

DETECTION AND ENUMERATION OF THERMOPHILIC *Campylobacter* IN CHICKEN AT RETAIL LEVEL IN SOUTHERN BRAZIL

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Broilers are a potential reservoir for thermophilic *Campylobacter*, which might contaminate carcasses at processing. The number of *Campylobacter* per raw chicken sample represents a critical measure of human exposure to the microorganism. Therefore, this study aimed to evaluate thermophilic *Campylobacter* contamination of retail chicken using qualitative and quantitative bacteriological analysis. A total of 47 tray packs of fresh chicken portions were purchased from local stores in southern Brazil from 2013 through 2015. At the laboratory, samples were rinsed with 150 mL of 0.1% buffered peptone water (BPW). For qualitative analysis, 10 mL of this initial suspension was added to 90 mL of Bolton broth that was incubated at 37°C for 4-6 h and then at 41.5°C for 24 h following plating onto modified charcoal cefoperazone deoxycholate agar (mCCDA) and Preston agar (PA) at 41.5°C for 44 h (± 4 h) in microaerobic atmosphere. Enumeration was carried out from the initial suspension which was serially diluted in 0.1% BPW and plated onto mCCDA. Plates were incubated at 41.5°C for 44 h (± 4 h) in microaerobic atmosphere and the number of *Campylobacter* was expressed per milliliter of chicken portion rinse. Gram negative colonies exhibiting curved or spiral rods were presumptively identified as *Campylobacter* and subcultured for testing for production of catalase and oxidase; microaerobic growth at 25°C; and aerobic growth at 41.5°C. Higher numbers of *Campylobacter*-positive samples were found using PA (23/47, 48.9%) compared with mCCDA (1/47, 2.1%) ($P < 0.0001$). Notably, enriched samples plated onto mCCDA for qualitative analysis showed extensive spreading of competing bacteria that hampered the identification of *Campylobacter* colonies. On the other hand, positive results from enumeration analyses were distributed as follows: <10 CFU/mL (17/47); 10-50 CFU/mL (9/47); 50-100 CFU/mL (3/47); and >100 CFU/mL (1/47). This study revealed PA as an optimal media for detection of thermophilic *Campylobacter* in qualitative analysis of chicken samples. Although *Campylobacter*-positive samples were found, the majority of chicken portions analyzed showed counts below 10 CFU/mL. Yet, domestic food safety practices such as the proper handling and cooking of chicken continue to be required.

Palavras-chave: Contamination, broiler meat, food safety

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