



170 Research paper

Limited association between disinfectant use and either antibiotic or disinfectant susceptibility of Escherichia coli in both poultry

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In **Significant Impact Groups:**

Biosecurity \Internal biosecurity Materials

Species targeted: Pigs;Poultry;

Age: Young;Adult;

Summary:

The study examined the use of disinfectants in poultry and pig husbandry and its contribution to the antibiotic and disinfectant susceptibility of Escherichia coli strains obtained after cleaning and disinfection. This study showed a high resistance prevalence (> 50%) for ampicillin, sulfamethoxazole, trimethoprim and tetracycline for both production animal categories, while for ciprofloxacin only a high resistance prevalence was found in broiler houses. Disinfectant susceptibility results were homogenously distributed within a very small concentration range. All E. coli strains were susceptible to in-use concentrations of formaldehyde, benzalkoniumchloride and a formulation of peracetic acid and hydrogen peroxide, indicating that the practical use of disinfectants did not select for disinfectant resistance. No indications for the selection of antibiotic resistant bacteria through the use of disinfectants in agricultural environments were shown. This study suggests that proper use of disinfectants in agricultural environments does not promote antibiotic resistance nor reduce E. coli disinfectant susceptibility.

170 Research paper - Maertens - 2019 - Limited association between disinfectant use and either antibiotic or disinfectant susceptibility of Escherichia coli in both poultry and pig husbandry

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