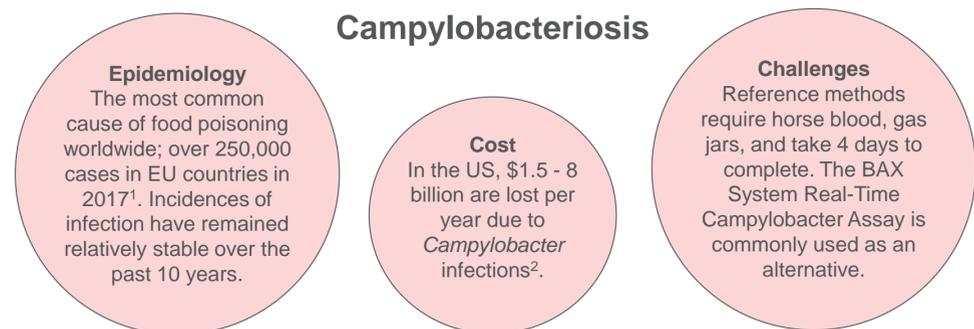


Performance Comparison of Two Multiplex PCR Assays for Detection of *Campylobacter* from Poultry Samples

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INTRODUCTION

Thermo Scientific™ SureTect™ *Campylobacter jejuni*, *C. coli* and *C. lari* PCR Assay (candidate method) was designed to rapidly and accurately detect and differentiate *Campylobacter jejuni*, *C. coli* and *C. lari* from poultry samples in blood-free, aerobic enrichment in under 48 hours. The purpose of this study was to compare the performance of the candidate method to the Hygiene™ BAX® System Real-Time *Campylobacter* Assay (alternative method).



METHODS

The candidate method uses rolled-down bags to generate a microaerophilic environment (Figure 1). This reduces handling steps and costs. Confirmation of positive results is achieved using *Brilliance™ CampyCount* Agar with the Oxoid™ Biochemical Identification System (O.B.I.S.) Campy kit.

Performance of the candidate method (Figure 2) was compared to the alternative method. Ninety-three poultry samples, made up of whole carcass rinses, raw, and ready-to-reheat (RTR) poultry meat were tested in an unpaired study.



Figure 1. Chicken neck skin in rolled-down bag.

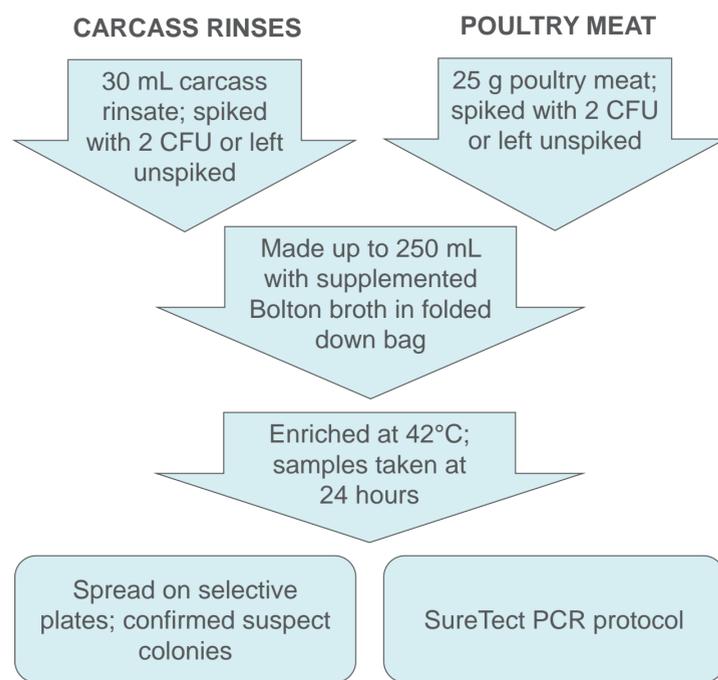


Figure 2. Candidate method workflow.

