal	3.30
Soybean meal	1.40
Limestone	6.00
Dicalcium phosphate	1.50
Yellow grease	1.00
Salt premix	0.50
Vitamin premix	0.50
DL-methionine	0.15
Calculated analysis	
Protein, %	13.0
ME, Kcal/kg	2494.0
Calcium, %	3.34
Available phosphorus, %	0.67
Crude fiber, %	8.30

Table 2. Effects of Grower Diets, Pelleting and Aureomycin on Performance of Laying Hens (13, 28-day periods)

	Hen-day production	Feed consumption/ day	Egg wt	Egg/ 100 feed	Haugh Units	Mortality
	%	g	g	g		%
Grower diet						
1 oats diet	72.6	131	63.7	35	78	7.2
2 corn-soy-19% sunflower seeds	69.9	132	63.8	34	79	7.7
3 corn-38% sunflower seeds	71.4	131	64.0	34	78	8.5
4 AS 3+ .9% lysine	72.7	131	63.5	35	78	6.7
Feed form						
Mash	70.5	131	63.6	34	78	6.5
Pelleted	72.8*	132*	63.8	35	79	8.6
Aureomycin						
0	71.8	131.6	63.9	35	79	6.7
100 g/ton (fed one wk/period)	71.5	131.2	63.6	35	78	8.4
Feed form x Aureomycin						
Mash with no Aureomycin	69.6	130	63.9	34	79	7.2
Pellets with no Aureomycin	74.0	133	63.9	35	78	6.3
Mash with Aureomycin	71.4	132	63.4	34	76	5.8
Pellets with Aureomycin	71.6	131	63.8	35	79	10.9

* Significantly increased over performance of hens on the mash feed ($P<0.10$).