# Explore the antimicrobial resistance and prevalence of microbial isolates in chicken processing environment

徐珮珊 (5121)

2021/12/15

## Outline

1. Introduction
2. Microbiological quality and *Salmonella* prevalence, serovar distribution and antimicrobial resistance associated with informal raw chicken processing in Accra, Ghana
3. Prevalence and antimicrobial resistance of *Campylobacter* from antibiotic-free broilers during organic and conventional processing
4. Conclusion

## Abstract

Chicken meat is highly susceptible to spoilage and frequently implicated in foodborne disease outbreaks. When appropriate handling practices, processing and storage facilities are lacking, as is often the case in the informal sector, there is an increased risk of transmission of zoonotic diseases and rapid spoilage with economic and health-related losses. Globally, chicken meat is considered a significant product pathogen pathway for Salmonellosis and campylobacteriosis. The first study was to investigate the provides empirical evidence of the microbiological pathogens on chicken carcasses and processing environments, and the prevalence, distribution and MDR *Salmonella* serovars in poultry environments in Accra, Ghana. The result show that most prevalent *Salmonella* serovars in chicken processing environments were *S.* Typhimuruim, *S.* Infantis, *S.* Enteritidis and *S.* Newport. The aim of the second study was to evaluate the determine the effects of organic and RWA methods on *Campylobacter* prevalence and AMR during processing. All of these observations indicate that raising broilers using RWA methods may not result in lower levels of AMR *Campylobacter*. Finally, as there was no major difference in AMR between organic and conventional isolates, and conventional birds were treated with nicarbazin and zoalene, this indicates that use of ionophores as anti-coccidia measures may not select for co-resistance to any of the antimicrobials tested.

# References

Bailey, M. A., Taylor, R. M., Brar, J. S., Corkran, S. C., Velasquez, C., Rama, E. N., Oliver, H. F., & Singh, M. (2019). Prevalence and antimicrobial resistance of *Campylobacter* from antibiotic-free broilers during organic and conventional processing. *Poultry Science, 98*(3), 1447-1454.

Kunadu, A. P. H., Otwey, R. Y., & Mosi, L. (2020). Microbiological quality and *Salmonella* prevalence, serovar distribution and antimicrobial resistance associated with informal raw chicken processing in Accra, Ghana. *Food Control, 118*.