Coliforms and *Escherichia coli* isolated from irrigation water and vegetables from Capão Bonito - SP

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The consumption of water and fresh vegetables contaminated is one of the main causes of diarrheal diseases. According to World and Health Organization four billion people have this disease per year and 1.8 million die. Enteric bacteria, including *Escherichia coli* are the main etiological agents responsible for diarrheal diseases. *Escherichia coli* species has five pathogenic serotypes that could present multiple antibiotics resistance. This factor is increasing the concern about this microorganism in fresh foods, because this bacterium could survive to antibiotic therapy and cause severe infections. Capão Bonito city is one of the main vegetables producers of São Paulo state; however the microbiological quality of these vegetables and the irrigation water hasn't been evaluated. The aim of this study was to analyze the incidence of coliforms and *E. coli* in irrigation water and fresh vegetables produced in Capão Bonito – SP. A total of nine samples of irrigation water and 30 samples of fresh vegetables are collected in 4 different producers between December/ 2014 and April/ 2015. The water samples were evaluated to the presence/ absence of coliforms and *E. coli* by ONPG -MUG methodology and the vegetables samples were evaluated for coliforms at 35ºC by MNP methodology. The *E. coli* confirmation was evaluated for the coliforms positive samples by biochemistry identification (citrate, indole, Methyl Red and Voges-Proskauer). The results showed that 89% (8/9) of water samples are positive to coliforms and 67% (6/9) confirmed to have *E. coli*. For vegetables samples, 61% (19/31) were positive to coliforms with counts between 7.2 and >1100 MNP/g. A total of 15 strains confirmed to have *E. coli*. These results show the probable risk of pathogenic *E. coli* in fresh irrigation water and fresh vegetables. However, further studies are necessary to know the pathogenicity risk and antibiotic resistance of *E. coli* in vegetables.

Key-words: diarrheal, Most Probable Number, ONPG-MUG,