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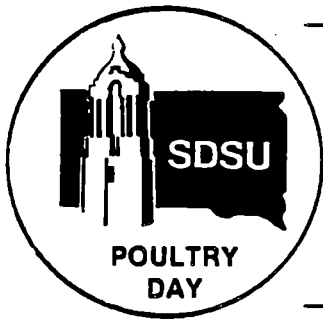
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## EFFECT OF TERRAMYCIN AND COPPER ON THE GROWTH OF TURKEYS

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POULTRY 83-8

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Studies on the use of feed additives has occupied much attention at this research center. Addition of 60 ppm copper (Cu) has been shown to improve growth rate of turkeys up to 8 weeks of age, while 120 ppm Cu depressed growth at this age, presumably due to inhibition of the utilization of sulfur amino acids. Our previous study (POULTRY 82-2) has also shown that Terramycin at 80 g per ton improved rate of gain up to 12 weeks of age. The objective of the current study was to investigate the effects of a combination of Neomycin and Terramycin (Neo-Terramycin) and copper on the growth of turkeys.

A total of 1200 day-old Nicholas White tom turkeys were randomly distributed into 36 pens. The low protein dietary series recommended by Guenther et al. (1978) provided 23, 20, 18, 16, 14 and 12% protein for each successive 4-week period. Individual weights and group feed consumption data were obtained at 4-week intervals. One treatment consisted of 200 g Neo-Terramycin per ton (80 g Terramycin per ton after 12 weeks). Another treatment was 120 ppm Cu as copper sulfate in addition to Neo-Terramycin. Twelve groups of poult were fed each treatment.

The average body weights at 8, 16 and 24 weeks of age and accumulative feed conversion data are shown in Table 1. The turkeys on feed additives appeared to show somewhat better performance. At 8 weeks of age, the turkeys on Neo-Terramycin and Cu were 31 g heavier than those receiving Neo-Terramycin alone, suggesting that the effects of these two drugs were additive. At no time were any of the responses significant, however.

Accumulative feed conversion data obtained in this study also showed no significant differences due to the addition of feed additives.

Previously, we had shown that Cu could be used as a growth promoter in turkey diets, whereas our last two experiments have shown no significant growth responses due to the addition of Cu. This agrees with the work of some investigators who showed that the growth response to antibiotics could disappear on continued use in an old environment. Further investigations are needed to provide the answer to this problem.

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Table 1. Effect of Terramycin and Copper on the Growth of Turkeys

	Control	Neo-Terramycin 200 g/ton (80 g Terramycin after 12 weeks)	Neo-Terramycin plus Cu 200 g/ton + 120 ppm (80 g Terramycin after 12 weeks)
Body weight, kg			
8 weeks	3.109 <sup>a</sup>	3.218 <sup>a</sup>	3.249 <sup>a</sup>
15 weeks	9.85 <sup>a</sup>	9.99 <sup>a</sup>	9.89 <sup>a</sup>
24 weeks	14.17 <sup>a</sup>	14.48 <sup>a</sup>	14.25 <sup>a</sup>
Accumulative feed/gain ratio (0 to 24 weeks)	3.66 <sup>a</sup>	3.69 <sup>a</sup>	3.70 <sup>a</sup>

<sup>a</sup> None of the means within a row were significantly different (P<.05).