

**S4 Table. Detection performance of LAMP-LFB assay for *C. perfringens* detection compared with culture-based method in naturally contaminated food samples.**

| Method   | Culture-based method |          | SE (%)      | SP (%)      | $\kappa$ (%)  |
|----------|----------------------|----------|-------------|-------------|---------------|
|          | Positive             | Negative | (95% CI)    | (95% CI)    | (95% CI)      |
| LAMP-LFB |                      |          |             |             |               |
| Positive | 44 (TP)              | 2 (FP)   | 88.0        | 95.5        | 0.832         |
| Negative | 6 (FN)               | 43 (TN)  | (75.6-95.4) | (84.8-99.4) | (0.721-0.943) |

TP: True positive; TN: True negative; FP: False positive; FN: False negative

Sensitivity (SE) =  $(TP/TP+FN) \times 100$

Specificity (SP) =  $(TN/TN+FP) \times 100$

Cohen's kappa coefficient ( $\kappa$ ) =  $2 \times [(TP \times TN) - (FN \times FP)] / [(TP+FP) \times (FP+TN)] + [(TP+FN) \times (FN+TN)]$

The  $\kappa$  ranged from 0-1, which defined as follow:  $\leq 0.20$  poor agreement,  $0.21 < \kappa \leq 0.40$  fair agreement,  $0.41 < \kappa \leq 0.60$  moderate agreement,  $0.61 < \kappa \leq 0.80$  good agreement and  $\geq 0.81$  very good agreement