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South Dakota Poultry Field Day Proceedings and  
Research Reports, 1972

Animal Science Reports

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1972

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### Recommended Citation

Holmquist, C. E.; Lucas, T. E.; and Carlson, C. W., "Dipping Turkey Eggs Prior to Incubation" (1972). *South Dakota Poultry Field Day Proceedings and Research Reports, 1972*. Paper 9.  
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A.S. Series 72-15

Dipping Turkey Eggs Prior to Incubation<sup>1</sup>

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Many commercial turkey hatcheries have been dipping eggs in antibiotic solutions prior to incubation in an attempt to control various respiratory infections in young poults. A study was completed this past year with eggs from a breeder flock of a known history of *Mycoplasma gallisepticum* infection. Eggs were incubated in separate incubators with and without dipping in a solution of 3,000 ppm tylosin tartrate, 2,500 ppm kanamycin sulfate and 1,000 ppm zephiran chloride. Poults of each group were fed to market age on two dietary energy series, one essentially containing an additional 165 Cal of M.E./kg from animal fat additions, with protein levels and all other components remaining constant.

*Mycoplasma gallisepticum* was identified in 100% of the blood samples obtained from nondipped stocks at eight weeks of age and none from the dipped stock. At this time all birds were given 200 mg of tylosin by injection, followed by Tylan and Gallimycin water treatments at 10 weeks and Gallimycin again at 13 weeks of age.

Upon slaughter at 15 weeks of age, one carcass from the nondipped stock was condemned for airsacculitis and at 23 weeks of age two carcasses from the same group were condemned for the same reason. None were condemned from the dipped stock. Weight and feed/gain data pertinent to this discussion are given in table 1.

A lack of space made it necessary to reduce numbers per group from 100 straight run poults to 40 toms at 8 weeks of age and further to 20 toms at 15 weeks of age. Therefore, the feed/gain data are weighted unequally toward the younger ages. Nevertheless, the dipped stock showed more efficient gain throughout, corresponding to the more rapid rate of gain evidenced at each period. The rates of gain of all groups were excellent. Even though an infection was present, individuals so affected were not greatly inhibited in their performance. The dipped stock lived better; it appears that the additional energy was detrimental in this regard. A repetition of this type of study would be desirable before concluding that the added energy was truly contributing to the mortality.

Were all three antibiotics necessary in the dipping solution? A study is under way now in an attempt to answer that question. However, this study surely indicates a positive value for such a practice.

<sup>1</sup> Supported in part by a grant-in-aid from Farmers Union GTA, Sioux Falls, South Dakota.

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Table 1. Turkey Performance as Influenced by Egg Dipping and Diet

	Control	High energy	Nondipped	Dipped
Wt., 5 weeks, kg	1.17	1.22	1.18	1.21
Wt., 8 weeks, kg	2.58	2.60	2.52	2.66
Wt., 15 weeks, kg	7.8	7.6	7.6	7.8
Wt., 23 weeks, kg	12.8	12.5	12.5	12.8
Feed/gain (0-15 wk)	2.26	2.31	2.32	2.25
Feed/gain (0-23 wk)	2.80	2.80	2.84	2.76
Mortality, % (0-8 wk)	8.5	8.0	9.0	7.5
Mortality, % (8-23 wk)	7.5	22.5	25.0	5.0