DECONTAMINATION OF PIGEONS BY INCLUSION OF CHLORTETRACYCLINE IN THE FEED¹

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Accompanying the increased use of pigeons in many physiological, pharmacological, psychological and other biomedical laboratories has been an increased demand for an efficient decontamination procedure. In fact, environmental health regulations at some institutions now require such a procedure before admitting birds to any laboratory. Reports appearing in the last 10 years justify this requirement; they provide ample documentation of the presence of natural ornithosis in wild pigeons and several types of domesticated pigeons including poultry, racing, homing and fancy breeds.

Previous therapy programs that have had some success have used injectable tetracycline and soluble preparations administered in the drinking water. However, neither of these methods is entirely satisfactory. The injection technique requires extensive handling of possibly diseased birds and the administration of antibiotics in drinking water is not completely reliable. A more effective procedure appears to be the administration of antibiotics in solid feed.

Since this method worked well in psittacine birds, the procedure was modified slightly and applied to pigeons. Its adequacy was evaluated by monitoring the blood levels of antibiotic and checking for the presence of psittacosis-ornithosis antibody. The details of the results have been presented elsewhere (Arnstein, Cohen, and Meyer, 1964) and are not repeated here. In summary it may be said that by the

25th day of treatment chlortetracycline blood levels average over 4 μ g per ml; results indicate that the procedure would be effective for the control of ornithosis and other chlortetracycline sensitive pathogens and that it is easy and safe to administer.

THERAPY PROGRAM

Antibiotic

Chlortetracycline (Mixture SF 66, American Cyanamid Company³) was used. It was obtained as a 22% mixture in soy bean meal, containing 100 g of chlortetracycline hydrochloride per pound of dry powder.

Base Food Ration

The vehicle for administering the chlortetracycline was hen scratch feed, a mixture of milo, cracked corn, wheat, and kafir (Ralston-Purina Company³).

Preparation

To prepare the daily ration, SF 66 was added to the scratch feed in the proportion of 4% by weight. Therefore the ratio of pure chlortetracycline to dry ration was 8.9 mg/g or 0.89%. The dry scratch feed and SF 66 were first very thoroughly mixed. Enough water was then added to moisten the antibiotic powder and cause it to stick to the seeds of the hen scratch. About 15 ml of water for each 100 g of hen scratch were required. To insure uniform antimicrobial activity of the drug the food was medicated fresh each day.

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³The names of commercial manufacturers and trade names are provided as information only, and their inclusion does not imply endorsement by the Public Health Service or the U. S. Department of Health, Education and Welfare; nor does the exclusion of commercial manufacturers' names and trade names imply non-endorsement by the Service or the Department.

Acceptance and Duration of Treatment

The mixture was quite acceptable to the birds, and with the exception of the first two or three days they showed normal levels of food consumption and weight gain. If the birds consume at least 50 g of feed per day, the average minimum uptake of chlortetracycline is 0.45 g daily. Use of a 30- to 45-day period is recommended for ornithosis control.

Cost

Estimated cost of the drug for the 30-day treatment (about 60 g of SF 66) is \$3.50 per

pigeon; this estimate is based on the food consumption levels of our experimental animals and can be expected to vary to some extent. In situations where very large numbers of pigeons are needed, universal treatment cost may be prohibitive. In that event, treatment of select breeders would be an effective aid in establishing ornithosis-free flocks.

REFERENCES

- Arnstein, P., Cohen, D. H., and Meyer, K. F. Medication of pigeons with chlortetracycline in feed. *J. Amer. Vet. Med. Assoc.*, 1964, 145, 921.