

**TITLE:** ASSESSING THE MICROBIOLOGICAL QUALITY AND SAFETY OF READY-TO-EAT MINIMALLY PROCESSED FRUITS SOLD IN THE CITY OF PIRACICABA, SP - BRAZIL

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**ABSTRACT:**

Concomitant with the increase in consumer demand for refrigerated ready-to-eat minimally processed (RTE MPR) fruits and vegetables, epidemiological surveillance data from several countries point to a growing association between the consumption of these products and foodborne diseases. Minimal processing consists of submitting fruits or vegetables to several steps (e.g., peeling, cutting, washing-disinfection and packaging) to make them ready for consumption, while maintaining their nutritional and sensory characteristics. However, hygiene failures during these steps can compromise the quality of the products and, consequently, pose health risks to consumers. This study aimed to assess the microbiological quality and safety of MPR fruits sold in the city of Piracicaba, SP – Brazil, and verify whether the results obtained meet the microbiological standards established by the current legislation. A total of 52 samples of MPR fruits [including papaya (n=1), melon (n=3), watermelon (n=4) and fruit salad (n=44)] were collected in supermarkets and grocery stores located in the city. These samples were subsequently submitted to the enumeration of total coliforms and generic *Escherichia coli* using the standard most probable number (MPN) method. They were also tested for *Salmonella* spp. according to the ISO 6579-1:2017 method. The average count of total coliforms was 2.5±0.6 log MPN/g, while none of them were positive for *E. coli* (<0.5 log MPN/g) or *Salmonella* (absence in 25 g). Therefore, all the samples were in accordance with the current limits established by the Brazilian Surveillance Agency for fresh-cut fruits (<1 log for generic *E. coli* and absence of *Salmonella*/25 g), revealing satisfactory microbiological quality and safety.

**Keywords:** food safety, fresh-cut fruits, indicator microorganisms, minimal processing, *Salmonella* spp.

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