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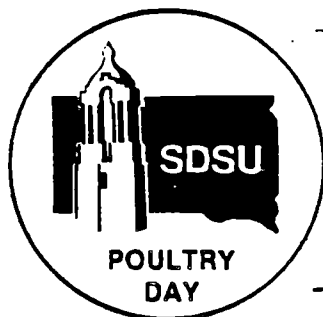
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EFFECTS OF AUREOMYCIN AND NEGATIVE IONS ON
EGG PRODUCTION

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POULTRY 83-1

Egg production records from last year's experiment (see Poultry 82-3) showed that laying hens responded to an Aureomycin addition (100 g per ton of feed fed 1 week per 28-day period) after a 2-month adaptation period. The beneficial effect of the antibiotic remained consistent during the later stages of production up to the 14th period, which resulted in an overall significant increase of 1.2% (Table 1). Other parameters measured were not significantly influenced by the addition of Aureomycin to the oats-based layer diet.

During the last four periods of the above study, one-third of the total 1500 layers in an isolated middle section of a house designed for environmental studies were exposed to additional negative ions. The ionization device consisted of a generator connected to AC electric current, cables, hooks, lines, insulator and three emitter wires installed according to the manufacturer's recommendation to be within a 4-foot distance above the birds.

As shown in Table 2, no significant differences related to the presence of the additional ions in the air were observed for egg production, feed consumption, feed efficiency or mortality. A greater degree of settlement of dust particles on walls, cages and other structures and objects in the room was visible throughout the duration of the study. A current experiment is under way to further ascertain the effects of Aureomycin and to investigate its possible interaction with pelleting the low density layer diet. The ionization device also is being used to determine effects of negative ions on performance of hens at all stages of the egg production cycle.

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Table 1. Effect of Aureomycin on Performance

| | Periods 1-14 | | Periods 5-14 | |
|---------------------------|--------------|---------------------------------------|--------------|---------------------------------------|
| | 0 | 100 g/ton fed 1 week per period | 0 | 100 g/ton fed 1 week per period |
| Hen-day egg production, % | 73.2 | 74.4* | 69.8 | 71.7** |
| G egg/day | 47.9 | 48.7 | 46.8 | 47.9* |
| Egg weight, g | 65.6 | 65.5 | 67.1 | 67.0 |
| Haugh units | 80.1 | 81.0 | 77.5 | 78.4 |
| Feed/day, g | 127 | 130 | 129 | 133 |
| Feed/dozen eggs, kg | 2.1 | 2.1 | 2.2 | 2.2 |
| G egg/100 g feed | 38 | 38 | 36.0 | 36.0 |
| Body weight, kg | 1.70 | 1.73 | 1.71 | 1.72 |
| Mortality, % | 7.9 | 8.1 | 9.9 | 10.0 |

* P<.05.

** P<.01.

Table 2. Effect of Negative Ions Addition on Laying Hen Performance (Periods 11-14)

| | Control | Negative ionized | Control |
|-----------------------|---------|---------------------|---------|
| Egg production, % | 63.4 | 63.3 | 63.9 |
| Egg production/day, g | 43.8 | 43.3 | 44.0 |
| Feed/day, g | 140 | 130 | 129 |
| Feed/dozen eggs, kg | 2.7 | 2.5 | 2.4 |
| G egg/100 g feed | 31 | 34 | 34 |
| Mortality, % | 3.5 | 2.4 | 1.4 |