

Prevalence and Antimicrobial Resistance of Fecal Commensal *E. coli* and *Salmonella* Isolates Obtained from Ontario Small Poultry Flocks

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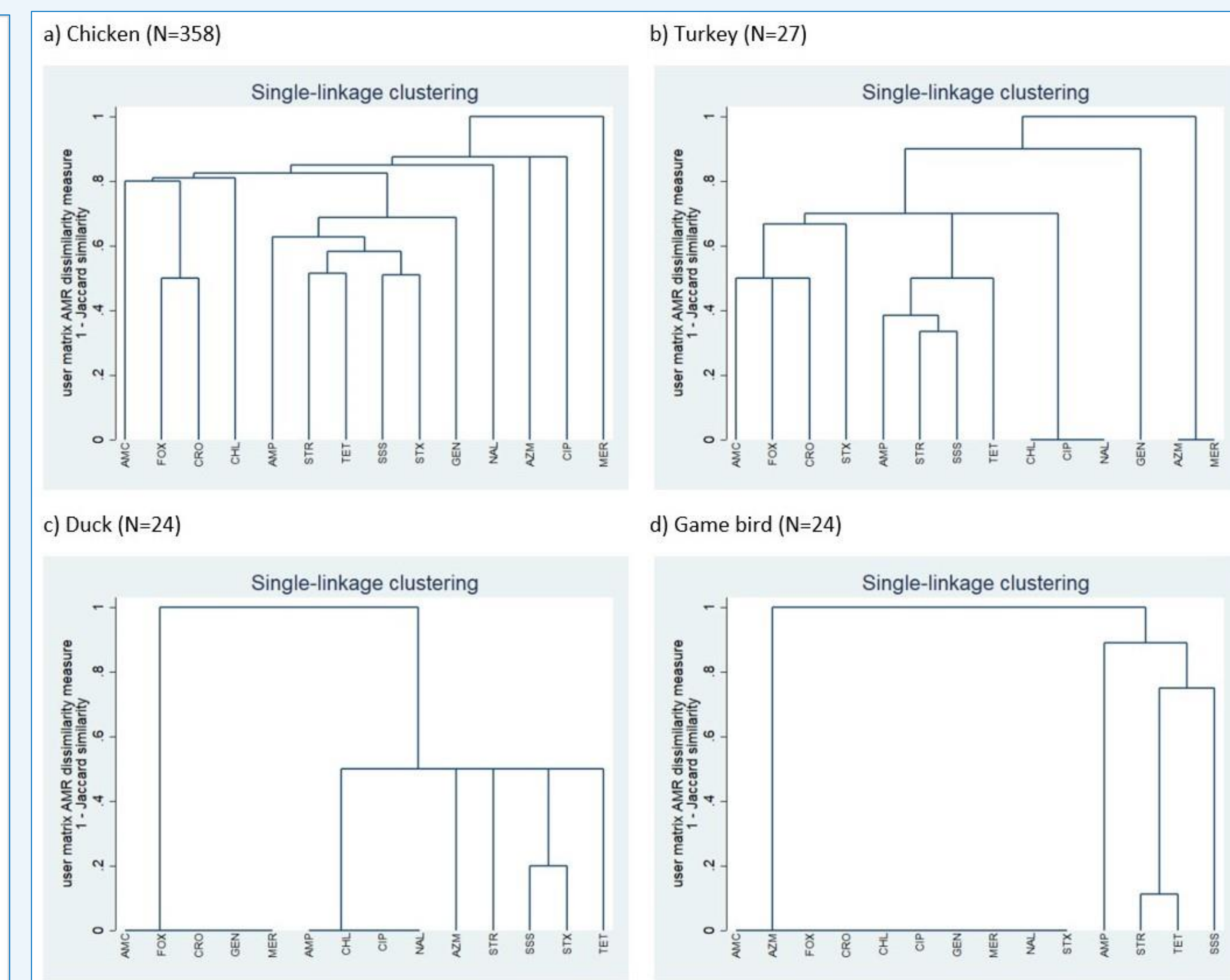
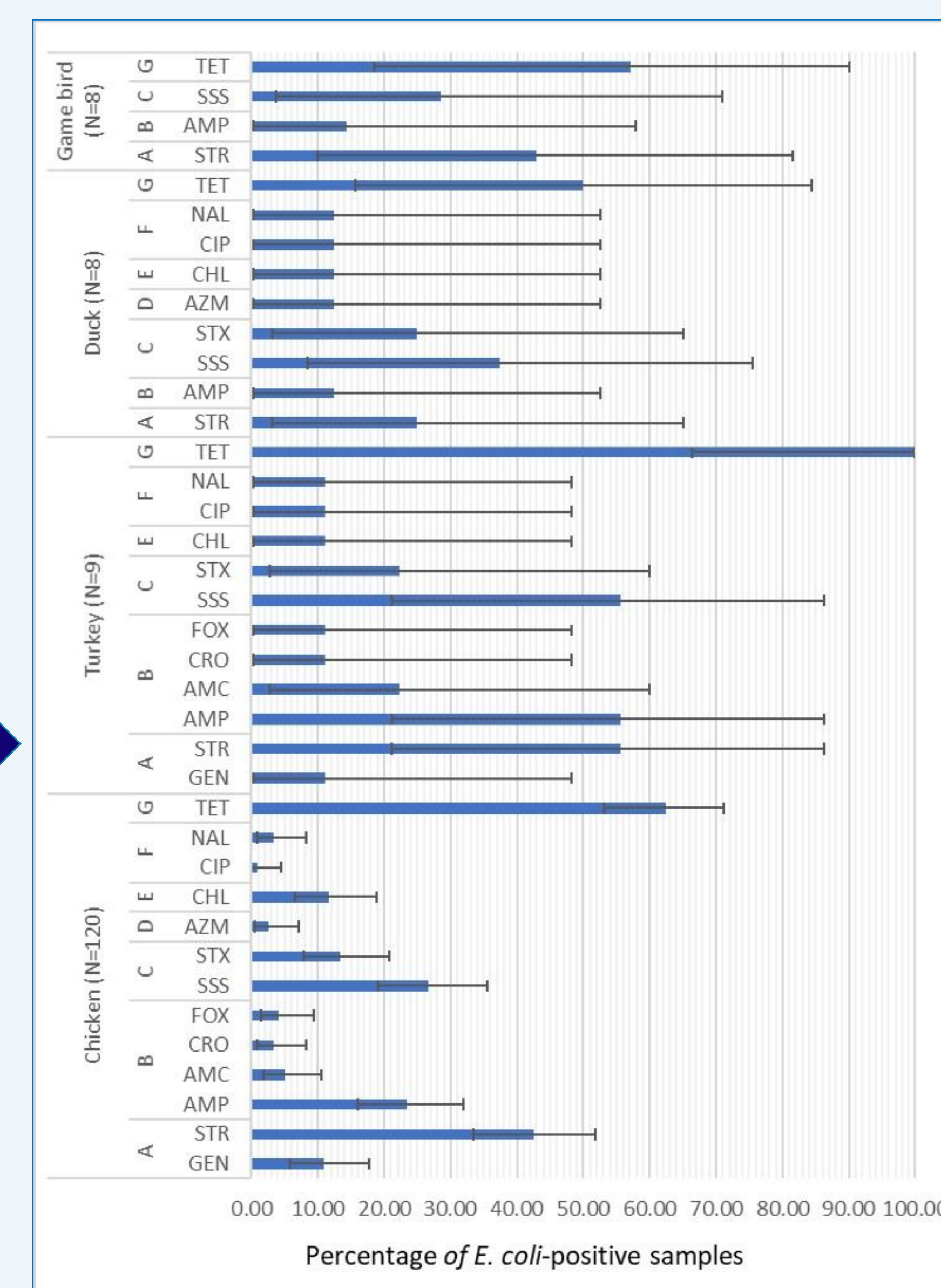
What did the researchers do?

