

ABSTRACT

Poultry as a food is a growing industry in Trinidad. This study attempted to identify potential bacterial agents of public health importance associated with the industry in the broiler processing operation.

Using aseptic techniques, experimental samples were taken from chill and drip water and control samples were taken from tap water. These samples were packed on ice and transported to the Trinidad Public Health Laboratory for bacteriological analysis using standard techniques.

All samples were analysed for pathogenic bacteria using the membrane filtration technique where the filters were placed directly in different selective enrichment broths. Bacterial counts were also performed using specific selective media.

Salmonella, Campylobacter jejuni, Clostridium perfringens and enteropathogenic Escherichia coli were isolated. Several strains of Escherichia coli exhibited multiple resistance to several commonly used antibiotics.

No pathogenic bacteria were isolated from tap water, except Campylobacter jejuni, from the first sample of tap water which was taken from the inlet to the chill tank. The sampling point was changed, and all other samples of tap water were negative.

The results further showed that chill water and drip water differed in total aerobic mesophilic counts, coliform and faecal coliform counts and Pseudomonas counts. Counts in drip water were found to be higher than chill water.

Based on the findings of this study several recommendations were made, including that similar investigations be done on other processing plants,

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and that all processing plants use water containing chlorine at 20 parts per million.

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