RESULTS

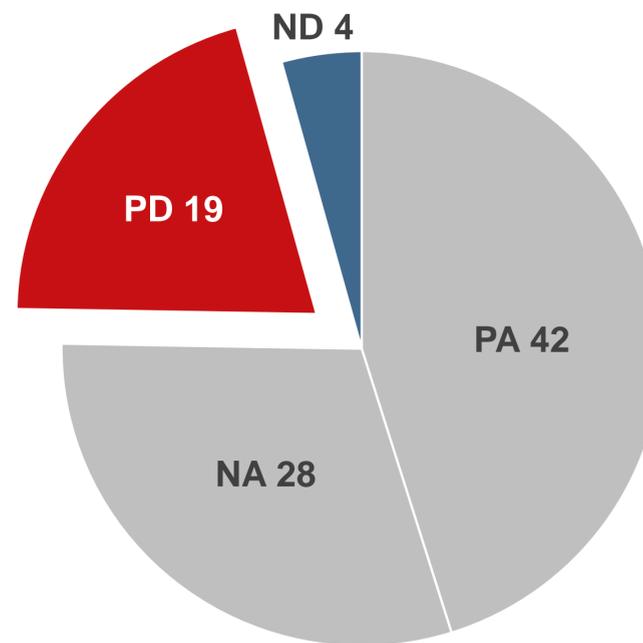


Figure 3. Detection of *Campylobacter* on different matrices after 24 hours. Unpaired study.

PA = positive agreement, NA = negative agreement
PD = positive deviation, ND = negative deviation

The candidate method correctly identified more positive samples than the alternative method across different poultry matrices (Figure 3).

CONCLUSIONS



The SureTect method exceedingly outperformed BAX in carcass rinses. Additionally, the SureTect method has a higher sensitivity than the BAX method.

SureTect *Campylobacter* sample enrichment does not require blood addition or use of gas jars so provides a simpler, more user-friendly and more cost-effective solution. The time to result is 24-48 hours.

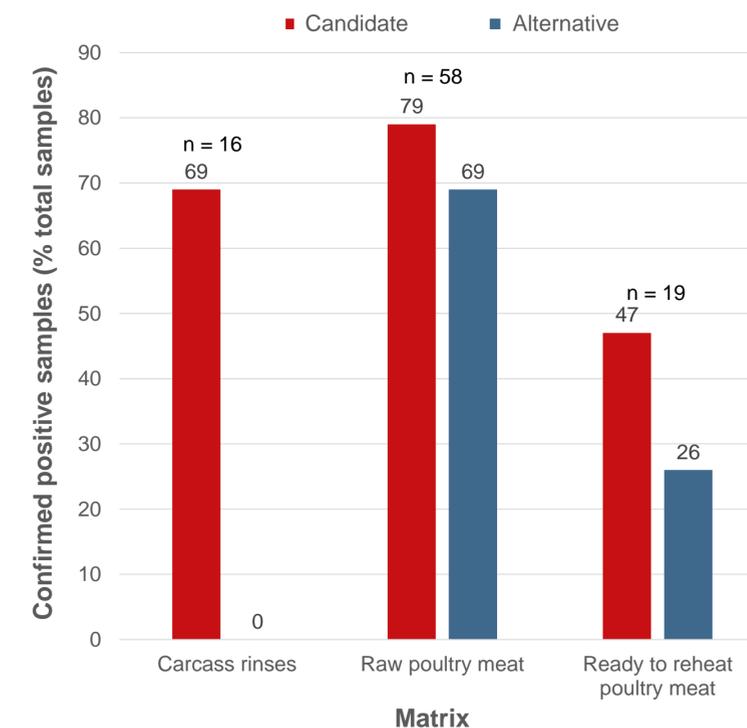


Figure 4. Detection of *Campylobacter* on different matrices after 24 hours.

The candidate method outperformed the alternative method in each of the matrices evaluated (Figure 4).

The alternative method failed to identify any positive samples in chicken carcass rinses (Figure 4).

REFERENCES

1. Campylobacteriosis: Annual epidemiological report for 2017, Surveillance report, European Centre for Disease Prevention and Control.
2. Devleeschauwer B., Bouwknecht M., Mangen M-J. J. and Havelaar A.H. (2017) *Campylobacter*: features, detection and prevention, Academic press, p 27-40.