

## **SURVIVAL OF *Campylobacter coli* IN CHICKEN SAMPLES AT REFRIGERATION TEMPERATURE**

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Campylobacteriosis is one of the most reported foodborne diseases worldwide, which is mainly associated to the consumption of contaminated raw or undercooked chicken. *Campylobacter jejuni* accounts for the majority of human infections and to a lesser extent *C. coli*. However, *C. coli* is frequently isolated from chicken in Brazil and may also be a significant risk factor for human infections. Cold-storage is essential to reduce the growth and metabolism of bacteria in fresh meat at retail and domestic level. Therefore, this study aimed to evaluate the effect of refrigeration on the survival of *C. coli* on raw chicken samples. *C. coli* strain analyzed was isolated from retail chicken purchased from local stores in southern Brazil in 2015 and further characterized by standard biochemical procedures. This strain was plated onto modified charcoal cefoperazone deoxycholate agar (mCCDA) and incubated at 41.5°C in microaerobic atmosphere. After 44 h ( $\pm 4$  h), cells were harvested from the agar plate surface and suspended in 0.1% buffered peptone water (BPW) and adjusted according to a 8 McFarland turbidity standard. The suspension was used to inoculate chicken pieces (2 by 2.5 cm<sup>2</sup>) cut from drumsticks that previously tested negative for thermophilic *Campylobacter*. Samples were inoculated with an aliquot of *C. coli* suspension to give a final concentration of approximately 10<sup>7</sup> CFU/g based on the weight of each chicken piece. Samples were analyzed after 0, 24 and 72 h of storage at 6°C ( $\pm 1$ °C). Counts of *Campylobacter* on chicken pieces were determined by rinsing individual samples with 10 mL of 0.1% BPW, homogenized in a stomacher for 1 min and further serially diluted and plated onto mCCDA. Plates were incubated at 41.5°C for 44 h ( $\pm 4$  h) in microaerobic atmosphere. The number of *C. coli* was expressed per milliliter of chicken piece rinse. In total, six repetitions were carried out in each given time interval. The results revealed that refrigerated storage produced a slight reduction on *C. coli* from 5.38 $\pm$ 0.06 to 4.92 $\pm$ 0.13 log<sub>10</sub> CFU/mL on chicken pieces over a 3-days period, although there was no significant difference at a given day. These findings indicate that refrigerated storage was not able to significantly reduce or eliminate *C. coli* from samples, suggesting that special attention should be taken to consumer education, with focus on safe handling and proper cooking of chicken.

**Palavras-chave:** Contamination, broiler meat, food safety

**Fomento:** Embrapa and CNPq