- A prospective surveillance study was conducted between October 2015 and September 2017.
- Samples (n=160) were submitted through the small flock owner's veterinarian to the Animal Health Laboratory.
- From each submission, a pooled cecal sample was obtained and tested for the presence of *E. coli* and *Salmonella*.
- From each positive sample three isolates were selected and tested for susceptibility to 14 antimicrobials using an automated broth microdilution (Sensititre®) technique and the NARMS CMV4AGNF panel.



What did the researchers find?

- A total of 433 *E. coli* isolates (358 chicken, 27 turkey, 24 duck, and 24 game bird) and 15 *Salmonella* isolates (9 chicken, 3 turkey, and 3 duck) were recovered.
- Moderate to high proportion of *E. coli* isolates were resistant to tetracycline, streptomycin, sulfonamides, and ampicillin.
- Multidrug resistance was found in 37% of turkey, 20% of chicken, 13% of duck, and 8% of game bird *E. coli* isolates.
- *Salmonella* isolates were most frequently resistant to streptomycin, tetracycline, and sulfonamides.
- Cluster and correlation analyses identified streptomycin-tetracycline-sulfisoxazole-trimethoprim-sulfamethoxazole as the most common resistance pattern in chicken *E. coli* isolates.
- Turkey *E. coli* isolates compared to all the other poultry species had higher odds of resistance to tetracycline and ampicillin.



What you need to know?

- The high resistance of *E. coli* isolates to antimicrobials commonly used to treat poultry bacterial infections highlights the need of judicious antimicrobial use.

To know more
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